



Virginia Commonwealth University
VCU Scholars Compass

Theses and Dissertations

Graduate School

2023

Assessing the Relationships Between Direct and Vicarious Exposure to Healthcare Discrimination and Erasure, Mistrust in Healthcare, and the Healthcare Utilization Behaviors Among Transgender and Gender Independent Individuals

Kyle L. Mason
Virginia Commonwealth University

Follow this and additional works at: <https://scholarscompass.vcu.edu/etd>



Part of the [Gender and Sexuality Commons](#), [Health Policy Commons](#), [Health Psychology Commons](#), [Inequality and Stratification Commons](#), [Medicine and Health Commons](#), [Quality Improvement Commons](#), [Social Justice Commons](#), and the [Social Psychology Commons](#)

© The Author

Downloaded from

<https://scholarscompass.vcu.edu/etd/7209>

This Dissertation is brought to you for free and open access by the Graduate School at VCU Scholars Compass. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

**Assessing the Relationships Between Direct and Vicarious Exposure to Healthcare
Discrimination and Erasure, Mistrust in Healthcare, and the Healthcare Utilization
Behaviors Among Transgender and Gender Independent Individuals**

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of
Philosophy at Virginia Commonwealth University

By: Kyle Liam Mason
Bachelor of Arts, Mary Baldwin University, 2019
Master of Science, Virginia Commonwealth University, 2021

Director: Kristina Hood, Ph.D.
Assistant Professor of Psychology
Department of Psychology

Virginia Commonwealth University
Richmond, Virginia
April 13, 2023

Acknowledgments

I am grateful to all who have seen, affirmed, and lifted my humanity as I've engaged in inquiry beyond health psychology in my doctoral student career. I have had impeccable scientific training through the mentorship of faculty in VCU's psychology, epidemiology, nursing, public administration, and gender, sexuality, and women's studies departments. Yet, the self-inquiry I've engaged in - to find and connect deeply to the threads of hope, kindness, bravery, courage, and truth that have always existed in me to grow and to heal would not have been possible without those who see in me what I have begun to discover and honor in myself. To my dissertation committee chair Dr. Kristina Hood, thank you for answering the call to show up, and for your sincere desire to know and support me from the start. To my dissertation committee members, Drs. Kevin Allison, Faye Belgrave, Ethan Coston, and Paul Perrin thank you for your support and belief in me and this work. Dr. Cecelia Valrie, thank you for asking important questions and gently holding the truth in my answers. Dr. Allison, thank you for encouraging me to stand and to reach. Dr. Coston, thank you for all of the ways that you've listened earnestly. Dr. Belgrave, thank you for always seeing about and holding on to me, your light and warmth have brought about a true sense of belonging. My gratitude is also with those whom I have been able to engage in sacred kinship with. All of your support has held and warned me, truly. It has illuminated in partnership with the universe the power and divine potential that exists in me. May that light, power, and potential support me in further inquiry about the possibilities that are abound for a world that is more just, equitable, and healthy for all.

Table of Contents

	Page
Abstract.....	4
Introduction.....	6
Characterizing the Gender-Independent Population.....	7
Healthcare Accessibility.....	10
Healthcare Discrimination and Erasure.....	12
Mistrust in Healthcare.....	17
Healthcare Utilization.....	19
Theoretical Frameworks.....	21
Present Study: Aims and Hypotheses.....	24
Method.....	25
Procedure.....	25
Sample.....	28
Measures.....	31
Analyses.....	36
Results.....	38
Discussion.....	51
Implications.....	56
Limitations.....	61
Conclusions.....	62
References.....	64
Appendices.....	82
A. Consent Form.....	82
B. Survey Measure.....	86

Abstract

Assessing the Relationships Between Direct and Vicarious Exposure to Healthcare Discrimination and Erasure, Mistrust in Healthcare, and the Healthcare Utilization Behaviors Among Transgender and Gender Independent Individuals

By: Kyle Liam Mason, M.S.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

Virginia Commonwealth University, 2023

Director: Kristina Hood, Ph.D.
Assistant Professor of Psychology
Department of Psychology

Virginia Commonwealth University
Richmond, Virginia
April 13, 2023

Healthcare inaccessibility through direct exposure (i.e., personal) to myriad forms of gender identity-related discrimination and erasure among the Transgender and Gender Independent (TGI) population has been documented by prior studies. The myriad barriers that individuals who embody TGI identities encounter to accessing healthcare are associated with the underutilization of healthcare, which may further exacerbate the health disparities that exist between this population and cisgender individuals in the United States (U.S.). Although the impacts of the harm that direct exposure to healthcare discrimination and erasure may have on TGI individuals are known, their exposure to such harm vicariously (i.e., through observation or report) is underexplored. Additionally, examinations into the role that mistrust in healthcare may have in the relationship between exposure to healthcare discrimination and healthcare utilization behaviors among this population have been neglected. The present study sought to narrow this

gap in empirical analyses by (1) evaluating the relationships between direct and vicarious gender identity-related healthcare discrimination and erasure exposure and past year healthcare utilization, and (2) exploring gender identity-based mistrust in healthcare as a mechanism (i.e., mediator) through which direct and vicarious gender identity-related healthcare discrimination may serve as predictors of healthcare utilization behaviors among a sample ($N = 385$) of TGI adults in the U.S., aged 18 to 71 recruited online during the summer of 2022. Most participants (81%) reported that they were exposed to at least one of the ten forms of direct exposure to healthcare discrimination in their lifetime. Vicarious exposure to healthcare discrimination was reported by 80% of participants. More than a fourth (29%) of participants reported avoiding healthcare in the year prior to this study in relation to their anticipation of gender identity-related discrimination in healthcare. When controlling for factors that may influence healthcare utilization behaviors (e.g., personal characteristics, socioeconomic positionality, and indicators of perceived or clinical need for care), hierarchical logistic regression analyses indicated that exposure to direct lifetime and vicarious healthcare discrimination and erasure significantly predicted past year healthcare underutilization when participants anticipated encountering gender identity-related healthcare discrimination. Mediation analyses indicated higher levels of exposure to direct lifetime and vicarious healthcare discrimination were related to higher levels of mistrust in healthcare, through which past year underutilization was significantly related. This study's examination into the multifactorial manner in which healthcare discrimination and erasure influence this population's healthcare utilization behaviors provides evidence that is vital to informing healthcare practice and policy initiatives aimed at ensuring the barriers that deleteriously influence TGI individuals' ability to access health and wholeness in mind and body are ameliorated.

Introduction

The centrality of gender identity-related healthcare discrimination and erasure in the accessibility of healthcare among individuals who embody transgender and non-binary identities has been documented (Bauer et al., 2009; Cruz, 2014; Drabish & Theeke, 2022; Jaffee et al., 2016; James et al., 2016; Kattari et al., 2019; Kcomt, 2019; Lykens et al., 2018; Hobster & McLuskey, 2020; Mason, 2021; Mason et al., 2022; Medina-Martinez et al., 2021; Meyer et al., 2021; Seelman et al., 2017). Individuals in this population encounter myriad forms of discrimination and erasure in healthcare settings including healthcare provider deficits in knowledge about their gender identities and healthcare needs (James et al., 2016), verbal and physical harassment (Cruz, 2014; Reisner et al., 2014), denial of care (Bakko & Kattari, 2020; James et al., 2016; Reisner et al., 2014; Rodriguez et al., 2017), and gender identity-exclusion practices in patient-provider communication (Bauer et al., 2009; Mason, 2021; Mason et al., 2022). The high levels of direct exposure to identity-related discrimination and erasure that transgender and non-binary individuals report experiencing in healthcare settings may incite mistrust and discord in the patient-provider relationship and may facilitate the underutilization of preventative, emergency, and specialized healthcare services in an attempt to avoid the psychological distress that may follow experiences of discrimination (Baumeister et al., 2007; Mason, 2021; Mason et al., 2022; Meyer, 2003; 2008; 2021; Williamson et al., 2019). Healthcare discrimination, mistrust in healthcare providers, and healthcare underutilization behaviors may exacerbate the higher incidences of deleterious psychological (e.g., anxiety, depression, substance use, suicidality) and physiological (e.g., chronic health conditions, disabilities, impairments) health outcomes that individuals in this population endure in comparison with the general population in the United States (U.S.; Arnold & Dhingra, 2020; Cicero et al., 2020; Dang

et al., 2022; Drabish & Theeke, 2022; Haviland et al., 2021; Medina-Martinez et al., 2021).

Notwithstanding the evidence of high levels of direct exposure to healthcare discrimination and its association with healthcare underutilization among this population, it is imperative to consider *vicarious* exposure (e.g., indirectly through observation or report) to healthcare discrimination as a contributing factor in the healthcare utilization behaviors of transgender and non-binary individuals as seen in other populations (Williamson, 2021; 2022; Williamson et al., 2019). To the author's knowledge, there have been no empirical investigations into lifetime exposure to the culmination of various forms of direct and vicarious experiences of gender identity-related healthcare discrimination as a predictor of healthcare utilization behaviors among this population, nor have there been explorations of mistrust in healthcare as a potential pathway through which healthcare utilization behaviors may occur in relation to exposure to healthcare discrimination in this population. The present study aims to advance the empirical understanding of the commonality of direct and vicarious exposure to healthcare discrimination, mistrust in healthcare, healthcare utilization behaviors, and the relationships between these constructs among transgender and non-binary individuals.

Characterizing the Transgender and Gender-Independent Population

Historical Perspective of Gender and Gender Identity

In the U.S., *Gender* is a socially devised construct that has historically and inaccurately been amalgamated with *sex assigned at birth* (i.e., sex assigned during prenatal and perinatal periods based on the designation of biological structures as male or female – sex chromosomes, hormones, and internal and external genitalia). This inaccurate amalgamation has resultantly ensued culturally normative ideas that have designated roles, behavior, personality, and expression patterns to individuals based on the sex they were assigned at birth (American

Psychological Association [APA], 2015; 2021). The conflation of sex assigned at birth with gender has resulted in binary (i.e., classification of gender into two independent categories of boy/man and girl/woman) and cisnormative views of identity as it relates to gender – that such an identity inherently corresponds with sex assigned at birth or the cultural norms that have been societally established in relation to it, and that individuals uniformly conceptualize their gender identities in this manner (APA, 2015; 2021; Bowling et al., 2019; Krieger, 2020). *Gender identity* is defined by the APA (2015) as an individual’s “deeply felt, inherent sense of being a boy, a man, or male; a girl, a woman, or female or an alternative gender that may or may not correspond to a person’s sex assigned at birth or to a person’s primary or secondary sex characteristics” (p. 862).

Terminology Used to Describe the Transgender and Gender-Independent Population

The terms *transgender*, *gender minorities*, and *gender diverse* are referred to as umbrella terminology used to refer to individuals whose gender identities, gender roles, and gender expressions do not align with the social and cultural gender norms associated with the sex that they were assigned at birth (APA, 2015; 2021). These terms are considered to be representative of the inclusion and expansiveness of identities that exist within this population (APA, 2021). It is imperative to affirm that not all individuals within this population conceptualize or describe their gender identity as one that is transitioning within the gender binary framework.

Additionally, terminology such as *minorities* and *diverse* can be considered pejorative in nature, as they may reduce one’s gender identity to the marginalization and discrimination that are bound up in the differential societal, cultural, and political power dynamics between this population and *cisgender* individuals (i.e., those whose gender identities align with sex assigned

at birth; APA, 2015; 2021) in the U.S. Such terms may also reinforce the socially distorted idea that there is a normative framework that individuals must operate within or deviate from.

It is the author's intent not to reinforce gender binarism by using the terminology mentioned previously to describe this population and their experiences (i.e., the idea that gender identity must solely and distinctly conform to sex assigned at birth; Krieger, 2020), but to affirm the wholeness and the internal knowing of gender embodied in individuals within it. The author will refer to this population as *transgender and gender-independent* (TGI) hereafter. Prior literature has used the term *gender independent* to refer to this population in Canada (Pyne, 2014), Australia (Zappa, 2017), and most recently in the U.S. (Mason et al., 2022). TGI individuals are those who in relation to or independent of the sex they were assigned at birth, may identify themselves as a transgender woman, transgender man, woman, man, non-binary, genderqueer, agender, or another gender identity.

Prevalence of Gender-Independent Identities

Recent population estimates depict that a significant proportion (0.4% - 0.6%) of individuals in the U.S. population identify as TGI (Flores et al., 2016; Herman et al., 2022; Meerwijk & Sevelius, 2017). Utilizing data from the U.S. Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) to estimate the number of TGI adults living in the U.S. from 2017 to 2020, a study conducted by the Williams Institute at the University of California (UCLA), Los Angeles' School of Law found that 0.6% of adults in the U.S. (equating to approximately 1.4 million individuals) identify as TGI (Herman et al., 2022). The prevalence of this population may be much higher than prior research has estimated, as the characteristics and experiences of the TGI population are underrepresented in state and federal population surveys due to persistent negligence in ensuring that inquiries

regarding gender identity are included, or that inquiries regarding gender identity are supportive of thoroughly and accurately accounting for the expansiveness of gender identity and expression. Additionally, academic researchers' methodological reliance on convenience samples, explicit (self-report) survey measures, inaccurate and culturally incompetent terminology within survey response choices, and diagnostic coding within clinical and healthcare settings also contribute to the erasure of this population in data collection, which may also contribute to an underestimation of the prevalence of this population. The deficit of rigorous and equitable methodological strategies utilized in federal, state, and academic research reinforces cisnormativity and interferes substantially with efforts to improve the health of TGI individuals in policy, research, and healthcare.

Healthcare Accessibility

Healthcare Access refers to the ability, opportunity, and ease with which individuals and populations are able to seek and obtain necessary healthcare services, providers, and institutions (Daniels, 1982; Levesque et al., 2013; Whitehead, 1992). A framework developed by Levesque et al (2013) conceptualizes five dimensions that combine to serve as facilitators or barriers in the accessibility of healthcare including (1) *approachability*, (2) *acceptability*, (3) *availability*, (4) *affordability*, and (5) *appropriateness* (see Figure 1). Yet, financial barriers have been prominent in discussions regarding the accessibility of healthcare, resulting in significant progress in advancing policies in the U.S. to address healthcare affordability, including the Affordable Healthcare Act (ACA; Assistant Secretary for Public Affairs, 2022; Crowley et al., 2020; Erickson et al., 2020). Notwithstanding that progress and the role that affordability of healthcare plays in an individual's ability to access care, disparities related to the four other dimensions of healthcare accessibility persist. At least 21% of adults in the U.S. experience non-affordability

related barriers to accessing the care that they seek or require (Kullgren et al., 2021). The systematic and institutional exclusion, discrimination, and erasure that is endemic to the U.S. healthcare system severely compromises the dimensions of healthcare accessibility for historically marginalized populations including TGI individuals. An absence of deliberate organization, cultural preparedness, collaboration, and information-sharing among healthcare consumers, providers, and institutions can lead to the absence of care or care that is fractured – jeopardizing the ethics, effectiveness, safety, and efficiency through which care is delivered. An application of Levesque et al’s (2013) framework to the TGI population, makes apparent the barriers they may face in accessing healthcare (see Figure 1).

Figure 1. *An Application of the Dimensions of Healthcare Access to the TGI population*

Dimensions of Healthcare Access:	
Approachability	<p>The individual perceives that healthcare services exist and that those services can be approached to receive the care that is needed.</p> <ul style="list-style-type: none"> ▪ Deficits in knowledge and data about the demographic identities and healthcare needs of TGI healthcare consumers. ▪ Gendered language used in public health information and descriptions of healthcare facilities and services that reinforce gender binarism and cisnormativity (e.g., women's clinics, men's health, women's health). ▪ Deficits in outreach activities tailored to the TGI population, that place the onus on TGI individuals to approach the healthcare system assuming that they will find it to be approachable.
Acceptability	<p>The healthcare services being offered are perceived to be aligned or misaligned with the individual’s social identities, sociocultural values, and ideologies.</p> <ul style="list-style-type: none"> ▪ Underrepresentation of TGI identities among the healthcare workforce. ▪ Deficit of cultural competency and humility among healthcare providers. ▪ Requirements to accept pathologizing and stigmatizing classifications relating to gender identity to receive care.
Availability	<p>The individual capacity to reach healthcare services (e.g., geographic locations, hours of operation, accommodations).</p> <ul style="list-style-type: none"> ▪ Scarcity of providers and facilities that are affirming of TGI identities when preventative healthcare services are sought (e.g., primary care, reproductive care). ▪ Scarcity of providers and facilities that offer gender-affirming healthcare services (e.g., hormone replacement therapy, speech therapy, surgery). ▪ Lengthy time spans between the time that services may be sought and the availability of those services (e.g., psychological health services).

Affordability	<p>The individual capacity to spend resources and time to utilize available healthcare services.</p> <ul style="list-style-type: none"> ▪ Financial disparities impacting access to healthcare insurance (e.g., employment, income). ▪ Financial disparities impacting the affordability of direct and indirect costs of accessing or receiving healthcare services (e.g., transportation, required medical equipment). ▪ Discord between the healthcare that TGI individuals and providers determine to be necessary for their health and the services covered by healthcare insurers (e.g., gender-affirming care).
Appropriateness	<p>The fit or gap between the individual need and the healthcare services offered.</p> <ul style="list-style-type: none"> ▪ Providers engaging in unnecessary or invasive gender identity or transition-related inquiries before healthcare services are provided. ▪ Providers refusing to use the appropriate names and pronouns when engaging with TGI individuals. ▪ Deficits in cultural competency and humility that reinforce the discord between gender identity and sex assigned at birth, impacting TGI individuals' ability to receive healthcare that is appropriate in relation to their identities and embodiment.

Healthcare Discrimination and Erasure Among the TGI Population

Discrimination is the unjust and prejudicial treatment of individuals or groups related to their membership in distinct racial, ethnic, religious, ability, sexual, gender, and socioeconomic social groups (APA, 2021). Discrimination can occur at individual and institutional levels. At the individual level, discrimination can manifest interpersonally as the expression of prejudice, bias, and stigma through harmful behaviors toward members of targeted groups (APA, 2021).

Institutional discrimination occurs through the practices, laws, and policies that create pathways through which privileges are provided to some groups (e.g., individuals who are White, Cisgender, individuals without disabilities) while restricting opportunities and access for other groups (e.g., People of Color [POC], TGI, individuals with disabilities) in multiple societal domains including healthcare institutions (APA, 2021). A national study conducted in 2020 revealed that at least one in five (21.4%) adults in the U.S. have experienced healthcare discrimination at least once in their lifetime (Nong et al., 2020).

Direct Exposure to Healthcare Discrimination

Studies have found evidence of alarmingly high and disproportionate levels of exposure to gender identity-related healthcare discrimination among the TGI population compared to cisgender individuals (Alizaga et al., 2021; Bauer et al., 2009; Bauer et al., 2014; Bauer et al., 2015; Jaffee et al., 2016; James et al., 2016; Kattari et al., 2021; Macapagal et al., 2016; Markovic et al., 2021; Mason et al., 2022; Puckett et al., 2020; Rodriguez et al., 2017; Romanelli & Lindsey, 2020; Seelman et al., 2017; Shires & Jaffee, 2015; Vupputuri et al., 2021; White Hughto et al., 2015). The discrimination that TGI individuals are exposed to in healthcare settings is driven by *transphobia* (i.e., irrational fear and hatred of TGI individuals) and *cisgenderism* (i.e., systematic bias based on the idea that all people are cisgender, thereby leading to discriminatory beliefs and behaviors toward TGI individuals), leading to hindrances that impact their ability to access healthcare (APA, 2015). The discrimination that TGI individuals are exposed to in healthcare that serve as barriers to their ability to access healthcare is multifarious and ranges from exposure to erasure (e.g., non-inclusive physical environments, deficits in knowledge about TGI individuals among healthcare providers) to exposure to overt discriminatory behaviors from healthcare professionals (e.g., refusal to provide care, verbal and physical harassment).

Findings from the first U.S. population health survey conducted among the TGI population indicated that despite 92% of its TGI respondents (N = 274) reporting having healthcare insurance, fear of gender identity-related discrimination in healthcare settings was a prominent barrier theme in accessing healthcare (Meyer et al., 2021). Over half (62%) of individuals in the study reported that they worried about being negatively judged because of their gender identity when seeking healthcare. Such worry experienced by TGI individuals is

consistent with the evidence of the significant relationship that Rodriguez et al., 2017 found between being recognized by healthcare providers as TGI and exposure to healthcare discrimination among TGI participants (N = 6,106). Findings of the *2015 U.S. Transgender Survey* (James et al., 2016) – the largest survey devoted to the experiences of TGI individuals in the U.S., indicated high levels of healthcare discrimination among a national sample of TGI individuals (N = 27, 715). The study found that one in three (33%) participants reported having been exposed to at least one negative experience with a healthcare provider in the past year related to their gender identity, with higher incidences of discrimination reported among individuals who reported other marginalized identities (e.g., POC). Several studies have articulated findings that are consistent with the results of the *2015 U.S. Transgender Survey* (James, et al., 2016), building a pattern of exposure to healthcare discrimination in the year prior to study participation including having to teach a provider about gender identity to receive care, denial of care, verbal harassment, and physical abuse being prevalently endorsed by TGI individuals (Alizaga et al., 2021; Bauer et al., 2009; Bauer et al., 2014; Bauer et al., 2015; Bradford et al., 2013; Jaffee et al., 2016; Kattari et al., 2021; Macapagal et al., 2016; Markovic et al., 2021; Mason et al., 2022; Puckett et al., 2020; Romanelli & Lindsey, 2020; Seelman et al., 2017; Shires & Jaffee, 2015; Vupputuri et al., 2021; White Hughto et al., 2015). In a study conducted among a nationally representative sample of TGI individuals (N = 342), Mason (2021) assessed eight direct forms of discrimination and erasure: (1) having to teach a provider about TGI people to receive appropriate care, (2) provider refusal to provide TGI-related care (e.g., hormone replacement therapy), (3) provider refusal to provide other forms of care (e.g., physical exam, flu), (4) provider asking unnecessary or invasive questions about gender identity unrelated to the care sought, (5) harsh or abusive language when being treated, (6) verbal harassment, (7)

provider refusal to use the correct name and pronouns, and (8) provider request for medical forms to be completed that were not inclusive of the correct gender identity. The study found that 78% of participants reported experiencing at least one of the eight direct forms of discrimination and erasure assessed in their lifetime, though the average number of distinct forms of healthcare discrimination that the sample reported was just under two and a half ($M = 2.43$).

Erasure

Informational erasure (i.e., the deficit, omission, and suppression of knowledge advanced about the identities and experiences of distinct social populations) and *institutional erasure* (i.e., the deficits in policy, structure, and practice aimed to protect and affirm the identities of distinct social populations) are two interrelated processes that serve as additional barriers to the accessibility of healthcare among the TGI population (Bauer et al., 2009). The findings of Mason's (2021) empirical examination of exposure to healthcare discrimination and erasure articulated that 65% of TGI adult participants ($N = 342$) reported that they were required to complete medical forms that were not inclusive of their gender identities at least once in their lifetime. A study conducted by Mason et al (2022) found that for every ten TGI adult participants who reported being exposed to healthcare discrimination and erasure during their childhood ($N = 134$) eight (81%) reported being required to complete medical forms that excluded their gender identities. Notwithstanding the importance of these recent findings, evidence regarding exposure to institutional and informational erasure among this population remains scant.

Vicarious Exposure to Healthcare Discrimination

Social support, community building, and belonging are protective factors against the deleterious psychological and physiological health outcomes that are associated with the social discrimination and marginalization that TGI individuals are exposed to at intersecting societal

domains (Lelutiu-Weinberger et al., 2020; Meyer, 2020; 2015; Meyer et al., 2021). Meyer et al., 2021 reported that 57.5% of TGI individuals (N = 274) in their study endorsed feeling that they were part of a community of people who shared their gender identities, indicating that individuals in this population may find belonging and affirmation amongst other TGI community members and spaces. Individuals in the TGI population may rely on their social network as a resource in discerning and developing an appraisal of which settings (e.g., healthcare) they might encounter barriers or facilitators in accessing the resources (e.g., healthcare services) they need. TGI individuals may be vicariously exposed to reports of bias, stigma, discrimination, and erasure experienced by other TGI community members. The intersection of the social behaviors and coping mechanisms this population engages in requires an assessment of the vicarious forms of healthcare discrimination and erasure that they may be exposed to. Exposure to direct and vicarious forms of healthcare discrimination and erasure may have a deleterious influence on the health, appraisal of the healthcare environment (e.g., mistrust), and health behaviors (e.g., healthcare utilization, treatment adherence) of TGI individuals as seen in other populations (Williamson, 2021; 2022; Williamson et al., 2019).

The research on exposure to healthcare discrimination among TGI individuals has been predominantly descriptive in nature utilizing dichotomous variables (i.e., yes or no) to indicate whether or not TGI individuals reported being exposed to distinct forms of healthcare discrimination in the past year or their lifetime. Although Mason (2021) assessed lifetime exposure to eight distinct forms of healthcare discrimination and erasure among TGI individuals it is important to advance the knowledge that the study yielded. Additionally, to the author's knowledge, no studies have been conducted among the TGI population regarding their exposure to healthcare discrimination and erasure vicariously. The present study aims to advance the

empirical knowledge of exposure to gender identity-related healthcare discrimination and erasure among the TGI population by assessing the culmination of exposure to direct and vicarious forms of healthcare discrimination and erasure.

Mistrust in Healthcare

Hall et al (2001) conceptualized *trust* as the ability and willingness of an individual or population to have confidence in the reliability of other individuals or institutions to have one's needs met in the context of circumstances lending to vulnerability (e.g., needing treatment for a symptom of a condition that an individual is unable to provide to themselves). As such, trust in healthcare providers and institutions encompasses the confidence that healthcare institutions, providers, and prescribed treatments are ethical, competent, equitable, and can be relied upon when individuals are vulnerable and require solace and healing. *Mistrust* in healthcare (i.e., distrust in the motives, competencies, quality, and equity within healthcare institutions) is a protective coping response incited by exposure to identity-related stigma, bias, discrimination, and erasure in healthcare settings and severely impairs the trust that individuals may or can have in healthcare institutions and providers (Benkert et al., 2019; Griffith et al., 2021; Mollborn et al., 2005; Ho et al., 2022).

Evidence of mistrust in healthcare institutions, providers, and treatments has primarily been garnered from studies assessing Black Americans' experiences in healthcare settings, their health status, and health-seeking behaviors (Bazargan et al., 2021; Bogart et al., 2016; Hall et al., 2022; Pugh et al., 2021; Tekeste et al., 2019; Thompson et al., 2004; Williamson, 2021; 2022; Williamson et al., 2019). In the context of the historical mistreatment of Black embodiment in healthcare institutions including the unethical medical experimentation that occurred in the *Tuskegee Syphilis Study*, the exploitation of Black women's bodies in medical training during

chattel slavery in the U.S., and the inequities that exist between how healthcare providers manage pain and other symptoms experienced by Black individuals when they seek care compared to White individuals, it is comprehensible that mistrust in healthcare is prevalent among the Black population (Fairchild & Bayer, 1999; Hoffman et al., 2016; Jaiswal & Halkitis, 2019; Owen et al., 2019). Though underexplored, qualitative and quantitative studies have begun to explore the relationship between exposure to stigma, bias, healthcare discrimination, and mistrust in healthcare among gay and bisexual men and TGI individuals of color (predominantly transgender women), and have reported that mistrust in healthcare institutions is prominent among these populations, particularly in relation to Human Immunodeficiency Virus (HIV) (Arrington-Sanders et al., 2020; Cahill et al., 2020; Dang et al., 2022; D'Avanzo et al., 2019; Haviland et al., 2021; Jaiswal et al., 2021; Salerno et al., 2020; Smart et al., 2022). The mistrust in healthcare among gay and bisexual men and TGI individuals can be conceptualized in the context of the historical gender, sexuality, and race-ethnicity-related stigma and discrimination that ensued from the U.S.'s response to the Acquired Immune Deficiency Syndrome (AIDS) epidemic providing pathways through which gay and bisexual men, and transgender women in the U.S. could be further marginalized in almost every societal realm, including in healthcare (Halkitis, 2012; Strathdee et al., 2021).

Mistrust in healthcare providers and institutions is a prominent barrier theme in the accessibility of healthcare and serves as a facilitator in decreased engagement in health-seeking behaviors including the underutilization of preventative healthcare services (e.g., cancer screenings, vaccinations, sexually transmitted infection (STI) testing), the lack of initiation of care to receive treatments for acute and chronic conditions, and nonadherence to prescribed treatments among these marginalized populations (e.g., Pre-Exposure Prophylaxis [PrEP]

hesitancy and refusal), behaviors that have deleterious impacts on health (Dang et al., 2022; Haviland et al., 2021; Minaya et al., 2022; Teixeira da Silva et al., 2021; Thompson et al., 2004; Williamson, 2021). Though explorations of mistrust in healthcare among specific sectors of the TGI population (e.g., transgender women) have begun, a broader assessment of this barrier theme in the accessibility and utilization of healthcare among TGI individuals with varied intersecting identities is imperative to decrease health inequities among this population. To the author's knowledge, no studies have explored mistrust in healthcare as a potential mediator in the relationship between exposure to healthcare discrimination and erasure, and healthcare utilization behaviors among TGI adults. The present study aims to close this gap in the empirical understanding of this population's mistrust of healthcare institutions and providers.

Healthcare Utilization

Healthcare utilization behaviors among the TGI population are substantially impacted by socioeconomic factors (e.g., employment, income, and health insurance) and exposure to discrimination and erasure in healthcare settings (James et al., 2016; Kcomt, 2019). Evidence of the role of anticipated exposure to gender identity-related healthcare discrimination in healthcare utilization behaviors ensued by the commonality of exposure to healthcare discrimination and erasure among TGI individuals has been documented (James et al., 2016; Kachen & Pharr, 2020; Kcomt et al., 2020; Mason et al., 2022). Underutilization (e.g., delay or avoidance) of healthcare services can be conceptualized in two ways: (1) *passive*, and (2) *active*. *Active underutilization* of healthcare refers to the intentional decision that individuals make not to utilize healthcare services, even when the care that is needed is available. *Passive underutilization* of healthcare is referred to as the lack of engagement with needed healthcare due to being uninformed or

misinformed about available healthcare services (Aday & Anderson, 1974; Anderson, 1995; Levesque et al., 2013).

There is evidence that almost one-quarter (19 – 26%, median = 23%) of TGI individuals in the U.S. have engaged in underutilization behaviors due to anticipated discrimination in healthcare settings, with a higher prevalence of healthcare avoidance and delay reported by POC within the TGI population (James et al., 2016; Kcomt et al., 2020; Mason et al., 2022; Reisner et al., 2014). The intentional decision to underutilize various forms of care (e.g., illness prevention, disease management, physical trauma and injury, psychological support, gender-affirming care) when it is needed due to fear of anticipated discrimination has the potential to be incredibly harmful to TGI individuals' physical and psychological health, leading to further inequities in health outcomes compared to cisgender individuals (Seelman et al., 2017). In a study conducted to examine whether or not fear-based underutilization of healthcare would predict poorer healthcare outcomes in a sample (N = 417) of TGI adults in the Rocky Mountain region of the U.S., Seelman et al (2017) found that participants who delayed healthcare due to their fear of discrimination had poorer physical and psychological health than those who did not delay care ($B = 0.26, p < .05$), and that individuals who delayed care had a 3% greater risk for anxiety and depression symptoms, a 4% greater risk of a past year suicide attempt, and 3% greater risk of past-year suicidal ideation. Notwithstanding the evidence that has articulated the harmful impacts that exposure to healthcare discrimination and erasure may have on the TGI populations' healthcare utilization behavior, this research has simply documented the prevalence of healthcare underutilization among this population and used TGI identities as a predictor of healthcare underutilization among this population. The present study seeks to advance the empirical knowledge about the predictability of healthcare utilization behaviors among the TGI

populations in relation to exposure to direct and vicarious healthcare discrimination and erasure, and mistrust of healthcare.

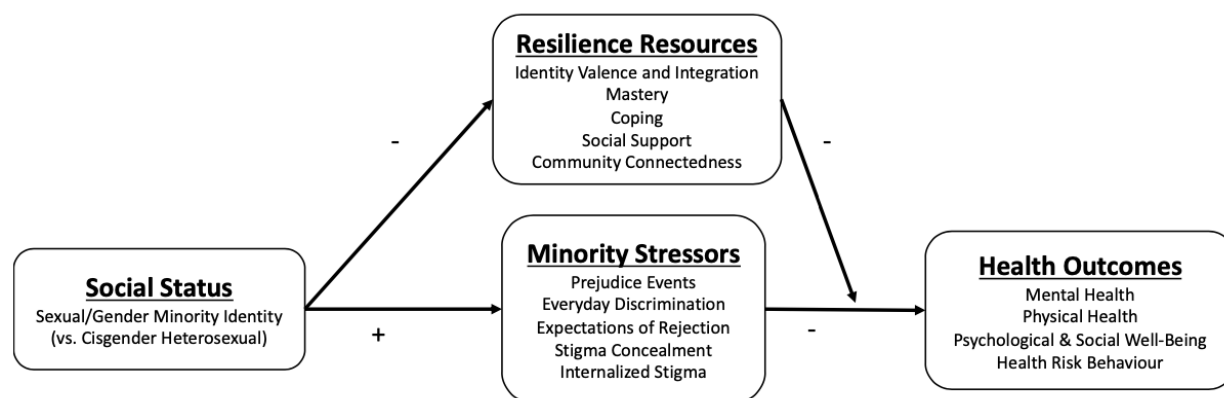
Theoretical Frameworks

Minority Stress Model

The Minority Stress Model (Meyer, 2003) is a prominent framework that is facilitative in interpreting why TGI individuals experience heightened distress following and in anticipation of exposure to discrimination and erasure in healthcare settings, and the health inequities that are influenced by that distress (see Figure 2; Flentje et al., 2019; Meyer, 2020). Though initially formulated to consider the minority stress processes of the Lesbian, Gay, and Bisexual population, applications of the minority stress model have been applied to the TGI population (Hendricks & Testa, 2012; Mason et al., 2022; Rood et al., 2016; Testa et al., 2015). The model examines three processes through which TGI individuals are vulnerable to socially induced stress when interacting and considering interactions with healthcare institutions and providers when it is needed: (1) distal stressors, (2) interactive proximal stressors, and (3) internalized proximal stressors. *Distal stressors* are external and observable and include TGI individuals' exposure to discriminatory, stigmatized, and violent behaviors in multiple societal domains – including healthcare settings (e.g., a healthcare provider's refusal to provide care). *Interactive proximal stressors* are the processes through which TGI individuals develop a heightened level of vigilance in anticipation of rejection, discrimination, stigma, and violence (e.g., a heightened fear of invasive and unnecessary questioning about one's gender identity in a healthcare setting due to prior exposure to such questioning). *Internalized proximal stressors* are demonstrative of the psychological processes that occur among TGI individuals when they internalize the social rejection, discrimination, and erasure that may result in the concealment of their gender

identities, internalized transphobia, psychological distress, ineffectual coping behaviors such as substance use (Benotsch et al., 2013) or the underutilization of healthcare (Bauer et al., 2014; Jaffee et al., 2016; James et al., 2016; Macapagal et al., 2016; Mason et al., 2021; Seelman et al., 2017). Researchers have assessed various facets of minority stress and protective pathways that may transcend the health inequities that exist among the TGI population conflated with the socially induced stress that they endure including opportunities to increase esteem and identity acceptance, social support (e.g., belonging, community), and advocacy for the reduction or elimination of policies and practices that provide pathways to stigmatize, exclude, erase, and discriminate against the TGI population (Bariola et al., 2015; Meyer, 2015; Meyer et al., 2021).

Figure 2. *The Minority Stress Model*

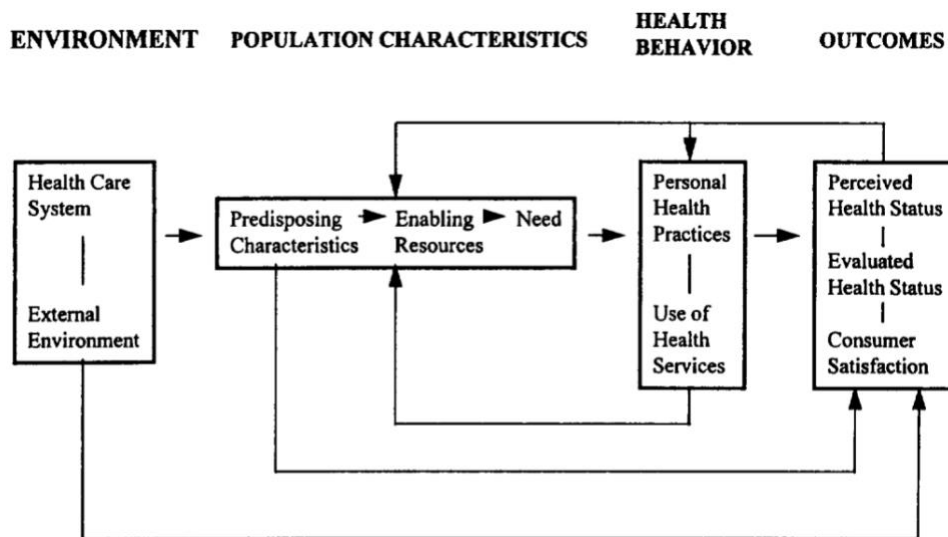


Behavioral Model of Health Service Use

The *Behavioral Model of Health Service Use* (Anderson, 1995) is an additional theoretical framework that is facilitative in interpreting the facilitators and barriers that influence healthcare access and utilization behaviors among TGI individuals. The model is a widely used behavioral model that is grounded in the notion that healthcare utilization behaviors are influenced by an amalgamation of individual, environmental, sociocultural, and psychosocial factors (Anderson, 1995; Eun et al., 2022; Kantor et al., 2017; Lerner & Robles, 2017; Okedo-

Alex et al., 2019). The framework posits that three interrelated individual or population-specific factors predict healthcare service utilization: (1) predisposing characteristics, (2) enabling resources, and (3) need (see Figure 3; Anderson, 1995). *Predisposing Factors* refer to individual-specific characteristics (e.g., age, race-ethnicity, gender identity) and the beliefs, attitudes, appraisal, and values regarding health, healthcare institutions, healthcare providers, and healthcare services that may influence utilization behaviors. *Enabling resources* refers to the accessibility of resources (e.g., income, health insurance, transportation, time, availability of services) that are imperative to utilizing healthcare services. *Need* refers to the perceived (e.g., health beliefs, somatic and psychological symptoms) or clinically evaluated (e.g., comorbidity, disability, neurodivergence) need for care that influences whether or not people will utilize available healthcare services. This conceptualization of the intersecting factors that influence healthcare utilization behaviors is efficacious in interpreting and analyzing how the prominent gender identity-related barrier themes that influence TGI individuals' ability to access and utilize healthcare that prior research has demonstrated (e.g., disparities in the affordability of care, insurance denials of healthcare service claims, informational and institutional erasure, exposure to healthcare discrimination, and anticipated healthcare institutional and provider discrimination) work together to deleteriously influence the healthcare underutilization behaviors they report, which has severe implications for population health (Anderson, 1995; Eun et al., 2022; Kantor et al., 2017; Lerner & Robles, 2017; Okedo-Alex et al., 2019).

Figure 3. *The Behavioral Model of Health Service Use*



The Present Study

The present study sought to evaluate the relationships between direct and vicarious gender identity-related healthcare discrimination exposure and past year healthcare utilization among TGI individuals. This study also explored gender identity-based mistrust in healthcare as a mechanism (i.e., mediator) through which direct and vicarious gender identity-related healthcare discrimination may serve as predictors of healthcare utilization behaviors. The following hypotheses were posited:

Hypothesis 1: (a) Direct, and increased exposure to lifetime gender identity-related healthcare discrimination will predict healthcare underutilization related to anticipated gender identity discrimination, (b) even when accounting for factors that may contribute to healthcare utilization behaviors including age, race-ethnicity, income, health insurance coverage, comorbidity, and disability/neurodivergent identity status.

Hypothesis 2: (a) Increased exposure to vicarious gender identity-related healthcare discrimination will predict healthcare underutilization related to anticipated gender identity

discrimination, (b) even when accounting for factors that may contribute to healthcare utilization behaviors including age, race-ethnicity, income, health insurance coverage, comorbidity, and disability/neurodivergent identity status.

Hypothesis 3 (*Exploratory*): Gender identity-based mistrust in healthcare will mediate the relationship between direct exposure to lifetime gender identity-related healthcare discrimination and healthcare utilization related to anticipated gender identity discrimination. Exposure to higher levels of lifetime healthcare discrimination will predict higher levels of gender identity-based mistrust in healthcare, which will predict past year healthcare underutilization related to anticipated gender identity discrimination.

Hypothesis 4 (*Exploratory*): Gender identity-based mistrust in healthcare will mediate the relationship between vicarious exposure to gender identity-related healthcare discrimination and healthcare utilization related to anticipated gender identity discrimination. Exposure to higher levels of vicarious healthcare discrimination will predict higher levels of gender identity-based mistrust in healthcare, which will predict past year healthcare underutilization related to anticipated gender identity discrimination.

Method

Procedures

Data for this study were derived from participant responses to three consecutive surveys administered online from May 26 to June 22, 2022. Participants were recruited using Prolific (<https://www.prolific.co/>), an online research participant recruitment platform designed to facilitate connections among social, economic, and political science researchers and their intended research demographic. Prolific has been found to offer higher data quality and higher levels of participant naivety and diversity when compared with other online research recruitment

platforms – making it a substantial improvement over other types of nonprobability sampling methods (Palan and Schitter, 2018; Peer et al., 2017). Several steps were engaged in through the Prolific platform to ensure the quality of the data collected in this online survey: (a) respondents completed prescreened demographic information via their Prolific profile to be considered for the study; specifically, the information that respondents reported regarding their gender identity when creating their initial Prolific research participant profile was used to only invite individuals reporting a non-cisgender identity, (b) IP addresses were examined to ensure that respondents were in the U.S. and to support in the identification of potential duplicate responses, (c) the Prolific platform included survey protection options that allowed for the recording of respondents' anonymous Prolific IDs to support in identifying potential duplicate responses, (d) respondents were required to accurately complete a CAPTCHA challenge to inhibit programmed responses (e.g., respondents were prompted to check a box stating “I’m not a robot” and accurately identify items within a gridded photo), and (e) respondents were required to answer five questions positioned within the survey to assess their attention to what survey questions were asking of them and had to accurately complete four of the five attention checks to be included in study analysis (e.g., Please select “neither agree nor disagree” for this item.). These attention checks were also supportive of disqualifying participants who were potentially responding randomly to survey questions.

Respondents met the eligibility criteria to participate in this study if they: (a) were 18 years old or older, (b) identified as Transgender or Gender Independent, (c) had the ability to complete the anonymous self-administered online survey in English, and (d) had an approval rating of 95 percent or above in prior research studies participated in through the Prolific platform. Upon participants' completion of studies on the Prolific platform for which they were

eligible, researchers are required to review participant data and determine based on predetermined and specified criteria (e.g., percentage of completion of survey questions, completion of critical survey questions, accurate completion of attention checks) if survey submissions are to be approved or rejected. Participant approval ratings are based on the percentage of approved studies a participant has completed on the platform (i.e., the number of approved studies divided by the total number of studies an individual has participated in; Peer et al., 2017).

Individuals who met the eligibility criteria to participate in this study were provided with a brief description of the survey and invited to participate through an advertisement on the Prolific Platform or were emailed by Prolific regarding their eligibility to participate in the study. Respondents who chose to participate in the survey were automatically redirected through the Prolific platform to a Qualtrics (<https://www.qualtrics.com>) survey designed and operated by the research team conducting a larger study assessing the healthcare experiences, healthcare decision-making, and health behaviors of TGI individuals. Participants were then prompted to review a consent document prior to accessing the survey (see Appendix A). Once consent was obtained and a CAPTCHA question was accurately answered, participants were asked to respond to inquiries regarding demographic information, health information, experiences of gender identity-related discrimination in healthcare, healthcare utilization, group-based mistrust in healthcare, and health behaviors. In total, the survey consisted of 185 items (survey respondents may have engaged with fewer items due to skip patterns throughout the survey) and took participants an average of 17 minutes to complete. Upon completion of the survey and after quality control checks were conducted, participants received compensation for their time in the amount of \$1.20, which was administered directly to participants' Prolific accounts. The data

provided by respondents contained no identifying information, allowing for the anonymity of participants. Virginia Commonwealth University's Institutional Review Board approved all materials and procedures for conducting this study.

Sample

The present study utilized a targeted sampling methodology to increase the generalizability of potential findings to individuals who embody historically marginalized and underrepresented racial-ethnic identities (e.g., POC; American Indian or Alaskan Native, Black or African American, Latin(a/o/x), Asian or Asian American, Arab, Middle Eastern, North African, and Multi-Racial-ethnic individuals) among the TGI population. Prior studies using non-probability and non-targeted sampling methodology in the recruitment of TGI individuals through the Prolific platform resulted in samples where POC individuals were underrepresented (e.g., 69% White; 31% POC; Mason et al., 2022), thereby lessening the representativeness of the racial-ethnic diversity existing among TGI individuals. Three consecutive surveys were launched to assess the role of racial-ethnic identity in the relationships among direct and vicarious exposure to healthcare discrimination and healthcare utilization behaviors among the TGI population: (1) all eligible TGI Prolific users ($n = 194$; 75% White individuals) were recruited for three days independent of race-ethnicity, (2) only eligible TGI Prolific users of Color ($n = 108$) were recruited for twenty-two days, and (3) all eligible TGI Prolific users ($n = 83$; 90% White individuals) were recruited for two days independent of race-ethnicity. An anti-duplication filter was applied to the second and third surveys to ensure that prior participants were prevented from completing the survey more than once.

The present sample is inclusive of 385 TGI individuals. On average, participants were 26.2 years old (*Standard Deviation [SD] = 7.5, Range = 18 – 71 years*). Participants were

representative of diverse generational cohorts including Generation Z (66.5%), Millennials (29.6%), Generation X (3.4%), and the Baby Boomer Generation (.5%). The sample reported a diverse range of gender identities. Just over 60% of the sample identified as either Non-binary (43.6%) or Trans Man (16.9%), and the other 40% of the sample reported gender identities including Trans Woman, Genderqueer, Gender Fluid, Woman, Man, or another gender identity not listed. Twenty-three participants reported that their gender identity was not listed among the survey options. Examples of the written responses for those participants included: “Agender”, “Two Spirit”, “Intersex Trans Woman”, “Intersex TransFem”, “Intersex Trans Man”, “Demi-boy”, and “Demi-girl”. Just under half of the sample reported a sexual identity that was either Bisexual (28.8%) or Gay (17.9%). Sixty-eight (17.7%) participants reported that their sexual identity was not listed among the survey options. Some examples of the responses participants entered include Queer, Omnisexual, and Polysexual. Just over half (56.5%) of the participants reported a White racial identity, with low levels of annual income (56.4% of participants reported that they earned less than \$40,000 per year). Slightly less than half of the sample reported that the highest level of formal education they attained was High School (41.3%) or GED (6.0%). The majority of the sample reported having health insurance (87.5%) and were more frequently covered under private healthcare plans (52.7%). Over half of the sample reported having been diagnosed with two or more chronic health conditions (59.7%). Among the health conditions reported, depressive disorder (72.9%), asthma (26.6%), and arthritis (11.5%) were the most prevalently reported among the sample. It should be noted that over half of the sample (57.1%) reported that they had been diagnosed with other health conditions not included in the list of options including anxiety disorder, post-traumatic stress disorder, and an autism spectrum disorder. Seventy-three percent of participants reported that their daily activities are

limited in some way due to their physical, mental, or emotional health. The majority of the sample identified as disabled and/or neurodivergent (69.1%). Sixty participants reported using assistive equipment or technologies (e.g., a mobility device, wheelchair, screen reader, captioning software, etc.), though these participants represent a minority (15.7%) of the sample. A complete description of demographic information for the sample is presented in Table 1.

Table 1. *Sample Sociodemographic Characteristics*

Category	Variable	n (%)
<i>Personal Characteristics</i>		
	Race/Ethnic Identity	
	White	218 (56.6)
	Multi-Racial-ethnic	80 (20.8)
	Hispanic/Latin(a/o/x)	33 (8.6)
	Asian/Asian American	24 (6.2)
	Black/African American	21 (5.5)
	Arab, Middle Eastern, or North African	6 (1.6)
	American Indian or Alaskan Native	3 (.8)
	Gender Identity	
	Non-Binary	168 (43.6)
	Trans Man	65 (16.9)
	Trans Woman	32 (8.3)
	Gender Queer	30 (7.8)
	Gender Fluid	23 (6.0)
	Another Gender Identity Not Listed	23 (6.0)
	Woman	22 (5.7)
	Man	22 (5.7)
	Sexual Identity	
	Bisexual	111 (28.8)
	Gay	69 (17.9)
	Another Sexual Orientation Not Listed	68 (17.7)
	Asexual	52 (13.5)
	Pansexual	50 (13.0)
	Heterosexual	35 (9.1)
<i>Socioeconomic Positionality</i>		
	Educational Attainment	
	Middle School	2 (.5)
	High School	159 (41.3)
	GED	23 (6.0)
	Vocational School	11 (2.9)
	Associate's Degree	45 (11.7)
	Bachelor's Degree	110 (28.6)
	Graduate Degree	35 (9.1)
	Annual Income	
	≤ \$20,000	119 (30.9)
	\$20,001 - \$40,000	98 (25.5)
	\$40,001 - \$60,000	63 (16.4)
	\$60,001 - \$80,000	48 (12.5)
	\$80,001 - \$100,000	28 (7.3)
	> \$100,000	29 (7.5)

Health Insurance Coverage		
Yes		337 (87.5)
No		48 (12.5)
Health Insurance Coverage Type		
Private Insurance		203 (52.7)
Public Insurance		134 (34.8)
<i>Chronic Health Conditions</i>		
Health Condition		
Depressive Disorder		280 (72.9)
Another Health Condition Not Listed		214 (57.1)
Asthma		102 (26.6)
Arthritis		44 (11.5)
Hypertension		37 (9.6)
Diabetes		10 (2.6)
COPD		7 (1.8)
Cancer		5 (1.3)
Kidney Disease		5 (1.3)
Stroke		4 (1.0)
Heart Disease		3 (.8)
HIV or AIDS		1 (.3)
Comorbidity		
< 2 Chronic Health Conditions		155 (40.3)
≥ 2 Chronic Health Conditions		230 (59.7)
<i>Disability and Impairment Status</i>		
Disability/Neurodivergent Identity		
Yes		266 (69.1)
No		119 (30.9)
Limitations in Daily Activities		
Yes		259 (73.0)
No		96 (24.9)
Necessitation of Assistive Equipment		
No		323 (84.3)
Yes		60 (15.7)

N = 385

Measures

Demographics

Sociodemographic data were collected regarding participants' age, gender identity, sexual identity, race-ethnicity, education attainment, annual income, health insurance coverage status, and health insurance coverage type. Age (years) was typed in a designated space within the survey by participants. Sociodemographic item information and the categorical response choices for each item can be found in Table 1 or Appendix B.

Participant Health Information

Items were adapted from the CDC's *2015 Behavioral Risk Factor Surveillance System Questionnaire (BRFSS; CDC, 2014)* to assess the health status of the sample by asking participants to respond to inquiries regarding chronic health conditions, disabilities/neurodivergence, daily functioning, and the necessitation of assistive equipment. *Chronic health conditions* were measured by asking participants if they had ever been diagnosed by a doctor, nurse, or another healthcare professional with one or more of eleven health conditions (see Table 1). If participants had been diagnosed with a health condition other than the eleven distinct health conditions listed, they could select "another health condition not listed" and were prompted to type in the additional health condition in a designated text box. Responses choices included "yes" or "no" to indicate whether or not a participant had been diagnosed with any chronic health conditions. A variable was created to indicate the total number of chronic health conditions that participants reported, yielding scores with a possible range of zero to twelve. This variable was created to be supportive of conveying the prevalence of chronic health conditions and/or comorbidity among the sample. Finally, a variable used to signify comorbidity dichotomized as (0) less than two or (1) two or more chronic health conditions were created for statistical analyses due to evidence that comorbidity (i.e., the presence of two or more chronic health conditions) is associated with more deleterious health outcomes and complex clinical management (Valderes et al., 2009); a strategy that is consistent with previous research (Cicero et al., 2020). *Disability/Neurodivergent Identity* data were collected by asking participants to indicate whether or not they identify as disabled and/or neurodivergent. *Limitations in Daily Activities* were measured by asking participants if any of their daily activities (e.g., personal hygiene, dressing, eating, restroom use, physical mobility) are limited in any way because of

their physical, mental, or emotional health. Responses regarding physical limitation included: “yes” or “no”. *Assistive Equipment Usage* was measured by asking participants if they use any assistive equipment or technologies, such as a mobility device, a wheelchair, a special bed, a screen reader, or captioning software. Participants indicated whether they used assistive equipment by answering “yes” or “no”.

Direct and Vicarious Exposure to Healthcare Discrimination

Two separate versions of ten items were utilized to assess participants' direct and vicarious exposure to gender identity-related healthcare discrimination. Six items were adapted from the healthcare experiences portion of the *2015 U.S. Transgender Survey* (James et al., 2016) to assess direct and vicarious exposure to healthcare discrimination. Items assessed participants' direct and vicarious exposure to six types of gender identity-related discrimination with healthcare providers and in healthcare settings including (1) having to educate a doctor or healthcare provider about transgender and gender-independent people to receive appropriate care, (2) being denied general healthcare (e.g., physical examination), (3) being asked unnecessary and invasive questions regarding gender identity status that were unrelated to the care being sought, (4) having a healthcare provider use harsh or abusive language while being treated, (5) having a healthcare provider be physically rough or abusive while being treated, and (6) being verbally harassed in a healthcare setting. Four additional items were utilized to assess direct and vicarious exposure to gender identity-related erasure in healthcare settings. Erasure items assessed participants' direct and vicarious exposure to four forms of erasure that can occur in healthcare settings or with healthcare providers including (1) the unintentional use of pronouns or a gender that does not accurately reflect an individual's gender identity, (2) the intentional refusal of the use of a preferred name or pronoun, (3) medical forms and documents

not being inclusive of an individual's gender identity, and (4) non-inclusive signage and facilities in healthcare settings.

Response choices for direct exposure to healthcare discrimination were adopted from Testa et al.'s (2015) *Gender Minority Stress and Resilience Measure* (GMSR) and included: "Never", "Yes, Before 18", "Yes, After 18", and "Yes, In the Past Year". Participants could choose multiple response choices if they experienced a specific form of healthcare discrimination at multiple points throughout their lives. Separate summary variables were created for childhood healthcare discrimination, past year healthcare discrimination, and healthcare discrimination that occurred at any point in an individual's lifetime. For each of the summary variables, the total number of events a participant indicated for each distinct time frame (e.g., childhood, past year, and lifetime) were totaled, yielding scores with a possible range of zero to ten for each variable. The lifetime healthcare discrimination measure was used in all relevant statistical analyses and had adequate internal consistency ($\alpha = .82$) in the present sample.

Response choices for vicarious exposure to healthcare discrimination were "yes" or "no". Participants could indicate whether or not they had been told by anyone they knew (e.g., friend, family member, partner, community member, colleague, etc.) that they had experienced any of the ten gender identity-related healthcare discrimination items mentioned above. The total number of unique forms of healthcare discrimination that a participant indicated that they had been vicariously exposed to were totaled, yielding scores with a possible range of zero to ten. The vicarious healthcare discrimination measure had excellent internal consistency ($\alpha = .89$) in the present sample.

Individual and Vicarious Healthcare Utilization

Two items were adapted from the *2015 U.S. Transgender Survey* (James et al., 2016) to assess individual and vicarious healthcare underutilization behaviors in the past year based on anticipated gender identity-related discrimination and healthcare cost. An additional item was created to assess past year healthcare underutilization behaviors based on fear of exposure to COVID-19 in healthcare settings and was modeled after the two items adapted from the *2015 U.S. Transgender Survey*. Two versions of the healthcare utilization items were used to assess participants' healthcare utilization behaviors (three items) and their awareness of the utilization behaviors of others (three items) due to distinct factors (i.e., anticipated discrimination, COVID-19 exposure, and cost). The three *individual* healthcare utilization items included: (1) “Was there a time in the past 12 months, when you needed to see a doctor but did not because you thought you would be disrespected or mistreated because of your gender identity?”, (2) “Was there a time in the past 12 months, when you needed to see a doctor but did not because you were worried about being exposed to COVID-19 in a healthcare setting?”, (3) “Was there a time in the past 12 months, when you needed to see a doctor but could not because of cost?”. The three *vicarious* healthcare utilization items included: (1) “Was there a time in the past 12 months, when someone you know, needed to see a doctor but did not because they thought they would be disrespected or mistreated because of their gender identity?”, (2) “Was there a time in the past 12 months, when someone you know, needed to see a doctor but did not because they were worried about being exposed to COVID-19 in a healthcare setting?”, (3) “Was there a time in the past 12 months, when someone you know, needed to see a doctor but could not because of cost?”. Participants could select “yes” or “no” to indicate whether they or someone they knew told them that they

avoided healthcare in the past year due to anticipated gender identity-related healthcare discrimination, fear of exposure to COVID-19, and anticipated cost.

Gender Identity-Based Mistrust in Healthcare

The 12-item *Group-Based Medical Mistrust Scale* (GBMMS; Thompson et al., 2004) was utilized to assess gender identity-based mistrust in healthcare settings. All items were retained from the original scale but were modified through word substitution, for a TGI identity context. For example, references to race/ethnic groups in the original GBMMS were replaced with “people who are transgender/gender diverse”. Participants were asked to rate their feelings regarding twelve statements (e.g., “people who are transgender/gender diverse cannot trust doctors and healthcare workers”) on a 5-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5). After four items were reverse coded, all twelve items were summed, yielding scores with a possible range of 20 to 60. Higher scores on this measure indicate greater levels of gender identity-based mistrust in healthcare. This measure produced adequate internal consistency ($\alpha = .87$) in the present sample. The complete measure can be found in Appendix B.

Analyses

Model Checking

Data were examined for missing responses for the variables mentioned in the analysis herein. Data from the full sample were available for analysis for all variables. Preliminary analysis and all appropriate regression assumption checks indicated that all linearity, univariate and multivariate outlier, independence of cases, and multicollinearity assumptions were met. Primary data analyses included descriptive statistics and two hierarchical logistic regression models. Exploratory data analyses included two mediation models. A post hoc power analysis conducted using G*Power software (Faul et al., 2009) determined that the statistical power for

the proposed study is 0.96 for detecting a small effect, while the power exceeded 0.99 for the detection of a moderate to large effect size. To detect a small effect with 80% power, the minimum sample size required for the analyses below is 118. Thus, the data for this study allows for more than adequate power (i.e., power ≥ 0.80) at all effect size levels. All analyses will be conducted using SPSS, version 29.

Hypothesis 1a -1b

A hierarchical logistic regression analysis was conducted to assess whether direct and increased exposure to lifetime gender identity-related healthcare discrimination predicts healthcare underutilization related to anticipated gender identity discrimination when controlling for six covariates. Personal characteristics including age and race-ethnicity were entered at the first step of the model, socioeconomic positionality information including income and health insurance coverage were entered at the second step, perceived and clinical need for care variables including comorbidity and disability/neurodivergence identity status were entered at the third step, followed by the lifetime healthcare discrimination variable entered into the final step of the model to demonstrate that direct exposure healthcare discrimination would significantly predict past year healthcare underutilization related to anticipated gender identity discrimination above and beyond the covariates included in the analysis.

Hypothesis 2a -2b

A hierarchical logistic regression analysis was conducted to assess whether increased exposure to vicarious gender identity-related healthcare discrimination predicts healthcare underutilization related to anticipated gender identity discrimination when controlling for six covariates. Personal characteristics including age and race-ethnicity were entered at the first step of the model, socioeconomic positionality information including income and health insurance

coverage were entered at the second step, perceived and clinical need for care variables including comorbidity and disability/neurodivergence identity status were entered at the third step, followed by the vicarious healthcare discrimination variable entered into the final step of the model to demonstrate that vicarious exposure healthcare discrimination would significantly predict past year healthcare underutilization related to anticipated gender identity discrimination above and beyond the covariates included in the analysis.

Exploratory Analyses: Gender Identity-Based Mistrust in Healthcare as a Potential Mediator

Two exploratory mediation analyses using Hayes' (2018) PROCESS macro (Model 4) for SPSS were conducted to explore gender identity-based mistrust in healthcare as a mechanism (i.e., mediator) through which direct and vicarious gender identity-related healthcare discrimination serve as predictors of healthcare utilization behaviors.

Results

Direct Lifetime Healthcare Discrimination Exposure

The majority (81%) of participants reported experiencing at least one of the ten forms of healthcare discrimination that this study assessed in their lifetime, with an overall sample average of just under three and a half ($M = 3.39$) distinct forms of healthcare discrimination being reported by participants. At least once in their lifetime, most (62.3%) participants reported that the medical forms or documents that a doctor or other healthcare provider asked them to complete were not inclusive of their gender identity, 61% reported that a healthcare provider referred to them using a name or pronoun that did not accurately reflect their gender identity, 38.4% reported that they had to teach a doctor or other healthcare provider about TGI identities so that they could receive appropriate healthcare, and 10.6% reported that a healthcare provider refused to provide them with the preventative, acute, or disease management care they needed.

Participants who reported that they had not experienced healthcare discrimination in their lifetime represented a minority proportion (19%) of the sample. The complete results for the ten-item direct lifetime healthcare discrimination variable can be found in table 2.

Table 2. *Direct Lifetime Healthcare Discrimination Exposure*

Direct Healthcare Discrimination Exposure Items:	Never Occurred.	Occurred before age 18.	Occurred after age 18.	Occurred within the past year.	Occurred at least once in Lifetime.
<i>I had to teach a doctor or other healthcare provider about trans/gender diverse people so that I could get appropriate care.</i>	N = 237 61.6%	N = 38 9.9%	N = 129 33.5%	N = 61 15.8%	N = 148 38.4%
<i>A doctor or other healthcare provider refused to give me other healthcare (e.g., physical exam, flu, diabetes).</i>	N = 344 89.4%	N = 19 4.9%	N = 33 8.6%	N = 10 2.6%	N = 41 10.6%
<i>A doctor asked me unnecessary/invasive questions about my gender identity that were not related to the reason for my visit.</i>	N = 257 66.8%	N = 51 13.2%	N = 104 27%	N = 42 10.9%	N = 128 33.2%
<i>A doctor or other healthcare provider used harsh or abusive language when treating me.</i>	N = 307 79.7%	N = 40 10.4%	N = 47 12.2%	N = 15 3.9%	N = 78 20.3%
<i>A doctor or other healthcare provider was physically rough or abusive when treating me.</i>	N = 348 90.4%	N = 22 5.7%	N = 19 4.9%	N = 3 .8%	N = 37 9.6%
<i>I was verbally harassed in a healthcare setting (e.g., hospital, office, clinic).</i>	N = 321 83.4%	N = 27 7.0%	N = 43 11.2%	N = 20 5.2%	N = 64 16.6%
<i>A doctor or other healthcare provider referred to me using pronouns or a gender that did not accurately reflect my gender identity, before they asked and/or I told them my pronouns and gender identity.</i>	N = 150 39%	N = 87 22.6%	N = 206 53.5%	N = 135 35.1%	N = 235 61%
<i>A doctor or other healthcare provider refused to use the pronouns or name that I requested to be used.</i>	N = 263 68.3%	N = 39 10.1%	N = 101 26.2%	N = 61 15.8%	N = 122 31.7%
<i>The medical forms or documents that a doctor or other healthcare provider asked me to complete did not include my gender identity.</i>	N = 145 37.7%	N = 108 28.1%	N = 202 52.5%	N = 145 37.7%	N = 240 62.3%
<i>The signs for the facilities (restrooms, changing rooms, waiting area, etc.) in a</i>	N = 174	N = 92	N = 179	N = 141	N = 211

<i>healthcare setting did not reflect my gender identity.</i>	45.2%	23.9%	46.5%	36.6%	54.8%
---	-------	-------	-------	-------	-------

$N = 385$

Vicarious Healthcare Discrimination Exposure

Most participants (80%) reported being exposed to at least one of the ten forms of vicarious healthcare discrimination that this study assessed, with an overall sample average of just under five ($M = 4.67$) distinct forms of exposure to vicarious healthcare discrimination being reported by participants. The majority of participants reported a high prevalence of exposure to vicarious healthcare discrimination that varied across specific forms of exposure including a TGI individual telling them that a healthcare provider referred to them using a name or pronoun that did not accurately reflect their gender identity (68.8%), they were asked to complete medical forms or documents that were not inclusive of their gender identity by a healthcare provider (62.3%), they had to teach a healthcare provider about TGI identities so that they could receive appropriate healthcare (60%), and a healthcare provider asked them unnecessary and invasive questions about their gender identity that were unrelated to the reason for their visit (55.8%). Participants who reported that they had not been exposed to healthcare discrimination vicariously represented a minority proportion (20%) of the sample. The complete results for the ten-item vicarious healthcare discrimination exposure variable can be found in table 3.

Table 3. *Vicarious Healthcare Discrimination Exposure*

Vicarious Healthcare Discrimination Exposure Items:	Yes	No
<i>They had to teach a doctor or other healthcare provider about trans/gender diverse people so that they could get appropriate care.</i>	N = 231 (60%)	N = 154 (40%)
<i>A doctor or other healthcare provider refused to give them other healthcare (e.g., physical exam, flu, diabetes).</i>	N = 97 (25.2%)	N = 288 (74.8%)
<i>A doctor asked them unnecessary/invasive questions about their gender identity that were not related to the reason for their visit.</i>	N = 235 (55.8%)	N = 170 (44.2%)
<i>A doctor or other healthcare provider used harsh or abusive language when treating them.</i>	N = 129 (33.5%)	N = 256 (66.5%)

<i>A doctor or other healthcare provider was physically rough or abusive when treating them.</i>	N = 56 (14.5%)	N = 329 (85.5%)
<i>They were verbally harassed in a health care setting (e.g., hospital, office, clinic).</i>	N = 130 (33.8%)	N = 255 (66.2%)
<i>A doctor or other healthcare provider referred to them using pronouns or a gender that did not accurately reflect their gender identity, before they asked and/or they told them their pronouns and gender identity.</i>	N = 265 (68.8%)	N = 120 (31.2%)
<i>A doctor or other healthcare provider refused to use the pronouns or name that they requested to be used.</i>	N = 214 (55.6%)	N = 171 (44.4%)
<i>The medical forms or documents that a doctor or other healthcare provider asked them to complete did not include their gender identity.</i>	N = 240 (62.3%)	N = 145 (37.7%)
<i>The signs for the facilities (restrooms, changing rooms, waiting area, etc.) in a healthcare setting did not reflect their gender identity.</i>	N = 222 (57.7%)	N = 163 (42.3%)

N = 385

Gender Identity-based Mistrust in Healthcare

The average gender identity-based mistrust in healthcare score was 37.53 ($SD = 7.30$). A correlation analysis indicated that increased exposure to direct lifetime, $r(383) = .49, p < .001$, and vicarious healthcare discrimination, $r(383) = .34, p < .001$ was related to higher levels of mistrust in healthcare. Correlation information can be found in table 4.

Table 4. *Pearson's bivariate correlations*

Variable	1	2	3	4	5	6	7	8	9	10
1. Age	-									
2. Race-ethnicity	-.18***	-								
3. Income	-.06	.00	-							
4. Health Insurance	-.05	-.08	.10	-						
5. Disability	.06	-.16**	-.29***	-.05	-					
6. Comorbidity	.21***	-.20	-.18***	.01	.36***	-				
7. Mistrust in Healthcare	.05	-.05	-.04	-.11*	.22***	.18***	-			
8. Direct Lifetime HD	.13**	-.17***	-.09	.08	.27***	.29***	.48***	-		
9. Vicarious HD	.03	-.09	-.04	.07	.23***	.26***	.34***	.57***	-	
10. Past Year HCU	.04	-.08	-.08	-.02	.13**	.11*	.38***	.50***	.29***	-
<i>M</i>	26.16	.43	2.63	.88	.69	.60	37.53	3.39	4.67	.29
<i>SD</i>	7.57	.50	1.57	.33	.46	.49	7.30	2.68	3.30	.46

N = 385, *HD* = *Healthcare Discrimination*, *HCU* = *Healthcare Utilization Behaviors*, *M* = *mean*, *SD* = *Standard Deviation* **p* < .05, ***p* < .01, ****p* < .001

Healthcare Utilization

Past year healthcare utilization behaviors reported by participants varied by rationales for why participants might avoid needed healthcare (i.e., anticipated gender identity-related discrimination, cost, fear of COVID-19 exposure). Over a fourth (29%) of participants reported avoiding needed healthcare in the past year due to anticipated gender identity-related discrimination in healthcare settings. Past year avoidance of needed healthcare due to healthcare costs was reported by over half (51.2%) of participants. Avoidance of needed healthcare due to fears of COVID-19 exposure in a healthcare setting was reported by over half (57.1%) of

participants. The complete results for the individual healthcare utilization items can be found in table 5.

Table 5. *Individual Healthcare Utilization*

Individual Healthcare Utilization Items:	Yes	No
<i>Was there a time in the past 12 months, when you needed to see a doctor but did not because you thought you would be disrespected or mistreated because of your gender identity?</i>	N = 112 29.1%	N = 273 70.9%
<i>Was there a time in the past 12 months, when you needed to see a doctor but could not because of cost?</i>	N = 197 51.2%	N = 188 48.8%
<i>Was there a time in the past 12 months, when you needed to see a doctor but did not because you were worried about being exposed to COVID-19 in a healthcare setting?</i>	N = 220 57.1%	N = 165 42.9%

N = 385

The past year healthcare utilization behaviors that participants reported being exposed to vicariously were varied by rationales for why an individual that participants knew might avoid needed healthcare. Almost half (47%) of the sample reported that someone they knew avoided needed healthcare due to their anticipation of encountering gender identity-related discrimination. A high prevalence of vicarious exposure to healthcare underutilization due to the cost of healthcare (76.6%) and fear of exposure to COVID-19 in a healthcare setting (70.9%) was reported by participants. The complete results for the vicarious exposure to healthcare utilization behaviors items can be found in table 6.

Table 6. *Vicarious Exposure to Healthcare Utilization Behaviors*

Vicarious Healthcare Utilization Exposure Items:	Yes	No
<i>Was there a time in the past 12 months, when someone you know, needed to see a doctor but did not because you thought they would be disrespected or mistreated because of their gender identity?</i>	N = 181 47.0%	N = 204 53.0%
<i>Was there a time in the past 12 months, when someone you know, needed to see a doctor but could not because of cost?</i>	N = 295 76.6%	N = 90 23.4%

<i>Was there a time in the past 12 months, when someone you know, needed to see a doctor but did not because they were worried about being exposed to COVID-19 in a healthcare setting?</i>	N = 273 70.9%	N = 112 29.1%
---	------------------	------------------

N = 385

Hypothesis 1a-1b: Direct Healthcare Discrimination and Past Year Utilization Analysis

A hierarchical logistic regression analysis (see table 7) was conducted to assess prediction of past year healthcare underutilization related to anticipated gender identity discrimination, based on direct exposure to lifetime gender identity-related healthcare discrimination when controlling for six factors that may contribute to healthcare utilization behaviors. When personal characteristics (i.e., race-ethnicity and age) were entered into the first step of the model and tested against the constant only model, they did not significantly predict past year healthcare utilization behaviors, $\chi^2 (2) = 2.46$ $p = .29$, Nagelkerke $R^2 = .009$. Similarly, when socioeconomic positionality (i.e., income and health insurance coverage), $\chi^2 (4) = 5.25$ $p = .26$, Nagelkerke $R^2 = .019$, and perceived and clinical need for care (i.e., comorbidity and disability/neurodivergent identity), $\chi^2 (6) = 10.35$ $p = .11$, Nagelkerke $R^2 = .038$ were entered into the second and third steps of the model respectively, they did not significantly predict past year healthcare utilization behaviors. When the direct lifetime healthcare discrimination variable was entered into the final step of the model a test of the full model against the constant only model significantly predicted past year healthcare underutilization, $\chi^2 (7) = 100.29$, $p < .001$, Nagelkerke $R^2 = .33$, indicating that together age, race-ethnicity, income, health insurance coverage, comorbidity, disability/neurodivergent identity, and direct lifetime healthcare discrimination exposure reliably distinguished between those who did or did not underutilize needed healthcare in the past year, accounting for 33% of the variance. Direct lifetime healthcare discrimination exposure, $\chi^2 (1) = 89.94$, $p < .001$, $OR = 1.62$, 95% CI [1.44, 1.81], $p < .001$,

significantly predicted past year healthcare underutilization over and above the six covariates in the model. For each one-point increase in participant scores on the direct lifetime healthcare discrimination exposure measure, participants were 62% more likely to report that they underutilized needed healthcare in the past year due to anticipated gender identity-related discrimination.

Table 7. *Logistic Regression Analysis Results for Test of Hypothesis 1a-1b*

Variable & Step	OR	CI	B	S.E.	<i>p</i>
Step 1:					
Age	1.01	[.98,1.04]	.007	.015	<i>ns</i>
Race-ethnicity	.72	[.46,1.15]	-.323	.234	<i>ns</i>
Step 2:					
Age	1.01	[.98, 1.04]	.005	.015	<i>ns</i>
Race-ethnicity	.71	[.45, 1.13]	-.337	.235	<i>ns</i>
Income	.89	[.77, 1.03]	-.120	.075	<i>ns</i>
Health Insurance Coverage	.91	[.47, 1.76]	-.100	.340	<i>ns</i>
Step 3:					
Age	1.00	[.97, 1.03]	.003	.015	<i>ns</i>
Race-ethnicity	.79	[.49, 1.27]	-.233	.241	<i>ns</i>
Income	.93	[.80, 1.09]	-.070	.079	<i>ns</i>
Health Insurance Coverage	.92	[.47, 1.79]	-.089	.342	<i>ns</i>
Comorbidity	1.29	[.78, 2.14]	.254	.259	<i>ns</i>
Disability/Neurodivergence	1.60	[.91, 2.81]	.470	.288	<i>ns</i>
Step 4:					
Age	.99	[.95, 1.02]	-.015	.018	<i>ns</i>
Race-ethnicity	.88	[.51, 1.50]	-.133	.276	<i>ns</i>
Income	.93	[.78, 1.11]	-.073	.091	<i>ns</i>

Health Insurance Coverage	.64	[.29, 1.41]	-.449	.403	<i>ns</i>
Comorbidity	.80	[.44, 1.44]	-.226	.301	<i>ns</i>
Disability/Neurodivergence	1.02	[.54, 1.95]	.022	.327	<i>ns</i>
Direct Lifetime HD	1.62	[1.44, 1.81]	.480	.059	<i>< .001</i>

N = 385, *HD* = Healthcare Discrimination, *OR* = odds ratio, *B* = unstandardized logistic regression coefficient, *SE* = standard error, *CI* = confidence interval. In this model, a *CI* that does not include 0 indicates a statistically meaningful association. *NS* = not significant, **p* < .05, ***p* < .01, ****p* < .001

Hypothesis 2a-2b: Vicarious Healthcare Discrimination and Past Year Utilization Analysis

A hierarchical logistic regression analysis (see table 8) was conducted to assess prediction of past year healthcare underutilization related to anticipated gender identity discrimination, based on vicarious exposure to gender identity-related healthcare discrimination when controlling for six factors that may contribute to healthcare utilization behaviors. When personal characteristics (i.e., race-ethnicity and age) were entered into the first step of the model and tested against the constant only model, they did not significantly predict past year healthcare utilization behaviors, $\chi^2 (2) = 2.46$ *p* = .29, Nagelkerke $R^2 = .009$. Similarly, when socioeconomic positionality (i.e., income and health insurance coverage), $\chi^2 (4) = 5.25$ *p* = .26, Nagelkerke $R^2 = .019$, and perceived and clinical need for care (i.e., comorbidity and disability/neurodivergent identity), $\chi^2 (6) = 10.35$ *p* = .11, Nagelkerke $R^2 = .038$ were entered into the second and third steps of the model respectively, they did not significantly predict past year healthcare utilization behaviors. When the vicarious healthcare discrimination variable was entered into the final step of the model a test of the full model against the constant only model significantly predicted past year healthcare underutilization, $\chi^2 (7) = 37.79$, *p* < .001, Nagelkerke $R^2 = .13$, indicating that together age, race-ethnicity, income, health insurance coverage,

comorbidity, disability/neurodivergent identity, and direct lifetime healthcare discrimination exposure reliably distinguished between those who did or did not underutilize needed healthcare in the past year, accounting for 13% of the variance. Vicarious healthcare discrimination erasure, $\chi^2(1) = 27.44, p < .001, OR = 1.22, 95\% CI [1.13, 1.32], p < .001$, significantly predicted past year healthcare underutilization over and above the six covariates in the model. For each one-point increase in participant scores on the vicarious healthcare discrimination exposure measure, participants were 22% more likely to report that they underutilized needed healthcare in the past year due to anticipated gender identity-related discrimination.

Table 8: *Logistic Regression Analysis Results for Test of Hypothesis 2a-2b*

Variable & Step	OR	CI	B	S.E.	<i>p</i>
Step 1:					
Age	1.01	[.98,1.04]	.007	.015	<i>ns</i>
Race-ethnicity	.72	[.46,1.15]	-.323	.234	<i>ns</i>
Step 2:					
Age	1.01	[.98, 1.04]	.005	.015	<i>ns</i>
Race-ethnicity	.71	[.45, 1.13]	-.337	.235	<i>ns</i>
Income	.89	[.77, 1.03]	-.120	.075	<i>ns</i>
Health Insurance Coverage	.91	[.47, 1.76]	-.100	.340	<i>ns</i>
Step 3:					
Age	1.00	[.97, 1.03]	.003	.015	<i>ns</i>
Race-ethnicity	.79	[.49, 1.27]	-.233	.241	<i>ns</i>
Income	.93	[.80, 1.09]	-.070	.079	<i>ns</i>
Health Insurance Coverage	.92	[.47, 1.79]	-.089	.342	<i>ns</i>
Comorbidity	1.29	[.78, 2.14]	.254	.259	<i>ns</i>
Disability/Neurodivergence	1.60	[.91, 2.81]	.470	.288	<i>ns</i>
Step 4:					

Age	1.00	[.97, 1.04]	.004	.016	<i>ns</i>
Race-ethnicity	.80	[.49, 1.29]	-.230	.248	<i>ns</i>
Income	.92	[.78, 1.08]	-.084	.083	<i>ns</i>
Health Insurance Coverage	.81	[.39, 1.63]	-.216	.361	<i>ns</i>
Comorbidity	1.00	[.59, 1.71]	.001	.272	<i>ns</i>
Disability/Neurodivergence	1.33	[.74, 2.41]	.286	.302	<i>ns</i>
Vicarious HD	1.22	[1.13, 1.32]	.198	.039	< .001

N = 385, *HD* = Healthcare Discrimination, *OR* = odds ratio, *B* = unstandardized logistic regression coefficient, *SE* = standard error, *CI* = confidence interval. In this model, a *CI* that does not include 0 indicates a statistically meaningful association. *NS* = not significant, **p* < .05, ***p* < .01, ****p* < .001

Hypothesis 3: Assessing Gender Identity-based Mistrust in Health as a Mediator

A mediation analysis was conducted using Hayes' (2018) PROCESS macro (Model 4) for SPSS, to assess gender identity-based mistrust in healthcare as a hypothesized mechanism through which direct exposure to lifetime gender identity-related healthcare discrimination is a predictor of healthcare utilization related to anticipated gender identity discrimination when controlling for the six covariates included in previous analyses. The direct relationship between lifetime healthcare discrimination and gender identity-based mistrust in healthcare was positive and significant ($\beta = 1.28$, 95% CI [1.02, 1.53], $p < .001$; see *path a* in Figure 4). At this step in the model, health insurance coverage was the only covariate that was significantly related to gender identity-based mistrust in healthcare ($\beta = -3.27$, 95% CI [-5.23, -1.32], $p = .001$). The direct relationships between lifetime exposure to gender identity-related healthcare discrimination ($\beta = .40$, 95% CI [.27, .52], $p < .001$; see *path c'* in Figure 4), gender identity-based mistrust in healthcare ($\beta = .08$, 95% CI [.04, .13], $p < .001$; see *path b* in Figure 4) and past year healthcare utilization related to anticipated discrimination were also positive and significant.

No covariates were significantly related to healthcare utilization behaviors related to anticipated healthcare discrimination at this step in the model. The indirect effect of gender identity-based healthcare mistrust on the relationship between lifetime gender identity-related healthcare discrimination exposure and past year healthcare utilization was .11 (SE = .031, 95% CI [.05, .18]; see Figure 4), indicating that healthcare underutilization increased by .11 for every one-unit increase on the lifetime healthcare discrimination measure indirectly through gender identity-based mistrust in healthcare. These results indicate that exposure to higher levels of lifetime gender identity-related healthcare discrimination is related to higher levels of gender identity-based mistrust in healthcare, which influences past year healthcare underutilization related to anticipated gender identity discrimination.

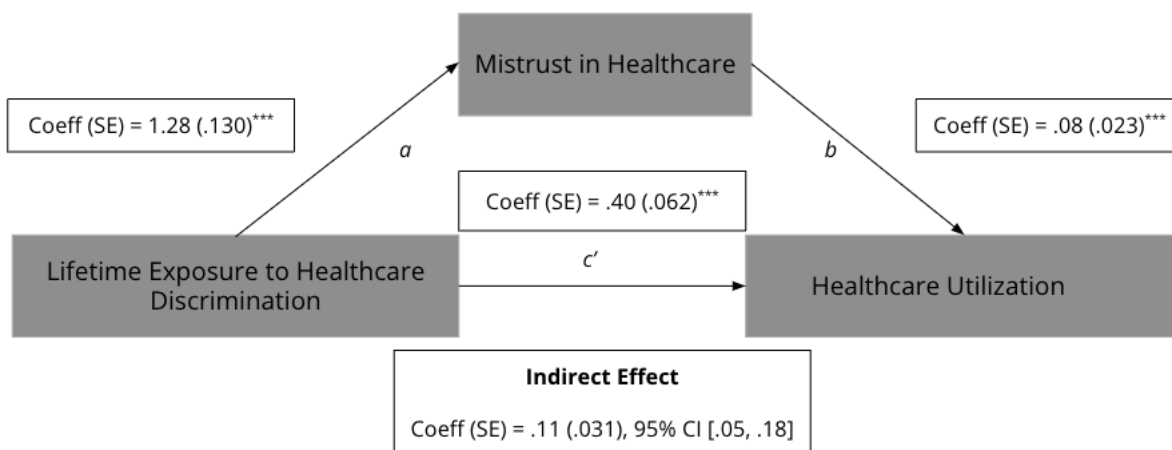


Figure 4. Direct and indirect relationships between lifetime healthcare discrimination exposure, gender identity-based mistrust in healthcare, and past year healthcare utilization related to gender-identity-related healthcare discrimination. $N = 385$, Coeff = coefficient, SE = standard error, CI = confidence interval. In this model, a CI that does not include 0 indicates a statistically meaningful association. * $p < .05$, ** $p < .01$, *** $p < .001$

Hypothesis 4: Assessing Gender Identity-based Mistrust in Health as a Mediator

A mediation analysis was conducted using Hayes' (2018) PROCESS macro (Model 4) for SPSS, to assess gender identity-based mistrust in healthcare as a hypothesized mechanism through which vicarious exposure to gender identity-related healthcare discrimination is a predictor of healthcare utilization related to anticipated gender identity discrimination when controlling for the six covariates included in previous analyses. The direct relationship between vicarious healthcare discrimination exposure and gender identity-based mistrust in healthcare was positive and significant ($\beta = .68$, 95% CI [.46, .89], $p < .001$; see *path a* in Figure 5). At this step in the model, healthcare insurance coverage ($\beta = -2.85$, 95% CI [-4.93, -.77], $p = .01$), and disability/neurodivergent identity status ($\beta = 1.97$, 95% CI [.32], $p = .02$) were the only covariates that were significantly related to gender identity-based mistrust in healthcare. The direct relationships between vicarious exposure to gender identity-related healthcare discrimination ($\beta = .13$, 95% CI [.05, .21], $p = .002$; see *path c'* in Figure 5), gender identity-based mistrust in healthcare ($\beta = .12$, 95% CI [.08, .16], $p < .001$; see *path b* in Figure 5) and past year healthcare utilization related to anticipated discrimination were also positive and significant. No covariates were significantly related to healthcare utilization behaviors related to anticipated healthcare discrimination at this step in the model. The indirect effect of gender identity-based healthcare mistrust on the relationship between lifetime gender identity-related healthcare discrimination exposure and past year healthcare utilization was .08 (SE = .021, 95% CI [.05, .13]; see Figure 5), indicating that healthcare underutilization increased by .08 for every one-unit increase on the vicarious healthcare discrimination measure indirectly through gender identity-based mistrust in healthcare. These results indicate that exposure to higher levels of vicarious gender identity-related healthcare discrimination is related to higher levels of gender identity-

based mistrust in healthcare, which influences past year healthcare underutilization related to anticipated gender identity discrimination.

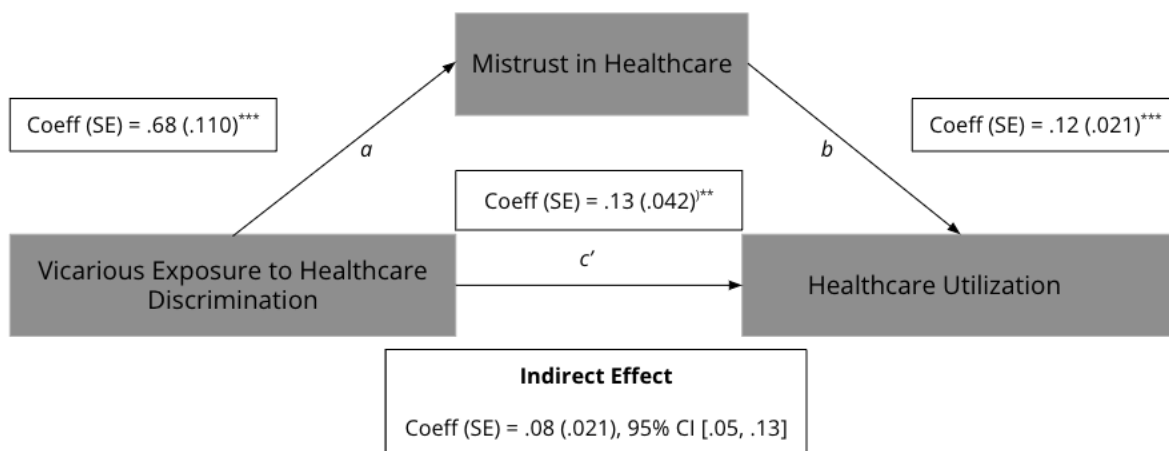


Figure 5. Direct and indirect relationships between vicarious healthcare discrimination exposure, gender identity-based mistrust in healthcare, and past year healthcare utilization related to gender-identity-related healthcare discrimination. The sample size was 385. Coeff = coefficient, SE = standard error, CI = confidence interval. In this model, a CI that does not include 0 indicates a statistically meaningful association. * $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

To advance the empirical understanding of the commonality and relationships among direct and vicarious exposure to healthcare discrimination, mistrust in healthcare, and healthcare utilization behaviors among TGI individuals the present study had two aims: (1) evaluate the relationships between direct and vicarious gender identity-related healthcare discrimination exposure and past year healthcare utilization behaviors, and (2) explore gender identity-based mistrust in healthcare as a mechanism (i.e., mediator) through which direct and vicarious gender identity-related healthcare discrimination may serve as predictors of healthcare utilization behaviors. The findings of this study conjoin with prior research to convey the centrality of gender identity-related healthcare discrimination and erasure in the accessibility and utilization

of healthcare among the TGI population (Bakko & Kattari, 2020; Bauer et al., 2009; Cruz, 2014; James et al., 2016; Mason, 2021; Mason et al., 2022; Meyer, 2021; Rodriguez et al., 2017). This study narrows the gaps in elucidating the multifariously harmful manner in which healthcare discrimination and erasure permeate the lives of TGI individuals – by further examining direct lifetime healthcare discrimination exposure (Mason, 2021), and being the first to examine vicarious exposure to healthcare discrimination in relation to healthcare utilization behaviors. To the author’s knowledge, this is also the first study to assess mistrust in healthcare as a mechanism through which direct and vicarious exposure to healthcare discrimination serve as predictors of healthcare utilization behaviors among the TGI population. On average the participants in this study reported that they had been directly exposed to almost three and a half distinct forms of healthcare discrimination in their lifetime, and almost five distinct forms vicariously. These findings provide evidence for the individual and population-level harm that the TGI population endures in a simultaneous and accumulating manner in relation to a societal realm where healing and solace should be received. This harm is visible in this study’s finding that 29% of participants reported avoiding needed healthcare in the year prior to the study related to their anticipation of encountering gender identity-related discrimination.

This study makes bare the disproportionate level of exposure to healthcare discrimination that TGI individuals navigate in comparison to the general population of adults in the U.S. Less than a quarter (21%) of adults in the U.S. report directly experiencing healthcare discrimination in their lifetime (Nong et al., 2020), which is almost four times lower than the prevalence of direct (81%) and vicarious exposure (80%) to discrimination that participants in this study reported. The findings of this study provide quantitative evidence of the mistrust in healthcare institutions and providers that may follow this population’s direct and vicarious exposure to

healthcare discrimination, supporting prior work that has examined mistrust in healthcare among TGI samples qualitatively (Arrington-Sanders et al., 2020; Cahill et al., 2020; Smart et al., 2022). This study utilized the *Minority Stress Model* (Meyer, 2003) and the *Behavioral Model of Health Service Use* (Anderson, 1995) to conceptualize and guide the analytical approach to examining potential facilitators and barriers that influence healthcare access and utilization behaviors among TGI individuals. The findings of this study show that personal (i.e., race-ethnicity enabling (i.e., income and health insurance coverage), and need factors (i.e., comorbidity and disability/neurodivergence) were not statistically significant influencers of healthcare utilization behaviors for the current sample. However, the findings show that healthcare discrimination is a critical factor in this population's healthcare utilization behaviors. The findings of this study complement the Minority Stress Model and the Behavioral Model of Health Service Use by showing that accessibility and utilization of healthcare is a function of the personal, social, economic, and health characteristics of those who may need care, as well as the characteristics (e.g., cisnormative, transphobic, discriminatory) of the healthcare institutions and larger social environment that individuals are positioned in and influencing their appraisals of those environments (e.g., mistrust).

This study's findings substantiate *Hypotheses 1 and 2*, which posited that increased exposure to direct and vicarious gender identity-related healthcare discrimination would predict healthcare underutilization related to anticipated gender identity discrimination, even when accounting for factors that may contribute to healthcare utilization behaviors including certain personal characteristics (i.e., age and race-ethnicity), indicators of socioeconomic positionality (i.e., income and health insurance coverage), and indicators of perceived and clinical need for care (i.e., comorbidity and disability/neurodivergent identity status). More explicitly, findings

indicate that when participants anticipated that healthcare providers would engage with them in a discriminatory manner it was not their age, racial-ethnic identity, socioeconomic positionality, comorbidity diagnoses, or disability/neurodivergence identity status that were related to their past year healthcare utilization behaviors. It was their direct and vicarious exposure to discrimination in healthcare settings that was related to their utilization behaviors over and above certain personal characteristics, indicators of socioeconomic positionality, and indicators of perceived and clinical need for care. The findings of this study demonstrate that higher levels of direct and vicarious lifetime exposure to distinct forms of healthcare discrimination are significantly related to an increased likelihood of TGI individuals' underutilization of care when it is needed, related to their anticipation of gender identity-related healthcare discrimination. Although the findings of this study demonstrate the high prevalence of exposure to direct exposure to healthcare discrimination and its relationship to the healthcare utilization behaviors among the TGI population as seen in prior work (James et al., 2016; Kattari et al., 2021; Markovic et al., 2021; Mason et al., 2022; Puckett et al., 2020; Romanelli & Lindsey, 2020; Vupputuri et al., 2021), the findings of this study advance empirical knowledge about the deleterious impacts of exposure to healthcare discrimination vicariously in relation to healthcare underutilization. This study assessed TGI individuals' healthcare utilization behaviors in the context of their individual experiences of discrimination, awareness of other TGI individuals' experiences of discrimination in healthcare settings, and anticipation of similar experiences if they sought the care they needed. These findings are supportive of conceptualizing the considerable and unjust toll that TGI individuals have been charged with in appraising and negotiating the potential risks of utilizing or avoiding healthcare. There is evidence that the underutilization of various forms of healthcare (e.g., primary, gynecological, reproductive,

emergency, specialty) is related to an increased risk for morbidity and early mortality associated with chronic and acute health conditions (Kachen & Pharr, 2020; Kcomt et al., 2020; Mason et al., 2022). As seen in this study and prior work, this population reports high levels of chronic health conditions which may be due in part to the barriers they face in accessing care, including exposure to healthcare discrimination (Kattari et al., 2019; Levine et al., 2022; Mason, 2021).

This study's findings substantiate *Hypotheses 3 and 4*, which posited that gender identity-based mistrust in healthcare would mediate the relationship between direct and vicarious exposure to gender identity-related healthcare discrimination and healthcare utilization related to anticipated gender identity discrimination. It was also posited that exposure to higher levels of direct and vicarious healthcare discrimination would predict higher levels of gender identity-based mistrust in healthcare, which would predict past year healthcare underutilization related to anticipated gender identity discrimination. The findings of this study demonstrate that increased exposure to the myriad forms of direct and vicarious healthcare discrimination that TGI individuals endure in relation to their gender identity in healthcare settings is related to increased levels of mistrust in healthcare, a coping mechanism that adversely contributes to their healthcare utilization behaviors as seen in other populations (Bazargan et al., 2021; Hall et al., 2022; Pugh et al., 2021; Tekeste et al., 2019; Thompson et al., 2004; Williamson, 2021; 2022; Williamson et al., 2019). Mistrust in healthcare is a pervasive barrier that serves as a psychological deterrent to healthcare utilization, often arising from exposure to harmful healthcare experiences that are often considered discriminatory (Williamson, 2021; 2022; Williamson et al., 2019). The findings of this study inform the emerging body of work exploring mistrust in healthcare among distinct sectors of the TGI population (Arrington-Sanders et al., 2020; Cahill et al., 2020; Dang et al., 2022; Haviland et al., 2021; Jaiswal et al., 2021; Salerno et al., 2020; Smart et al., 2022), by

providing quantitative evidence for how mistrust in healthcare is influenced by the high levels of direct and vicarious exposure to gender identity-related discrimination in healthcare settings that is endured by TGI individuals more broadly. This study is the first to demonstrate that mistrust in healthcare is an important and statistically significant pathway through which direct and vicarious exposure to healthcare discrimination influences healthcare utilization behaviors among this population. These findings provide evidence for the coping processes that may occur when TGI individuals have an appraisal of healthcare institutions and providers as psychologically, physically, or socially harmful in the context of having previously experienced or been vicariously exposed to healthcare discrimination. This study makes apparent that for this population, when trust in healthcare wanes - deleterious health behaviors may follow including underutilization of care when it is needed, which may exacerbate health inequities among this population.

Implications

This study's findings have several policy implications that can improve healthcare practice. The permissibility to intentionally discriminate or disregard the embodiment and health of TGI individuals through erasure is endemic to the interrelated and pervasive norms of gender binarism, cisnormativity, and transphobia bound up in U.S. sociopolitical culture. For the fourth consecutive year, an unprecedented rise in state and federal legislation has been proposed, advanced, and passed aiming to further codify discrimination against TGI individuals into law (Human Rights Campaign, 2023). Policies that aim to restrict the rights of TGI individuals in accessing education, employment, housing, public services, and healthcare reflect and reinforce cisnormativity, gender binarism, and transphobia that manifest into the interpersonal and systematic discrimination that this study demonstrated. In addition to proposing and passing

legislation that bans and criminalizes gender-affirming care for TGI youth and adults (e.g., “Milestone act of 2023”; Oklahoma 59TH Legislature, 2023), dozens of states have proposed legislation that would allow religiously affiliated healthcare institutions to deny any form of care to the TGI population (American Civil Liberties Union, 2023). Federal legislation has been introduced aiming to erase the recognition of TGI identities in the federal government via the “Women’s Bill of Rights” (United States 118 Congress, 2023). Such policies cultivate a harmful environment through which TGI individuals are vulnerable to discrimination in healthcare and society at large, whereby their fundamental right to healthily exist in mind, body, spirit, or society is compromised.

The continued existence of social identity discrimination, exclusion, and violence in U.S. culture targeting myriad marginalized populations including TGI individuals makes clear that exposure to healthcare discrimination and mistrust in healthcare among the TGI population will not cease to exist simply by eradicating gender identity-related discrimination in healthcare as cisnormativity and biased appraisals of the TGI population transfuses every societal domain. Yet, the interconnections between the high prevalence of exposure to healthcare discrimination, mistrust in healthcare, and healthcare underutilization that this study and prior work have demonstrated are undeniably threaded to the deficits in policy aimed at making explicit the illegality of discrimination in healthcare. Healthcare providers must not be simply compelled by the American Medical Association’s (AMA) “*Principles of Medical Ethics*” which posits that healthcare providers may choose to whom to provide healthcare services, which is in direct contrast with its principal that states that providers are to provide access to competent care that is comprised of compassion and human dignity to “*all people*” (AMA, 2001). These principles also state that healthcare providers are to follow state and federal laws. In the absence of policies

aimed at increasing healthcare discrimination protections, healthcare workforce diversity, cultural competency, and humility (Patallo, 2019) in healthcare services, it is clear that the conduct of healthcare providers in relation to the TGI population can be bound up in societal acceptance of the permissibility to disregard and dehumanize the bodies of TGI individuals. No matter how prevalent direct and vicarious exposure to healthcare discrimination is among this population, it is imperative that this exposure is never accepted as normative or met with ambivalence. Such acceptance and ambivalence will inevitably inform pathways for fragility and detriment among all populations in society who should have autonomy in all decisions regarding their embodiment independent of identity, and have the right to access care free of discrimination. The following policy initiatives together should be enacted by the U.S. government and state governments to increase equitable access to healthcare for all healthcare consumers including TGI individuals:

I. Increase healthcare discrimination protections:

- A.** Enact or amend state Patient Bills of Rights that are applicable to all healthcare consumers in U.S. states and territories. At present, most states do not have a patient bill of rights. Patients in Hospice Care and Nursing facilities are primarily the only healthcare consumers whose right not to be discriminated against based on their social identities (e.g., racial-ethnic, sexual, gender) has been codified into law. Additionally, private and state health systems and institutions in the U.S. develop their own Patient Bill of Rights via hospital associations, contributing to a lack of uniformity and transparency regarding healthcare consumer protections related to discrimination in healthcare settings.

- B.** Enact or amend state and territorial Human Rights Acts to include protection from social identity discrimination in publicly funded healthcare institutions and systems.
- C.** Enact state policies, parallel to 42 U.S. Code § 18116(a)., to prohibit discrimination on the basis of race, color, national origin, age, disability, or sex (including pregnancy, sexual orientation, and gender identity) in covered Medicare programs and activities (e.g., healthcare institutions, settings, and providers that receive financial assistance from state funds [i.e., Medicaid programs]).

II. Increase healthcare workforce diversity:

- A.** Enact policies that mandate the recruitment and retention of diverse healthcare providers. Healthcare institutions must be required by law to recruit and retain healthcare providers from historically marginalized populations including TGI individuals.

III. Increase culturally appropriate healthcare services:

- A.** Enact policies that require cultural competency, humility, and responsiveness training for recertification and licensing renewal among all healthcare professionals.
- B.** Enact policies that require the implementation of cultural competency, humility, and responsiveness in state-funded medical school curricula.
- C.** Repeal policies that ban and criminalize gender-affirming care.
- D.** Repeal religious exemption policies that state that religiously affiliated individuals and institutions who provide accommodations and services including

healthcare services can deny care to individuals based on social identities (e.g., TGI identity).

- E. Repeal and replace policies that require the pathologization of TGI identity to receive care (e.g., gender dysphoria diagnosis).
- F. Establish diverse and accountable task forces and commissions to:
 - 1. Review and amend publicly funded medical school curricula to incorporate cultural competency, humility, and responsiveness requirements.
 - 2. Conduct population and regional health and healthcare needs assessments

Attending to the dimensions of healthcare accessibility (see Figure 1) for the TGI population is vital to mitigating the harmful impacts associated with healthcare discrimination and erasure (e.g., mistrust in healthcare, healthcare underutilization, disparities in illness). In a moment when 90% of TGI individuals in the U.S. have some form of health insurance coverage (Feldman et al., 2021), the disparities in the accessibility and utilization of healthcare among this population compared to the cisgender population is a signal for the imperativeness of a reappraisal of the accessibility of healthcare for this population. State and Federal governments must ensure that whether or not providers value cultural humility, any knowledge deficits related to the healthcare needs of TGI individuals are attended to. The above-mentioned policy recommendations aimed at the development of equitable healthcare initiatives can ensure that the healthcare workforce in the U.S. (e.g., intake staff, billing staff, providers) have the training, educational materials, and support necessary to ameliorate knowledge deficits, and provide quality and culturally informed care to the TGI population about their distinct healthcare needs.

Limitations

The limitations of this study should be considered in light of its novel findings that elucidate the chronic and deleterious influence of direct and vicarious exposure to healthcare discrimination on the trust and utilization of healthcare among the TGI population. Causal inferences were unable to be produced due to the cross-sectional survey design utilized in this study. Although the age range amongst the sample was wide, there was not equal representation across all generations in this study. Future studies may utilize targeted sampling methods to ensure that TGI individuals in diverse developmental cohorts are represented among samples. Longitudinal cohort studies should be utilized to narrow the gaps in elucidating the following constructs: (a) TGI identity development and formation, (b) historical social and political zeitgeists, (c) barriers and facilitators to healthcare access, (d) mistrust in healthcare, and (e) healthcare utilization behaviors. This study's targeted sampling methodology aimed at increasing the generalizability of findings to POC was successful, as evidenced by almost half of the sample identifying as POC. However, the most prominent racial-ethnic identity reported among POC in the sample was multi-racial, which is consistent with 2020 U.S. Census data indicating that there was a 276% increase in the multi-racial population in the U.S. compared to data from 2010 (Jones, 2022). Futures studies should utilize targeting or probability sampling to support the applicability of findings to diverse racial-ethnic, gender identity, sexual orientation, geographic, and other cultural sectors of this population as these factors may independently and intersectionally contribute to healthcare accessibility and utilization, and mistrust in healthcare among this population. This study provides evidence of the prevalence of chronic health conditions and comorbidity among TGI individuals, and yet research is needed to understand the health status and needs of this population. Though the findings of this study indicate that mistrust

in healthcare is a mechanism through which direct and vicarious gender identity-related discrimination exposure serve as predictors of healthcare utilization. Due to its cross-sectional design, it was limited in its ability to establish the temporal order of the variables in the mediation analyses. Future studies might develop longitudinal designs that would support the ability to empirically confirm mistrust as a mediator in the relationship between exposure to healthcare discrimination and healthcare utilization. While this study was able to capture the prevalence of exposure to vicarious healthcare discrimination through a form of interpersonal reporting (i.e., being told by other TGI individuals about their experiences of discrimination in healthcare), it did not assess other forms of vicarious exposure to healthcare discrimination (e.g., news reporting regarding discriminatory healthcare policies). Future studies might assess distinct forms of vicarious healthcare discrimination that TGI individuals are navigating while engaged in community with other TGI individuals and society as a whole (e.g., media). Additionally, this study did not examine exposure to discrimination and underutilization of distinct healthcare sectors (e.g., endocrinology, dermatology, gynecology, oncology, psychology), which future studies should assess as such findings may inform tailored interventions. Future research should engage TGI individuals, key stakeholders, and healthcare providers in methodological processes aimed at understanding and developing strategies that are effective in targeting the myriad forms of healthcare discrimination that this study and prior work have conveyed. Such evidence might inform the development of studies aiming to test the feasibility, acceptability, and efficacy of interventions that engage healthcare providers in TGI clinical applications and humility training.

Conclusions

Notwithstanding its limitations, this study provides evidence that is critical to understanding the pervasive and deleterious impact of direct and vicarious exposure to gender

identity-related healthcare discrimination on TGI individuals in the U.S. In the context of healthcare settings where trust is a critical component in the relationship between patient and provider, this study demonstrates the erosion of trust that is related to exposure to gender identity-related healthcare discrimination directly and vicariously, and the underutilization of care when mistrust in providers occurs among the TGI population. The findings of this study can be informative in the development of policy initiatives that are vital to mitigating health and healthcare inequities for the TGI population.

References

- Aday, L. A., & Andersen, R. (1974). A framework for the study of access to medical care. *Health services research*, 9(3), 208–220.
- Alizaga, N. M., Aguayo-Romero, R. A., & Glickman, C. P. (2021). Experiences of health care discrimination among transgender and gender nonconforming people of color: A latent class analysis. *Psychology of Sexual Orientation and Gender Diversity*. Advance online publication. <http://dx.doi.org/10.1037/sgd0000479>
- American Civil Liberties Union (2023). *Mapping attacks on LGBTQ rights in U.S. state legislatures*. American Civil Liberties Union. (2023, March 24). Retrieved March 24, 2023, from <https://www.aclu.org/legislative-attacks-on-lgbtq-rights>
- American Medical Association (2001). AMA principles of medical ethics. Retrieved March 27, 2023, from <https://code-medical-ethics.ama-assn.org/principles>
- American Psychological Association. (2015). Guidelines for psychological practice with transgender and gender nonconforming people. *The American Psychologist*, 70(9), 832–864. <https://doi.org/10.1037/a0039906>
- American Psychological Association. (2021). Inclusive language guidelines. <https://www.apa.org/about/apa/equity-diversity-inclusion/language-guidelines.pdf>
- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it matter? *Journal of Health and Social Behavior*, 36(1), 1–10. <https://doi.org/10.2307/2137284>
- Arnold, E., & Dhingra, N. (2020). Health care inequities of sexual and gender minority patients. *Dermatologic Clinics*, 38(2), 185–190. <https://doi.org/10.1016/j.det.2019.10.002>

- Arrington-Sanders, R., Hailey-Fair, K., Wirtz, A. L., Morgan, A., Brooks, D., Castillo, M., ... Celentano, D. (2020). Role of structural marginalization, HIV stigma, and mistrust on HIV prevention and treatment among young black latinx men who have sex with men and transgender women: Perspectives from youth service providers. *AIDS Patient Care and STDs*, 34(1), 7–15. <https://doi.org/10.1089/apc.2019.0165>
- Assistant Secretary for Public Affairs (ASPA). (2022, March 15). *About the Affordable Care Act*. HHS.gov. Retrieved January 27, 2023, from <https://www.hhs.gov/healthcare/about-the-aca/index.html>
- Bakko, M., & Kattari, S. K. (2020). Transgender-related insurance denials as barriers to transgender healthcare: Differences in experience by insurance type. *Journal of General Internal Medicine: JGIM*, 35(6), 1693-1700.
- Bariola, E., Lyons, A., Leonard, W., Pitts, M., Badcock, P., & Couch, M. (2015). Demographic and psychosocial factors associated with psychological distress and resilience among transgender individuals. *American Journal of Public Health.*, 105(10), 2108-2116.
- Bauer, G. R., Hammond, R., Travers, R., Kaay, M., Hohenadel, K. M., & Boyce, M. (2009). “I don’t think this is theoretical; this is our lives”: How erasure impacts health care for transgender people. *Journal of the Association of Nurses in AIDS Care*, 20(5), 348-361.
- Bauer, G. R., Scheim, A. I., Deutsch, M. B., & Massarella, C. (2014). Reported emergency department avoidance, use, and experiences of transgender persons in Ontario, Canada: Results from a respondent-driven sampling survey. *Annals of Emergency Medicine*, 63(6), 713-720.

- Bauer, G. R., Zong, X., Scheim, A. I., Hammond, R., & Thind, A. (2015). Factors impacting transgender patients' discomfort with their family physicians: A respondent-driven sampling survey. *PLoS ONE*, *10*(15), e0145046.
- Baumeister, R. F., Vohs, K. D., Nathan DeWall, C., & Liqing Zhang. (2007). How emotion shapes behavior: Feedback, anticipation, and reflection, rather than direct causation. *Personality and Social Psychology Review*, *11*(2), 167–203.
<https://doi.org/10.1177/1088868307301033>
- Bazargan, M., Cobb, S., & Assari, S. (2021). Discrimination and medical mistrust in a racially and ethnically diverse sample of california adults. *Annals of Family Medicine*, *19*(1), 4–15. <https://doi.org/10.1370/afm.2632>
- Benkert, R., Cuevas, A., Thompson, H. S., Dove-Medows, E., & Knuckles, D. (2019). Ubiquitous yet unclear: A systematic review of medical mistrust. *Behavioral Medicine (Washington, D.C.)*, *45*(2), 86–101. <https://doi.org/10.1080/08964289.2019.1588220>
- Benotsch, E. G., Zimmerman, R., Cathers, L., McNulty, S., Pierce, J., Heck, T., Perrin, P. B., & Snipes, D. (2013). Non-medical use of prescription drugs, polysubstance use, and mental health in transgender adults. *Drug and Alcohol Dependence*, *132*(1-2), 391-394.
- Bogart, L. M., Wagner, G. J., Green, H. D., Mutchler, M. G., Klein, D. J., McDavitt, B., ... Hilliard, C. L. (2016). Medical mistrust among social network members may contribute to antiretroviral treatment nonadherence in African Americans living with HIV. *Social Science & Medicine* (1982), *164*, 133–140. <https://doi.org/10.1016/j.socscimed.2016.03.028>
- Bowling, J., Baldwin, A., & Schnarrs, P.W. (2019). Influences of health care access on resilience building among transgender and gender non-binary individuals. *The International*

Journal of Transgenderism, 20(2-3), 205–217.

<https://doi.org/10.1080/15532739.2019.1595807>

Bradford, J., Reisner, S. L., Honnold, J. A., & Xavier, J. (2013). Experiences of transgender-related discrimination and implications for health: Results from the Virginia transgender health initiative study. *American Journal of Public Health*, 101(10), 1820-129.

Cahill, S. R., Keatley, J., Wade Taylor, S., Sevelius, J., Elsesser, S. A., Geffen, S. R., ... Mayer, K. H. (2020). “Some of us, we don’t know where we’re going to be tomorrow.”

Contextual factors affecting PrEP use and adherence among a diverse sample of transgender women in San Francisco. *AIDS Care*, 32(5), 585–593.

<https://doi.org/10.1080/09540121.2019.1659912>

Centers for Disease Control and Prevention (2014). *2015 Behavioral risk factor surveillance system questionnaire*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved from https://www.cdc.gov/brfss/annual_data/2015/pdf/2015-BRFSS-questionnaire-12-29-14.pdf

Cicero, E. C., Reisner, S. L., Merwin, E. I., Humphreys, J. C., & Silva, S. G. (2020). The health status of transgender and gender nonbinary adults in the United States. *PloS One*, 15(2), e0228765–e0228765. <https://doi.org/10.1371/journal.pone.0228765>

Cruz, T. M. (2014). Assessing access to care for transgender and gender nonconforming people: A consideration of diversity in combating discrimination. *Social Science & Medicine*, 110, 65–73.

- Crowley, R., Daniel, H., Cooney, T. G., & Engel, L. S. (2020). Envisioning a better U.S. health care system for all: Coverage and cost of care. *Annals of Internal Medicine*, 172(2_Supplement), S7–S32. <https://doi.org/10.7326/M19-2415>
- Dang, M., Scheim, A. I., Teti, M., Quinn, K. G., Zarwell, M., Petroll, A. E., ... John, S. A. (2022). Barriers and facilitators to HIV pre-Exposure prophylaxis uptake, adherence, and persistence among transgender populations in the united states: A systematic review. *AIDS Patient Care and STDs*, 36(6), 236–248. <https://doi.org/10.1089/apc.2021.0236>
- Daniels, N. (1982). Equity of access to health care: Some conceptual and ethical issues. *Milbank Memorial Fund Quarterly. Health and Society*, 60(1), 51–81. <https://doi.org/10.2307/3349700>
- D’Avanzo, P. A., Bass, S. B., Brajuha, J., Gutierrez-Mock, L., Ventriglia, N., Wellington, C., & Sevelius, J. (2019). Medical mistrust and PrEP perceptions among transgender women: A cluster analysis. *Behavioral Medicine (Washington, D.C.)*, 45(2), 143–152. <https://doi.org/10.1080/08964289.2019.1585325>
- Drabish, K., & Theeke, L. A. (2022). Health Impact of Stigma, Discrimination, Prejudice, and bias experienced by transgender people: A Systematic Review of Quantitative Studies. *Issues in Mental Health Nursing*, 43(2), 111–118. <https://doi.org/10.1080/01612840.2021.1961330>
- Erickson, S. M., Outland, B., Joy, S., Rockwern, B., Serchen, J., Mire, R. D., & Goldman, J. M. (2020). Envisioning a better U.S. health care system for all: Health care delivery and payment system reforms. *Annals of Internal Medicine*, 172(2_Supplement), S33–S49. <https://doi.org/10.7326/M19-2407>

- Eun, H.-R., Park, J.-T., & Jang, J.-H. (2022). Factors related to the intention to use dental care by industrial workers due to COVID-19: Application of anderson model and planned behavior theory. *International Journal of Environmental Research and Public Health*, 19(19), 12883–. <https://doi.org/10.3390/ijerph191912883>
- Fairchild, A. L., & Bayer, R. (1999). Uses and abuses of tuskegee. *Science (American Association for the Advancement of Science)*, 284(5416), 919–921. <https://doi.org/10.1126/science.284.5416.919>
- Faul, F., Erdfelder, E., Buchner, A. Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods* 41, 1149–1160 (2009). <https://doi.org/10.3758/BRM.41.4.1149>
- Feldman, J. L., Luhur, W. E., Herman, J. L., Poteat, T., & Meyer, I. H. (2021). Health and Health Care Access in the US Transgender Population Health (TransPop) Survey. *Andrology*. <https://doi.org/10.1111/andr.13052>
- Flentje, A., Heck, N. C., Brennan, J. M., & Meyer, I. H. (2019). The relationship between minority stress and biological outcomes: A systematic review. *Journal of Behavioral Medicine*, 43(5), 673–694.
- Flores, A.R., Herman, J.L., Gates, G.J., & Brown, T.N.T. (2016). *How many adults identify as transgender in the united states?* Los Angeles, CA: The Williams Institute.
- Griffith, D. M., Bergner, E. M., Fair, A. S., & Wilkins, C. H. (2021). Using mistrust, distrust, and low trust precisely in medical care and medical research advances health equity. *American Journal of Preventive Medicine*, 60(3), 442–445. <https://doi.org/10.1016/j.amepre.2020.08.019>

- Hall, M. A., Dugan, E., Zheng, B., & Mishra, A. K. (2001). Trust in Physicians and Medical Institutions: What Is It, Can It Be Measured, and Does It Matter? *The Milbank Quarterly*, 79(4), 613–639. <https://doi.org/10.1111/1468-0009.00223>
- Hall, O. T., Jordan, A., Teater, J., Dixon-Shambley, K., McKiever, M. E., Baek, M., ... Fielin, D. A. (2022). Experiences of racial discrimination in the medical setting and associations with medical mistrust and expectations of care among black patients seeking addiction treatment. *Journal of Substance Abuse Treatment*, 133, 108551–108551. <https://doi.org/10.1016/j.jsat.2021.108551>
- Haviland, K., Burrows Walters, C., & Newman, S. (2021). Barriers to palliative care in sexual and gender minority patients with cancer: A scoping review of the literature. *Health & Social Care in the Community*, 29(2), 305–318. <https://doi.org/10.1111/hsc.13126>
- Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (*Methodology in the Social Sciences*) (2nd ed.). New York, NY: The Guilford Press.
- Halkitis, P. N. (2012, April 1). Discrimination and homophobia fuel the HIV epidemic in gay and bisexual men. *Psychology and AIDS Exchange Newsletter*. <https://www.apa.org/pi/aids/resources/exchange/2012/04/discrimination-homophobia>
- Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the minority stress model. *Professional Psychology: Research and Practice*, 43(5), 460-467.
- Herman, J.L., Flores, A.R., O'Neill, K.K. (2022). *How many adults and youth identify as transgender in the united states?* The Williams Institute, UCLA School of Law

- Ho, I. K., Sheldon, T. A., & Botelho, E. (2022). Medical mistrust among women with intersecting marginalized identities: a scoping review. *Ethnicity & Health*, 27(8), 1733–1751. <https://doi.org/10.1080/13557858.2021.1990220>
- Hobster, K., & McLuskey, J. (2020). Transgender patients' experiences of health care. *British Journal of Nursing (Mark Allen Publishing)*, 29(22), 1348–1353. <https://doi.org/10.12968/bjon.2020.29.22.1348>
- Hoffman, K. M., Trawalter, S., Axt, J. R., & Oliver, M. N. (2016). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proceedings of the National Academy of Sciences - PNAS*, 113(16), 4296–4301. <https://doi.org/10.1073/pnas.1516047113>
- Human Rights Campaign (2023). *Human rights campaign working to defeat 340 Anti-LGBTQ+ Bills at state level already, 150 of which target transgender people – highest number on record*. Human Rights Campaign. (2023, February 15). Retrieved March 26, 2023, from <https://www.hrc.org/press-releases/human-rights-campaign-working-to-defeat-340-anti-lgbtq-bills-at-state-level-already-150-of-which-target-transgender-people-highest-number-on-record>
- Jaffee, K. D., Shires, D. A., & Stroumsa, D. (2016). Discrimination and delayed health care among transgender women and men. *Medical Care*, 54, 1010–1016.
- Jaiswal, J., & Halkitis, P. N. (2019). Towards a More Inclusive and Dynamic Understanding of Medical Mistrust Informed by Science. *Behavioral Medicine (Washington, D.C.)*, 45(2), 79–85. <https://doi.org/10.1080/08964289.2019.1619511>
- Jaiswal, J., LoSchiavo, C., Meanley, S., Hascher, K., Cox, A. B., Dunlap, K. B., ... Halkitis, P. N. (2021). Correlates of PrEP Uptake Among Young Sexual Minority Men and

- Transgender Women in New York City: The Need to Reframe “Risk” Messaging and Normalize Preventative Health. *AIDS and Behavior*, 25(10), 3057–3073.
<https://doi.org/10.1007/s10461-021-03254-4>
- James, S., Herman, J., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). The report of the 2015 US transgender survey. *The Report of the 2015 US Transgender Survey*. Washington, DC: National Center for Transgender Equality. Retrieved from <https://transequality.org/sites/default/files/docs/usts/USTS-Full-Report-Dec17.pdf>
- Jones, N. (2022, June 10). *2020 census illuminates racial and ethnic composition of the country*. Census.gov. Retrieved March 24, 2023, from <https://www.census.gov/library/stories/2021/08/improved-race-ethnicity-measures-reveal-united-states-population-much-more-multiracial.html>
- Kachen, A., & Pharr, J. R. (2020). Health Care Access and Utilization by Transgender Populations: A United States Transgender Survey Study. *Transgender Health*, 5(3), 141–148. <https://doi.org/10.1089/trgh.2020.0017>
- Kantor, V., Knepfel, M., & Lueger-Schuster, B. (2017). Perceived barriers and facilitators of mental health service utilization in adult trauma survivors: A systematic review. *Clinical Psychology Review*, 52, 52–68. <https://doi.org/10.1016/j.cpr.2016.12.001>
- Kattari, S., Atteberry-Ash, B., Kinney, M., Walls, N., & Kattari, L. (2019). One size does not fit all: Differential transgender health experiences. *Social Work in Health Care*, 58(9), 899-917.
- Kattari, S. K., Call, J., Holloway, B. T., Kattari, L., & Seelman, K. L. (2021). Exploring the Experiences of Transgender and Gender Diverse Adults in Accessing a Trans

- Knowledgeable Primary Care Physician. *International Journal of Environmental Research and Public Health*, 18(24), 13057–. <https://doi.org/10.3390/ijerph182413057>
- Kcomt, L. (2019). Profound health-care discrimination experienced by transgender people: Rapid systematic review. *Social Work in Health Care*, 58(2), 201–219. <https://doi.org/10.1080/00981389.2018.1532941>
- Kcomt, L., Gorey, K. M., Barrett, B. J., & McCabe, S. E. (2020). Healthcare avoidance due to anticipated discrimination among transgender people: A call to create trans-affirmative environments. *SSM - Population Health*, 11, 100608–100608. <https://doi.org/10.1016/j.ssmph.2020.100608>
- Krieger, N. (2020). Measures of racism, sexism, heterosexism, and gender binarism for health equity research: From structural injustice to embodied harm-an ecosocial analysis. *Annual Review of Public Health*, 41(1), 37–62. <https://doi.org/10.1146/annurev-publhealth-040119-094017>
- Kullgren, J. T., McLaughlin, C. G., Mitra, N., & Armstrong, K. (2012). Nonfinancial barriers and access to care for U.S. adults. *Health Services Research*, 47(1pt2), 462–485. <https://doi.org/10.1111/j.1475-6773.2011.01308.x>
- Lelutiu-Weinberger, C., English, D., & Sandanapitchai, P. (2020). The Roles of Gender Affirmation and Discrimination in the Resilience of Transgender Individuals in the US. *Behavioral Medicine (Washington, D.C.)*, 46(3-4), 175–188. <https://doi.org/10.1080/08964289.2020.1725414>
- Lerner, J. E., & Robles, G. (2017). Perceived Barriers and Facilitators to Health Care Utilization in the United States for Transgender People: A Review of Recent Literature. *Journal of*

- Health Care for the Poor and Underserved*, 28(1), 127–152.
<https://doi.org/10.1353/hpu.2017.0014>
- Levesque, J.-F., Harris, M. F., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal for Equity in Health*, 12(1), 18–18. <https://doi.org/10.1186/1475-9276-12-18>
- Levine, S., Heiden-Rootes, K., & Salas, J. (2022). Associations Between Healthcare Experiences, Mental Health Outcomes, and Substance Use Among Transgender Adults. *Journal of the American Board of Family Medicine*, 35(6), 1092–1102.
<https://doi.org/10.3122/jabfm.2022.220186R1>
- Lykens, J. E., LeBlanc, A. J., & Bockting, W. O. (2018). Healthcare Experiences Among Young Adults Who Identify as Genderqueer or Nonbinary. *LGBT Health*, 5(3), 191-196
- Macapagal, K., Bhatia, R., & Greene, G. J. (2016). Differences in healthcare access, use, and experiences within a community sample of racially diverse lesbian, gay, bisexual, transgender, and questioning emerging adults. *LGBT Health*, 3(6), 434-442.
- Markovic, L., McDermott, D. T., Stefanac, S., Seiler-Ramadas, R., Iabloncsik, D., Smith, L., ... Grabovac, I. (2021). Experiences and Interactions with the Healthcare System in Transgender and Non-Binary Patients in Austria: An Exploratory Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 18(13), 6895–.
<https://doi.org/10.3390/ijerph18136895>
- Mason, K. L. (2021). The harm in seeking care: Assessing the relationship between healthcare discrimination and healthcare avoidance behaviors in the past year and since the start of the coronavirus pandemic in a transgender and gender independent sample. *Virginia Commonwealth University*, Richmond, Va.

- Mason, K. L., Smout, S. A., Wall, C. S. J., Coston, B. E., Perrin, P. B., & Benotsch, E. G. (2022). Exposure to childhood healthcare discrimination and healthcare avoidance among transgender and gender independent adults during a global pandemic. *International Journal of Environmental Research and Public Health*, 19(12), 7440–. <https://doi.org/10.3390/ijerph19127440>
- Medina-Martínez, J., Saus-Ortega, C., Sánchez-Lorente, M. M., Sosa-Palanca, E. M., García-Martínez, P., & Mármol-López, M. I. (2021). Health Inequities in LGBT People and Nursing Interventions to Reduce Them: A Systematic Review. *International Journal of Environmental Research and Public Health*, 18(22), 11801–. <https://doi.org/10.3390/ijerph182211801>
- Meerwijk, E. L., & Sevelius, J. M. (2017). Transgender population size in the united states: a meta-regression of population-based probability samples. *American Journal of Public Health (1971)*, 107(2), E1–E8. <https://doi.org/10.2105/AJPH.2016.303578>
- Meyer, I. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674-697.
- Meyer, I. H. (2015). Resilience in the study of minority stress and health of sexual and gender minorities. *Psychology of Sexual Orientation and Gender Diversity*, 2(3), 209–213.
- Meyer, I. H. (2020). Rejection sensitivity and minority stress: A challenge for clinicians and interventionists. *Archives of Sexual Behavior*, 49(7), 2287-2289.
- Meyer, I. H., Schwartz, S., & Frost, D. M. (2008). Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping resources? *Social*

- Science & Medicine* (1982), 67(3), 368–379.
<https://doi.org/10.1016/j.socscimed.2008.03.012>
- Meyer, I. H., Wilson, B. D. ., & O'Neill, K. (2021). LGBTQ People in the US: Select Findings from the Generations and TransPop Studies.
- Minaya, C., McKay, D., Benton, H., Blanc, J., & Seixas, A. A. (2022). Medical Mistrust, COVID-19 Stress, and Intent to Vaccinate in Racial–Ethnic Minorities. *Behavioral Sciences*, 12(6), 186–. <https://doi.org/10.3390/bs12060186>
- Mollborn, S., Stepanikova, I., & Cook, K. S. (2005). Delayed Care and Unmet Needs among Health Care System Users: When Does Fiduciary Trust in a Physician Matter? *Health Services Research*, 40(6p1), 1898–1917. <https://doi.org/10.1111/j.1475-6773.2005.00457.x>
- Nong, P., Raj, M., Creary, M., Kardia, S. L. R., & Platt, J. E. (2020). Patient-Reported Experiences of Discrimination in the US Health Care System. *JAMA Network Open*, 3(12), e2029650–e2029650. <https://doi.org/10.1001/jamanetworkopen.2020.29650>
- Okedo-Alex, I. N., Akamike, I. C., Ezeanosike, O. B., & Uneke, C. J. (2019). Determinants of antenatal care utilisation in sub-Saharan Africa: a systematic review. *BMJ Open*, 9(10), e031890–e031890. <https://doi.org/10.1136/bmjopen-2019-031890>
- Oklahoma 59TH Legislature (2023). Milestone Act of 202. S.B. 129, <http://www.oklegislature.gov/BillInfo.aspx?Bill=sb129&Session=2300>
- Owens, D. C., & Fett, S. M. (2019). Black maternal and infant health: Historical legacies of slavery. *American Journal of Public Health* (1971), 109(10), 1342–1345.
<https://doi.org/10.2105/AJPH.2019.305243>

- Palan, S., & Schitter, C. (2018). Prolific.ac—A subject pool for online experiments. *Journal of Behavioral and Experimental Finance*, 17, 22–27.
<https://doi.org/10.1016/j.jbef.2017.12.004>
- Patallo, B. J. (2019). The Multicultural Guidelines in Practice: Cultural Humility in Clinical Training and Supervision. *Training and Education in Professional Psychology*, 13(3), 227–232. <https://doi.org/10.1037/tep0000253>
- Peer, E., Brandimarte, L., Samat, S., & Acquisti, A. (2017). Beyond the turk: Alternative platforms for crowdsourcing behavioral research. *Journal of Experimental Social Psychology*, 70, 153–163. <https://doi.org/10.1016/j.jesp.2017.01.006>
- Puckett, J. A., Maroney, M. R., Wadsworth, L. P., Mustanski, B., & Newcomb, M. E. (2020). Coping with discrimination: The insidious effects of gender minority stigma on depression and anxiety in transgender individuals. *Journal of Clinical Psychology*, 76(1), 176–194.
- Pugh, M., Perrin, P. B., Rybarczyk, B., & Tan, J. (2021). Racism, Mental Health, Healthcare Provider Trust, and Medication Adherence Among Black Patients in Safety-Net Primary Care. *Journal of Clinical Psychology in Medical Settings*, 28(1), 181–190.
<https://doi.org/10.1007/s10880-020-09702-y>
- Pyne, J. (2014). Gender independent kids: A paradigm shift in approaches to gender nonconforming children. *The Canadian Journal of Human Sexuality*, 23(1), 1–8.
<https://doi.org/10.3138/cjhs.23.1.CO1>
- Reisner, S. L., White J. M., Dunham, E. E. (2016). Discrimination and health in Massachusetts: A statewide survey of transgender and gender nonconforming adults.
<https://doi.org/10.13140/RG.2.2.31489.25446>

- Rodriguez, A., Agardh, A., & Asamoah, B. O. (2017). Self-reported discrimination in health-care settings based on recognizability as transgender: A cross-sectional study among transgender U.S. citizens. *Archives of Sexual Behavior*, 47(4), 973-985.
- Romanelli, M., & Lindsey, M. A. (2020). Patterns of Healthcare Discrimination Among Transgender Help-Seekers. *American Journal of Preventive Medicine*, 58(4), e123–e131. <https://doi.org/10.1016/j.amepre.2019.11.002>
- Rood, B. A., Reisner, S. L., Surace, F. I., Puckett, J. A., Maroney, M. R., & Pantalone, D. W. (2016). Expecting rejection: Understanding the minority stress experiences of transgender and gender-nonconforming individuals. *Transgender Health*, 1(1), 151–164.
- Seelman, K. L., Colón-Díaz, M. J. P., LeCroix, R. H., Xavier-Brier, M., & Kattari, L. (2017). Transgender noninclusive healthcare and delaying care because of fear: Connections to general health and mental health among transgender adults. *Transgender Health*, 2(1), 17-28.
- Salerno, J. P., Turpin, R., Howard, D., Dyer, T., Aparicio, E. M., & Boekeloo, B. O. (2019). Health Care Experiences of Black Transgender Women and Men Who Have Sex With Men: A Qualitative Study. *The Journal of the Association of Nurses in AIDS Care*, 31(4), 466–475. <https://doi.org/10.1097/JNC.0000000000000111>
- Shires, D. A., & Jaffee, K. (2015). Factors Associated with Health Care Discrimination Experiences among a National Sample of Female-to-Male Transgender Individuals. *Health & Social Work*, 40(2), 134-141.
- Smart, B. D., Mann-Jackson, L., Alonzo, J., Tanner, A. E., Garcia, M., Refugio Aviles, L., & Rhodes, S. D. (2020). Transgender women of color in the U.S. South: A qualitative study

- of social determinants of health and healthcare perspectives. *International Journal of Transgender Health*, 23(1-2), 164–177. <https://doi.org/10.1080/26895269.2020.1848691>
- Strathdee, S. A., Martin, N. K., Pitpitan, E. V., Stockman, J. K., & Smith, D. M. (2021). What the HIV Pandemic Experience Can Teach the United States About the COVID-19 Response. *Journal of Acquired Immune Deficiency Syndromes (1999)*, 86(1), 1–10. <https://doi.org/10.1097/QAI.0000000000002520>
- Teixeira da Silva, D., Biello, K., Lin, W. Y., Valente, P. K., Mayer, K. H., Hightow-Weidman, L., & Bauermeister, J. A. (2021). COVID-19 Vaccine Acceptance among an Online Sample of Sexual and Gender Minority Men and Transgender Women. *Vaccines (Basel)*, 9(3), 204–. <https://doi.org/10.3390/vaccines9030204>
- Tekeste, M., Hull, S., Dovidio, J. F., Safon, C. B., Blackstock, O., Taggart, T., ... Calabrese, S. K. (2019). Differences in Medical Mistrust Between Black and White Women: Implications for Patient–Provider Communication About PrEP. *AIDS and Behavior*, 23(7), 1737–1748. <https://doi.org/10.1007/s10461-018-2283-2>
- Testa, R. J., Habarth, J., Peta, J., Balsam, K., & Bockting, W. (2015). Development of the gender minority stress and resilience measure. *Psychology of Sexual Orientation and Gender Diversity*, 2(1), 65–77. <https://doi.org/10.1037/sgd0000081>
- Thompson, H. S., Valdimarsdottir, H. B., Winkel, G., Jandorf, L., & Redd, W. (2004). The group-based medical mistrust scale: psychometric properties and association with breast cancer screening. *Preventive Medicine*, 38(2), 209–218. <https://doi.org/10.1016/j.ypmed.2003.09.041>

United States 118 Congress (2023). H.R. 115, Establishing a women's bill of Rights to reaffirm legal protections afforded to women under federal law.

<https://www.congress.gov/bill/118th-congress/house-resolution/115/all-info>

Valderas, J. M., Starfield, B., Sibbald, B., Salisbury, C., & Roland, M. (2009). Defining comorbidity: Implications for understanding health and health services. *Annals of Family Medicine*, 7(4), 357–363.

Vupputuri, S., Daugherty, S. L., Yu, K., Derus, A. J., Vasquez, L. E., Wells, A., ... Emanuel, E. W. (2021). A Mixed Methods Study Describing the Quality of Healthcare Received by Transgender and Gender Nonconforming Patients at a Large Integrated Health System. *Healthcare (Basel)*, 9(5), 530–. <https://doi.org/10.3390/healthcare9050530>

White Hughto, J. M., Reisner, S. L., & Pachankis, J. E. (2015). Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. In *Social Science and Medicine*, 147, 222-231.

Whitehead, M. (1992). The concepts and principles of equity and health. *International Journal of Health Services*, 22(3), 429–445. <https://doi.org/10.2190/986L-LHQ6-2VTE-YRRN>

Williamson, L. D. (2021). Testing Vicarious Experiences as Antecedents of Medical Mistrust: A Survey of Black and White Americans. *Behavioral Medicine (Washington, D.C.)*, 49(1), 40–52. <https://doi.org/10.1080/08964289.2021.1958740>

Williamson, L. D. (2022). Beyond Personal Experiences: Examining Mediated Vicarious Experiences as an Antecedent of Medical Mistrust. *Health Communication*, 37(9), 1061–1074. <https://doi.org/10.1080/10410236.2020.1868744>

Williamson, L. D., Smith, M. A., & Bigman, C. A. (2019). Does Discrimination Breed Mistrust? Examining the Role of Mediated and Non-Mediated Discrimination Experiences in

Medical Mistrust. *Journal of Health Communication*, 24(10), 791–799.

<https://doi.org/10.1080/10810730.2019.1669742>

Zappa, A. (2017). Beyond Erasure: The Ethics of Art Therapy Research With Trans and Gender-Independent People. *Art Therapy*, 34(3), 129–134.

<https://doi.org/10.1080/07421656.2017.1343074>

APPENDIX A

RESEARCH PARTICIPANT INFORMATION AND CONSENT FORM

STUDY TITLE: Assessing Medical Discrimination, Mistrust, and Healthcare Engagement as Predictors of COVID-19 Vaccination among Racially Diverse Transgender and Gender Diverse Individuals

VCU INVESTIGATOR: Eric G. Benotsch

VCU IRB NO.: HM20018376

ABOUT THIS CONSENT FORM

You are being invited to participate in a research study. It is important that you carefully think about whether being in this study is right for you and your situation. Participants must be 18 or older to participate in this study.

This consent form is meant to assist you in thinking about whether or not you want to be in this study. Please contact the investigator to explain any information in this content document that is not clear to you.

Your participation is voluntary. You may decide not to participate in this study. If you do participate, you may withdraw from the study at any time. Your decision not to take part or to withdraw will involve no penalty or loss of benefits to which you are otherwise entitled.

AN OVERVIEW OF THE STUDY AND KEY INFORMATION

WHY IS THIS STUDY BEING DONE?

The purpose of this research is to find out about how the COVID-19 pandemic has impacted transgender and gender diverse individuals. We are specifically interested in learning about your interactions with healthcare providers during the pandemic as well as how your experiences prior to the pandemic have informed your opinions about healthcare, public health issues, and your choices about healthcare utilization. You will also be asked to provide some information about your current health status and how the COVID-19 pandemic may have impacted your health or your ability to utilize healthcare.

We will also be asking you to provide the month and year that you received your COVID-19 vaccination if you received one. Please have your vaccination card on hand so that you can provide as accurate information as possible.

WHAT WILL HAPPEN IF I PARTICIPATE?

In this study, you will be asked to respond to various surveys that will ask you about your healthcare utilization, attitudes about healthcare, attitudes about public health issues, and any changes to your life that were brought on by the COVID-19 pandemic. You will be asked to provide basic demographic information at the end of the survey. Your participation in this study will last up to about 15 minutes. Approximately 380 transgender and gender diverse individuals will participate in the study.

WHAT ALTERNATIVES ARE AVAILABLE?

There are no alternatives to taking part in this survey. If you do not wish to participate you may decide not to proceed to the survey.

WHAT ARE THE BENEFITS OF BEING IN THE STUDY?

This study is not likely to help you. However, it may help the investigators understand how the COVID-19 pandemic has impacted your ability to utilize healthcare and your attitudes about healthcare as a transgender or gender diverse person.

WHAT RISKS AND DISCOMFORTS COULD I EXPERIENCE FROM BEING IN THE STUDY?

Questionnaires may contain questions that are personal, sensitive, or upsetting such as questions about your experiences in healthcare settings or whether you have been diagnosed with a specific illness such as diabetes or HIV. You may refuse to answer any question that makes you uncomfortable.

Additionally, as is the case with all research, there is the risk of loss of confidentiality. Researchers have included instructions when appropriate to help prevent participants from divulging identifying information.

WHAT ARE THE COSTS?

There are no costs to participating in the study other than the time you will spend completing the study

WILL I BE PAID TO PARTICIPATE IN THE STUDY?

You will be paid \$1.20 that will be deposited directly into your Prolific account.

CAN I STOP BEING IN THE STUDY?

You can stop being in this study at any time. However, compensation for participation is subject to approval therefore incomplete surveys may not receive full financial compensation.

HOW WILL INFORMATION ABOUT ME BE PROTECTED?

Data is being collected only for research purposes. What we find from this study may be presented. VCU has established secure research databases and computer systems to store information and to help with monitoring and oversight of research. Your information may be kept in these databases but are only accessible to individuals working on this study or authorized individuals who have access for specific research related tasks.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS ABOUT THE STUDY?

The investigator named below is the best person to contact if you have any questions, complaints, or concerns about your participation in this research:

Dr. Eric Benotsch
808 W. Franklin St., #208
Richmond, VA 23284
E-mail: ebenotsch@vcu.edu
Phone: 804-828-0133

If you have any general questions about your rights as a participant in this or any other research, or if you wish to discuss problems, concerns, or questions, to obtain information, or to offer input about research, you may contact:

Virginia Commonwealth University Office of Research
800 East Leigh Street, Suite 3000, Box 980568, Richmond, VA 23298
(804) 827-2157; https://research.vcu.edu/human_research/volunteers.htm

Do not agree to this consent form unless you have had a chance to ask questions and have received satisfactory answers to all of your questions.

STATEMENT OF CONSENT

I have been provided with an opportunity to read this consent form carefully. All of the questions that I wish to raise concerning this study have been answered. By signing this consent form, I have not waived any of the legal rights or benefits to which I otherwise would be entitled. My signature indicates that I freely consent to participate in this research study.

- ☐ I choose to participate in this study.
- ☐ I choose to not participate in this study.

APPENDIX B

Health-based questions:

Centers for Disease Control and Prevention (2014). 2015 Behavioral risk factor surveillance system questionnaire. Retrieved from https://www.cdc.gov/brfss/annual_data/2015/pdf/2015-BRFSS-questionnaire-12-29-14.pdf

Do you currently have health insurance?

- Yes
- No

(if yes) ask the following question.

What type of health insurance do you have?

- Private Insurance (Includes: Plans through employers, federal employee plans, plans from the Marketplace, plans through parents or partners, plans through universities)
- Public Insurance (Includes: Military insurance (Tricare), Medicaid, Medicare, Veteran's benefits)

Are any of your daily activities limited in any way because of your physical, mental, or emotional health?

- Yes
- No

Do you use any assistive equipment or technologies, such as a mobility device, a wheelchair, a special bed, a screen reader, or captioning software?

- Yes
- No

Do you identify as disabled and/or neurodivergent?

- Yes
- No

Has a doctor, nurse, or other healthcare professional ever diagnosed you with any of the following health conditions?

	Yes	No
Hypertension (high blood pressure)		
Heart Disease (<u>including</u> : Heart Attack, angina, coronary heart disease)		
Kidney Disease (<u>NOT including</u> : kidney stones, bladder infection, or not being able to control urine flow)		
Diabetes		
Chronic Obstructive Pulmonary Disease (COPD)		
Asthma		
Stroke		
Cancer		
Arthritis (<u>including</u> : rheumatoid arthritis, gout, lupus, or fibromyalgia)		
HIV or AIDS		
Depressive Disorder (<u>including</u> : depression, major depression, dysthymia, minor depression)		
Any other health condition(s) not listed above _____		

Gender-Based Healthcare Discrimination:

James, S., Herman, J., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). The Report of the 2015 US Transgender Survey. Washington, DC: National Center for Transgender Equality.

Have any of these things ever happened to you as a transgender/gender diverse individual, when you went to see a doctor or health care provider? Please check all that apply (for example you may check both “yes, after age 18” and “in the past year” if both are true for you).

	Never	Yes, before age 18	Yes, after age 18	Yes, in the past year
I had to teach a doctor or other healthcare provider about trans/gender diverse people so that I could get appropriate care.				
A doctor or other healthcare provider refused to give me other healthcare (e.g., physical exam, flu, diabetes).				
A doctor asked me unnecessary/invasive questions about my gender identity that were not related to the reason for my visit.				
A doctor or other healthcare provider insisted that my health complaint was related to my gender identity or medical transition (e.g., hormones, puberty blockers, etc.) when it was not.				
A doctor or other healthcare provider used harsh or abusive language when treating me.				
A doctor or other healthcare provider was physically rough or abusive when treating me.				
I was verbally harassed in a health care setting (e.g., hospital, office, clinic).				
A doctor or other healthcare provider referred to me using pronouns or a gender that did not accurately reflect my gender identity, before they asked and/or I told them my pronouns and gender identity.				
A doctor or other healthcare provider refused to use the pronouns or name that I requested to be used.				
The medical forms or documents that a doctor or other healthcare provider asked me to complete did not include my gender identity.				

The signs for the facilities (restrooms, changing rooms, waiting area, etc.) in a healthcare setting did not reflect my gender identity.				
--	--	--	--	--

Was there a time in the past 12 months, when you needed to see a doctor but did not because you thought you would be disrespected or mistreated because of your gender identity?

- Yes
- No

Was there a time in the past 12 months, when you needed to see a doctor but did not because you were worried about being exposed to COVID-19 in a healthcare setting?

- Yes
- No

Was there a time in the past 12 months, when you needed to see a doctor but could not because of cost?

- Yes
- No

The following questions are about other people’s experiences in healthcare related to their gender identity. They are very similar to the questions that you’ve just answered regarding your own experiences in healthcare settings related to your gender identity.

Has anyone that you know (e.g., a friend, family member, partner, community member, colleague, etc.) told you that any of these things ever happened to them when they went to see a doctor or healthcare provider, that they felt was related to them being a transgender/gender diverse individual? Please select “yes” or “no.”

	Yes	No
They had to teach a doctor or other healthcare provider about trans/gender diverse people so that they could get appropriate care.		
A doctor or other healthcare provider refused to give them gender affirming healthcare (e.g., counseling, hormone replacement therapy, puberty blocking hormones, surgery, etc.)		
A doctor or other healthcare provider refused to give them other healthcare (e.g., physical exam, flu, diabetes).		
A doctor asked them unnecessary/invasive questions about their gender identity that were not related to the reason for their visit.		
A doctor or other healthcare provider insisted that their health complaint was related to their gender identity or medical transition (e.g., hormones, puberty blockers, etc.) when it was not.		
A doctor or other healthcare provider used harsh or abusive language when treating them.		
A doctor or other healthcare provider was physically rough or abusive when treating them.		
They were verbally harassed in a health care setting (e.g., hospital, office, clinic).		
A doctor or other healthcare provider referred to them using pronouns or a gender that did not accurately reflect their gender identity, before they asked and/or they told them their pronouns and gender identity.		
A doctor or other healthcare provider refused to use the pronouns or name that they requested to be used.		

The medical forms or documents that a doctor or other healthcare provider asked them to complete did not include their gender identity.		
The signs for the facilities (restrooms, changing rooms, waiting area, etc.) in a healthcare setting did not reflect their gender identity.		

Was there a time in the past 12 months, when someone you know, needed to see a doctor but did not because they thought that they would be disrespected or mistreated because of their gender identity?

- Yes
- No

Was there a time in the past 12 months, when someone you know, needed to see a doctor but did not because they were worried about being exposed to COVID-19 in a healthcare setting?

- Yes
- No

Was there a time in the past 12 months, when someone you know, needed to see a doctor but could not because of cost?

- Yes
- No

Gender Identity-based medical mistrust:

Thompson, Valdimarsdottir, H. B., Winkel, G., Jandorf, L., & Redd, W. (2004). The Group-Based Medical Mistrust Scale: psychometric properties and association with breast cancer screening. *Preventive Medicine*, 38(2), 209–218. <https://doi.org/10.1016/j.ypmed.2003.09.041>

Below is a list of statements dealing with your general feelings about the healthcare system. Read each item carefully and choose the answer that is most representative of your feelings about each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Doctors and healthcare workers sometimes hide information from patients who are transgender/gender diverse.	1	2	3	4	5
Doctors have the best interests of people who are transgender/gender diverse.	1	2	3	4	5
People who are transgender/gender diverse should not confide in doctors and healthcare workers because it will be used against them.	1	2	3	4	5
People who are transgender/gender diverse should be suspicious of information from doctors and health care workers.	1	2	3	4	5
People who are transgender/gender diverse cannot trust doctors and health care workers.	1	2	3	4	5
People who are transgender/gender diverse should be					

suspicious of modern medicine.	1	2	3	4	5
Doctors and health care workers treat people who are transgender/gender diverse like “guinea pigs.”	1	2	3	4	5
People who are transgender/gender diverse receive the same medical care from doctors and health care workers as people from other groups	1	2	3	4	5
Doctors and health care workers do not take the medical complaints of people who are transgender/gender diverse seriously.	1	2	3	4	5
People who are transgender/gender diverse are treated the same as people of other groups by doctors and health care workers	1	2	3	4	5
In most hospitals, people of different gender identities receive the same kind of care (e.g., cisgender and transgender/gender diverse people).	1	2	3	4	5
I have personally been treated poorly or unfairly by doctors or health care workers because of my gender identity.	1	2	3	4	5

Demographics

Instructions: Please answer the following questions to the best of your ability:

Age: ____

Gender Identity:

- Woman
- Trans Woman
- Man
- Trans Man
- Nonbinary
- Gender Fluid
- Genderqueer
- Another Gender Identity not listed above (please specify) _____

Which racial or ethnic identities best describe you (You may select all that apply):

- White
- Black or African American
- Hispanic, Latin(a/o), or Latinx
- Asian or Asian American
- American Indian or Alaskan Native
- Native Hawaiian or Other Pacific Islander
- American Arab, Middle Eastern, or North African (AMENA)
- Multi-Racial-ethnic
- Another race/ethnic identity not listed (please specify) _____

Sexual Orientation:

- Heterosexual
- Gay
- Bisexual
- Pansexual
- Asexual
- Another sexual orientation not listed (please specify) _____

What is your highest level of formal education?

- Middle school
- High school
- GED
- Vocational school
- Associate's Degree
- Bachelor's Degree
- Graduate Degree (Master's, Doctorate, etc.)

What is your household annual income?

- \$0 - \$20,000
- \$20,001 - \$40,000
- \$40,001 - \$60,000
- \$60,001 - \$80,000
- \$80,001 - \$100,000
- More than \$100,000

Please use the space below to tell us anything else you would like us to know about you or your experiences during the pandemic, experience with vaccination, or experiences with healthcare professionals. Please avoid describing any identifying information such as your name, the names of others, specific places, etc.