Health Care Use Among Transgender and Other Gender Diverse People in the United States: Influences of Stigma and Resilience

by

Tamar S. Goldenberg

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Doctoral Committee:

Professor Gary W. Harper, Co-Chair
Professor Rob Stephenson, Co-Chair
Assistant Professor Dr. Kristi E. Gamarel
Assistant Professor Dr. Erin Kahle
Assistant Professor Dr. Sari L. Reisner

Tamar Goldenberg

tamargol@umich.edu

ORCID id: 0000-0003-3998-2913

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AFAB	Assigned female at birth
AMAB	Assigned male at birth
ATN	Adolescent Medicine Trials Network for HIV/AIDS Interventions
AVA	Affirming Voices for Action
BRFSS	Behavioral Risk Factor Surveillance System
CBPR	Community-based participatory research
CDC	Centers for Disease Control and Prevention
DSM-IV	Diagnostic Statistical Manual-IV
GID	Gender Identity Disorder
HRT	Hormone replacement treatment
IDI	In-depth individual interview
IOM	Institute of Medicine
LGBTQ	Lesbian, gay, bisexual, transgender, and queer
NCTE	National Center for Transgender Equality
PCA	Principal Components Analysis
SGM	Sexual and gender minority
TGGD	Transgender and gender diverse
USDA	United States Department of Agriculture
USTS	U.S. Trans Survey
WPATH	World Professional Association for Transgender Health
YAB	Youth advisory board

Abstract

Background: This dissertation explores the relationships between stigma, resilience, and health care among transgender and other gender diverse (TGGD) populations in the United States. The dissertation draws from multiple theoretical approaches and models (e.g., Fundamental Cause Theory, Bronfenbrenner's Socio-Ecological Model, an intersectionality framework) and uses Minority Stress Theory as the primary theoretical foundation of the dissertation. Together, these theories and frameworks are used to explore how multiple aspects of stigma and resilience play a role in access to and use of health care among TGGD populations.

Methods: The dissertation is comprised of four papers including analyses of three separate datasets. Chapter II uses mixed methods to analyze data from the Affirming Voices for Action study and aims to understand experiences of stigma and gender affirmation across the health care experience among 33 trans-masculine and trans-feminine youth of color living in 14 U.S. cities. Chapter III uses principal components analysis and logistic regression to examine data from the Moxie study. This paper explores the relationships between minority stressors (e.g., enacted and anticipated stigma), resilience, and different types of health care use among a national online sample of TGGD youth. Chapters IV and V analyze data from the U.S. Trans Survey, conducted among more than 27,000 TGGD people across the United States. These papers use multilevel logistic regression to examine the role of state-level trans-specific policies on health care use, while also accounting for the clustering of data by U.S. state and exploring if the relationship between race/ethnicity and TGGD health care use vary across states. The health care use outcomes vary across these studies; Chapter IV examines non-use of health care due to fear of mistreatment and Chapter V examines the use of medical gender affirmation services.

Results: Across all four papers, stigma were generally related to less access to and use of health care. Resilience was found to improve access to and use of care. Stigma and resilience played a role in health care across different types of care, but the nuances in these relationships varied across types of care. Stigma and resilience also played a role in health care across the Socio-Ecological Model, occurring at intrapersonal, interpersonal, community, and structural levels. Experiences with health care varied across other identities (e.g., with TGGD youth and TGGD populations of color), highlighting the importance of applying an intersectionality framework when exploring the experiences of TGGD populations. When examining differences across gender identity (trans-masculine vs. trans-feminine vs. other gender diverse), differences were more salient in some papers than others; specifically, differences in experiences of stigma and resilience were greater when occurring outside of health care settings rather than inside of health care settings.

Conclusions: Findings from this dissertation suggest the importance of developing multi-level public health interventions occurring both within and outside of health care settings in order to improve access to health care among TGGD people. Policy and other structural interventions are also important, especially since they shape the social and political environment and play a role in access to resources. Future research exploring the role of stigma and resilience on health care among TGGD populations should consider applying an intersectionality framework, a resilience lens, and a focus on structural aspects of stigma and systematic vulnerability, in addition to the intrapersonal and interpersonal factors included in Minority Stress Theory.

CHAPTER I: Literature Review and Theoretical Frameworks

Dissertation Terms and Definitions

In order to understand the concepts discussed in this dissertation, it is first important to clearly define some terms used throughout this dissertation. Many of the term definitions are based on a glossary of terms developed by Fenway Health (2010). The terms are defined throughout the dissertation and also listed and defined below.

Assigned sex at birth: This refers to the sex that was included on an individual's birth certificate, and refers to, "the designation of a person at birth as either 'male' or 'female' based on their anatomy (genitalia and/or reproductive organs) and/or biology (chromosomes and/or hormones)" (Fenway Health, 2010).

Cisgender: A term that refers to any individual whose gender identity is the same as their sex assigned at birth.

Cis-normative: Refers to the cultural ideologies that identify cisgender identity as the societal standard; these ideologies assume that everyone has a cisgender identity.

Gender diverse: Synonymous with the term "gender minority," this is a broad term that refers to any individual whose gender identity is not the same as their sex assigned at birth. This includes individuals who identify as transgender, gender non-binary, genderqueer, individuals who identify as not having a gender, individuals who identify as having multiple genders, and any other individual whose gender identity does not fit stereotypical norms around being cisgender.

Gender expression: Based on the definition used by Fenway Health (2010), this term refers to: "The external manifestation of a person's gender identity, which may or may not conform to the socially-defined behaviors and external characteristics that are commonly referred to as either masculine or feminine. These behaviors and characteristics are expressed through carriage (movement), dress, grooming, hairstyles, jewelry, mannerisms, physical characteristics, social interactions, and speech patterns (voice)."

Gender identity: Based on the definition used by Fenway Health (2010), this term refers to: "A person's innate, deeply-felt psychological identification as a man, woman, or something else, which may or may not correspond to the person's external body or assigned sex at birth (i.e., the sex listed on the birth certificate)."

Gender minority: Synonymous with the term "gender diverse," this is a broad term that refers to any individual whose gender identity is not the same as their sex assigned at birth. This includes individuals who identify as transgender, gender non-binary, genderqueer, individuals who identify as not having a gender, individuals who identify as having multiple genders, and any other individual whose gender identity does not fit stereotypical norms around being cisgender.

Medical gender affirmation services: Refers to health care services specifically related to experiences of gender identity. This includes, for example, the use of hormone replacement treatment, pubertal blockers, and surgery. Surgery can include a range of types of surgery, including, for example, "top surgery" (surgery related to the chest and breasts), "bottom surgery" (surgery related to the genitals), facial feminization surgery, surgery for Adam's apple reduction, and surgeries to alter voice (Fenway Health, 2010).

Sexual minority: Based on the Fenway Health (2010) definition, this term refers to any individual with a sexual orientation that is not heterosexual only.

Trans-feminine: Refers to individuals who were assigned a male sex at birth who identify as feminine, trans women, or women.

Trans-masculine: Refers to individuals who were assigned a female sex at birth who identify as masculine, trans men, or men.

Trans-related stigma: Stigma targeted at transgender and other gender diverse people specifically because of their gender identity and/or gender expression.

Transgender: According to Fenway Health (2010), this is an "umbrella term for people whose gender identity and/or gender expression differs from their assigned sex at birth (i.e., the sex listed on their birth certificates)."

Introduction

In the United States, there is pervasive stigma targeted at transgender and other gender diverse people (i.e., individuals whose gender identity is not the same as the sex that they were assigned at birth; TGGD).[1] These experiences of stigma simultaneously contribute to inequities in

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[1] It is important to note that TGGD is used as an umbrella term to describe individuals who identify as transgender as well as individuals who do not specifically identify as transgender, but whose gender identity is not the same as their sex assigned at birth. In some cases, throughout the prospectus, the word "transgender" will be used instead of TGGD; this is used to describe studies with individuals who specifically identify as transgender (and not another gender diverse identity) or to describe experiences that are specific to having a transgender identity.

both poor health outcomes and access to health care (Goffman, 1963; Hatzenbuehler, Phelan, & Link, 2013; Link & Phelan, 2001). At the same time, TGGD communities also demonstrate resilience; this concept is described in greater detail later, but this refers to a social process in which individuals are faced with a stressor (such as stigma) and are able to access resources or employ coping mechanisms to help them to avoid the negative consequences typically associated with those stressors (Fergus & Zimmerman, 2005). This means that while trans-related stigma may limit access to health care, interventions that focus on increasing resilience among TGGD people may help to improve access to health care. Therefore, in order to address inequities in health and health care among TGGD people, it is important to first understand how both stigma and resilience influence access to and utilization of health care services for TGGD people.

According to data from the Centers for Disease Control and Prevention's (CDC) 2014 Behavioral Risk Factor Surveillance System (BRFSS), TGGD adults account for approximately 0.6% of the U.S. adult population, estimated at approximately 1.4 million people (Flores, Herman, Gates, & Brown, 2016). Interventions that aim to address the general population may intend to have a larger impact by reaching a greater number of people, but without a focus on the specific needs of marginalized communities (like TGGD communities), health inequities will increase (Frohlich & Potvin, 2008). This occurs when individuals with more privileged identities are able to benefit from public health interventions, while those with more marginalized identities are not (Frohlich & Potvin, 2008). Therefore, it is important for research to understand the needs of TGGD populations in the United States (Conron, Landers, Reisner, & Sell, 2014; Reisner, Poteat, et al., 2016), including experiences of stigma and resilience, and how these influence health and health care use.

Understanding Trans-Related Stigma

Stigma is defined by Goffman (1963) as “an attribute that is deeply discrediting” (p.3). Link and Phelan (2001) build on Goffman’s (1963) definition of stigma by explaining that stigma occurs when 1) human attributes are distinguished and labeled; 2) dominant culture and ideologies link labeled attributes with negative stereotypes; 3) “othering” occurs so that labeled groups are understood as a distinct category; and 4) status loss and discrimination of stereotyped people lead to inequitable outcomes. In this case, status loss refers to the devaluation of an individual specifically because of their identity (Link & Phelan, 2001).

This stigma process involves the relationships between dominant and minority groups, where some individuals are valued more than others (Geronimus, 2000; Goffman, 1963). Goffman (1963) explains that stigma simultaneously discredits and discounts the identity of minority social groups who possess the stigmatizing attribute, while at the same time normalizing the identities of individuals who are part of the dominant social group. For example, trans-related stigma simultaneously stigmatizes TGGD people, while also reinforcing stereotypical gender roles and normalizing the gender identity of cisgender individuals (i.e., individuals whose gender identity is the same as their sex assigned at birth).

This relational definition emphasizes that stigma occurs within a dynamic context that varies depending on the social environment, the social cues of the environment, and the identities of other individuals in that environment (Bronfenbrenner, 1979; Crenshaw, 1991; Geronimus et al., 2016; Goffman, 1963). This relational definition of stigma also highlights that individuals who hold privileged identities benefit from stigma, regardless of whether they are intentionally and explicitly perpetuating stigma (Frankenberg, 1992). In addition, it is important to note that these relational experiences of stigma are not based solely on individual aspects of identity, but instead, are based on the compounding layers of oppression related to multiple aspects of identity (e.g., race/ethnicity, gender identity).

Cultural Norms and Ideologies Perpetuating Trans-Related Stigma in the United States. Trans-related stigma is deeply rooted in U.S. society and can be better understood through the historical context of cultural norms and ideologies that perpetuate trans-related stigma. In the United States, gender is socially constructed within a gender binary (male vs. female) that excludes the experiences of TGGD people (Butler, 2004; Stryker, 2017). Throughout U.S. history, this has meant that TGGD identities have been designated as having a stigmatized "other" status, with TGGD identities being both criminalized and pathologized (Butler, 2004; Stryker, 2017). Starting in the 1850's, laws in the United States challenged gender identity and outlawed gender expression that was different from one's sex assigned at birth (Stryker, 2017). In addition, within medicine, transgender identity has been historically understood as a "sickness" (Stryker, 2017). In fact, up until 2013, the Diagnostic Statistical Manual-IV (DSM-IV) included a Gender Identity Disorder (GID) diagnosis, which identified gender identity as a mental health disorder (Hughto, Reisner, & Pachankis, 2015; Stryker, 2017). While including a diagnosis in the DSM-IV may provide a justification for health insurance companies to pay for medical gender affirmation services (such as hormones or surgery), this diagnosis implies that it is inherently wrong or "sick" to be transgender (Snelgrove, Jasudavisius, Rowe, Head, & Bauer, 2012).

Transgender voices have also been historically excluded in many aspects of U.S. society, including with media representation, political protections, medical decision-making, academia, and activism among lesbian, gay, bisexual, transgender, and queer (LGBTQ) communities (McInroy & Craig, 2015; Stryker, 2017). The exclusion of TGGD identities in so many aspects of U.S. culture and human rights perpetuates trans-related stigma and reinforces a cis-normative society, where cisgender identity is understood as the norm. The development of one's gender identity within this cultural context can lead to experiences of discrimination and victimization by others as well as internalized tension and discomfort (Grossman & D'augelli, 2006).

Even though cis-normative cultural ideologies permeate U.S. culture, since the early 1990's, the experiences of TGGD populations have become more visible in U.S. society (Stryker, 2017). This is evident through an increased representation of TGGD individuals in a variety of settings, including in the media (e.g., through representation in television and movies) and through increased visible activism to increase rights of TGGD people (Berberick, 2018; Bockting et al., 2019; McInroy & Craig, 2015; Stryker, 2017). In addition, there has been a rapid increase in research activities and interventions (especially public health research) focusing on the needs of TGGD populations (MacCarthy, Reisner, Nunn, Perez-Brumer, & Operario, 2015; Reisner, Poteat, et al., 2016). As a way to highlight the increase in research activities and publications specific to the experiences of TGGD people, new academic journals (such as Transgender Health) have been created. In addition, a systematic review of quantitative literature about TGGD health published between 2008 and 2014 found 116 articles across 30 different countries (Reisner, Poteat, et al., 2016). If an examination of the literature were to also include qualitative research methods, the number of publications would be even greater, since much research aimed at understanding TGGD communities has been qualitative. However, despite this increase in research focusing on the needs of TGGD people, it is important to note that there are still many gaps in the literature (MacCarthy et al., 2015; Reisner, Poteat, et al., 2016); these are discussed in more detail below.

While this increased visibility has brought greater opportunities for acceptance and understanding of TGGD experiences among the general U.S. population, with many positive representations of TGGD identities, it has also provided opportunities for increased stigma

(Stryker, 2017; Veldhuis et al., 2018). First, even though research focusing on the needs of TGGD people has increased, much of this research has been conducted without the voices of TGGD people. Inclusion of TGGD individuals when conducting research about TGGD needs is essential to ensure that the research is appropriate and useful (Reisner, Keatley, & Baral, 2016). In addition, the current presidential administration has increasingly targeted TGGD populations, with a number of policies that exclude TGGD people and very explicitly stigmatize them in areas of military, health-related research funding, health insurance, non-discrimination policies, etc. (Baker, 2017; Restar & Reisner, 2017). At the same time, many state and local laws have specifically targeted TGGD people's use of public spaces, requiring individuals to use bathrooms and locker rooms aligned only with one's sex assigned at birth (Herman, 2013; Wang, Solomon, Durso, McBride, & Cahill, 2016). Therefore, even though there has been an increase in TGGD visibility and the positive representation of TGGD individuals in the United States, much work is still needed to reduce trans-related stigma and improve the health of TGGD people across the country.

Why Focus on Health Care?

Healthy People 2020 recognizes that access to "comprehensive, quality health care services" is an important goal to achieve health equity across social groups in the United States (U.S. Department of Health and Human Services, 2014b). Health care utilization is often used as a proxy for health care access (Levesque, Harris, & Russell, 2013) and has been defined as "the quantity of health care services and procedures used" (Shengelia, Murray, & Adams, 2003). Some definitions describe health care access in terms of utilization; for example, the Institute of Medicine's (IOM) definition of health care access is: "The timely use of personal health services to achieve the best possible health outcomes" (Millman, 1993). Building on the IOM definition, health care utilization is often measured through a lack of obtaining services or through delays in health care utilization; this has been especially true among research examining experiences of health care for TGGD populations (Jaffee, Shires, & Stroumsa, 2016; James et al., 2016; Seelman, Colón-Diaz, LeCroix, Xavier-Brier, & Kattari, 2017). For TGGD populations, statistics describing the overall use of and/or delays in health care are unknown. However, some research has examined delays of care for specific reasons (e.g., anticipated stigma, cost; James et al., 2016), and this research suggests that TGGD populations in the United States report higher rates of delaying care than the general U.S. population (Cruz, 2014; James et al., 2016; Rider, McMorris, Gower, Coleman, & Eisenberg, 2018).

In order to achieve equitable access to care, it is important to consider the distinct health care needs that TGGD people may experience. First, access to primary health care is important for all populations because it can help to improve physical and mental health, prevent disease and disability, diagnose illness and provide treatment, prevent death, improve quality of life, and increase life expectancy (U.S. Department of Health and Human Services, 2014b). However, the perpetuation of trans-related stigma through policies and interpersonal interactions, and the exclusion of TGGD-specific needs in medical education and health care provision, may result in TGGD populations having limited access to all types of health care, including primary care (Hughto et al., 2015; Obedin-Maliver et al., 2011; Roberts & Fantz, 2014).

In addition, medical gender affirmation services (e.g., hormones, surgery) are important for some TGGD individuals as a way to affirm their gender (White Hughto & Reisner, 2016). It is important to note that not all TGGD people seek medical gender affirmation services. However, for those who do, this type of care is considered to be life-saving, with previous research finding that, among individuals who need this care, having access to these services is associated with reduced psychological distress and suicidal ideation, and with increased quality of life (Murad et al., 2010; White Hughto & Reisner, 2016). Within the United States, there are many barriers that limit access to and use of medical gender affirmation services, including, for example, barriers when paying for care and finding providers with knowledge of this type of care (Puckett, Cleary, Rossman, Mustanski, & Newcomb, 2018; Sineath et al., 2016). According to the 2015 U.S. Transgender Survey (USTS), conducted among a large convenience sample of TGGD individuals, 78% of respondents reported wanting to receive hormone therapy at some point in their lives, but only 49% ever received hormones (James et al., 2016).

Access to mental health care is typically necessary in order to attain medical gender affirmation services (Budge, 2015; Coleman et al., 2012); however, access to quality mental health services is also limited, with TGGD individuals facing many barriers to accessing mental health care in the United States (Shipherd, Green, & Abramovitz, 2010). The World Professional Association for Transgender Health (WPATH) recommends that TGGD people attain a mental health referral in order to access medical gender affirmation services (Coleman et al., 2012). As a result, mental health care professionals are often perceived as gatekeepers, reducing the access to mental health care providers for reasons beyond these referrals (Benson, 2013; Lev, 2004). Since mental health care providers play the role of gatekeeper, some TGGD people may feel distrust with mental health care providers; as a result, TGGD people may not feel comfortable openly sharing their mental health concerns with a provider, especially if they fear that this will limit their ability to access medical gender affirmation services (Benson, 2013; Lev, 2004). This limited access to mental health care is especially problematic because experiences of trans-related stigma result in TGGD populations experiencing disproportionate rates of mental health disorders, including, for example, depression and anxiety (Bauermeister, Goldenberg, Connochie, Jadwin-Cakmak, & Stephenson, 2016; James et al., 2016; Reisner, Biello, et al., 2016; Reisner, Vetters, et al., 2015). Stigma also contributes to TGGD individuals (and especially trans-feminine individuals) experiencing a disproportionate burden of HIV incidence in the United States (Clark, Babu, Wiewel, Opoku, & Crepaz, 2016; Herbst et al., 2008; Hines & Ryan, 2016; Logie, James, Tharao, & Loutfy, 2011); therefore, a focus on the specific HIV prevention and treatment needs of TGGD populations is also needed.

Finally, other types of specialized health care (e.g., gynecological care) are also important for the health and well-being of TGGD populations (especially for trans-masculine individuals). However, services such as Pap tests (used to test for cervical cancer) may create stress and discomfort, increase opportunities for stigma, and require individuals to negotiate with both providers and health insurance companies around the services they need (Peitzmeier et al., 2017). These challenges for accessing Pap tests reduce access to this type of care and reduce satisfaction with this type of care when it is accessed (Peitzmeier et al., 2017; Peitzmeier, Reisner, Harigopal, & Potter, 2014). Taken together, this highlights the need to better understand all of the specific health care needs that TGGD people have. Furthermore, it is essential to understand how experiences of both stigma and resilience play a role in access to and utilization of care.

These different types of care are unique, and TGGD populations may have varied motivations to access different types of care as well varied experiences when accessing these different types of health care services. For example, the motivation to access preventative care is typically related to one’s general health status and experiences with health, the motivation to access gender affirmation services are more specifically tied to one’s gender identity, and the motivation to access mental health care services may be tied to both one’s general mental health status as well as their gender identity. Currently, little is known about how stigma and resilience play a role across these types of care. Since the motivations and experiences across these different types of care vary, it is possible that the ways in which stigma and resilience are associated with each type of care may also vary. However, more work is needed to understand the relationships between stigma, resilience, and health care across types of care.

Theoretical Frameworks Conceptualizing Stigma and Resilience

In order to understand the relationships between stigma, resilience, and TGGD health care use in the United States, it is important to apply theories to conceptualize stigma and resilience and examine the relationships between these constructs and health outcomes. This dissertation will use Minority Stress Theory (Meyer, 1995, 2003) as the primary theoretical framework. Minority Stress Theory was initially developed in the context of sexual minority identities (Meyer, 1995, 2003); however, it has been recently applied to include the experiences of gender identity and renamed as Gender Minority Stress Theory (Testa, Habarth, Peta, Balsam, & Bockting, 2015). Even though this dissertation uses constructs from Gender Minority Stress Theory (Testa et al., 2015), this dissertation is developed based on the foundational concepts presented in the original theory (Meyer, 1995, 2003); therefore, the term Minority Stress Theory (and not Gender Minority Stress Theory) will be used throughout this dissertation. In addition, this dissertation also builds on Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) using additional theoretical frameworks, including Bronfenbrenner's Socio-Ecological Model (Bronfenbrenner, 1979, 1994), an intersectionality framework[2] (Bowleg, 2012; Crenshaw, 1991), Fundamental Cause Theory (Hatzenbuehler et al., 2013; Link & Phelan, 1995), and a more in-depth framework for understanding resilience (Fergus & Zimmerman, 2005).

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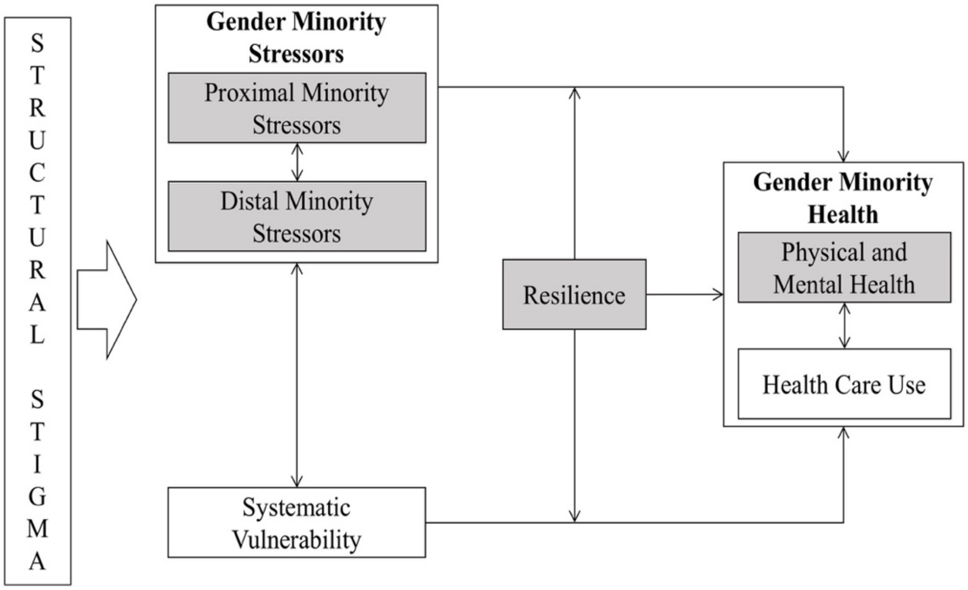
[2] Aligned with other work that has conceptualized intersectionality (Bowleg, 2012; Crenshaw, 1991), throughout this dissertation intersectionality is referred to as a *framework* and not a *theory* because, as Bowleg (2012) clarifies, intersectionality "has no core elements or variables to be operationalized and empirically tested" and therefore refers to "an analytic framework or paradigm" and not "a traditional testable theory."

Figure 1: Conceptual Model Using Minority Stress Theory



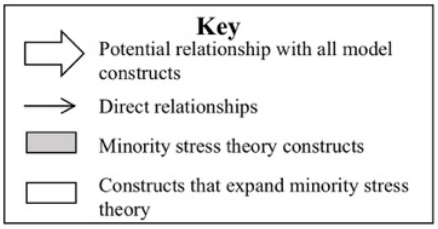


Figure 1 demonstrates a conceptual model, with Minority Stress Theory as the main focus of the model. All constructs shaded in grey represent constructs from Minority Stress Theory and all additional constructs highlight the way in which this dissertation will build upon Minority Stress Theory to examine the relationships between stigma, resilience, and health care use among TGGD people. Additional theories and models are used to highlight the different socio-ecological levels of the conceptual model (Bronfenbrenner's Socio-Ecological Model; Bronfenbrenner 1979, 1994), explain how these experiences vary across identities (intersectionality framework; Bowleg, 2012; Crenshaw, 1991), explain the role of structural stigma (Fundamental Cause Theory; Hatzenbuehler et al., 2013; Link & Phelan, 1995), and expand the concept of resilience (using a conceptualization of resilience from Fergus & Zimmerman; 2005). After describing the different theories and frameworks, empirical evidence will be used to justify expanding Minority Stress Theory to apply to experiences of health care use and to highlight the role that systematic vulnerability plays in the relationships between stigma, resilience, and health care use among TGGD people.

Bronfenbrenner's Socio-Ecological Model. Bronfenbrenner's Socio-Ecological Model is a developmental theory that can be applied to experiences of TGGD individuals across the life span (Bronfenbrenner, 1979, 1994). Bronfenbrenner builds on Lewin's Field Theory, which recognizes that developmental processes need to consider the interplay between an individual and their environment (Lewin, 1951). Bronfenbrenner (1979; 1994) acknowledges that development does not occur within a social vacuum. Instead, this model acknowledges that the relationship between an individual and their environment is reciprocal and iterative, where the environment influences a person, a person influences their environment, and both the person and environment (and the interaction between the two) change over time as both a person and an environment develop (Bronfenbrenner, 1979, 1994; Muuss, 1996).

Bronfenbrenner defines the environment as consisting of a set of systems, including the microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1979, 1994). These systems are nested within each other, are dependent on each other, and change over time (Bronfenbrenner, 1979, 1994; Muuss, 1996). The microsystem is made up of a network of intimate personal relationships (e.g., family, friends); the mesosystem is comprised of a network of settings in which the relationships in the microsystem interact (e.g., the relationship between home and school) and contributes to the development of social roles, which vary across settings and over time; the exosystem consists of the larger community setting, which includes institutions with decision-making power; and, finally, the mesosystem is the overarching social structure that creates cultural values and can be considered the "blueprint" in which all other systems exist (Bronfenbrenner, 1979, 1994; Muuss, 1996). All of these systems occur within the chronosystem, which encompasses the passing of time and considers changes or consistencies over time for both an individual and their environments (Bronfenbrenner, 1994). In order to fully understand how trans-related stigma is generated and perpetuated in the United States (and how resilience occurs in response to stigma), it is important to understand the interplay that occurs between factors at each of these levels. Throughout the remainder of this dissertation, these different levels of socio-ecological factors will be referred to as structural, community, interpersonal, and intrapersonal levels. The interpersonal level refers to factors occurring between individuals and the intrapersonal level refers to factors occurring within an individual.

Intersectionality. An intersectionality framework is integral for understanding how individuals experience multiple identities simultaneously. Intersectionality frameworks originated within feminist theory in the early 1980's, beginning with representation in the writings of U.S. Black and Chicana feminists, through texts such as the feminist anthology, *This Bridge Called My Back: Writings by Radical Women of Color* (Moraga & Anzaldúa, 1981), which highlighted the experiences of diverse women of color, especially lesbian and queer women of color. Early third-wave feminist texts by activists and scholars, such as bell hooks, re-defined feminism to extend beyond a concept of simply being equal to men and instead focused on multiple dominant power structures, including White supremacy and patriarchy (hooks, 1981). During this time period, other lesbian feminists of color, such as Angela Davis and Audre Lorde, also played an important role in exploring how centering multiple aspects of identity (e.g., gender, race, socioeconomic status, and sexual identity) is a key component to feminism and equity, rather than focusing on all women simply as one group due to one shared aspect of identity (A. Y. Davis, 1981; Lorde, 1984).

The term “intersectionality” was introduced by Kimberlé Crenshaw within the discipline of critical race studies, through an essay focusing specifically on the experiences of Black women (Crenshaw, 1989). Later, Crenshaw went on to publish a paper titled, “Mapping the Margins: Intersectionality, Identity Politics, and Violence Against Women of Color” (Crenshaw, 1991); this paper continued to define the term intersectionality, applying it more broadly to women of color, with a specific focus on the feminist antiviolence movement.

According to this intersectional framework, the experiences of different types of stigma (e.g., trans-related stigma, racist stigma) are not additive; instead, these identities interact to result in a different experience of stigma (Crenshaw, 1991). This means, for example, that the experience of gender identity may vary by race and the experience of racial identity may vary between individuals or groups with different gender identities.

When considering intersectionality frameworks, it is important to think about how different identities are socially constructed in the United States. For example, as mentioned above, gender identity is socially constructed within a cultural ideology that defines gender as a binary (Butler, 2004). However, other identities, such as race, are also socially constructed within ideologies that marginalize some groups while providing privilege to others. The social construction of race is evident in the historical shifts in racial boundaries, for example, when European immigrants (e.g., Italians, Irish) who were previously not characterized as White, were able to assimilate into U.S. culture and attain a dominant White racial status (Omi & Winant, 2014). Furthermore, White privilege is embedded in U.S. culture, so it occurs regardless of whether or not a White individual is intentionally and explicitly discriminating against or stigmatizing other racial groups (Frankenberg, 1992). This means that cultural ideologies (such as the concept of meritocracy) that define what it means to be "successful" in U.S. society are developed to benefit White people (Geronimus & Thompson, 2004).

Aligned with Link & Phelan's (2001) definition of stigma, the social construction of race has also been identified as a process of "othering" through which racial minorities in the United States have been consistently stigmatized throughout history (Omi & Winant, 2014). Therefore, when applying an intersectionality framework to understand experiences of TGGD people of color (for example), it important to understand how experiences of gender identity occur within the context of the social construction of race and racist ideologies.

Fundamental Cause Theory and Structural Stigma. Most research on stigma has focused on interpersonal and intrapersonal experiences of stigma.[3] However, in order to fully understand the relationship between stigma and health care use among TGGD individuals, it is important to first understand stigma at a structural level (Hatzenbuehler et al., 2013; Link & Phelan, 2001). Though Fundamental Cause Theory is not used to frame any of the specific research papers described in Chapters II through V, this theory is useful for better understanding the role of trans-related stigma on experiences of both health and health care for TGGD people, and this theory was used as a foundation for developing the specific research questions and hypotheses presented throughout the dissertation.

Fundamental Cause Theory is a useful lens for understanding how stigma is structural and can function as a fundamental cause of health (Hatzenbuehler et al., 2013). Fundamental Cause Theory suggests that it is important to contextualize the risk factors of poor health outcomes by examining the social conditions that are related to health outcomes and examining how and why

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[3] Interpersonal stigma refers to experiences of stigma occurring between individuals (e.g., discrimination, victimization), while intrapersonal stigma refers to stigma occurring within oneself (e.g., internalized stigma). These concepts are defined in more detail below.

these social conditions enable individuals to become exposed to both risky and protective health factors (Link & Phelan, 1995). According to Link & Phelan (1995), a fundamental cause can be defined as an underlying social factor that has a “persistent association with disease despite changes in intervening mechanisms” (p.87). This means that the health effects of a fundamental cause cannot be eliminated by simply focusing on the mechanisms that link the fundamental cause with a health outcome; instead, the fundamental cause itself must be addressed (Link & Phelan, 1995).

The effects of a fundamental cause are consistent over time because both risk factors and health outcomes are dynamic and multifaceted; a fundamental cause may link with a number of health outcomes through a variety of mechanisms and the links between a fundamental cause and health outcomes may change over time (Link & Phelan, 1995). Stigma is considered to be a fundamental cause of health because it: 1) simultaneously influences multiple health outcomes through a variety of risk factors; 2) includes access to resources that can help mitigate exposures to risk or reduce the consequences of a poor health outcome if it occurs; and 3) influences health inequities in a variety of contexts and across time despite any changes or advances in diseases, risks for diseases, and public health interventions (Hatzenbuehler et al., 2013).

Minority Stress Theory. Focusing more on the interpersonal and intrapersonal stigma processes, Minority Stress Theory is another useful framework to better understand the experiences of stigma among TGGD individuals and how these experiences of stigma influence health outcomes and health care use. Though all theories and frameworks mentioned here are used to develop the dissertation, this is the primary theory used throughout all of the research studies as a way to conceptualize both stigma and resilience.

Minority Stress Theory builds on other social stress theories (Dohrenwend, 1998; Pearlin, 1989) that recognize that social stressors can extend beyond personal events to include chronic stressors resulting from environmental and social conditions (e.g., societal stigma in response to having marginalized identities) (Dohrenwend, 1998; Meyer, 2003; Pearlin, 1989). Building on these social stress theories (Dohrenwend, 1998; Pearlin, 1989), Minority Stress Theory was originally developed based on experiences of stigma related to sexual orientation and sexual identity (Meyer, 1995, 2003), but has recently been adapted to also include stigma based on gender identity (Hendricks & Testa, 2012; Meyer, 2015; Testa et al., 2015). Minority stress can be defined as chronic psychological stress that is related to the experience of being stigmatized (Meyer, 1995). Minority Stress Theory posits that minority stress processes result in an increase in poor mental and physical health outcomes (Meyer, 1995, 2003). Though minority stress is understood as occurring within a structural system (i.e., mesosystem), minority stressors are often operationalized as primarily interpersonal and intrapersonal and specifically focus on distal (interpersonal) and proximal (intrapersonal) minority stressors (Hatzenbuehler & Pachankis, 2016; Hendricks & Testa, 2012; Meyer, 2003; Testa et al., 2015).

The relationships between minority stressors and TGGD health has most commonly been examined within the context of sexual health (including HIV and STI risk), mental health (especially psychological distress, depression, and anxiety), suicide (including suicidal ideation and attempts), and substance use disorders (Bauermeister et al., 2016; Garofalo, Deleon, Osmer, Doll, & Harper, 2006; Grossman, Park, & Russell, 2016; Mustanski, Garofalo, & Emerson, 2010; Reisner, Greytak, Parsons, & Ybarra, 2015; Reisner, Poteat, et al., 2016; Reisner, Vetters, et al., 2015). However, this theory can also apply to experiences of health care use, with empirical evidence suggesting that minority stress plays an important role in access to and use of health care

(Bradford, Reisner, Honnold, & Xavier, 2013; Jaffee et al., 2016; Kenagy, 2005; Kenagy & Bostwick, 2005; Sperber, Landers, & Lawrence, 2005).

Distal minority stressors include social processes and interpersonal interactions, such as experiences of gender-related discrimination, victimization, rejection, and non-affirmation of gender identity (Meyer, 1995, 2003; Testa et al., 2015). Discrimination can be understood as an interpersonal process where an individual is treated poorly or denied access to resources (e.g., being fired from a job) because of their minority social identity; this type of treatment limits opportunities for success (Goffman, 1963). Victimization is a separate minority stress construct that refers to experiences of violence targeted at individuals because of their social identity (Hendricks & Testa, 2012). Victimization can include sexual, physical, and verbal violence and harassment and is a common experience for many TGGD individuals, especially TGGD people of color (Garofalo et al., 2006; James et al., 2016; Lombardi, Wilchins, Priesing, & Malouf, 2002; Stotzer, 2009). Rejection describes experiences or feelings of being unwelcome or unwanted that generally occurs among social networks, including potential romantic partners, friends, family, LGBTQ communities, etc. (Testa et al., 2015). Non-affirmation describes the process of mis-gendering, when an individual’s sense of their gender is not affirmed by others (Testa et al., 2015).

Much research has found that TGGD populations experience an exorbitant amount of distal minority stress occurring across multiple settings and perpetrated by multiple people (Grant et al., 2011; James et al., 2016; Lombardi et al., 2002; Stotzer, 2009). For example, the USTS found high reports of discrimination and victimization within education, employment, housing, the criminal justice system, and health care (James et al., 2016). Specifically, the USTS found that 77% of respondents who were out at a K-12 school reported experiencing verbal, physical, and/or sexual violence because of their gender identity; 13% of respondents reported being fired at some point in their lives due to their gender identity; 33% reported housing discrimination in the past year; and 58% reported mistreatment by law enforcement in the past year (James et al., 2016). These statistics vary across different racial and ethnic groups, with TGGD people of color reporting a greater prevalence of discrimination and victimization.

Experiences of victimization also vary across racial groups. So far in 2019, at least 11 TGGD people have been violently killed because of their gender identity and 100% of these homicides were among Black transgender women, most of whom were under the age of 30 (Human Rights Campaign Foundation, 2019b). This is consistent with reports of violence targeted at TGGD people in previous years. For example, in 2017, at least 28 TGGD people were reported to have been killed in the United States because of their gender identity; 80% of them were TGGD people of color and 75% were under the age of 35 (Human Rights Campaign Foundation & Trans People of Color Coalition, 2017). TGGD youth may also be disproportionately affected by experiences of victimization; through recent research on the experiences of violence among TGGD youth is lacking, a review of the literature from 2009 examining violence among TGGD populations found reports of physical and sexual violence ranging from approximately 15-66%, with especially early experiences of sexual violence, occurring before the age of 12 (Stotzer, 2009).

Experiences of rejection and their influences on health have been primarily examined within the context of family rejection. Family rejection may be especially problematic for health because it has mental health consequences, but also may limit an individual’s access to resources (such as housing), which may influence a variety of health factors (Klein & Golub, 2016; Koken, Bimbi, & Parsons, 2009). In fact, one study used the National Transgender Discrimination Survey data (collected in 2008 among a large U.S. sample of TGGD people) to find that experiences of family rejection were associated with increased odds of both suicide and misuse of drugs and/or alcohol (Klein & Golub, 2016). Finally, the links between non-affirmation and health outcomes has not been as widely examined as other distal minority stressors; however, theory suggests that mis-gendering and non-affirmation have important implications for health (Testa et al., 2015).

Proximal minority stressors are intrapersonal processes based on the perception and appraisal of distal minority stressors (Meyer, 2003; Testa et al., 2015). Aligned with Bronfenbrenner's Socio-Ecological Model, Minority Stress Theory defines proximal minority stressors as being dependent on the "relationship between an individual and [their environment]" because proximal minority stressors depend on external events that occur within the environment, but also an individual's appraisal of those events (Meyers, 2003, p.690). Proximal minority stressors include: anticipated stigma, internalized stigma, and identity concealment (Meyer, 1995, 2003; Testa et al., 2015).

Anticipated stigma is defined as an expectation of rejection and experience of vigilance (i.e., a continuous and repeated expectation that stressful and stigmatizing events will occur; Meyer, 1995, 2003). Vigilance can have psychological consequences, with increased anxiety and insecurity (Goffman, 1963; Hicken, Lee, Morenoff, House, & Williams, 2014; Himmelstein, Young, Sanchez, & Jackson, 2015). Vigilance can be reciprocally related with distal minority stressors; having greater experiences of external stigma (e.g., discrimination, victimization) may increase vigilance, but, at the same time, being vigilant may increase one's perception of stigma and ability to identify a negative experience as a gender-related distal minority stressor (Goffman, 1963). Minority Stress Theory explains that the anxiety related to vigilance can generate experiences of fear and mistrust with the dominant culture, while also isolating individuals through alienation from that dominant culture (Meyer, 1995). A qualitative study examining expectations of rejection among TGGD individuals found that anticipating trans-related stigma across a variety of settings (e.g., public accommodations such as restrooms, places of employment, from family) contributes to experiences of anxiety, depression, a lack of social support, and “physical exhaustion by the end of the day” (Rood et al., 2016). In addition, this study found that race contributes to an increased expectation of rejection, but is also related to being more “prepared” (i.e., more equipped to manage the stress) when experiences of rejection occur (Rood et al., 2016).

Internalized stigma refers to the shame that occurs when an individual believes that their identity possesses negative values; these negative values are based on external societal stigma that defines certain attributes as negative (Goffman, 1963; Meyer, 1995). For TGGD people, internalized stigma may be heightened when an identity is being concealed, but internalized stigma may be present throughout one’s life, even when an identity is not being concealed (Meyer, 1995). Compared with other minority stressors, very little research has focused on this aspect of stigma among TGGD individuals (Hendricks & Testa, 2012). However, one study conducted among an online national U.S. sample of 1,229 TGGD adults found that increased internalized trans-related stigma was associated with increased lifetime attempts of suicide (Perez-Brumer, Hatzenbuehler, Oldenburg, & Bockting, 2015).

Identity concealment is the final proximal minority stressor described in the theory. Identity concealment can be a coping mechanism to avoid experiencing interpersonal stigma, but it can also be stressful (Hatzenbuehler, 2009; Hendricks & Testa, 2012; Meyer, 2003; Pachankis, 2007). Increased stress can occur through negative thoughts generated from suppressing a stigmatized identity (i.e., an increase in internalized stigma), through the preoccupation of hiding, and through the threat of being discovered (Goffman, 1963; Meyer, 2003; Pachankis, 2007). Again, little research has focused on the health implications of identity concealment for TGGD populations; however, some research does demonstrate that identity concealment is a common experience

(Beemyn & Rankin, 2011; Hendricks & Testa, 2012). Specifically, one study conducted among 3,474 TGGD people found that more than 50% had concealed their identity to “avoid intimidation” (Beemyn & Rankin, 2011; Hendricks & Testa, 2012). These findings indicate a need for more research to specifically examine the health effects of identity concealment among TGGD people.

Conceptualizing Resilience. In addition to conceptualizing stigma (or, more specifically, minority stressors), Minority Stress Theory is also useful for conceptualizing resilience. Resilience refers to a social process in which individuals overcome the potential negative effects of being exposed to a risk and avoid the negative outcomes that are generally associated with risk exposure (Fergus & Zimmerman, 2005). Based on this definition, both risks and promotive factors need to be present in order for someone to experience resilience (Fergus & Zimmerman, 2005); since resilience only has meaning in the presence of stress, it becomes essential to Minority Stress Theory (Meyer, 2015).

Resilience occurs through two mechanisms: resources and assets (Fergus & Zimmerman, 2005). Resilience resources refer to external factors that exist within social and physical environments; these resources help to foster resilience and assist individuals with overcoming potential risk factors (Fergus & Zimmerman, 2005). Resilience assets are internal factors that reside within an individual and help them to manage potential risks (Fergus & Zimmerman, 2005). Minority Stress Theory posits that resilience factors (including both resources and assets) can ameliorate the negative effects of minority stress on health and can help to improve health outcomes (Meyer, 1995, 2003, 2015). According to Minority Stress Theory, resilience functions as a moderator between minority stressors and psychological and physical health outcomes (Meyer, 2003, 2015; Testa et al., 2015).

Resilience across the Socio-Ecological Model. The concept of resilience can be applied across Bronfenbrenner's Socio-Ecological Model because promotive factors exist within a social environment (Bronfenbrenner, 1979; Fergus & Zimmerman, 2005; Lepore & Revenson, 2006). Resilience resources occur at interpersonal, community, and structural levels and can include, for example, interpersonal social support, supportive community organizations, community connectedness, or policies that recognize and protect the rights of TGGD people (Fergus & Zimmerman, 2005; Harper, Wagner, Popoff, Reisner, & Jadwin-Cakmak, 2019; Meyer, 2015). Resilience assets include intrapersonal processes such as self-affirmation, pride, and the ability to navigate challenging and stigmatizing environments and relationships (Brown, Pantalone, Singh, & McKleroy, 2011; Harper, Wagner, et al., 2019; Popoff, Jadwin-Cakmak, & Harper, Unpublished Manuscript; Testa et al., 2015).

Resilience at a structural level. When considering how the social environment may contribute to opportunities for resilience, it is important to consider policies that either stigmatize or provide protections for TGGD populations. These policies may change the climate of stigma to either create harmful or protective factors that can either worsen or improve health (Du Bois, Yoder, Guy, Manser, & Ramos, 2018; Hatzenbuehler, Keyes, & Hasin, 2009; Hatzenbuehler et al., 2013; Hughto et al., 2015; Perez-Brumer et al., 2015). One study examined structural factors related to LGBTQ populations more broadly (e.g., the density of same-sex couples, proportion of high schools with a gay-straight alliance) across U.S. states and found that having more protective environments with less stigma was associated with fewer lifetime attempts of suicide among TGGD people (Perez-Brumer et al., 2015). In addition, though not conducted among TGGD people, previous research has found that protective policies can improve the health of sexual minorities (Hatzenbuehler & Keyes, 2013; Hatzenbuehler et al., 2009). For example, a study conducted by Hatzenbueler and colleagues (2009) found that living in states that extend non-discrimination protections to include sexual orientation was associated with a reduced association between sexual minority identity and mental health disorders, including, for example, anxiety, and post-traumatic stress disorder. These findings demonstrate that structural-level factors (such as policies) can promote more protective environments that can reduce stigma and possibly ameliorate the negative effects that stigma has on health.

Community-level resilience. Minority Stress Theory includes an understanding that community-level resilience can help to mitigate the negative effects of minority stress (Meyer, 2015). While intrapersonal resilience factors are also important, a focus exclusively on the intrapersonal may ignore society's responsibility to reduce risk for oppressed populations and, instead, may result in blaming the victim, who could be perceived as needing to be resilient (L. E. Davis, 2014; Meyer, 2015). Community-level resilience, however, identifies how communities (i.e., the physical space of a neighborhood and/or community formed from experiencing a common identity) can increase the capacities of individuals to cope with minority stressors and demonstrate resilience (Meyer, 2015). For TGGD communities, community-level resilience can take the form of resources such as LGBTQ organizations present in the community or in schools, churches, etc.; specialized TGGD-specific health clinics; and hotlines addressing specific concerns related to TGGD individuals (Meyer, 2015). This form of resilience provides tangible resources (e.g., health care, counseling) that may directly improve health outcomes among TGGD people, while also providing opportunities for increased interpersonal support (Meyer, 2015).

Community connectedness is important for accessing community resources, with greater access to community-level support for individuals who strongly identify with their communities (Meyer, 2015; Pflum, Testa, Balsam, Goldblum, & Bongar, 2015). Community connectedness refers to the “mutually influential relationship” that occurs due to having a sense of belonging with one’s community (Frost & Meyer, 2012). Community connectedness can increase access to community resources (e.g., through an ability to engage in community-based organizations), but it also provides a psychological benefit, through the development of alternative societal values and norms that apply to minority perspectives and experiences (Meyer, 2015). For example, this can include redefining important life goals or societal measures of success (Meyer, 2015).

It is important to recognize that experiences of community connectedness may be especially complicated for TGGD populations of color (Harper & Wilson, 2017; Sycamore, 2006). Due to intersectionality, some TGGD individuals may have more access to LGBTQ communities than others (Frost & Meyer, 2012; Graham et al., 2014). LGBTQ communities are often dominated by a White gay male presence, which can exclude racial and ethnic minorities and individuals who identify as TGGD and/or as female, while also subjecting minority LGBTQ groups to experiences of racism, sexism, and trans-related stigma (Frost & Meyer, 2012). At the same time, TGGD people of color may also have more challenges than cisgender people of color in accessing race-based community connectedness due to experiences of trans-related stigma within those spaces (Sycamore, 2006). This exclusion is problematic given that community-level support plays an important role in resilience.

Community connectedness and a sense of belonging are not limited to experiences occurring within LGBTQ communities. For example, one study found that among TGGD youth in California, a sense of belonging in school mediated the relationship between school victimization (i.e., bullying) and substance use, with school belonging being a resilience factor reducing substance use among TGGD youth (Hatchel & Marx, 2018). These findings suggest that it is not only important to consider LGBTQ community resources and LGBTQ community connectedness, but also experiences of belonging within other institutions or community settings.

Interpersonal social support. Even though Minority Stress Theory operationalizes resilience as community-level support (Meyer, 2015), Fergus and Zimmerman (2005) recognize social support as a form of resilience, and most empirical literature examining resilience among TGGD populations focuses on measurements of interpersonal social support (Nemoto, Bödeker, & Iwamoto, 2011; Simons, Schrager, Clark, Belzer, & Olson, 2013; Testa, Jimenez, & Rankin, 2014; Trujillo, Perrin, Sutter, Tabaac, & Benotsch, 2016; Wilson, Chen, Arayasirikul, Raymond, & McFarland, 2016). Gender-affirming interpersonal social support can be obtained from many sources (e.g., family, friends, teachers). For TGGD youth specifically, parental support is especially important and is associated with improved mental health and a decrease in suicidal ideation (Wilson et al., 2016). However, it may be easier for TGGD youth to attain gender-affirming interpersonal support from friends, rather than family (Grossman, D'Augelli, Howell, & Hubbard, 2005; Nuttbrock et al., 2009). For all TGGD individuals, social support may also come from interpersonal interactions with other TGGD people (Testa et al., 2014). These relationships can provide TGGD people with valuable resources and support for navigating institutions and situations that increase minority stress and contribute to poor health.

Intrapersonal gender affirmation and resilience. Despite concerns that focusing exclusively on intrapersonal resilience may contribute to victim-blaming and having an expectation that marginalized individuals need to be resilient (L. E. Davis, 2014), a more holistic understanding of resilience at multiple levels also includes resilience assets (i.e., intrapersonal resilience) (Fergus & Zimmerman, 2005; Meyer, 2015). Self-affirmation plays an important role in TGGD resilience at an intrapersonal level (Popoff et al., Unpublished Manuscript). Self-affirmation refers to an iterative process of identity formation and exploration through which TGGD individuals "explore, gain confidence, and become self-assured" in their gender identity (Popoff et al., Unpublished Manuscript). Qualitative research exploring resilience and self-affirmation has found that resilience of TGGD people of color who have experienced trauma includes: having pride in one's gender identity (as well as one's racial/ethnic identity); recognizing and navigating stigma; navigating relationships with families; connecting with community activist organizations that provide support to TGGD communities of color; and developing spirituality and hope for the future (Brown et al., 2011). A focus on resilience at an intrapersonal level, and across all levels of the Socio-Ecological Model, may help to inform interventions that improve the health of TGGD people.

Building on the Conceptual Model to Understand Stigma and Health Care Use

Though Minority Stress Theory focuses on the relationships between minority stressors and risk-taking behaviors or health outcomes, some empirical evidence also demonstrates how stigma and minority stress also limit access to and utilization of health care services (Hughto et al., 2015; James et al., 2016). This section will further demonstrate the links presented in Figure 1 by demonstrating the role that systematic vulnerability plays in health care use among TGGD people in the United States and examining the reciprocal relationship between health and health care use.

The Role of Systematic Vulnerability. Figure 1 builds on Minority Stress Theory and highlights the role that systematic vulnerability plays in the relationship between trans-related stigma and health care use among TGGD populations in the United States. Systematic vulnerability refers to social conditions (e.g., homelessness, poverty, incarceration) that put a population at a higher risk of experiencing health risks (Frohlich & Potvin, 2008). Trans-related stigma across all levels of the Socio-Ecological Model contribute to systematic vulnerability by limiting access to resources and facilitating inequities in the experiences of these social conditions (e.g., homelessness, poverty).

Previous research has found that TGGD populations in the United States experience inequities in poverty, employment, educational attainment, homelessness, health insurance coverage, sex work participation, and incarceration (Bauermeister et al., 2016; James et al., 2016). The USTS demonstrates the disproportionate experiences of systematic vulnerability that TGGD people face; among respondents in the USTS, 29% reported living in poverty, 15% reported being unemployed, 30% reported experiencing homelessness in their lifetime, and 14% reported not having health insurance (James et al., 2016). This survey also found disparities in these experiences across race, with individuals who have Black, Latinx, Native American, and Multiracial identities reporting more experiences of multiple types of systematic vulnerability (James et al., 2016). As one example, 9% of Black transgender women reported a history of incarceration, compared to 2% among the respondents overall (James et al., 2016). These different aspects of systematic vulnerability all mutually reinforce each other. For example, the USTS indicates that TGGD individuals who report losing their job because of their gender identity are more likely to also report experiencing homelessness (James et al., 2016).

These experiences of systematic vulnerability influence TGGD health and health care use. For example, according to the USTS, respondents living in poverty report being more likely to experience psychological distress (James et al., 2016). In addition, some research has found that experiences of sex work, unemployment, homelessness, and incarceration among TGGD populations are also associated with substance use disorders, HIV incidence, and sexual risk-taking behaviors (Reisner, Bailey, & Sevelius, 2014; Sevelius, Reznick, Hart, & Schwarcz, 2009; Xavier, Bobbin, Singer, & Budd, 2005; Xavier et al., 2013).

The Reciprocal Relationship Between Health and Health Care. Experiences of health and health care are reciprocally related to each other. Having access to health care services may help to prevent and treat poor health outcomes (U.S. Department of Health and Human Services, 2014b). At the same time, not having access to health care may be bad for the health of TGGD people. In fact, one study conducted among TGGD people in the Rocky Mountain region of the United States found that not using health care due to fears of mistreatment was associated with poorer self-ratings of health and an increase in poor mental health outcomes, including depression, suicidal ideation, and suicide attempts (Seelman et al., 2017).

At the same time, experiencing poor health outcomes may also influence an individual's need for care as well as their ability to access health care services. Poor health outcomes can increase the need for health care, with additional requirements for treatment and prevention. However, poor health outcomes that are inequitably experienced by TGGD populations (e.g., HIV, psychological distress, suicide, substance use disorders) are often accompanied by additional forms of stigma; these additional forms of stigma may also deter health care use (Corrigan, 2004; Gamarel et al., 2018; Golub & Gamarel, 2013; Logie et al., 2017). In this case, the simultaneous experience of multiple types of stigma may play a role as a fundamental cause of health, influencing both health outcomes and experiences of health care use (Hatzenbuehler et al., 2013).

This relationship between health and health care use becomes further complicated by experiences of systematic vulnerability. Systematic vulnerability and experiences of health are also reciprocally related. The increased stigma resulting from specific health outcomes (e.g., HIV and mental health stigma) may also be related to increased systematic vulnerability (e.g., unemployment, homelessness) (Logie & Gadalla, 2009; Logie, Jenkinson, Earnshaw, Tharao, & Loutfy, 2016). However, at the same time, systematic vulnerability may lead to poorer health and health care use through fewer resources, less access to care, and increased stigma associated with the systematic vulnerability (e.g., stigma related to homelessness, poverty, incarceration) (Decker et al., 2015; Hughto et al., 2018; Schnittker & John, 2007; Tang, Browne, Mussell, Smye, & Rodney, 2015; Weisz & Quinn, 2017). These relationships between poor health outcomes, health care use, and systematic vulnerability may be true for any individual or population experiencing systematic vulnerability or experiencing poor health conditions, but this is especially problematic for TGGD populations in the United States because they experience inequities in both systematic vulnerability and poor health outcomes.

Access to Health Care

When considering the relationships between stigma, resilience, and health care use among TGGD people in the United States, it is also important to understand access to care. Though often understood as a structural factor, health care access occurs at multiple levels of the Socio-Ecological Model. Health care access has been conceptualized in terms of supply and demand; this means that it is important to consider both the capacities of health care systems as well as the specific needs of the population of interest for accessing care (Aday & Andersen, 1974; Levesque et al., 2013). There are multiple factors that play a role in the capacity for a health care system to provide care to TGGD populations, including: geographic availability and accessibility, cultural sensitivity and appropriateness of care, and affordability of care (Levesque et al., 2013; Penchansky & Thomas, 1981). For these factors, it is important to consider both the structural capacity of the health care system and the individual's ability to reach care, find appropriate care, and pay for care (Levesque et al., 2013).

Geographic Availability. Finding available TGGD-specific care is a barrier for health care use (Owen-Smith et al., 2016). Health care availability refers to the physical presence of health care services and the geographic accessibility of these services; for example, this could include: proximity to public transportation, safety of the neighborhood, etc. (Aday & Andersen, 1974; Levesque et al., 2013; Penchansky & Thomas, 1981). Some research demonstrates that the availability of TGGD-specific care in the United States is limited (James et al., 2016; Raynor, McDonald, & Flunker, 2014). For example, one study conducting a spatial analysis of transgender care in Minnesota found only 24 providers in the entire state who were willing to offer health care services to TGGD individuals, with most of the providers located in larger metropolitan areas (Raynor et al., 2014). The lack of available providers willing to offer TGGD care is largely influenced by the dearth of providers with the knowledge to provide appropriate care (Hughto et al., 2015; Poteat, German, & Kerrigan, 2013; Snelgrove et al., 2012). In addition, availability of providers in some geographic areas may be influenced by residential segregation, with generally fewer clinics and resources in poorer communities with more people of color (Dai, 2010; Williams & Collins, 2001) and more LGBTQ-specific clinics and resources in urban areas and LGBTQ enclaves (Bauermeister et al., 2015; Buttram & Kurtz, 2013).

Cultural Sensitivity and Appropriateness. Appropriate care refers to the ability for services to meet the patient's needs and provide both technically correct and interpersonally respectful care (Levesque et al., 2013). Appropriate care should include the practice of cultural humility; in the context of health care, cultural humility refers to a provider's lifelong process of self-reflection and self-evaluation of the power dynamics occurring between them and their patients who experience a variety of marginalized identities (Tervalon & Murray-Garcia, 1998). Cultural humility is very different from cultural competency because it recognizes that it is not possible to be an “expert” in someone else’s lived experiences; instead cultural humility requires the continuous practice of empathy and self-awareness, considering others’ experiences and highlighting the importance of engaging with others from a place of respect and learning (Foronda, Baptiste, Reinholdt, & Ousman, 2016; Tervalon & Murray-Garcia, 1998). For TGGD populations, culturally humble care should be free of trans-related stigma, should consider the specific needs of an individual based on their gender identity, and should be considerate of additional identities that an individual has.

One barrier to providing TGGD-specific and culturally humble care is the lack of provider training on the health care needs of TGGD populations (Bockting, Robinson, Benner, & Scheltema, 2004; Hughto et al., 2015; Poteat et al., 2013; Snelgrove et al., 2012). In 2009-2010, a study examining 150 U.S. and Canadian medical schools found that the median time spent focusing on LGBTQ needs in the entire medical curriculum was only five hours (Obedin-Maliver et al., 2011). This exclusion of TGGD-specific care from medical education is a result of structural stigma, which fails to recognize the existence of TGGD identities (Bauer et al., 2009). A lack of TGGD-specific training is a barrier for providing care because it decreases: provider understanding of TGGD needs, the ability to provide appropriate referrals, clarity of medical protocols, and overall provider comfort (Roberts & Fantz, 2014; Snelgrove et al., 2012; Vance, Halpern-Felsher, & Rosenthal, 2015). Often, this results in TGGD individuals being required to teach their providers about their own health needs; according to the USTS, 24% of participants who had seen a provider in the past year reported needing to do this (James et al., 2016). Some research has also found that a lack of knowledge of TGGD-specific health care may reinforce biases towards TGGD people and increase discrimination from the provider (Poteat et al., 2013). This occurs when a provider uses discrimination to reinforce their dominance with their patient, which may otherwise be threatened by the lack of knowledge of their patient's needs (Poteat et al., 2013).

Discriminatory policies are also a barrier for TGGD populations to obtain appropriate care (Corliss, Belzer, Forbes, & Wilson, 2008; Gridley et al., 2016). For example, for TGGD individuals to access medically-affirming care (e.g., hormones, surgery), standards from the WPATH recommend that TGGD patients first obtain a referral from a mental health practitioner (Coleman et al., 2012). This need to pathologize TGGD identities in order to receive care is directly related to structural stigma because it aids in a process of "othering" that enables increased prejudice (Lev, 2006). This standard of care deters some TGGD individuals from receiving care because they do not want their identity to be perceived as a mental illness and/or because it can be difficult to obtain mental health referrals (Kosenko, Rintamaki, Raney, & Maness, 2013). The need to obtain a referral may be especially difficult because it requires the availability of mental health practitioners who are knowledgeable about TGGD needs and who do not perpetuate additional trans-related discrimination.

Affordability. Finally, for care to be accessible, it must also be affordable. Affordability can be defined as the "economic capacity" for individuals to spend both time and resources to access care (Levesque et al., 2013). Affordability of care has been identified as a large barrier for health care utilization in the United States; according to the USTS, 33% of respondents reported delaying or not using health care because of cost (James et al., 2016). Coverage of services by health insurance plays a large role in the affordability of care. However, discriminatory policies have limited health insurance coverage for TGGD individuals (Stroumsa, 2014). Currently, many health insurance companies are legally able to exclude TGGD health care from their insurance coverage, and, some state-level Medicaid policies explicitly exclude the coverage of TGGD-specific health care services (Movement Advancement Project, 2018; U.S. Department of Health and Human Services, 2017). This is problematic and creates a great barrier for having access to care. In fact, according to the USTS, 25% of respondents reported experiencing stigma from their insurance company provider in the past year; this included, for example, being denied coverage (reported by 13%) and having an insurer refuse to change their name and/or gender marker on their insurance record (reported by 17%; James et al., 2016).

Filling Gaps in the Literature

Despite the current evidence highlighting inequities in heath and health care use among TGGD people in the United States, there are still many gaps in this literature (Reisner, Poteat, et al., 2016). There are four ways in which this dissertation adds to current TGGD health literature.

A Broad Focus on Health Care Use. The majority of public health research with TGGD populations has focused on specific negative health outcomes, especially mental health disorders and HIV (Reisner, Poteat, et al., 2016). Rather than only focusing on these selected specific outcomes, it is important for research with TGGD communities to understand how these different outcomes are inter-related and mutually reinforce each other (Brennan et al., 2012; Stall, Friedman, & Catania, 2008; Stall et al., 2003). It is also important to expand beyond these specific health outcomes to ensure that TGGD health and TGGD health care use are examined in a holistic way (Reisner, Poteat, et al., 2016). Much research related to TGGD health care use has focused only on experiences of medical gender affirmation, focusing primarily on experiences of accessing hormones and surgery; however, TGGD individuals have a variety of health care needs and may need to utilize a variety of health care services. In order to use a more holistic approach to understand experiences of health care use among TGGD people and to understand how experiences across different types of care may vary, this dissertation focuses on health care use broadly, including a focus on a variety of types of health care use. This is achieved by focusing on health care use in general (i.e., access to health care, without specification of a certain type of care) as well as focusing on specific types of care, including primary care, medical gender affirmation services, mental health care, and other specialized services.

Understanding the Experiences of Diverse and Specific TGGD Communities. Even though experiences of stigma and systematic vulnerability differentially affect TGGD populations depending on their multiple identities (e.g., race, age, and gender identity), little research has used an intersectionality framework to better understand the nuances in experiences of TGGD groups who also have other marginalized identities (e.g., TGGD people of color). Most research aiming to understand experiences of TGGD health has focused on general populations of TGGD individuals, rather than highlighting the experiences of diverse and specific TGGD populations. However, the prevalence of stigma and the way in which stigma plays a role in experiences of health and health care utilization may vary depending on identity. For example, TGGD people of color experience higher rates of both stigma and health inequities (James et al., 2016). In addition to differences in prevalence, the way in which stigma and discrimination occurs and the effects that it has on health may vary. Some research demonstrates stronger associations between discrimination, victimization, systematic vulnerability, and health among TGGD people of color, compared with White TGGD populations (Logie et al., 2011; Marcellin, Bauer, & Scheim, 2014; Reisner et al., 2014). For example, one study found that Black and Native American/Alaskan Native transgender women are more likely than White transgender women to have a history of incarceration and they also have a greater association between a history of incarceration and adverse health outcomes, such living with HIV (Reisner et al., 2014). This highlights the importance of specifically focusing on the experiences of TGGD people of color in addition to understanding the experiences of TGGD populations more generally.

In addition to understanding the experiences of multiple identities, it is also important to understand how the experiences of different gender identities may be differentially associated with health and health care use (e.g., trans-masculine vs. trans-feminine identities). Even though much TGGD health research has been broad, focusing on TGGD populations more widely, when TGGD health research has focused on specific experiences of TGGD sub-groups, it has often examined the specific experiences of trans-feminine populations (especially within HIV research); however, little is known about the experiences of trans-masculine and other gender diverse individuals (MacCarthy et al., 2015; Richards et al., 2016; Stephenson, Riley, et al., 2017). Individuals with different gender identities may have very different experiences related to their identity, including different experiences with stigma, health, and health care use; however, more research is needed to understand the variation in these experiences.

Given the differences in experiences and the intersections between multiple types of stigma, it is important to focus on the varied experiences of sub-populations within TGGD communities (e.g., TGGD people of color, TGGD youth, trans-masculine individuals). Furthermore, research needs to consider that distinct populations have specific and unique experiences related to stigma, resilience and health care. This dissertation begins to address this gap in TGGD health literature by applying an intersectionality lens, focusing on specific TGGD populations, and specifically examining experiences across gender identity. In addition, across quantitative and qualitative research methods, specific considerations were made regarding multiple aspects of identity; these considerations were made in the analysis design of all of the studies in this dissertation, as well as in the inclusion of variables and qualitative themes related to multiple aspects of identity.

Examining Stigma Across the Socio-Ecological Model. This dissertation also adds to extant literature by focusing on experiences of stigma across the Socio-Ecological Model, including stigma (and resilience) at structural, community, interpersonal, and intrapersonal levels. Though stigma is often understood as occurring at a structural level through stigmatizing policies and the perpetuation of stigma through institutional practices, most health-related research examining the effects of stigma (including research in general, but also research among TGGD people), focuses more specifically on the interpersonal and intrapersonal experiences of stigma (Link & Phelan, 2001). It is important to understand the perpetuation of stigma at the macro-level because it is at this level that cultural ideologies reinforcing trans-related stigma are formed. Of course, much research has also found that the interpersonal and intrapersonal experiences of stigma are also important for health (Hendricks & Testa, 2012; Testa et al., 2015), and therefore this dissertation focuses on experiences of stigma across multiple levels.

Applying a Resilience Lens. Finally, much research has focused on the negative experiences that TGGD populations face, with less research examining resilience or the successes that TGGD populations have accomplished in the face of adversity (MacCarthy et al., 2015). In order to develop interventions that address trans-related stigma and the health inequities that TGGD people experience, it is important to also understand how environments can offer protective factors (instead of harmful ones) that can help to improve experiences of health and health care for TGGD people. Understanding how these factors influence access to health care can inform public health policies, interventions, and research with a goal for improving the experiences and health of TGGD people. This dissertation addresses this gap through a focus on a variety of resilience factors, occurring across the Socio-Ecological Model.

Dissertation Objective

Though previous research demonstrates that there are problematic links between stigma and TGGD health care use in the United States, there are many gaps in the literature that still need to be addressed. It is important for additional research to apply an intersectionality approach to understanding experiences across different TGGD populations and across experiences of different gender identities. In addition, there is a need to use a resilience framework to understand how to change environments in ways that facilitate improved health care experiences and access to care. Therefore, the aim of this dissertation is to examine how experiences of stigma and resilience influence health care access and use among diverse and specific groups of TGGD people. The research question asks: *How do experiences of stigma and resilience influence health are access and use for TGGD people in the United States?* There are four hypotheses[4] demonstrating the expected results:

H1: Stigma will reduce access to and use of health care.

H2: Resilience will moderate the relationship between stigma and health care. Resilience will either increase care or reduce the negative relationship between stigma and health care use/access.

H3: The relationships between stigma, resilience, and health care will vary across different types of health care (e.g., primary health care, medical gender affirmation services, mental health care).

H4: The relationships between stigma, resilience, and health care will vary across sub-groups of TGGD populations (e.g., across race/ethnicity, age, and gender identity).

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[4] It is important to note that these are general hypotheses for the entire dissertation and are therefore broad hypotheses that cannot be answered by any one paper. Instead, the combination of papers contributes to addressing these four hypotheses. I recognize that hypotheses are not appropriate for the qualitative-focused mixed methods work described in Chapter II. However, more specific research questions (for Chapter II) and hypotheses (for Chapters III through V) are included in each chapter of the dissertation.

These hypotheses are examined and tested in four research studies that all address experiences of stigma, resilience, and health care. The first paper, presented in Chapter II, is a mixed-methods paper with a primarily qualitative focus; this paper addresses research questions that explore the relationships presented in these hypotheses. The papers presented in Chapters III through V are quantitative and test cross-sectional relationships between these factors.

Chapter II describes a mixed-methods analysis analyzing cross-sectional surveys and in-depth individual interviews (IDIs) among 33 trans-masculine and trans-feminine youth of color across 14 U.S. cities. This analysis examines the role of resilience resources in health care settings by studying the role of gender affirmation (conceptualized as a specific form of resilience) within a variety of types of health care settings, including in primary care, mental health care, medical gender affirmation services, and other types of care. This paper is important because it focuses not only on the negative experiences of stigma that transgender youth of color experience within health care settings, but also on the more positive experiences. In addition, this paper takes a broad perspective when examining health care, with an attempt to understand the entire health care experience, and the ways in which these experiences vary across types of care. The goal for this paper is that an understanding of both negative and positive experiences across multiple types of health care will help to inform interventions aimed at improving health care experiences for transgender youth of color in the United States.

Chapter III examines experiences of stigma and resilience more broadly – both within and outside of health care settings – and specifically studies the links between stigma, resilience, and access to health care among TGGD youth in the United States. This paper presents results from a quantitative secondary data analysis examining online cross-sectional surveys completed by 202 TGGD youth throughout the United States. These data include scales measuring different constructs of gender Minority Stress Theory, including distal and proximal minority stressors as well as resilience factors. This analysis examines the application of these measures for TGGD youth and explores the links between these measures and health care access. This study adds to the literature by highlighting the role of stigma and resilience more broadly (and not just experiences occurring within health care settings) in access to health care.

Finally, Chapters IV and V examine the role of TGGD-specific state-level policies in the utilization of health care services in the United States. These papers present results from an innovative analysis of USTS data supplemented by state-level data from sources such as the Movement Advancement Project, the U.S. Census Bureau, and the U.S. Department of Agriculture. Analyses include multivariate multilevel logistic regression, examining the nuanced roles of state-level policies on multiple types of health care use. Chapter IV specifically examines the relationships between policies and non-use of care due to fears of mistreatment and Chapter V examines the relationships between policies and the use of medical gender affirmation services. In addition, both chapters examine if the relationships between policies and health care use vary by race and ethnicity. These papers can be a useful resource to advocate for state-level policies that promote the health of TGGD populations.

All four papers presented in this dissertation fit with the conceptual model presented in Figure 1. All papers address aspects of stigma, resilience, and health care use, while also considering systematic vulnerability and health status as other factors that play a role in these relationships. The first paper primarily focuses on resilience and health care, but also includes an examination of stigma across all levels of the Socio-Ecological Model, including structural stigma, as well as interpersonal and intrapersonal stigma (i.e., distal and proximal minority stressors). The second paper more explicitly explores Minority Stress Theory, and therefore focuses on distal minority stressors, proximal minority stressors, resilience, and health care use. Finally, the last two papers primarily explore the relationships between structural stigma, resilience, and health care use, while controlling for other interpersonal aspects of stigma (i.e., discrimination and victimization). Together, these four papers provide unique perspectives and help to address gaps in the literature to better understand experiences of stigma, resilience, and health care use among TGGD people in the United States.

Chapter II: Experiences of Stigma and Gender Affirmation within Health Care Among Trans-Feminine and Trans-Masculine Youth of Color

Introduction

Transgender and other gender diverse (TGGD) youth of color experience stigma resulting from deeply-rooted societal racism and trans-related stigma (Essed, 1990; Omi & Winant, 2014; Stryker, 2017). These experiences of stigma result in barriers towards achieving good health and accessing health care (Hatzenbuehler et al., 2013; Hughto et al., 2015; Link & Phelan, 2006). In order to understand the experiences of TGGD youth of color and consider interventions for improving health and health care use, it is important to understand experiences of stigma and resilience, especially as they relate to health care use. Stigma is often a barrier for accessing health care and experiences of resilience are especially important since they may ameliorate the negative effects of stigma and help to improve experiences of health care. However, little is known about TGGD youth's experiences of resilience within health care settings.

It is important to use an intersectionality framework to better understand TGGD youth of color's experiences with stigma, resilience, and health care. While often applied to understand experiences of women of color, intersectionality frameworks originated from the work of sexual minority women of color (A. Y. Davis, 1981; Lorde, 1984; Moraga & Anzaldúa, 1981) and have been applied to the experiences of sexual and gender minorities (Harper & Wilson, 2017). Intersectionality frameworks recognize that individuals experience multiple aspects of identity (e.g., gender identity, race, age) and that the combination of these aspects of identity are not additive, but instead create a fundamentally different experience of being marginalized and/or privileged (Bowleg, 2012; Crenshaw, 1991). This means that experiences of health care use for TGGD youth of color may be very different than for other TGGD people.

Transgender and Other Gender Diverse Youth of Color's Health Care Needs. TGGD youth of color have unique health care needs related to their gender identity, age, and race/ethnicity. Adolescence and emerging adulthood (ages 16-24) is a unique developmental period, during which TGGD youth of color may have experiences that are very different from their White cisgender peers (Grossman & D'augelli, 2006; Muuss, 1996). Adolescent theories suggest that this is a time when individuals are exploring their identity, including areas such as occupation, political beliefs, religion, etc. (Marcia, 1966, 1980; Muuss, 1996). However, for TGGD youth of color, this is also a time when many individuals begin to explore and understand their gender identity (Grossman & D'augelli, 2006). The development of gender during these ages may contribute to having different needs across a variety of types of care, including, for example, primary care, medical gender affirmation services, and mental health care.

Access to health care may be limited for all TGGD populations, with TGGD populations being more likely to report delaying or not receiving care than the general population (Cruz, 2014; James et al., 2016). However, TGGD youth of color often face additional barriers. For youth aged 16-24, health care use generally occurs in pediatric or adolescent health settings, or health care occurs within the context of transitioning out of pediatric or adolescent health settings into adult care (Crowley, Wolfe, Lock, & McKee, 2011). As TGGD youth of color transition from a pediatric provider to one that provides health care services to adults, it is often important for TGGD youth to find providers who are knowledgeable and respectful of their specific needs and experiences related to their gender identity, age, and race/ethnicity (Corliss et al., 2008; Knutson, Koch, Arthur, Mitchell, & Martyr, 2017; Kosenko et al., 2013; Reisner, Radix, & Deutsch, 2016). However, this can be challenging, especially since many TGGD individuals report needing to teach their providers about their own health care needs (James et al., 2016). This may be even more complicated for TGGD youth of color, who are also faced with a pervasive history of racism within with the medical system, resulting in poorer provider communication and patient mistrust with providers and the health care system (Cuevas, O'Brien, & Saha, 2016; Institute of Medicine, 2003; Washington, 2006).

In addition to having specific needs regarding general experiences with health care, some TGGD youth of color may also seek additional types of health care services. Though some TGGD youth may never seek medical gender affirmation services (e.g., hormone replacement treatment) for TGGD individuals who desire this type of care, it is during this developmental period that some (but not all) individuals will seek these services for the first time. Access to medical gender affirmation services can be difficult for all TGGD populations. For example, according to the U.S. Trans Survey (USTS), conducted in 2015 by the National Center for Transgender Equality among a large national U.S. sample of TGGD people, 78% of respondents reported wanting to receive hormone therapy at some point in their lives, but only 49% of respondents reported ever receiving hormones (James et al., 2016).

TGGD youth of color may also encounter additional barriers when accessing medical gender affirmation services. TGGD youth may need to rely on family members or guardians for accessing services. For example, TGGD youth may need to rely on parents or guardians to help pay for care, to provide permission for accessing care (i.e., signed consent for TGGD youth who are not old enough to provide consent on their own), and assist with making care accessible (e.g., providing transportation to care). In addition, standards of care that include age limits for accessing medical gender affirmation services limit TGGD youth of color’s ability to access care (Coleman et al., 2012). For example, in some cases, TGGD youth of color may be able to access pubertal blockers, but not hormones; this experience may be especially problematic because previous research has found that this can increase experiences of victimization and bullying in school (Corliss et al., 2008).

TGGD youth of color may also need to access additional specialized services, such as HIV prevention or mental health care. Previous research has demonstrated that TGGD populations experience large health inequities across a number of health conditions, such as HIV, depression, suicide, and substance use disorders (Bauermeister et al., 2016; Garofalo et al., 2006; James et al., 2016; Reisner, Greytak, et al., 2015). TGGD youth of color may face additional barriers when trying to access services related to these specific health outcomes (e.g., HIV prevention and treatment or mental health care), especially due to the compounding effects of multiple types of stigma, including, for example, trans-related stigma, racism, ageism, HIV stigma, and mental health stigma (Corrigan, 2004; Gamarel et al., 2018; Golub & Gamarel, 2013; Hatzenbuehler et al., 2013; Logie et al., 2017). While previous research has focused on these health inequities and identified an increase in health care needs, more research is still needed to examine how health care experiences can be improved to address these specific health outcomes and improve overall experiences of health and health care for TGGD youth of color.

Stigma and Health Care. Previous research has found that stigma is linked to TGGD people's disproportionate burden of poor health outcomes (especially HIV, depression, suicide ideation, and substance abuse) and is a large barrier for accessing care (Garofalo et al., 2006; Gridley et al., 2016; Hendricks & Testa, 2012; Hughto et al., 2015). For TGGD youth of color in the United States, stigma often occurs through experiences of discrimination and victimization, and through policies and institutions that limit access to resources (James et al., 2016). For example, the USTS found high reports of discrimination and victimization within education, employment, housing, the criminal justice system, and health care, with racial disparities demonstrating greater reports of stigma among respondents of color (James et al., 2016). Collectively, these forms of stigma can increase systematic vulnerability (i.e., social conditions that increase exposures to health risks), with TGGD rates of unemployment, homelessness, poverty, and incarceration being much higher than the general population (James et al., 2016). This systematic vulnerability, along with an overall lack of access to resources, and experiences of stigma, contribute to TGGD youth being at a higher risk for disease and distress, while also limiting access to and utilization of health care services (Brennan et al., 2012; Hughto et al., 2015)

Stigma occurs at multiple levels across the Socio-Ecological Model, including intrapersonal (e.g., internalized stigma, vigilance), interpersonal (e.g., discrimination), community (e.g., community prejudice, exclusion from community institutions), and structural levels (e.g., public policies, cultural norms) (Hatzenbuehler et al., 2013; Jones, 2000; Link & Phelan, 2001). However, it is often conceptualized and measured at interpersonal and intrapersonal levels (Link & Phelan, 2001). Minority Stress Theory is a useful lens for conceptualizing stigma targeted at TGGD youth of color; this theory was originally applied to sexual minorities, but has been expanded and adapted to apply to experiences of TGGD populations (Hendricks & Testa, 2012; Meyer, 1995, 2015; Testa et al., 2015). Minority Stress Theory conceptualizes stigma as occurring through minority stressors that are experienced by minority populations above and beyond other everyday stressors typically occurring among the general population (including minorities) (Meyer, 1995, 2003). Minority stressors are categorized as both distal (or interpersonal) minority stressors (e.g., experiences of discrimination, victimization, rejection, and non-affirmation of identity) and proximal (or intrapersonal) minority stressors (e.g., anticipation of stigma, internalization of stigma, and identity concealment) (Hendricks & Testa, 2012; Meyer, 1995, 2003).

Minority Stress Theory posits that these minority stressors contribute to poorer health for TGGD youth of color (Hendricks & Testa, 2012; Meyer, 1995, 2003). However, minority stressors may also contribute to challenges for health care utilization for TGGD youth of color. Previous research examining trans-related stigma within health care settings has found that provider discrimination (e.g., use of incorrect pronouns and names, refusal to provide care), anticipated stigma, and stigmatizing health care policies (e.g., requirements for a mental health referral in order to access medical gender affirmation services) are large barriers for accessing care (Gridley et al., 2016; Kosenko et al., 2013; Poteat et al., 2013). However, most of the research examining barriers to health care among TGGD populations has occurred among the general TGGD population. Little research has focused on the specific needs of TGGD youth and even less has examined how race and ethnicity may also contribute to experiences of health care access among TGGD youth of color. In addition, the previous research examining stigma as a barrier to health care for TGGD populations has not specifically examined how these experiences may vary across gender identity (i.e., how these experiences may differ for trans-masculine, trans-feminine, or other gender diverse people). Using an intersectionality framework (Bowleg, 2012; Crenshaw, 1991), it is important to consider how experiences of stigma related to gender identity, race, and age all play a role in experiences of health care for TGGD youth of color.

Gender Affirmation within Health Care. Minority Stress Theory also addresses the concept of resilience, which highlights how promotive factors (e.g., pride and community connectedness) can improve the health of TGGD populations (Hendricks & Testa, 2012; Meyer, 2015; Testa et al., 2015). For TGGD youth of color, resilience may occur in the form of gender affirmation, a social process where individuals receive support for their gender identity and expression (Sevelius, 2013).

Developed within the context of transgender women of color's experiences (Sevelius, 2013), a gender affirmation framework can be useful when applied to experiences of health care. Within health care, gender affirmation may involve having providers ask patients what pronouns they prefer and consistently using those pronouns, while a lack of gender affirmation may be reflected in intake forms that only include male/female options, erasing other gender identities (Human Rights Campaign Foundation, 2018; Jadwin-Cakmak, Radix, Popoff, & Harper, 2015).

The gender affirmation framework considers both an individual's need for gender affirmation and their access to it; this framework highlights that the appraisal of experienced gender affirmation is relative to an individual's need for affirmation (Sevelius, 2013). This framework also posits that identity threat (i.e., a threat to one's social identity that results from perceiving stigma-related stressors as harmful) may occur if an individual experiences a greater need for gender affirmation than access to gender affirmation (Major & O'brien, 2005; Sevelius, 2013). However, on the other hand, when an individual's gender affirmation experiences are greater than their need, this may contribute to resilience (Fergus & Zimmerman, 2005). Specifically, this may be considered a resilience resource, an external factor attained through an interpersonal social process, that may help to ameliorate the negative effects that stigma has on both health and health care (Fergus & Zimmerman, 2005).

Previous research has found that gender affirmation can moderate the relationship between stigma and poor health outcomes (Crosby, Salazar, & Hill, 2016; Sevelius, 2013), indicating that gender affirmation can be a form of resilience (Fergus & Zimmerman, 2005). However, the role of gender affirmation specifically within health care is unknown. Previous findings suggest that gender affirmation within health care matters for TGGD youth of color (Goldenberg et al., in press). One study conducted among Black TGGD youth in the United States found that having gender affirmation needs met within health care settings was associated with fewer delays and non-use of health care and that gender affirmation also moderated the relationship between anticipated stigma and non-use of care (Goldenberg et al., in press). Among individuals in this study who did not have their gender affirmation needs met, as their anticipation of stigma in health care increased, the predicted probability of delaying or not using care also increased. However, for individuals who did have their gender affirmation needs met, they were not more likely to delay or not use care, even as their anticipation of stigma increased (Goldenberg et al., in press). While this study identifies the possible importance of gender affirmation within health care, more research is needed to explore what gender affirmation looks like within health care and the role that gender affirmation plays in TGGD youth of color's access to care and health care experiences.

Paper Objective and Study Aims. The objective of this study is to understand the experiences that trans-masculine (i.e., individuals assigned female at birth who identify as masculine) and trans-feminine (i.e., individuals assigned male at birth who identify as feminine) youth of color report having with gender affirmation in health care. Specifically, the study asks the following research questions:

> Research Question 1: What are the experiences that trans-masculine and trans-feminine youth of color have with gender affirmation within health care settings?
>
> Research Question 2: What is the role that gender affirmation plays for trans-masculine and trans-feminine youth of color in health care settings?
>
> Research Question 3: How are the experiences and the role of gender affirmation within health care different (or similar) for trans-masculine youth of color when compared with trans-feminine youth of color?

These research questions are examined across the entire health care experience and across multiple types of health care services and settings.

Methods

Affirming Voices for Action. This is a secondary analysis of mixed-methods data collected between July and December 2015 as part of the Affirming Voices for Action (AVA) project. Additional details on the procedures of this study are described in Reisner et al., 2017. AVA used community-based participatory research (CBPR) principles to collect survey data and in-depth individual interviews (IDIs) from a diverse sample of TGGD youth in 14 U.S. cities associated with the Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN); these cities are geographically diverse and represent all U.S. regions. The overall objective of AVA was to examine the experiences of TGGD youth across the HIV continuum of prevention and care; however, these data are appropriate for this analysis because the quantitative and qualitative data also include measures and discussions of experiences with health care.

Recruitment and Study Sample. Purposive sampling was used to recruit participants from 14 ATN sites, with one site in each participating city. With the guidance of a Transgender Community Specialist (who was a member of the transgender community hired to build connections with TGGD communities), staff members recruited TGGD youth from their patient population and through collaborative community-based agencies serving TGGD youth. A total of 187 TGGD youth participated in the AVA study. Individuals were eligible for participation if: their gender identity was not the same as their sex assigned at birth, they were between the ages of 16 and 24, and they were able to provide signed informed consent/assent.

For this analysis, participants were excluded if they identified as non-Hispanic White (n=25), had a known positive HIV sero-status (n=59), or did not identify as trans-masculine or trans-feminine (n=42), resulting in 79 eligible participants. Focusing specifically on youth of color allows for an understanding of how gender identity, race, and age all play a role in health care experiences. In addition, since living with HIV may change the health care experience, these analyses focus on individuals who are not living with HIV (or who do not know their HIV sero-status) in order to explore a broader experience of health care beyond HIV care. Finally, the sample size of participants (after reducing the sample based on other eligibility criteria) who identified as gender diverse, but not as trans-masculine or trans-feminine was too small to include as a separate group. Understanding the experiences of individuals who identity as gender diverse, but not as trans-masculine or trans-feminine, is important; however, their experiences are unique and cannot be lumped in with experiences of trans-feminine and trans-masculine participants (Richards et al., 2016). This group of eligible participants were further specified using responses from the quantitative surveys (Phase I of the analysis), resulting in data from 33 participants selected for this analysis.

Data Collection. Study activities were approved by the Institutional Review Boards at all 14 ATN sites and the University of Michigan. To participate in the study, TGGD youth who were age 18 and older completed written informed consent and participants younger than 18 provided assent. A waiver of parental/guardian consent due to safety concerns regarding disclosure of gender identity was granted by IRBs.

The mixed-methods data were collected using a Transformative Concurrent Mixed Methods approach (Creswell & Clark, 2007; Creswell & Creswell, 2017). A transformative approach is one that uses a theoretical lens as the predominant foundation for the design of the mixed methods study; this often incorporates values from a variety of theoretical perspectives (e.g., critical analysis, feminist perspectives) and is especially useful for understanding experiences of stigma among diverse and marginalized populations (Creswell & Creswell, 2017). A concurrent approach is one in which quantitative and qualitative data are collected simultaneously, without any analysis of data occurring in between the collection of the different types of data (Creswell & Creswell, 2017).

Participants completed a survey, which was immediately followed by participation in an individual-in-depth interview (IDI). All study activities took place in private areas in each of the 14 ATN clinics. The survey was administered using a computer-assisted self-interview and took approximately 45 minutes to complete. For the IDIs, all interviewers were staff at the different ATN sites; all were trained on qualitative research methods, the study objective and theoretical constructs, and the interview guide. Interviewers used a semi-structured interview guide that was grounded in Bronfenbrenner's Socio-Ecological Model and asked questions addressing barriers and facilitators to health care that occur across intrapersonal, interpersonal, community, and structural levels (Bronfenbrenner, 1979). All data from IDIs were recorded, transcribed verbatim, and de-identified. On average, IDIs lasted approximately 90 minutes. For all study activities, all participants were compensated for their time based on study participation standards of the local ATN sites.

Data Analysis. An interactive mixed methods design (Greene, 2007) was used for analysis. This analytic design is highly iterative and allows for the qualitative and quantitative data to interact with each other through a sequential process where each phase of the analysis involves examining a different type of data (Greene, 2007). In the first phase of the data analysis, the quantitative data were used to limit the study sample and select participants who are best able to answer the research questions. The second phase of analysis involved a qualitative phenomenological analysis of the selected sub-sample of participants. Finally, the third phase involved returning to the quantitative data to further clarify and understand qualitative results. These methods are described in more detail below.

Phase I: Narrowing the sample using quantitative data. Survey data were used to determine a sub-sample for analysis of qualitative data. In order to focus the analysis on specific participants who would best address the research question examining experiences of gender affirmation in health care, the analysis was limited to individuals who reported in the survey that gender affirmation within health care was important to them (i.e., individuals with a high need for gender affirmation in health care).

Building on gender affirmation theory (Sevelius, 2013) and in collaboration with the youth advisory board (YAB), two scales were developed to capture experiences of gender affirmation within health care: one measuring need and one measuring access to gender affirmation. Both scales asked participants to indicate their agreement to eight items using a four-point scale ranging from strongly disagree to strongly agree. The need for gender affirmation scale asked participants about the *importance* of gender affirmation in the health care setting and the access to gender affirmation scale asked about *experiences* with gender affirmation in the health care setting.

Participants were eligible for inclusion in the analysis if the mean of the answers on the need for gender affirmation scale indicated that, on average, they reported agreeing or strongly agreeing that gender affirmation within health care was important to them. Next, a maximum variation sampling strategy was used in order to explore a wide range of experiences (Palinkas et al., 2015; Patton, 2002). Participants were stratified based on their access to gender affirmation within health care, with approximately equal numbers of participants reporting that they experienced gender affirmation vs. those who did not. Participants whose scores indicated an average of agreement or strong agreement on the access to gender affirmation scale were characterized as having higher access to gender affirmation within health care. Those with an average score that indicated anything less than agreement were characterized as having lower access to gender affirmation within health care. Participants with missing data on the access to gender affirmation scale were not included in the analysis (n=8).

Since analyses are also examining experiences across gender identity, the sample was also stratified across gender identity, including trans-masculine and trans-feminine participants. Trans-masculine participants were assigned female at birth and identify as a man or a trans man. Trans-feminine participants were assigned male at birth and identify as a woman or a trans woman. This stratification resulted in four groups of participants: 1) trans-feminine participants with high access to gender affirmation, 2) trans-feminine participants with low access to gender affirmation, 3) trans-masculine participants with high access to gender affirmation, and 4) trans-masculine participants with low access to gender affirmation. There was a disproportionate number of trans-feminine participants who reported having higher access to gender affirmation in health care (n=27), compared to other groups, so 10 participants were randomly selected from this group to ensure an equal distribution of participants across stratification categories (Table 1). After stratification and random selection, 33 participants were included in the analysis.

Table 1: Participants Stratified by Gender Identity and Gender Affirmation Access in Health Care

		Gender Identity		
		Trans-Feminine (n)	Trans-Masculine (n)	Total (n)
Gender Affirmation Access	High Access	10	5	15
	Low Access	10	8	18
	Total	20	13	33

Demographics of the sample that were used for this analysis are described in Table 2. The average age is approximately 21 (SD=2.5), ranging from age 16 to 24. Approximately 43% of participants are non-Hispanic Black, 33% are Latinx/Hispanic, 12% are Asian and Pacific Islander, and 12% are Multiracial. Regions were determined using the ATN definitions of U.S. regions for their affiliated ATN sites and included the Northeast, Mid-Atlantic, Midwest, West, and South. Generally, sites participating in the study were evenly split across these regions; however, in the overall study there were more sites in the South than from other regions, resulting in a disproportionate number of participants from this region for this analysis.

Table 2: Sample Demographics (n=33)

	Sample distribution
Gender Identity, % (n)	
Trans-Feminine	60.61 (20)
Trans-Masculine	39.39 (13)
Race, % (n)	
Non-Hispanic Black	42.42 (14)
Asian and Pacific Islander	12.12 (4)
Latinx/Hispanic	33.33 (11)
Multiracial	12.12 (4)
Age, mean (SD)	20.52 (2.45)
U.S. Region, % (n)	
Northeast	18.18 (6)
Mid-Atlantic	15.15 (5)
Midwest	12.12 (4)
West	24.24 (8)
South	30.30 (10)

Phase II: Thematic coding of qualitative data. A qualitative analysis of the 33 participants was conducted using a Phenomenological framework with team-based coding. A Phenomenological framework allows for the understanding of the lived experiences of the participants (Creswell, 2012). Phenomenological approaches explore the ways in which a specific group of heterogeneous individuals share a common experience or phenomenon (Creswell, 2012). Using this approach, this analysis provides insight into the common health care experiences shared by TGGD youth of color, while also highlighting differences and unique experiences described by participants. In addition, a comparative analysis across gender identity was used to highlight differences and similarities in experiences between groups of participants. Though the sample was also stratified by high and low access, this purposive sampling was to ensure maximum variation and inclusion of individuals at both ends of the spectrum (Palinkas et al., 2015; Patton, 2002), and was not part of the comparative analysis.

For this phenomenological analysis, team-based coding was conducted with three coding analysts. This involved the development of a preliminary codebook, which was created after close readings of several transcripts. The preliminary codebook included both inductive and deductive codes to include themes that were generated through the semi-structured interview guide as well as themes that arose more organically during the interviews. Provisional definitions were given to each code and all three coders applied the preliminary codebook to the same transcript. The coded transcripts were merged for comparison, disagreements in coding were discussed among the analysts until consensus was reached, and the codebook was edited when necessary. This process was repeated on four transcripts (one from each stratification category) until all analysts were consistently applying the codebook to the same transcript. Once the codebook was established, the codes were applied to all 33 transcripts; all transcripts were double-coded and disagreement in coding was resolved based on consensus or, when appropriate, by the lead analyst.

After codes were applied to all of the textual data, focused readings of coded text produced thick descriptions for the themes. Themes were examined across participants and groups of participants. Themes were also examined across the type of health care service (e.g., primary care, medical gender affirmation services, mental health care) and broken down by aspect of the health care visit (e.g., waiting room experiences, provider interactions). These thick descriptions identified common concepts, patterns, and unique perspectives in the data; these descriptions were then grouped into larger themes which are represented here. Key quotes were selected in order to represent themes and describe participants' health care experiences.

Phase III: Comparing qualitative and quantitative findings. During Phase III, quantitative analyses were performed in order to triangulate data and compare findings across types of data (Greene, 2007). Quantitative data were specifically used to further clarify and understand qualitative findings. This process of triangulation included examining areas of both agreement and disagreement between the qualitative and quantitative findings. Understanding how the qualitative and quantitative data agree with each other can help to confirm and further understand a participant's experiences in health care (Greene, 2007). However, understanding the discrepancies between the qualitative and quantitative data can provide even further insight into both the quantitative and qualitative findings (Greene, 2007).

Quantitative analyses focused on the gender affirmation in health care scales used to purposively select the sample (described in Phase I). Instead of examining the scales as composite indices, the analyses during Phase III examined each individual scale item, as a way to determine how the quantitative responses to the questions on these scales were aligned with the qualitative findings. Breaking down the scales and examining individual scale items allows us to further examine different aspects of gender affirmation within health care and is useful for further understanding the ways in which participants qualitatively discussed these different aspects of gender affirmation. The *Need for Gender Affirmation Scale* and the *Access to Gender Affirmation Scale* both address the following aspects of gender affirmation: the use of correct names/pronouns within health care settings; having providers apologize when mistakes are made with names/pronouns; having inclusive intake forms that ask about names, pronouns, and gender identity; having providers ask about the appropriate words to use when describing body parts; the availability of gender-neutral restrooms within health care settings; provider's knowledge about the health of TGGD people; provider's ability to offer gender affirming resources and referrals; and the provider's knowledge of working with health insurance companies in order to have coverage for health care related to gender identity/expression.

In order to account for the small sample size (n=33) and the non-normal distribution of the gender affirmation scores, non-parametric statistics were used to determine differences across groups. For each item on the access to gender affirmation scale (measuring experiences of gender affirmation within health care), the median score for each item (ranging from 1 for strongly disagree to 4 for strongly agree) was examined. To reflect the gender affirmation framework from which these scales were developed (Sevelius, 2013), a score examining the difference between each individual's need for gender affirmation within health care and access to it was also examined. This was done by creating a separate variable, which examined the difference between these two scores (access minus need) to determine if participants' needs for gender affirmation were met within health care settings. Negative scores indicate a greater need for gender affirmation than access to it, with scores above zero indicating that gender affirmation needs were met. Differences in these medians were also examined using the Mann-Whitney U test.

Since one aim of this study was to conduct a comparative analysis across gender identity, statistical tests were used to compare experiences of gender affirmation within health care across gender identity. Examining these relationships allows for an assessment of patterns across different types of data (both qualitative and quantitative) (Greene, 2007).

Differences were also examined to determine how these aspects of gender affirmation within health care are associated with the use of different types of care (primary care, medical gender affirmation services, and mental health care). Primary care was measured with a binary variable, based on the response to the question: “In the past six months, I postponed or did not try to get check-ups or other preventative medical care.” Analyses of medical gender affirmation services and mental health care services both only included individuals who reported wanting or needing to use these types of care. For medical gender affirmation services, participants were asked if they had ever used these services (e.g., hormones, “surgery to transition”) in their lifetime. For mental health care services, participants were asked if they had used these services in the past 12 months; accessing mental health care included seeing a mental health care professional, such as a social worker, psychiatrist, psychologist, or counselor. For each type of health care use, Mann-Whitney U tests examined whether or not there were differences in gender affirmation (including both access and having needs met) between individuals using these types of care vs. individuals delaying or not using these types of care.

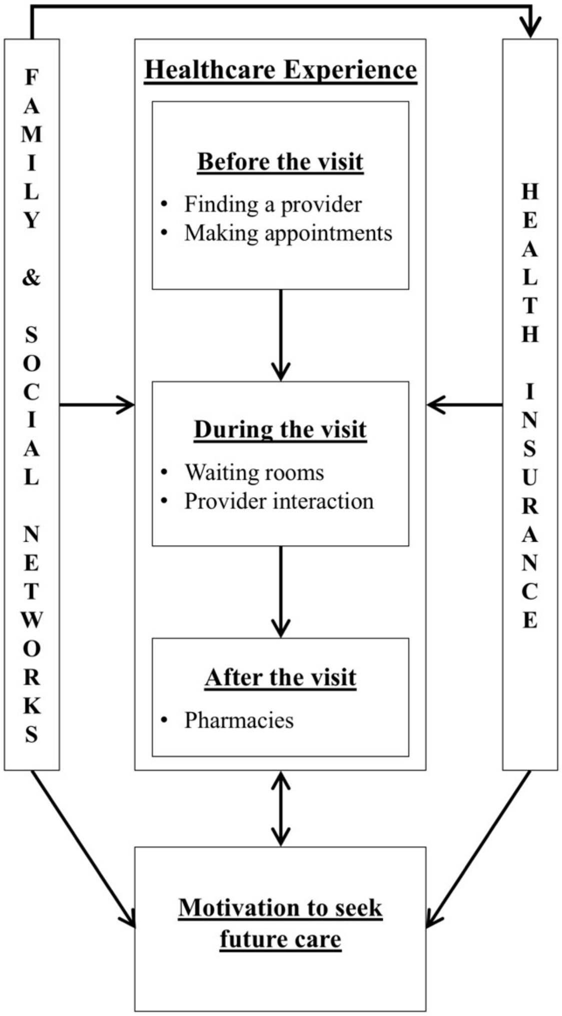
Results

In this section, the qualitative results describing the health care experience and motivation to seek care are described, followed by the results from the comparative analysis. Next, quantitative results are presented, concluding with a triangulation of data and assessment of the meaning of both the qualitative and quantitative data together.

The Health Care Experience. Participants described their experiences across multiple types of health care, including primary care, medical gender affirmation services, mental health care, gynecological services, and other types of specialized care (e.g., emergency room visits, dentists, and care for chronic diseases). Across these types of care, participants did not experience exclusively stigmatizing or gender-affirming care, but instead they described both negative and positive experiences that occurred within health care settings. Participants who quantitatively reported having access to gender-affirming health care still described negative health care experiences. This highlights the nuance in experiences; individuals who have gender-affirming care in one setting may still have negative experiences in another. In addition, individuals who currently have access to gender-affirming and respectful care often described previous negative health care experiences.

Participants described multiple aspects of the health care experience, including interactions with the health care system that occur before, during, and after a health care visit (Figure 2). For each type of care and each aspect of the health care experience, participants highlighted how stigma (both inside and outside of health care) and gender affirmation influenced access to and use of care in addition to health care decisions and responses to care, which ultimately were described as shaping future health care experiences and the motivation to seek care.

Figure 2: Conceptual Model Describing the Health Care Experience



In this section, all aspects of the health care experience (before, during, and after the visit) are discussed, including experiences finding a provider, making health care appointments, experiences in waiting rooms, interactions with providers, and experiences at pharmacies. Across each aspect of care, experiences are described more generally for all types of care, but in some cases, they are described as being relevant for specific types of care. Therefore, both broad and specific discussions of care are included.

Finding a provider was generally described as challenging. Participants highlighted challenges when seeking a provider in states where the culture was typically perceived as less accepting of transgender identity (i.e., states in the South and/or Midwest). Though participants were situated throughout the country and across all U.S. regions, many participants had experiences trying to access care in more than one state and more than one U.S. region; in these instances, participants were able to compare these experiences, and found that the location really mattered and changed their ability to find appropriate and respectful health care providers.

Participants who described positive health care experiences typically found these providers through referrals. In some cases, referrals came from other social services (e.g., homeless shelters) or from providers (e.g., pediatric physicians); however, most participants discussed speaking with other transgender people to find their provider. Participants identified that getting referrals from other transgender people was essential for finding a provider who would respect them:

> *With the new network that I have from living out here, it is so much easier to access [health care]… hearing from other people who go to different doctors… especially trans people like myself… Does this doctor respect pronouns?... Call you by the proper name?... I love reviews"* (Participant 12, trans-feminine, low access, age 21, API).

Providers who were referred through social networks were typically providers who had a lot of transgender patients and often worked at health centers focused on sexual and gender minorities. These centers were often identified as the best option for receiving care, and for some participants, the only possible option, with participants making statements such as, *"If I didn't have that, then I don't think that I would wanna go to a doctor if I was feeling sick"* (Participant 16, trans-feminine, low access, age 19, Latinx). However, multiple participants also stated that these better options were often full and had long waiting lists.

Making a health care appointment. Only a few participants discussed the experience of setting up an appointment and when these experiences were discussed, they were typically negative. Calling to schedule an appointment and calling to deal with health insurance was described as requiring a lot of emotional energy and taking a toll on mental health, due to the experiences of stigma and mis-gendering that would occur throughout this process. Multiple participants explained that these negative experiences would contribute to avoiding primary care or even avoiding treatment when sick:

> *"It's just the not wanting to deal with it attitude…. Would I rather go to a doctor when I'm sick or I can probably just wait it out, right? I don't have to go… I don't want to have to call someone to make an appointment, especially when before… My name on my insurance didn't match my legal name, so I don't want to have to call. I don't want to have to explain my insurance and why my names were different, and are they going to call me by my correct name or are they going to call me by my name on my insurance, and having to deal with that. Just all the fears accumulate as I'm thinking about it… it's just easier if I just don't"* (Participant 25, trans-masculine, high access, age 21, non-Hispanic Black).

This highlights how even before the health care visit, concerns about experiencing stigma and being mis-gendered contribute to care avoidance and motivations to seek (or not seek) care.

Waiting rooms. Experiences in waiting rooms were also generally described as challenging. Participants described being mis-gendered and needing to explain their gender identity because waiting rooms use electronic health information systems and require patients to present identity documents (e.g., government-issued ID, health insurance card). Participants explained that they encountered problems in waiting rooms when there were inconsistencies between documents, electronic health records, and their gender presentation.

Coming out during every visit. Participants stated that having to *"explain"* their gender identity to administrative staff meant that they were required to *"come out"* during every health care visit. This experience was perceived as uncomfortable and unsafe because it was unclear how the administrative staff would react, especially within a general U.S. culture that does not accept transgender people.

These experiences of discomfort and lack of safety also occurred because participants were concerned about being outed to other individuals in the waiting room; participants described this experience as uncomfortable, awkward, stressful, and unsafe because it attracts unwanted attention with *"People staring you up and down, like are you the right person?"* (Participant 27, trans-masculine, low access, age 24, Latinx). These safety concerns can influence a participant's motivation to seek care:

> *"I am really afraid… people have clocked me, and it is scary, but if I am going through the day and I am not stopping, and I am not doing anything, nothing to call attention to me, I am not seen. So, those instances where I have to show my ID or show like a legal documentation of who I am, it's hard and it is scary and every time I have to think of what is going to happen… do I want to spend the energy today or any other day to do it?"* (Participant 13, Trans-feminine, low access, age 22, Latinx).

In some cases, discrepancies between identity documents, insurance cards, and a patient's gender presentation in a waiting room resulted in being refused care before the interaction with the health care provider even occurred:

> *"Some wouldn't let me [get health care] because… your name is a male, and you have to come present yourself as is on your ID… I feel like you shouldn't do that. I'm a equal person just like any other person is" (Participant 7, trans-feminine, high access, age 23, multi-racial).*

Some participants also described how the disrespect that they experienced when having to show their documents and explain their identity in a waiting room resulted in them leaving the health care setting and not getting care:

> *"I was with my partner in his home town, which is in rural [US Southern state]… my insurance… It had my old name… my gender marker on there was as being female. I was feeling sick… so it was a walk-in clinic type thing we went to, and the intake person at the front desk, I gave her my insurance card and my photo ID. They didn't match, and she was like, I'll be right back… I could hear her talking with… another doctor, a nurse or something… And I don't remember all the things they were saying but it was stuff like, I dunno if that's a boy or a girl… There was some upsetting things, and I felt very uncomfortable. And she came back around and gave me a very forced smile and handed me the forms to start filling out. She didn't say anything but I felt just really uncomfortable*

> *and so I took my insurance card and ID back and left"* (Participant 28, trans-masculine, low access, age 22, API).

Interactions with providers. Provider interactions were described as both negative and positive experiences. Typically, participants differentiated between a negative and positive interaction based on whether or not they were treated with respect, how much knowledge the provider had about transgender experiences and transgender health care needs, the level of support that was provided when trying to navigate the health care system, and whether or not the provider included and trusted the participant when making decisions about their health care.

Respect. Participants consistently explained that being treated with respect by the provider was an important aspect of having a positive health care experience. In a few cases, using correct names and pronouns was enough to identify a health care experience as respectful and positive, but for the most part, participants identified multiple ways in which communication with the provider demonstrated respect or disrespect.

Signs of respect and disrespect were identified as both verbal and non-verbal. Disrespect was described as saying inappropriate things, but multiple participants also referred to providers using a tone or a look that represented that they were casting judgement and confusion with their presence. These acts of disrespect generally involved displays of provider discomfort, in a way that was de-humanizing, with participants using words like *"creature," "alien,"* and *"specimen"* to describe how they felt they were treated. These experiences of being disrespected and de-humanized can be a deterrent from getting care:

> *"I remember there was an incident where I got mugged and I had to go to the ER where the doctors were kind of looking at me weird like, 'how do we deal with this person?' It was this weird experience where no one was outwardly negative to me, but I could see in their faces this sort of like, 'what are you?' Which is kind of annoying--I'm a person…I feel like even when they don't say anything… I could see this judgement and confusion in their eyes…it's not really upsetting it's more annoying…I just got mugged an hour ago. Someone just shoved their knee in my face, can you not worry about my gender right now?*

> *Can you just worry about making sure I'm not fucking dying? That would be great"* (Participant 16, trans-feminine, low access, age 19, Latinx).

When providers are so focused on a participant's gender identity and are unable to be comfortable around them, it becomes difficult for the focus to be on the health issue that brought the participant into the health care setting in the first place.

When participants were asked to offer recommendations for health care providers, some participants simply explained that they wanted to be talked to with respect, like a human, and that they wanted providers who are non-judgmental and don't look at them like they are *"a freak."* One participant expanded on this and stated that he feels that it is the responsibility of a provider to be an advocate for their patient, to make sure that they are not dis-respected at any point within the health care environment:

> *"[My recommendation for providers is to] just be an advocate for your clients… stand up to transphobia in the work place and where people are being dicks, don't let them get away with it. Educate them about the fact that you're going to treat a trans client and you're going to treat them with respect… just interact with us and talk to us like we're people"* (Participant 33, trans-masculine, low access, age 21, API).

When participants did feel as though they were respected by their health care provider, they described feeling good about their health care experience:

> *"Going to see my gynecologist -- this is the best experience I've ever had with health care, hands down… I brought up to her that I was trans, and I wanted to start hormones and she…tried to immediately get me a referral… The nurses were great. They treated me with the correct respect… called me by my preferred pronouns. They were very nice about it. I even told them at the time, I was dating a trans guy… and they were very respectful of his pronouns, and his name, and everything and I was just like this is beautiful, everyone should be like this. So, that put me in a really good mood, in terms of just health care in general… that was something that really helped me in terms of my health care journeys. It gave me a lot of confidence in speaking to my health care providers about me being trans"* (Participant 29, trans-masculine, low access, age 20, Latinx).

Having positive experiences in care, where participants described being respected, helped them to not only perceive that experience as beneficial, but it also gave them the confidence to navigate the health care system and to be open about their gender identity with other health care providers.

Provider knowledge. Participants attributed the use of names/pronouns, provider comfort, respect, and sensitivity to provider knowledge. Providers and health care staff who lacked knowledge were described as treating their patients poorly. Participant 27 (trans-masculine, low access, age 24, Latinx) explained how a lack of staff and provider knowledge contributed to a *"really bad"* health care experience:

> *"I'm in the doctor's room and the physician comes in and she's like, 'Oh, sorry.' And she closes the door [without coming inside… She had freaked out… Five minutes later, she comes back and she's like, 'Oh, I'm sorry. I thought I was in the wrong room. So, you're [Participant's birth name]?' And I said, 'Yes'… 'But I go by [Participant name]'… So, then she's super nervous, super uncomfortable. She starts going through my paperwork and she starts saying, 'He, she, he, she,' and then I'm just like… 'I go by he. So, please use that'… Then she just starts saying, 'I'm sorry… I don't know much about this and I just never worked with anybody that looks like you'…It was unprofessional… it's like almost I was a creature in her room…not friendly… not respectful… unknowledgeable… clearly there is not enough sensitivity or trainings that you've [the health care center] done with your physicians."*

A lack of knowledge also resulted in providers asking inappropriate and offensive questions. For example, one participant described an ER doctor who asked to see her genitals when her health care visit had nothing to do with that. Participants also discussed needing to teach their provider about their gender identity. These experiences were upsetting, but they were also identified as a barrier for accessing care; when a health care visit is spent answering inappropriate questions and teaching a provider about gender identity, there is no time to address a patient's needs: *"Are we actually accomplishing what I'm here for? If we're spending the whole time talking about me, explaining my trans identity, are we actually getting at the fact that I came here for a specific reason?"* (Participant 25, trans-masculine, high access, age 21, non-Hispanic Black).

Though participants recognized that the lack of provider training and the way that they were being treated was inappropriate and problematic, some highlighted that providers were not purposely being malicious. Instead, they attributed these experiences to a lack of knowledge:

> *"I think it's more of a matter of education… they should train nurses and doctors in how to deal with patients that are trans because… it's not like these people are even hateful towards trans people. A lot of the time, it's more like a we don't understand type of thing… I would say the biggest barrier overall with any trans person getting health care is the risk of the doctors there just not going to get it because they don't know what to do, they don't know a trans person, they don't know how to deal with a trans patient. I think in a lot of cases it's more a matter of understanding"* (Participant 16, trans-feminine, low access, age 19, Latinx).

This perspective that providers need more training was salient across participants, with almost all participants stating that providers need more knowledge and more training. Participants explained that training for providers should go into depth; these trainings should be about more than learning what gender identity is and the importance of pronouns, but should also include how social and political environments play a role in health care experiences. Participants highlighted the importance of these trainings and stated that it is *"really not that hard"* to learn about these experiences and be respectful towards transgender people.

Participants described positive health care experiences as those that involved trust and open communication with their provider. This type of patient-provider relationship was often influenced by a participant's perception that their provider had knowledge about their experiences and their care. When participants had providers who understood their health needs and who were *"sensitive"* to transgender health issues, they explained that they felt more *"comfortable,"* and described having more trust in their provider: *"My primary doctor right now, she's the bomb, she's super good. She knows what she's talking about, and she makes me feel like, OK, I'm in good hands"* (Participant 15, trans-feminine, low access, age 21, Latinx).

Participants also explained that they were more likely to continue seeing providers who had more knowledge about their experiences: *"I feel they understand my health needs and so that's what makes me feel comfortable and why I continue to go to them"* (Participant 1, trans-feminine, high access, age 24, Latinx). Participants also explained that having sensitive providers who had more knowledge about transgender experiences also more broadly encouraged them to seek health care and navigate health care settings

Health care system navigation. Often, participants discussed how their providers and health care settings assisted them specifically in the process of accessing medical gender affirmation services; this was discussed not only for providers who directly provided those services, but also when describing other types of physicians (e.g., primary care providers, gynecologists) who assisted the participant in navigating the health care system in order to be able to access those services.

Participants explained that one way that providers assisted them in navigating the health care system and attaining medical gender affirmation services (when desired) was to provide appropriate referrals. Participants stated that having a supportive provider, who listened to them and their needs, who did not pass judgment, and who was able to provide appropriate referrals, made a big difference with their health care experiences. Participant 2 (trans-feminine, high access, age 22, non-Hispanic Black) provided an example of a supportive and gender-affirming provider who helped her in the process of accessing medical gender affirmation services, despite not being able to prescribe hormones:

> *"I haven't really had any negative experiences… my family physician has been…our family doctor for years. This woman has changed my pampers… she's an adolescence doctor... and so… isn't supposed to see me anymore, but she still has… She's just there for me. She was on it before I was even on it. Like when I first mentioned it to her she was listing down things I needed…so I was okay… she's not able to prescribe hormones. I had to go to a*

> *doctor that specializes in hormone therapy replacement, but they built a care team around me so that way I'm completely covered."*

Participant 2's experience highlights that even if a provider does not have the ability to provide that specific type of care themselves, they can still provide support in navigating the process.

Participants also described positive experiences when their providers helped them to navigate insurance companies. Dealing with insurance, especially when trying to access medical gender affirmation services, was highlighted as a huge barrier for accessing care. Participants who had family members or providers who helped them with this process were able to access medical gender affirmation services; when this support came from the provider specifically, participants felt more positive about their care experience and had a better understanding of how to access care. Participants described having providers offer education on how to navigate insurance companies, but they also described having their provider advocate for them so that their care could be covered: *"I remember when I had [Medicaid], there was one time… they didn't want to pay for my hormones… [the doctor] wrote a letter to them… and then they started covering it"* (Participant 1, trans-feminine, high access, age 24, Latinx).

Trans inclusivity. Participants expressed a desire for wanting their voices to be included when considering their own health care needs. This was especially true for participants who discussed experiences with medical gender affirmation services and/or mental health care.

Access to mental health care was typically discussed as a necessary step towards achieving medical gender affirmation services, with transgender patients needing a letter from a mental health care provider. Many of these experiences with mental health care providers were described as negative. Participants perceived this requirement as a step during which they needed to *"prove"* their identity to health care professionals. Furthermore, proving their identity required fitting into a clearly-defined *"box"* or *"category"* that was based on pre-conceived notions of what it means to be transgender:

> *"[Medical gatekeeping] is this idea of what trans people are by therapists… the World Health Organization… sets these standards for what you need to do… I did fit nicely. I told them [about] the experiences when I was little, what I wanted to be, I was straight, all these things that kind of nicely fit into their categories and they are like okay yeah you are a true transsexual"* (Participant 13, trans-feminine, low access, age 22, Latinx).

Even though Participant 13 *"fit into their categories,"* she still described how medical gatekeeping and a lack of consideration for her needs made it difficult for her to access medical gender affirmation services, and ultimately improve her mental health:

> *"I was assaulted on campus and from that experience my mental health was horrible, and I had PTSD… but my therapist wanted me to control my PTSD before I started hormones. My depression and my anxiety… were not going to get better without me transitioning either, so there that is kind of gatekeeping where they think that they know what's best for you, without any kind of consultation from yourself"* (Participant 13, trans-feminine, low access, age 22, Latinx).

This theme of having cisgender people make decisions about a transgender person's care without considering the needs that they are expressing was consistent across participants discussing medical gatekeeping, with participants highlighting that transgender people were not included when these policies and *"boxes"* were determined.

Participants explained how medical gatekeeping creates barriers for accessing medical gender affirmation services. The need to get a mental health care referral creates an extra step in trying to access medical gender affirmation services, and this extra step involves finding and paying for a mental health care provider. Participants experiences highlight how this is especially problematic when combined with a lack of provider knowledge because without providers having basic knowledge of transgender experiences, mental health care may not be useful, with participants explaining that they paid to "*teach Trans 101 to my therapist."* Even when participants wanted medical gender affirmation services, in many cases, they explained that they delayed seeking or accessing this type of care because of this mental health care requirement.

Medical gatekeeping is a barrier for accessing mental health care too because it creates mistrust with mental health care providers:

> *"I had a very big aversion to mental health services because I was like you hold too much power over who I am… feeling that people who aren't like me have too much control over my identity… the fact that you need a letter from a therapist to be able to transition-there's a lot of power given to someone else… they're the ones evaluating you saying… you're trans enough to actually need this or want this or are ready for it. I knew I was… it was then having to not just tell my therapist 'yes, I'm ready for this' -- it was that having to convince them. I shouldn't have to convince someone that I need something that I know I need"* (Participant 25, trans-masculine, high access, age 21, non-Hispanic Black).

A few participants described experiences accessing medical gender affirmation services through informed consent clinics that did not require referral letters from mental health care providers. These participants had much more positive experiences. However, in order to end medical gatekeeping, participants stated that policies need to change; this means that it is important to consider provider interactions as well as policies that dictate provider interactions. Participants recognized that policies that determine a transgender person's ability to access care should be decided by transgender people who actually understand the experience of being transgender.

Pharmacies. After having a health care visit, some participants discussed interactions with pharmacies. Pharmacies were often described as a health care barrier, especially when participants were trying to fill prescriptions for hormones. Some participants described experiences where pharmacists were unsure of how to *"deal with"* them because of their gender identity. Similar to experiences with waiting rooms, participants encountered challenges with their identity documents, health insurance cards, electronic information systems, and mis-gendering; these challenges sometimes resulted in pharmacies refusing to provide medications, especially hormones. Participant 2 (trans-feminine, high access, age 22, non-Hispanic Black) explained how she advocated for herself when her pharmacy refused to fill her prescription for hormones: "*I called her [the pharmacist's] manager, I called my doctor's office and I called the corporate [pharmacy] number and I complained, I raised hell and the doctor came into the store and actually met with the people."* Participant 2 also explained how her doctor also advocate on her behalf, demonstrating an additional example of how providers can assist their transgender patients with navigating health systems.

Some participants also described having positive experiences with pharmacies. During these encounters, participants described being treated with respect, having the pharmacist use the correct names and pronouns, having pharmacists assist with reminders to pick up their medication and their hormones, and having pharmacists help them navigate health insurance. Pharmacies that challenged insurance companies and advocated for their clients were perceived as especially supportive and positive:

> *"The pharmacy I went to, to fill my prescription… [was] super LGBT friendly. They fought my insurance to see if they would [cover my prescription]. Of course, [the insurance company] didn't, but [the pharmacy] tried"* (Participant 33, trans-masculine, low access, age 21, API).

Motivation to Seek Care varied across types of care. Each aspect of the health care visit had an influence on participants' motivation to seek care; when participants had positive experiences and were able to establish regular care providers, they were more likely to have continuous access to care. On the other hand, negative care experiences and the expectation of negative care experiences contributed to avoidance of care.

Primary care. Though stigma and negative experiences occurred across all types of care, participants stated that these experiences made them avoid primary care more than any other type of care. Due to stigma, attaining primary care was not always seen as worth the effort:

> *"Even when I want a flu shot, I can't get that because I am afraid of getting violence against me in the form of mis-gendering, misleading me and invalidating my experience… to even know that might be a possibility, I'd rather not, I will just go through three weeks of the flu"* (Participant 13, Trans-feminine, low access, age 22, Latinx).

> *"I know you should get a physical like every year or something. I don't go. I've only been going to the doctor for my hormones and that's it. And because I'm just like, that's all I need right now, and I don't want to go through the burden… It just stresses me out… I haven't gone to the dentist. I haven't gone… even my eye doctor… that's a little weird, too." (*Participant 27, trans-masculine, low access, age 24, Latinx)

Medical gender affirmation services. Motivation to seek medical gender affirmation services had its own separate set of challenges. Motivation to seek this type of care was influenced by outside experiences of stigma more than any other type of care. For example, participants were more likely to delay this type of care because they were concerned about their family not accepting the decision to access medical gender affirmation services. Participants who relied on their parents for their homes and their health insurance were especially hesitant to access this type of care if they were not out to their parents and/or if they worried that their parents would reject them. In other cases, participants did come out to their families and express their need for medical gender affirmation services; however, lack of support from families (and especially parents or guardians) still created a barrier for accessing these services: *"The fact that my parents are still very much readjusting to me living like this--it's sort of interfered [with] how quickly I can move along with my transition"* (Participant 16, trans-feminine, low access, age 19, Latinx).

In addition to concerns about families, participants described how other outside social networks played a role in their motivation to seek medical gender affirmation services, especially if they were working or attending school in less accepting environments, for example, the military or a religious all-girls school. Concerns about insurance not covering medical gender affirmation services were also perceived as a huge barrier to accessing this type of care, and, in some cases, deterred participants from even trying to find a provider.

Mental health care was often only desired as a step towards accessing medical gender affirmation services. A few participants also recognized the need to seek mental health care providers to address their mental health (e.g., for depression or anxiety); however, due to experiences with medical gatekeeping, an overall lack of trust with mental health care providers often deterred participants from seeking this type of care.

Gynecological services. For trans-masculine participants, some recognized the importance of accessing gynecological services. However, some participants were unsure of what their needs were regarding visiting these types of providers. In general, participants also recognized that trans-masculine people are often hesitant about going to gynecologists; for example, Participant 29 (trans-masculine, low access, age 20, Latinx) stated: *"I definitely know a lot of people who are trans-masculine like me, definitely worry about going to the gynecologist, period."* Participant 33 (trans-masculine, low access, age 21, API) also explained his discomfort with going to a gynecologist:

> *"I know I should… but I'm never going to go to a freaking gynecologist… Walking into what's typically a women's only center as a guy, is incredibly uncomfortable… But even if they're great, even they're really nice and respect your pronouns… there's no way to get around how awkward that is."*

Comparative Analysis and the Role of Identity. This section includes a discussion of the differences in experiences across gender identity, comparing trans-masculine and trans-feminine participants, and the role of race/ethnicity.

Differences across gender identity. Though there were many differences across gender identity when discussing aspects of life outside of health care, there were many similarities in health care experiences across gender identity. Both trans-feminine and trans-masculine participants had diverse and nuanced health care experiences that included both stigmatizing and gender-affirming experiences. The largest difference in health care experiences across groups was the type of care that participants discussed, and, in some cases, the ways in which they got linked with care. Trans-masculine participants discussed experiences with gynecologists, while trans-feminine participants did not; these experiences were often linked with strong feelings, either very positive or very negative. Trans-feminine participants discussed having more experiences with HIV prevention services, and, in some cases, these types of services helped linked them to other health care too. A few trans-feminine participants described being in support groups; these groups had a main focus of HIV, but they provided additional mental health and social support, and helped participants to get linked with health care-related resources. For example, some participants describing receiving provider referrals from other transgender people in these groups. Other than these differences in types of care, no clear differences were identified in experiences of health care services across gender identity.

The role of race/ethnicity. Experiences of race/ethnicity were not included in the semi-structured interview guide; therefore, interviewers did not probe on this aspect of identity. However, some participants still discussed how their race/ethnicity shaped their experiences with health care. In a few cases, race/ethnicity was identified as the primary reason for being denied health care. In the same way that experiences of trans-related stigma within health care were described as being geographically specific (with perceptions of more stigma in Southern and Midwestern states), experiences of racism within health care settings were also perceived in this way. For example, while describing an experience during which he was denied care, Participant 24 (Trans-masculine, low access, age 23, non-Hispanic Black) explained:

> *"I never thought that the doctor, out of all people, because they have the little HIPPA law thing saying that they have to help you, regardless of anything. No, and this was in [southern state]; that's how I knew that they still racist. You know what I'm saying? I wasn't thinking like oh yes, it's because I'm gay but it was that mainly, because… it was a Caucasian doctor and it was just the atmosphere in the area of the county I'm in."*

Another participant discussed how their race/ethnicity played a larger role in the meaning of being stigmatized and rejected by their family. When considering how family plays a role in decisions and motivations to seek care (especially with medical gender affirmation services), this becomes important for health care use. Even though Participant 13 (trans-fem, low access, age 22, Latinx) explains that her parents are not supportive of her gender identity and her accessing medical gender affirmation services, she explains why she still needs them in her life:

> *"I need my family… culturally, I can't break ties with my non-chosen family. It is not an option… Just with how my culture is, I would feel disconnected from who I am. I am Mexican… there is this strong cultural identity I think to family… As much as I would like to say that I would completely break ties, I can't. I would feel like there is something missing"* (Participant 13, trans-fem, low access, age 22, Latinx).

These experiences highlight how for transgender people of color, experiences of both gender identity and race/ethnicity both inside and outside of health care settings can contribute to access to health care and decisions made about health care use.

Quantitative Results: Analyzing Differences Across Groups. Quantitative bivariate non-parametric analyses mostly confirmed qualitative findings. Even though participants described many challenging health care experiences, and even though the sample was purposively selected to be evenly distributed across those reporting high vs. low access to gender affirmation, when looking at each individual item on the access to gender affirmation scale, the median for six of the eight items was a 3.0, indicating general agreement on each item (Table 3).

When considering the difference between participants' need for and access to gender affirmation, all median scores are at zero or less, indicating, as expected based on our sampling, that participants' needs for gender affirmation are greater than their access to it across all scale items. It is important to note that purposive sampling resulted in all participants having a high need for gender affirmation in health care. Across the scale items, the smallest difference between the need for and access to gender affirmation was for having a provider who apologizes when they use an incorrect name or pronoun and having a provider who asks about which body parts to use. Since asking about the correct body parts to use was also one of the items where participants reported the lowest access, these findings indicate that the need for this item must have also been generally lower for participants. This confirms the qualitative data, since this aspect of gender affirmation was not as commonly discussed among the participants in the qualitative interviews (possibly due to having a lower need for this).

There were few differences in quantitative responses across gender identity, with significant differences for only one aspect of gender affirmation. Trans-feminine youth (Median (IQR) = 3.0 (2.0,4.0)) were more likely than trans-masculine youth (Median (IQR) = 2.0 (1.0,3.0)) to report having access to inclusive intake forms in health care settings (U=-125.0, p=0.038). There were no statistically significant differences across gender identity when examining the difference between gender affirmation needs and access.

When examining the relationship between gender affirmation scale items and use of different types of health care services, results also supported the qualitative findings. Multiple aspects of gender affirmation within health care settings were associated with delaying or not using primary care, when compared with those who did not delay care (Table 4). However, when examining the use of medical gender affirmation services and mental health care services, no aspects of gender affirmation within health care were associated with these types of care. It is also important to note that all participants reported wanting to access medical gender affirmation services at some point, even if they had not done so yet. However, only 26 of the 33 participants reported wanting mental health care services in the past year; these comparisons were made only among these 26 participants.

Table 3: Mann-Whitney tests examining differences in gender affirmation across gender identity

	Trans-Feminine (n=20)	Trans-Masculine (n=13)	Total Sample (n=33)	Mann-Whitney U	p-value
Access to affirmation, median (IQR)[a]					
Pronouns	3.0 (2.0,4.0)	3.0 (2.0,4.0)	3.0 (2.0,4.0)	-84.0	0.603
Apologizes	3.0 (3.0,4.0)	3.0 (3.0,4.0)	3.0 (3.0,4.0)	-70.50	1.00
Intake Forms	3.0 (2.0,4.0)	2.0 (1.0,3.0)	2.0 (2.0,4.0)	-125.0	**0.038**
Words for body parts	3.0 (2.0,4.0)	2.0 (1.0,2.0)	2.0 (1.0,3.0)	-121.5	0.052
Gender neutral bathroom	3.0 (1.5,4.0)	2.0 (2.0,3.0)	3.0 (2.0,3.0)	-99.5	0.266
Provider knowledgeable about trans health	3.5 (2.5,4.0)	3.0 (2.0,3.0)	3.0 (2.0,4.0)	-111.5	0.111
Provider can offer referrals	3.0 (2.0,4.0)	3.0 (2.0,3.0)	3.0 (2.0,4.0)	-100.0	0.258
Provider knows insurance	3.0 (2.0,4.0)	3.0 (2.0,3.0)	3.0 (2.0,4.0)	-104.5	0.192
Difference between need and access (access-need), median (IQR)[a]					
Pronouns	0.0 (-1.5,0.0)	-1.0 (-2.0,0.0)	-1.0 (-2.0,0.0)	-88.5	0.486
Apologizes	0.0 (-1.0,0.0)	0.0 (-1.0,0.0)	0.0 (-1.0,0.0)	-78.0	0.764
Intake Forms	-1.0 (-2.0,0.0)	-2.0 (-3.0,-1.0)	-1.0 (-2.0,0.0)	-106.0	0.174
Words for body parts	0.0 (-1.5,0.0)	-1.0 (-2.0,0.0)	0.0 (-2.0,0.0)	-115.0	0.088
Gender neutral bathroom	0.0 (-1.5,0.0)	-1.0 (-1.0,0.0)	-1.0 (-1.0,0.0)	-73.0	0.925
Provider knowledgeable about trans health	0.0 (-1.0,0.0)	-1.0 (-2.0,-1.0)	-1.0 (-1.0,0.0)	-111.5	0.111
Provider can offer referrals	0.0 (-2.0,0.0)	-1.0 (-2.0,0.0)	-1.0 (-2.0,0.0)	-83.5	0.611
Provider knows insurance	-0.5 (-1.0,0.0)	-1.0 (-2.0,0.0)	-1.0 (-2.0,0.0)	-108.5	0.139

[a] The need and access scales are each on a 4-point scale ranging from 1-4, with 1 indicating strongly disagree and 4 indicating strongly agree to the gender affirmation in health care scale items. The total possible range for the difference between the access and need scales is -3 to 3.

Table 4: Mann-Whitney tests examining differences in gender affirmation across types of care

	Delayed/did not use primary care in the past 6 months (n=33)				Ever used medical gender affirmation services (n=33)[b]				Used mental health care services in the past 12 months (n=26)[c]			
	No (n=23)	Yes (n=10)	U	p-value	No (n=9)	Yes (n=24)	U	p-value	No (n=10)	Yes (n=16)	U	p-value
Access to affirmation, median (IQR)[a]												
Pronouns	3.0 (3.0,4.0)	2.0 (1.0,3.0)	-197.5	0.052	3.0 (2.0,4.0)	3.0 (2.0,4.0)	81.5	0.540	3.0 (2.0,4.0)	2.5 (1.5,3.0)	10.0	0.286
Apologizes	3.0 (3.0,4.0)	3.0 (2.0,3.0)	-178.0	0.241	3.0 (2.0,4.0)	3.0 (3.0,4.0)	79.5	0.589	3.0 (3.0,4.0)	3.0 (1.5,3.5)	1.0	0.109
Intake Forms	3.0 (2.0,4.0)	2.0 (1.0,2.0)	-193.5	0.078	3.0 (3.0,4.0)	2.0 (1.5,3.0)	79.5	0.544	2.0 (2.0,3.0)	2.0 (1.0,3.0)	24.5	0.781
Words for body parts	3.0 (2.0,4.0)	2.0 (1.0,2.0)	-199.0	**0.047**	3.0 (2.0,4.0)	2.0 (1.0,3.0)	79.5	0.404	2.0 (1.0,2.0)	2.0 (1.0,2.0)	33.5	0.825
Gender neutral bathroom	3.0 (2.0,4.0)	1.5 (1.0,2.0)	-222.0	**0.003**	3.0 (3.0,4.0)	2.5 (1.0,3.0)	79.5	0.141	3.0 (2.0,3.0)	2.0 (1.0,2.0)	14.5	0.411
Knowledgeable provider	3.0 (3.0,4.0)	2.5 (2.0,3.0)	-190.0	0.099	3.0 (3.0,4.0)	3.0 (2.0,4.0)	53.0	0.551	3.0 (3.0,4.0)	2.5 (1.5,3.0)	1.0	0.114
Provider can offer referrals	3.0 (2.0,4.0)	2.0 (1.0,3.0)	-199.0	**0.046**	3.0 (3.0,4.0)	3.0 (2.0,4.0)	43.5	0.323	3.0 (2.0,3.0)	2.0 (2.0,3.0)	16.5	0.477
Provider knows insurance	3.0 (2.0,4.0)	2.0 (2.0,3.0)	-190.0	0.102	3.0 (3.0,4.0)	3.0 (2.0,4.0)	38.5	0.230	3.0 (2.0,3.0)	2.5 (2.0,3.0)	20.5	0.621
Difference between need and access (access-need), median (IQR)[a]												
Pronouns	0.0 (-1.0,0.0)	-2.0 (-3.0,0.0)	-199.5	**0.042**	-1.0 (-2.0,0.0)	-0.5 (-2.0,0.0)	71.5	0.849	-1.0 (-2.0,0.0)	-1.0 (-2.5,0.0)	19.5	0.588
Apologizes	0.0 (-1.0,0.0)	-1.0 (-2.0,0.0)	-192.5	0.071	0.0 (-1.0,0.0)	0.0 (-1.0,0.0)	77.0	0.661	0.0 (-1.0,0.0)	-1.0 (-2.0,0.0)	2.5	0.136
Intake Forms	-1.0 (-2.0,0.0)	-2.0 (-3.0,-2.0)	-198.0	0.051	-1.0 (-2.0,0.0)	-1.0 (-2.5,0.0)	55.0	0.614	-1.5 (-2.0,-1.0)	-2.0 (-3.0,-0.5)	24.0	0.765
Words for body parts	0.0 (-1.0,0.0)	-2.0 (-3.0,-2.0)	-222.5	**0.003**	0.0 (-1.0,0.0)	-0.5 (-2.0,0.0)	57.5	0.690	-1.5 (-2.0,0.0)	-1.0 (-2.5,0.0)	30.0	0.979
Gender neutral bathroom	0.0 (-1.0,1.0)	-1.5 (-3.0,-1.0)	-225.0	**0.003**	0.0 (-1.0,0.0)	-1.0 (-2.0,0.0)	58.5	0.724	0.0 (-1.0,0.0)	-1.0 (-2.0,-0.5)	5.0	0.186
Knowledgeable provider	-1.0 (-1.0,0.0)	-2.0 (-1.5,0.0)	-189.5	0.103	-1.0 (-1.0,0.0)	-1.0 (-2.0,0.0)	57.5	0.686	-1.0 (-1.0,0.0)	-1.0 (-2.0,-0.5)	7.0	0.213
Provider can offer referrals	0.0 (-1.0,0.0)	-1.5 (-3.0,0.0)	-197.0	0.051	0.0 (-1.0,0.0)	-1.0 (-2.0,0.0)	56.0	0.638	-1.0 (-1.0,0.0)	-1.5 (-2.0,0.0)	19.5	0.586
Provider knows insurance	-1.0 (-1.0,0.0)	-2.0 (-2.0,0.0)	-193.5	0.072	-1.0 (-1.0,0.0)	-1.0 (-2.0,0.0)	47.0	0.393	-1.0 (-2.0,0.0)	-1.0 (-2.0,-0.5)	27.5	0.913

[a] The need and access scales are each on a 4-point scale ranging from 1-4, with 1 indicating strongly disagree and 4 indicating strongly agree to the gender affirmation in health care scale items. The total possible range for the difference between the access and needs scales is -3 to 3.

[b] All participants quantitatively reported having plans to use medical gender affirmation services at some point

[c] 26 of the 33 participants quantitatively reported needing to access mental health care services in the past year. The analyses for this outcome only include these 26 participants.

Mixed Methods Results: Triangulating the Data. In general, the quantitative findings confirm the qualitative results and do not highlight discrepancies across types of data. Upon examining both qualitative and quantitative findings, Figure 2 (the conceptual model) remains the same; however, the quantitative data highlight some nuances that can be added to the figure. While the health care visit, family and social networks, and health insurance are all identified as influencing the motivation for TGGD youth of color to seek future care, these different factors have varied roles depending on the type of care that a person is seeking.

Quantitative and qualitative data both demonstrate that the health care visit has the greatest influence on the motivation to seek primary care. Participants explained that they recognize the importance of primary care, but often did not find it "worth it" to have to manage all of the potential stigma that they would experience within the health care setting. Quantitative data further highlight this; participants were more likely to report delaying or not using primary care in the past six months when they had less access to gender affirmation in health care and when there was a greater difference between their needs for affirmation and access to it.

For medical gender affirmation services and mental health care services, there were no quantitative differences in experiences with access to gender affirmation across individuals who used these types of care, compared with those who did not use these types of care. While these findings on their own may suggest that gender affirmation within health care may not matter for the motivation to seek these types of care, the qualitative data highlight that, in fact, it may just be that other factors are more important in determining the motivation to seek these types of specialized care. Outside factors, especially family and social networks, and health insurance, were described as playing a large role in determining whether or not an individual was going to seek these types of services. When individuals were not supported by their families, friends, and social environments (e.g., school, workplace), there were additional concerns in accessing medical gender affirmation services. For example, participants expressed concerns about coming out to their families or coming out to others at school. As a result, in some cases, participants decided that it made more sense to wait to access medical gender affirmation services until they were no longer in school or no longer living at home with their families. Health insurance was also highlighted as a salient theme and was generally described as one of the greatest barriers to accessing care. Health insurance was also discussed within the context of families, especially when participants needed to rely on parents or guardians to pay for their care.

Discussion

Overview of Findings. Findings demonstrate that experiences of stigma and gender affirmation matter across all aspects of the health care experience, including before, during, and after the health care visit. These findings are aligned with Minority Stress Theory (Meyer, 1995, 2003). Most research aimed at understanding health care experiences among TGGD populations focus on the patient and provider interaction; however, it is important to understand how experiences of both stigma and gender affirmation play a role through multiple aspects of the health care experience. The health care experience is a dynamic process involving multiple aspects across the entire healthcare experience; this includes seeking a provider and making an appointment up until after an appointment and experiences at a pharmacy. The discussions of all of these aspects of care highlight the need to consider interventions to improve experiences of gender affirmation across all of these facets of the health care experience.

Even though quantitative findings demonstrate that participants' need for affirmation was greater than their access to it across all scale items, it is also important to note that purposive sampling of participants resulted in a sample of participants who specifically had a high need for gender affirmation, and who were stratified across low and high access to gender affirmation in health care. Despite this, qualitative interviews demonstrate that most participants experienced stigma during some aspect of the healthcare experience at some point in their lives, even if they quantitatively reported current access to gender affirmation in health care.

For the qualitative findings, even though all aspects of care were discussed, the discussion of the patient/provider interaction did include the richest data, with participants describing these experiences in great depth. Discussions of patient/provider interactions highlighted the difference between a provider who is not knowledgeable (and intentionally or unintentionally stigmatizing), a provider who can meet a young TGGD patient's basic gender affirmation needs (for example, by asking about and using the patient's correct name and pronoun), and a provider who will go above and beyond for their TGGD patient. The most positive patient/provider interactions included those in which providers helped their patients navigate the health care system (including navigating health insurance and pharmacies); were accepting and understanding; made themselves available; and helped their patients navigate potentially difficult experiences occurring outside of the health care setting. At the very least, participant's felt that it was important for their provider to use the correct pronouns, treat their TGGD patients with respect, and have some basic knowledge about TGGD experiences and TGGD health care. Findings form this analysis are consistent with recommendations made in previous research examining health care experiences with TGGD youth, such as the importance of increased provider knowledge and the consistent use of correct names and pronouns (Corliss et al., 2008; Gridley et al., 2016; Jadwin-Cakmak et al., 2015). However, the current study builds on this previous research by further elucidating the role that stigma and resilience play across the entire health care experience and across multiple types of health care services experienced by trans-masculine and trans-feminine youth of color.

These health care experiences played a role in the motivation to seek care for all types of health care, but to varying degrees. Participants described being more likely to delay or not use primary care due to anticipated stigma, when compared with other types of care; this was also confirmed by the quantitative findings in Phase III of the analysis. For other types of care, especially for those seeking medical gender affirmation services, outside factors beyond the health care experience played a larger role in decisions to seek are. For example, participants discussed concerns with other social environments and social institutions. Participants often described delaying the decision to seek medical gender affirmation services if they were in a school or work environment that was not accepting of their identity or if their families were not accepting of their identity; this was also discussed in the context of being out about one's gender identity within these environments. Much research has focused on delays or non-use of health care due to fears of mistreatment (Grant et al., 2011; James et al., 2016); however, it is also important to understand how experiences and treatment outside of health care environments may also play a role in a decision to delay or not use health care services.

Health insurance was another factor that played a large role in the ability or motivation to seek care. Health insurance coverage often enabled or prohibited a participant's ability to pay for medical gender affirmation services. Discussions of health insurance highlighted issues concerning having a parent or guardian's insurance pay for care; for example, participants with supportive parents who worked to navigate their health insurance companies had different experiences than participants who were rejected by their parents or who were concerned to disclose their identity to their parents due to fears of rejection.

Beyond simply being concerned about having coverage for the cost of medical gender affirmation services, experiences with health insurance were often described as challenging, with concerns about insurance companies using an individual's sex assigned at birth instead of their gender in a patient's records. This highlights the ways that gender affirmation (or non-affirmation) even outside of the direct health care setting can play a role in a young TGGD individual's health care experience and motivation to seek care. This research is aligned with previous research; according to the USTS, one-third of participants reported having a negative experience form their health insurance provider because of their gender identity (James et al., 2016). Even though some research among TGGD populations has quantitatively explored TGGD people's experiences with health insurance companies and a lack of access to health care due to the inability to pay for care (James et al., 2016), more nuanced understandings of experiences with health insurance companies are needed. Further research should examine how stigma and gender affirmation from health insurance companies plays a role in decisions to seek all types of health care.

The Role of Location. Since this is a national study, it is important to highlight the significance of place when considering access to health care for TGGD youth of color. Participants living in different regions of the United States described varying experiences with health care. However, it is also important to note that participants themselves also described experiences of trying to attain care while living or visiting different areas of the country. Participants recognized that location matters when trying to access care. This is aligned with other research that demonstrates that physical, social, and political environments matter for the health of both SGM populations (Hatzenbuehler, 2011; Hatzenbuehler & Keyes, 2013; Perez-Brumer et al., 2015). Little research, however, has really explored the role of these environments on TGGD populations specifically, and more work is needed to better understand environmental factors that influence TGGD youth's ability to access health care services and have gender-affirming health care experiences.

The Role of Identity. When comparing experiences across gender identity, there was not much variation in discussions of both stigma and gender affirmation within health care. The few differences highlighted the type of care that participants were seeking. Most trans-masculine participants discussed experiences or perceptions of gynecological care, while none of the trans-feminine participants discussed this type of care. Perhaps if this study were examining other types of care, such as HIV prevention or treatment, we would see more differences across gender identity. However, in this case, with these participants, experiences with and perceptions of both stigma and gender affirmation were similar.

Race/ethnicity was not salient theme throughout most of the IDIs; however, when it was discussed, race and ethnicity was described as being incredibly important for the health care experience. This finding is aligned with intersectionality frameworks (Bowleg, 2012; Crenshaw, 1991) that demonstrate that experiences with multiple aspects of identity will be alter social interactions and experiences. However, it is likely that race/ethnicity as a theme was not more salient because this was a secondary data analysis of a study examining experiences that TGGD youth more generally have across the HIV continuum of care (Reisner et al., 2017). The larger study disproportionately included TGGD youth of color (with TGGD youth comprising 86.49% of the total sample) and used an intersectionality framework (Bowleg, 2012; Crenshaw, 1991); however, a focus on race/ethnicity was not a primary aim of the study. As a result, these findings can be interpreted as being specific for TGGD youth of color; however, it cannot be determined if these findings are unique for TGGD youth of color. More work aimed at understanding the specific experiences of TGGD youth of color, both inside and outside of health care, is needed. Research applying an intersectionality framework (Bowleg, 2012; Crenshaw, 1991), that explores the experiences of having multiple marginalized identities, may help to further understand the specific needs of these populations and inform public health interventions aimed at improving access to health care and reducing health inequities.

Programmatic Implications. Findings demonstrate the need for health care interventions to go beyond simply training providers. Since stigma and gender affirmation occurring at every aspect of the health care experience was important, it is important to consider the multiple facets of the health care experience and environment and the multiple individuals who TGGD people come into contact with during health care visits. Aligned with what participants expressed in the IDIs, previous research demonstrates that training for providers on TGGD health is inadequate (Honigberg et al., 2017; Obedin-Maliver et al., 2011), and this lack of training can contribute to an increase in the perpetration of stigma targeted at TGGD patients (Poteat et al., 2013). However, current findings build on this to highlight that the lack of training and knowledge also extends to other individuals who TGGD youth interact with in the health care environment.

Cultural humility training should be considered not only for providers and nurses, but also for administrative and front desk staff, pharmacists, and staff at health insurance companies. Distinct from cultural competency, cultural humility is an ongoing lifelong process of critical self-reflection and self-evaluation of the power dynamics occurring between providers and their patients who hold various marginalized identities (Tervalon & Murray-Garcia, 1998). This training recognizes that providers can never become fully competent in the experiences of others; however, they can practice empathy and listen to their TGGD patients from a place of understanding, acceptance, and respect and with the recognition that imbalanced power dynamics exist.

Changes to health care environments should also extend beyond training staff and providers and should include physical changes to the health care environment and health care systems. For example, based on participants' experiences and recommendations, health care environments should include TGGD-inclusive and gender-affirming intake forms and safe and thoughtful standards for how to call names in waiting rooms. Health care settings and health insurance companies should also include inclusive and gender-affirming electronic medical records; these should allow for gender identity options beyond a male/female binary, should enable patients to include their correct gender and name even if it is incongruent with their government ID, and should also allow for changes to gender and names to easily occur within these systems.

Based on these findings, training health care staff and changing health care environments may be especially needed in specific health care settings. Some of the most stigmatizing and difficult health care experiences described occurred within emergency rooms and urgent care clinics. For example, in these settings participants described being refused care or being asked incredibly inappropriate questions. As providers and health care staff begin to get more training on cultural humility, it is important not to forget these environments. Training for providers and changes to health care settings should not only occur in situations where TGGD youth have opportunities to build lasting and trusting relationships with their provider and with others in the health care setting, but also within health care settings where one-time experiences of urgent care is provided.

Additional training and changes to health care settings are also especially needed within mental health care settings. When participants described having positive experiences with mental health care providers, this was described as being very important for their mental health. However, more commonly, mental health was discussed in the context of needing a referral for medical gender affirmation services. In these cases, mental health care providers were not perceived as trustworthy or knowledgeable providers who could actually offer any assistance with mental health concerns. Due to experiences of stigma, TGGD youth disproportionately experience adverse mental health outcomes (such as psychological distress and suicidal ideation) (Bauermeister et al., 2016; Garofalo et al., 2006; Mustanski et al., 2010; Reisner, Biello, et al., 2016). If mental health care providers and individuals in mental health care settings had more training and knowledge on the experiences of TGGD people, they may be more equipped to provide appropriate mental health care to young TGGD patients of color in need of this type of care.

Finally, interventions may also want to consider ways to reduce experiences of stigma and increase gender affirmation outside of health care settings in order to address the motivation and ability for TGGD youth of color to seek care that they need. Participants highlighted how experiences with families, schools, and work all influenced their motivation and ability to seek care, especially medical gender affirmation services. According to participants, acceptance from parents/guardians is especially important for access to medical gender affirmation services. Research demonstrates that for TGGD populations, the ability to access medical gender affirmation services when they are needed/desired is associated with improved self-reported well-being and mental health (Murad et al., 2010; White Hughto & Reisner, 2016). Therefore, in order to increase access to health care, and improve physical and mental health outcomes, interventions should aim to increase education and acceptance among families, peers, and co-workers. Acceptance among parents/guardians is especially important, since TGGD youth often rely on their parents/guardians for resources such as housing, transportation, and payment of healthcare services. These types of interventions should be developed through collaborative partnerships with TGGD youth of color to ensure that they are based on the lived experiences of these communities.

Policy Implications. In addition to describing experiences within and outside of health care experiences and the ways in which they influenced access to care, many participants also discussed structural factors, such as policies, that limit their ability to attain gender-affirming and appropriate health care. Stigma and gender affirmation occur across the Socio-Ecological Model (Bronfenbrenner, 1979, 1994), and therefore, interventions also need to occur at multiple levels, including through policy. Many participants discussed the importance of health insurance. Participants expressed that they felt more included when their health care settings accepted health insurance that covered medical gender affirmation services. Policies on TGGD health insurance coverage varies across states, and therefore, in some states, this may not be possible (Movement Advancement Project, 2018). In order to increase gender affirmation in care and increase access to health care, advocacy is needed at federal and state levels to ensure that TGGD health care is included in private health insurance and Medicaid coverage.

Another barrier for accessing medical gender affirmation services was the need to obtain a mental health referral in order to receive these types of services. The World Professional Association for Transgender Health (WPATH) Standards of Care recommends having TGGD people attain mental health referrals in order to access medical gender affirmation services (Coleman et al., 2012). Though some clinics are switching to an informed consent model, in which the patient is able to initiate medical gender affirmation services without needing a mental health assessment (Reisner, Bradford, et al., 2015; Schulz, 2018; Wylie et al., 2016), many participants still described the experience of needing to attain a referral. Participants described the ways in which this was challenging and non-affirming of their identity. This creates additional barriers because, in addition to finding a provider to offer medical gender affirmation services, TGGD youth also need to find a mental health care provider willing to write a referral. This process was often described as needing to “prove” one’s identity and fit into preconceived notions of what it means to be transgender. In order to avoid these experiences and affirm the identity of individuals seeking medical gender affirmation services, more clinics should consider using an informed consent model. This model trusts that TGGD youth know their identity and know their needs; this model really includes TGGD voices in the process of providing them with care and respects their decisions about their identity and health care.

Research Implications. Findings from this study build on Minority Stress Theory (Meyer, 1995, 2003) and demonstrate that experiences of stigma and resilience matter for health care among trans-feminine and trans-masculine youth of color. More specifically, this study demonstrates the importance of both stigma and gender affirmation within health care settings. However, experiences of stigma and gender affirmation outside of care also mattered when making decisions about health care. As a way to further understand gender affirmation, additional work is needed to measure gender affirmation across multiple settings. Furthermore, even though the items on the scales in this study were aligned with what participants described, additional items describing other aspects of the health care experience (e.g., seeking providers, making health care appointments, experiences with pharmacies) should also be considered. In addition, additional aspects of the patient/provider interaction may also be important to consider for measurement of gender affirmation, including being treated with respect and support navigating multiple aspects of the health care system.

An intersectionality framework (Bowleg, 2012; Crenshaw, 1991) should be applied when trying to understand experiences of gender affirmation among TGGD youth of color. Further research is needed to understand the particular experiences of TGGD youth of color, as well as other diverse and specific TGGD populations. As an emerging area of research, research occurring with TGGD populations often focuses on TGGD populations (and occasionally TGGD youth) more broadly. However, some research demonstrates that TGGD populations of color experience a disproportionate burden of stigma, with higher rates of systematic vulnerability (e.g., homelessness, poverty) and adverse health outcomes (HIV, psychological distress) (James et al., 2016). Understanding the specific needs and experiences of these communities is essential in order to ameliorate the effects of stigma and reduce health inequities (Frohlich & Potvin, 2008).

Limitations. There were some limitations in this study. This is a mixed methods study with a purposive sample of trans-masculine and trans-feminine youth of color. Therefore, caution should be taken before generalizing data findings. Though the parent study included gender diverse individuals who do not identify as trans-masculine or trans-feminine, after limiting the sample based on criteria from the quantitative surveys, there were not enough other gender diverse individuals to include as a separate group for comparison in the analysis. Since other gender diverse youth of color (who do not identify as trans-feminine or trans-masculine) have unique experiences from trans-masculine and trans-feminine populations, it would not have been appropriate to include them in the analysis without the ability to understand how their experiences are unique. Furthermore, this is a secondary data analysis of the AVA study, which focused on understanding experiences that TGGD youth have across the HIV continuum of care. The AVA study applied an intersectionality approach and recruited a diverse sample of TGGD youth, comprised mostly of TGGD youth of color (86.49% of the entire sample). However, this study focused on more general experiences of TGGD youth and therefore did not include specific quantitative measures or qualitative probes on experiences of race/ethnicity and racism. Additional research is needed to further explore how these experiences influence both stigma and gender affirmation within health care among TGGD youth of color.

In addition, it is also important to note that when conducting the quantitative analysis in Phase III of the study, many tests were performed in order to understand the specific components of the gender affirmation scales. For a quantitative analysis, the sample size was very small (ranging from 26 to 33, depending on the specific analytic test), and the purpose of the Mann Whitney U tests was not to test hypotheses, but rather to triangulate data and confirm qualitative findings. Therefore, non-parametric tests were used to account for the small sample size and non-normal distribution of the data; however, no corrections were made to account for the multiple comparisons.

Despite these limitations, this study also had many strengths. AVA used community-based participatory methods for study development, recruitment, and data collection. The AVA study also included diverse participants and was mostly comprised of people of color; as a result, this analysis was able to explore the specific experiences of people of color. Furthermore, the mixed methods approach allows for an in-depth understanding of the experiences of both stigma and gender affirmation within healthcare for trans-feminine and trans-masculine youth of color living in 14 different U.S. cities.

Conclusions. Findings build on previous research to highlight TGGD youth of color's experiences of both stigma and gender affirmation across all aspects of the health care experience. More work using a resilience framework, and focusing on gender affirmation both inside and outside of health care, is needed in order to fully understand the experiences of TGGD youth of color. Public health interventions that consider how to foster gender affirmation across all aspects of health care, and also outside of the health care environment, may help to increase access to health care and reduce health inequities experienced by TGGD youth of color.

Chapter III: Stigma, Resilience, and Health Care Use among Transgender and Other Gender Diverse Youth in the United States

Introduction

Health Care Among Transgender and Other Gender Diverse Youth. In the United States, experiences of stigma targeted at transgender and other gender diverse (TGGD) youth create health inequities, contributing to poorer health outcomes and limited access to health care services (Bauermeister et al., 2016; Corliss et al., 2008; Garofalo et al., 2006; Mustanski et al., 2010). Limited health care access is especially problematic because TGGD youth have unique health care needs. Stigma creates health inequities across a number of adverse health outcomes (e.g., psychological distress, suicide, HIV) and health care is important as a way to prevent and/or treat these conditions (Chen et al., 2016; Garofalo et al., 2006; Grossman & D'augelli, 2006; Reisner, Radix, et al., 2016). In addition, as identity develops during adolescence and young adulthood and as TGGD youth transition from pediatric to adolescent or adult care, it is important to find providers and health care settings that are affirming of an individual's TGGD identity (e.g., where correct pronouns and names are used, medical forms are inclusive of TGGD identities, etc.) (Crowley et al., 2011; Jadwin-Cakmak et al., 2015; Reisner, Radix, et al., 2016). However, experiences of stigma also create barriers with accessing care, with TGGD populations being more likely than the general population to report delaying or not receiving the health care services that they need (Cruz, 2014; James et al., 2016; Rider et al., 2018).

In addition to having general health care needs, some TGGD youth may also seek medical gender affirmation services (e.g., hormone replacement treatment, surgery). For those who seek medical gender affirmation services, this type of care is especially important and has been found to be associated with improved mental health and well-being (Murad et al., 2010; White Hughto & Reisner, 2016). For TGGD adolescents and young adults, this is also an essential time to be seeking these services, since, for some, medical gender affirmation services can play an important role in gender identity development (Jadwin-Cakmak et al., 2015). However, when specifically seeking medical gender affirmation services, experiences of trans-related stigma may also create barriers for TGGD youth to access care (Gridley et al., 2016). Some research has addressed how stigma occurring within health care settings and health care policies contributes to health care use among TGGD populations (including among both youth and adults) (Corliss et al., 2008; Gridley et al., 2016; Hughto et al., 2015); however, less is known about how stigma and resilience more broadly (i.e., experiences occurring both within and outside of health care settings) may contribute to access to different types of health care (e.g., primary care, medical gender affirmation services) among TGGD youth.

Stigma and Health Care. Minority Stress Theory (Meyer, 1995, 2003) is a useful lens for understanding how stigma may influence access to care for TGGD people. Minority Stress Theory characterizes experience of stigma as occurring through both distal and proximal minority stressors (Meyer, 1995, 2003). Distal stressors are interpersonal processes that occur through the interactions that TGGD people have with other individuals or groups in society (Meyer, 1995, 2003); for TGGD populations, these can include experiences of discrimination, victimization, rejection, and gender non-affirmation (i.e., mis-gendering) (Hendricks & Testa, 2012; Testa et al., 2015). Proximal minority stressors are intrapersonal processes that are based on an individual's internalized appraisal of interpersonal (i.e., distal) minority stressors (Meyer, 1995, 2003). These include internalized stigma, anticipated stigma, and identity concealment (Hendricks & Testa, 2012; Testa et al., 2015).

The 2015 U.S. Transgender Survey (USTS), conducted among a large convenience sample of TGGD people across the United States, found that TGGD people experience a great deal of stigma (including both distal and proximal minority stressors) across multiple settings, including, for example, in employment, housing, education, public accommodations, the criminal justice system, and health care (James et al., 2016). According to Minority Stress Theory, these experiences of stigma across multiple settings can influence mental and physical health and contribute to health inequities (Meyer, 1995, 2003).

A great amount of research has also found that these minority stressors are associated with a variety of health behaviors and health outcomes among TGGD youth, including, for example, psychological distress, suicidal ideation, sexual risk-taking behaviors, and intimate partner violence (Garofalo et al., 2006; Goldenberg, Jadwin-Cakmak, & Harper, 2018; Grossman et al., 2016; Reisner, Greytak, et al., 2015; Wilson et al., 2016). In addition, some research has also found that minority stressors specifically occurring within the health care setting may influence health care use (Bradford et al., 2013; Goldenberg et al., in press; Jaffee et al., 2016). This research has found that experiences of discrimination and victimization within health care settings and the anticipation of stigma in these settings often create barriers for accessing health care (Bradford et al., 2013; Goldenberg et al., in press; Gridley et al., 2016; Jaffee et al., 2016).

Provider discrimination towards TGGD people can occur in many ways and is commonly identified across qualitative studies as occurring through patient mis-gendering, refusal to provide care, displays of discomfort, verbal abuse, and providing poorer quality of care (Corliss et al., 2008; Dowshen, Lee, Franklin, Castillo, & Barg, 2017; Gridley et al., 2016; Kosenko et al., 2013;

Owen-Smith et al., 2016). These experiences of discrimination within health care settings can contribute to the anticipation of stigma, which can contribute to delays or non-use of health care services (Hatzenbuehler, 2009). In fact, according to the USTS, nearly one-quarter of participants reported not using health care services in the past year due to fears of mistreatment (James et al., 2016). Taken together, these findings demonstrate that even though Minority Stress Theory posits that there is a relationship between minority stressors and physical and mental health, it is also important to understand the role that these minority stressors (both distal and proximal) play in the utilization of health care. In addition, since experiences of stigma across multiple settings have been found to influence experiences of mental and physical health (Garofalo et al., 2006; Goldenberg et al., 2018; Grossman et al., 2016; Reisner, Greytak, et al., 2015; Wilson et al., 2016), it is also important to understand how general experiences of stigma (not just stigma experienced within health care) may influence access to health care use.

Resilience and Health Care. Minority Stress Theory also explains how resilience can influence health. Resilience refers to a social process that occurs when an individual is exposed to a stressor, such as minority stress, and is able to access resources (e.g., social support, community connectedness) and/or employ coping mechanisms (e.g., self-affirmation) to overcome the negative health effects of being exposed to minority stressors (Fergus & Zimmerman, 2005; Meyer, 2015). Though less-commonly examined, some research has identified that resilience also plays an important role in health care use among TGGD youth (Goldenberg et al., in press). For example, one study conducted among Black TGGD youth in 14 U.S. cities found that having gender affirmation needs met within health care settings (generally characterized as health care settings that are respectful and affirming of TGGD identities) was associated with fewer delays and non-use of health care (Goldenberg et al., in press). In addition, this study found that gender affirmation in health care moderated the relationship between anticipated stigma and non-use of care; in this case, anticipated stigma was only associated with reduced use of care among individuals who did not have their gender affirmation needs met (Goldenberg et al., in press). This previous research suggests that stigma and resilience matter for health care use among TGGD youth; however, more research is still needed in order to understand how stigma and resilience processes occurring across a variety of settings influence experiences of health care use (and non-use).

This research is also needed to better understand how experiences of stigma and resilience may have a varied influence across different types of health care. TGGD youth may have different motivations for accessing different types of care (e.g., primary care, medical gender affirmation services, gynecological services, emergency care), and the barriers for accessing these different types of health care services may also vary. Therefore, the ways in which stigma and resilience influence different types of care may vary. However, more is needed to understand the nuanced relationships between stigma, resilience, and health care use across different types of health care.

Paper Objective and Hypotheses. This study will build on Minority Stress Theory to examine if stigma (i.e., minority stressors) and resilience factors are associated with different types of health care use among TGGD youth in the United States, including general experiences with health care as well as medical gender affirmation services. This study will build on previous knowledge of Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) by examining how Minority Stress Theory applies to health care use and how these experiences apply specifically to youth between the ages of 15 and 24. It is hypothesized that minority stressors will be associated with more difficulties accessing general health care and less use of medical gender affirmation services and that resilience will be associated with fewer difficulties accessing health care and more use of medical gender affirmation services.

Methods

Project Moxie. This is a secondary data analysis of a baseline survey from the Moxie study, a randomized controlled trial testing a telehealth home-based HIV testing intervention for TGGD youth throughout the United States. More details on this study, including information about data collection and recruitment, are described in the project's protocol paper (Stephenson, Metheny, Sharma, Sullivan, & Riley, 2017)

Study Sample. The total sample includes 202 TGGD youth from across the United States. Since this analysis is part of a larger study, some of the eligibility criteria are specific to a participant's ability to participate in the larger study's intervention. In order to be included in this study participants had to: (1) be between the ages of 15 and 24 years; (2) have a gender identity that is different from their sex assigned at birth; (3) reside in the United States; (4) report that they are not living with HIV (or do not know their status); (5) be willing to have HIV test kits delivered to an address that they provide; and (6) have access to a computer, smartphone, or tablet that can support the HIPAA-compliant video-chat software used in the intervention.

Recruitment. Participant recruitment took place online. Participants were recruited through online advertisements that were placed on a variety of social media platforms (e.g., Facebook, Instagram), in advocacy groups and sites that were specifically aimed at TGGD youth, and through online dating sites (e.g., Scruff). Advertisements included images of racially and ethnically diverse young TGGD people in order to encourage participation among individuals from a variety of racial/ethnic backgrounds. In addition to using advertisements, information about the study was also publicized through the social media accounts of transgender community stakeholders.

Procedures. Participants who clicked on study advertisements (or links from the pages of transgender media personalities) were taken to a website that included basic information about the study and a short description of the study activities. Participants who were interested in the study and chose to continue were then taken to a website where they were able to provide informed consent. Due to the sensitive nature of the study and potential safety concerns, participants between the ages of 15-17 were not required to attain consent from a parent or guardian and instead provided assent.

After providing electronic informed consent (or assent), participants completed a short eligibility screener. If eligible for study participation, participants registered for the study and provided contact information. Next, participants received an email with a link to the baseline survey. The baseline survey was completed online and included a total of 205 possible questions (with most participants seeing fewer questions depending on survey logic) and took an average of approximately 80 minutes to complete. Survey questions included topics such as: demographic factors, health care experiences, systematic vulnerability, sexual behaviors, and HIV testing. Of the individuals who were eligible for the study (n=698), 209 registered for the study and provided legitimate contact information (120 study accounts were found to be fraudulent). Of those 209, most completed the baseline survey, resulting in a total of 202 participants.

Measures. For this analysis, the measures include two health care use outcome variables, minority stress variables, and other covariates.

Health care outcomes. Two health care outcomes are included in this analysis: one demonstrating difficulty accessing health care in general and one focusing specifically on the use of medical gender affirmation services.

Difficulty accessing health care is measured as a binary (yes/no) variable based on the answer to the question, “In the past six months, have you had any problems getting health or medical services because of your gender identity or gender presentation?” This variable is aligned with previous studies that have examined health care use among TGGD people through challenges in getting care due to fear of mistreatment (Jaffee et al., 2016; James et al., 2016; Seelman et al., 2017).

Use of medical gender affirmation services is measured through a question asking participants if they had ever accessed any medical interventions to affirm their gender (e.g., hormones, surgery). Participants indicated if they had accessed these services, if they had not accessed these services but planned on doing so at some point, or if they did not want to access these services. Individuals who did not want to access these services (n=45; 22.28% of the sample) were not included in the analysis for this outcome, since accessing medical gender affirmation services is not relevant for them.

Distal minority stressors. In this analysis, distal minority stressors include gender-related discrimination, victimization, rejection, and non-affirmation. Scales are used to examine each of these measures; the development of these scales is described in Testa et al. (2015). These measures were created for TGGD people and have been previously validated and used among TGGD people (Testa et al., 2015). However, to our knowledge, these scales have not been previously tested specifically among TGGD youth. All scales are described in more detail in Table 5.

Gender-related discrimination is a process where an individual is treated poorly or denied access to resources (e.g., being denied housing) specifically because of their gender identity (Goffman, 1963; Testa et al., 2015). This type of treatment can limit access to resources and may be an especially important barrier for accessing health care services. The gender-related discrimination scale asks about difficulty attaining specific services because of one's gender identity or expression.

Gender-related victimization refers to experiences of violence (including sexual, physical, and verbal violence and harassment) targeted at individuals because of their gender identity or gender expression (Hendricks & Testa, 2012; Testa et al., 2015). The gender-related victimization scale asks participants about different experiences of violence related to their gender identity or expression.

Gender-related rejection can be defined as the experience of being unwanted or unwelcome by individuals or groups (e.g., family members, friends, religious communities). Experiences of rejection can be especially harmful if they limit access to social resources, like resources or social support, which are aspects of resilience (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Trujillo et al., 2016). The gender-related rejection scale asks about experiences of rejection specifically related to one's experience of their gender identity or expression.

Mis-gendering, also referred to as non-affirmation of gender identity (Hendricks & Testa, 2012; Testa et al., 2015), refers to an interpersonal process in which an individual's gender is not affirmed or mistaken by others. The items on the non-affirmation of gender identity scale refer to how others perceive and accept (or do not accept) an individual's gender identity.

Proximal minority stressors. Internalized stigma and anticipated stigma are the two proximal minority stressors included in this analysis (Table 5). Measures for both constructs were created by Testa et al. (2015) and have been previously validated and used among TGGD people. All of the proximal minority stress measures from Testa et al. (2015) were used in this analysis except for the nondisclosure scale measuring identity concealment because these questions were not asked in the larger study's survey.

Internalized trans-related stigma. Internalized stigma can be defined as shame about one's own identity that occurs when an individual internalizes societal stigma and believes the negative attributes that are assigned to their identity (Goffman, 1963; Meyer, 1995). Testa et al.'s (2015) internalized trans-related stigma scale asks participants to indicate their agreement on statements about how they feel about their own gender identity. For example, questions include statements such as, "I resent my gender identity or expression" and "I feel that my gender identity or expression is embarrassing."

Anticipated trans-related stigma. Anticipated stigma is defined as an expectation that distal minority stressors will occur (e.g., rejection, discrimination, victimization) or an experience of vigilance (i.e., a continuous and repeated expectation that stressful and stigmatizing events will occur; Meyer, 1995, 2003). For this study, anticipated trans-related stigma was examined using Testa et al.'s (2015) negative expectations of the future scale, which measures the expectation that something negative would occur if the participant were to disclose their gender identity.

Resilience variables. Minority Stress Theory (Meyer, 1995, 2003) also addresses factors that increase resilience and ameliorate the effects of minority stress on health. Resilience factors exist across Bronfenbrenner's Socio-Ecological Model (1979), including both internal and external processes that occur at the intrapersonal, interpersonal, community, and societal levels

(Fergus & Zimmerman, 2005; Meyer, 2015). For this analysis, resilience factors include a process of self-affirmation (an intrapersonal factor), a measure for social support (an interpersonal factor), and a measure of community connectedness (a community-level factor); all measures are described in Table 5.

Self-affirmation is an intrapersonal process and refers to an internalized feeling of pride related to one's identity. For this analysis, an adapted version of Testa et al.'s (2015) pride scale is used to measure self-affirmation. This scale is adapted because it includes seven statements reflecting an individual's feeling of pride in their gender identity or expression (Testa et al.'s original scale includes eight items).

Social support. Minority Stress Theory operationalizes resilience at intrapersonal and community levels through pride and community connectedness (Meyer, 1995, 2003, 2015). However, a great amount of empirical literature examining resilience among TGGD populations focus on measurements of interpersonal social support. This research highlights that interpersonal support is associated with improved health outcomes (Nemoto et al., 2011; Simons et al., 2013; Testa et al., 2014; Trujillo et al., 2016; Wilson et al., 2016). Therefore, social support was included as a variable in this analysis. Social support was measured based on a brief version of the Social Support Survey used in the Medical Outcomes Study (Sherbourne & Stewart, 1991).

Community connectedness is also an important aspect of resilience, with community connectedness being linked with greater access to community-level support and resources for individuals who strongly identify and have a sense of belonging with their communities (Meyer, 2015; Pflum et al., 2015). For this study, community connectedness was measured through the scale developed by Testa et al. (2015). This scale asks participants about their experiences being connected and belonging to a TGGD community.

Table 5: Scale descriptions for minority stress constructs

Scale	No. of items	Response options (score)	Scale Range	Sample Items	Alpha
Distal Minority Stressors					
Gender-related discrimination (Testa et al., 2015)	5	Never (0) Yes, before age 18 (1) Yes, after age 18 (1) Yes, in the past year (1)	0-5	• "I have had difficulty finding housing or staying in housing because of my gender or gender expression" • "I have experienced difficulty getting identity documents that match my gender"	0.72
Gender-related victimization (Testa et al., 2015)	5	Never (0) Yes, before age 18 (1) Yes, after age 18 (1) Yes, in the past year (1)	0-5	• "I have been verbally harassed or teased because of my gender or gender expression (For example, being called 'it')" • I have been pushed, shoved, hit, or had something thrown at me because of my gender or gender expression"	0.77
Gender-related rejection (Testa et al., 2015)	6	Never (0) Yes, before age 18 (1) Yes, after age 18 (1) Yes, in the past year (1)	0-6	• "I have had difficulty finding a partner or have had a relationship end because of my gender or gender expression" • "I have been rejected by or made to feel unwelcome by a religious community because of my gender or gender expression"	0.73
Gender non-affirmation (Testa et al., 2015)	6	Strongly disagree (0) to Strongly agree (4)	0-24	• "I have difficulty being perceived as my gender" • "I have to be 'hypermasculine' or 'hyperfeminine' in order for people to accept my gender"	0.87
Proximal Minority Stressors					
Internalized trans-related stigma (Testa et al., 2015)	8	Strongly disagree (0) to Strongly agree (4)	0-32	• "I resent my gender identity or expression" • "I feel that my gender identity or expression is embarrassing"	0.90
Anticipated trans-related stigma (Testa et al., 2015)	9	Strongly disagree (0) to Strongly agree (4)	0-36	• "If I express my gender identity, others wouldn't accept me" • "If I express my gender identity, people would think I am mentally ill or 'crazy'"	0.95
Resilience Factors					
Self-affirmation (Testa et al., 2015)	7	Strongly disagree (0) to Strongly agree (4)	0-28	• "My gender identity or expression makes me feel special and unique" • "I am proud to be a person whose gender identity is different from my sex assigned at birth"	0.88
Social support (Sherbourne & Stewart, 1991)	4	None of the time (0) to All of the time (3)	0-12	• "How often is someone available to help with daily chores if you are sick?" • "How often is someone available to get together with you or relaxation?"	0.80
Community Connectedness (Testa et al., 2015)	5	Strongly disagree (0) to Strongly agree (4)	0-20	• "I feel connected to other people who share my gender identity" • "I feel isolated and separate from other people who share my gender identity" (reverse coded)	0.79

Covariates include demographic variables and health insurance coverage. Since the sample sizes for these analyses are small, few covariates were included in order to increase the power to detect significant relationships (Peduzzi, Concato, Kemper, Holford, & Feinstein, 1996).

Demographic variables include age, gender identity, race/ethnicity, and the U.S. region where the participant resides. Age was measured as a continuous variable, in years. Gender identity was measured as a categorical variable, including: trans-feminine, trans-masculine, other gender diverse who were assigned male at birth (AMAB), other gender diverse who were assigned female at birth (AFAB). Race/ethnicity was measured as a binary variable, based on whether or not an individual identifies as being non-Hispanic White. The survey asked about six racial categories (White/Caucasian, Black/African American, Native American/Alaska Native, Asian, Native Hawaiian/Other Pacific Islander, Other) and also asked (separately) about having a Hispanic/Latino ethnicity. However, there were too few people in each racial/ethnic category to include these as separate racial/ethnic groups. Finally, U.S. Region was measured as a categorical variable, based on the four regions defined by the U.S. Census Bureau: Northeast, Midwest, South, and West (U.S. Census Bureau, 2010).

Health Insurance. The ability to pay for health care is an important factor contributing to the accessibility of health care services (James et al., 2016). Therefore, a binary variable was used to indicate whether or not participants had any type of health insurance coverage (e.g., Medicaid, private or work insurance, school-based insurance).

Analysis. Data were analyzed using the STATA 14 software package (College Station, Texas). Principal components analysis (PCA) was used to reduce data and logistic regression was used to determine the relationships between the Minority Stress Theory variables and health care use outcomes, with separate models being fit for each health care use outcome.

Cleaning the data. Data were assessed for meaningful missingness and multicollinearity. Since fewer than 10% of responses were missing on each variable, all responses with missing data were excluded from this analysis (n=31), resulting in a total sample size of 171. An assessment of multicollinearity demonstrated that none of the independent variables were strongly correlated with each other (Cohen, Cohen, West, & Aiken, 2013).

Descriptive statistics and bivariate analyses. Descriptive statistics were computed to assess the sample distribution and the patterns of health care use (including difficulty accessing health care and use of medical gender affirmation services) across all of the variables. Bivariate analyses tested the independent relationships between each independent variable and both outcomes using chi-square tests for categorical variables and t-tests for continuous variables. An alpha level of 0.05 was used to determine significance for all analyses in the study.

Principal components analysis. For all of the Minority Stress Theory scales (distal minority stressors, proximal minority stressors, and resilience variables), a principal components analysis was conducted to reduce data. The sample size for each model was small (171 for the entire sample and 131 for the sample of participants who reported wanting medical gender affirmation services) and reducing the number of variables in the models helps to increase the power to detect significant relationships (Peduzzi et al., 1996). PCA aims to explore underlying clusters in the data through the development of latent constructs made up of parceled survey items (Abdi & Williams, 2010). PCA also reduces data by creating “a more parsimonious understanding of measured variables” (Hayton, Allen, & Scarpello, 2004). For the PCA, each scale measuring a distal minority stressor, proximal minority stressor, or resilience variable was kept intact and was inserted into the analysis as a separate variable. Each component included in the analysis had an Eigen value greater than 1 and comprised at least 10% of the explained variance (Hayton et al., 2004). All items with a factor loading of less than 0.4 were not included as part of a component (Matsunaga, 2010). Finally, internal reliability of the components was examined using the Cronbach's alpha. Scores were generated for each component, assigned to each participant, and examined as independent variables using logistic regression.

Logistic regression. After the PCA determined the underlying clusters in the data, logistic regression was used to determine the relationships between the components (made up of Minority Stress Theory variables) and each health care use outcome (difficulty accessing health care services and the use of medical gender affirmation services), with a separate model being fit for each outcome. The components and the covariates were included as independent variables in the logistic regression models. Minority Stress Theory scales that did not fit into any components (i.e., the factor loading was less than 0.4 for all components) were also included separately as independent variables in the analysis. First, main effects models were fit with all of the components and additional independent variables. Then, additional models were fit to test interactions between theoretically-relevant components, with each interaction term being tested in a separate logistic regression model.

Results

Descriptive Statistics and Binary Analyses. Descriptive statistics, including samples for both health care use outcomes (with one sample including only participants who reported wanting medical gender affirmation services and one examining the entire sample), are included in Table 6. The average age of both samples is just over 19 years old, with approximately one-third of the samples having participants below the age of 18. Participants who were assigned female at birth (including trans-masculine and other gender diverse individuals) make up around 70% of each sample, with 43% (n=73) of the entire sample and 56% (n=73) of the sample wanting medical gender affirmation services identifying as trans-masculine. The participants are also mostly non-Hispanic White (66% of the entire sample, n=113; 69% of the sample wanting medical gender affirmation services, n=90) and have health insurance coverage (89% of the entire sample, n=152; 86% of the sample wanting medical gender affirmation services, n=116). Participants are distributed fairly evenly across the United States, with more participants living in the Southern U.S. region (38% of the entire sample, n=65; 40% of the sample wanting medical gender affirmation services, n=52).

When examining the prevalence of the health care use, 26% (n=44) reported having difficulty accessing health care and 38% (n=50) of individuals who wanted medical gender affirmation services had accessed these services at some point in their lives. Most of the binary analyses were not statistically significant; however, participants who were older ($p<0.001$) and trans-feminine or trans-masculine ($p=0.003$) were more likely to report accessing medial gender affirmation services.

Table 6: Descriptive Statistics and Binary Analyses Examining Minority Stress Model Variables, Covariates, and Health Care Use

		Difficulty Accessing Care (n=171)			**Use of medical gender affirmation services (n=131)**		
	Range	**Sample distribution**	**Had difficulty accessing care**	**p-value**	**Distribution who want medical gender affirmation services**	**Used medical gender affirmation services**	**p-value**
Gender-related discrimination, mean (SD)	0-5	2.58 (1.56)	2.70 (1.66)	0.536	2.60 (1.51)	2.56 (1.66)	0.798
Gender-related victimization, mean (SD)	0-5	2.22 (1.64)	2.23 (1.61)	0.981	2.24 (1.72)	2.28 (1.71)	0.822
Gender-related rejection, mean (SD)	0-6	3.68 (1.81)	3.93 (1.77)	0.282	3.66 (1.83)	3.60 (1.94)	0.755
Mis-gendering, mean (SD)	0-21	15.31 (5.37)	15.77 (5.47)	0.509	15.44 (8.38)	14.92 (5.95)	0.375
Internalized trans-related stigma, mean (SD)	1-32	17.23 (8.48)	16.93 (8.17)	0.784	17.71 (8.38)	18.68 (7.60)	0.300
Anticipated trans-related stigma, mean (SD)	0-36	20.04 (10.16)	19.95(8.76)	0.952	20.15 (9.91)	18.08 (10.56)	0.060
Self-affirmation, mean (SD)	0-28	14.79 (6.86)	15.77 (6.47)	0.271	14.77 (6.69)	14.26 (6.46)	0.583
Social support, mean (SD)	0-12	6.29 (2.78)	6.11 (2.97)	0.633	6.27 (2.69)	6.30 (2.64)	0.933
Community connectedness, mean (SD)	0-20	12.56 (4.60)	12.45 (4.02)	0.866	12.82 (4.56)	12.60 (4.31)	0.670
Age, mean (SD)	15-24	19.12 (2.61)	19.70 (2.60)	0.110	19.06 (2.57)	20.18 (2.43)	**<0.001**
Gender identity, % (n)				0.701[a]			**0.003[a]**
Trans-feminine		17.54 (30)	20.00 (6)		19.08 (25)	52.00 (13)	
Trans-masculine		42.69 (73)	28.77 (21)		55.73 (73)	45.21 (33)	
Other gender diverse (AMAB)		12.87 (22)	18.18 (4)		9.16 (12)	8.33 (1)	
Other gender diverse (AFAB)		26.90 (46)	28.26 (13)		16.03 (21)	14.29 (3)	
Race/ethnicity, % (n)				0.256			0.522
Non-Hispanic White		66.08 (113)	23.01 (26)		68.70 (90)	40.00 (36)	
Racial minority		33.92 (58)	31.03 (18)		31.30 (41)	34.15 (14)	
Region, % (n)				0.907			0.120
Northeast		14.04 (24)	25.00 (6)		16.03 (21)	57.14 (12)	
Midwest		28.07 (48)	29.17 (14)		25.95 (34)	35.29 (12)	
South		38.01 (65)	23.08 (15)		39.69 (52)	28.85 (15)	
West		19.88 (34)	26.47 (9)		18.32 (24)	45.83 (11)	
Health insurance, % (n)				0.240			0.406
Does not have insurance coverage		11.11 (19)	36.84 (7)		11.45 (15)	26.67 (4)	
Has insurance coverage		88.89 (152)	24.34 (37)		88.55 (116)	39.66 (46)	
Total, %(n)		**171**	**25.73 (44)**		**131**	**38.17 (50)**	

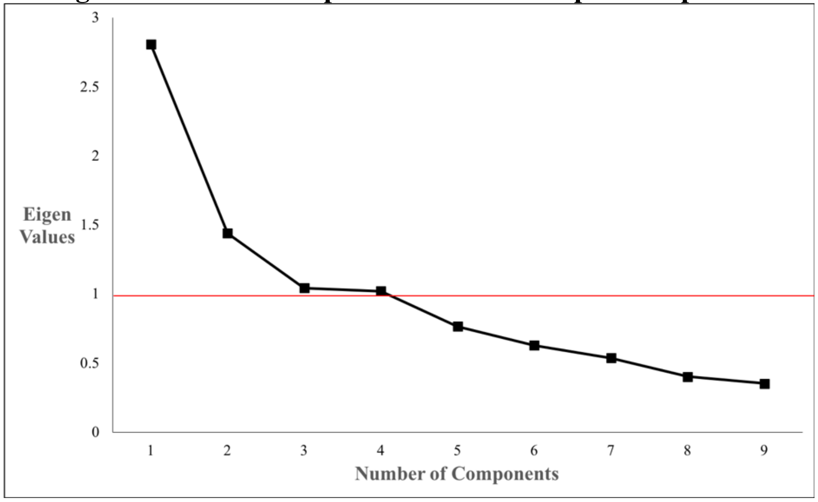
[a] Fisher's exact test was used because some cells are <5

PCA Results. The PCA resulted in three components with an Eigen value above 1, comprising a total of 58.81% of the variance (Table 7). A fourth component had an Eigen value marginally above 1 (1.02; see Figure 3). However, when examining all four components, the internal reliability of each component was weak, with one component having a Cronbach's alpha of 0.14; therefore, the PCA was limited to including only three components. Component 1 (Eigen value=2.81, Variance explained=28.25%) can be described as enacted stigma and is comprised of three variables: gender-related discrimination (Factor loading=0.53), gender-related victimization (Factor loading=0.49), and gender-related rejection (Factor loading=0.44); this component demonstrated good internal reliability (alpha=0.76). Component 2 (Eigen value=1.44, Variance explained=18.80%) can be categorized as a resilience score and includes internalized trans-related stigma (Factor loading=-0.60), self-affirmation (Factor loading=0.63), and community connectedness (Factor loading=0.42); this component also demonstrated reasonable internal reliability (alpha=0.52). The third component was comprised of only one variable (social support; factor loading=0.85), accounting for 11.76% of the variance (Eigen value=1.04).

Table 7: Principal Components Analysis Results

	Component 1	**Component 2**	**Component 3**
Gender-related discrimination	0.53		
Gender-related victimization	0.49		
Gender-related rejection	0.44		
Mis-gendering			
Internalized trans-related stigma		-0.60	
Anticipated trans-related stigma			
Self-affirmation		0.63	
Social support			0.85
Community connectedness		0.42	
Eigen Value	2.81	1.44	1.04
Variance Explained	28.25%	18.80%	11.76%
Cronbach's Alpha	0.76	0.52	

Figure 3: Eigen Values for Components from Principal Components Analysis



Logistic Regression Results. The logistic regression models examining each health care use outcome included computed scores from each of the three components, the additional minority stress variables not included in the components (mis-gendering and anticipated stigma), and the additional covariates.

Difficulty accessing care. None of the components or additional minority stress variables were significantly associated with difficulty accessing health care (Table 8). In fact, the only significant variable in this model was age; for each additional year of a participant's age, they were 16% more likely to report having difficulty accessing health care services (p=0.049).

Two separate interaction terms were also examined (in separate logistic regression models, each examining difficulty accessing care), including the interaction between resilience (component 2) and enacted trans-related stigma (component 1) as well as resilience (component 2) and anticipated trans-related stigma (included as its own variable). These interaction terms are grounded in Minority Stress Theory (Hendricks & Testa, 2012; Meyer, 1995, 2003) and a conceptualization of resilience that recognizes that resilience factors may moderate the relationship between a stressor (i.e., enacted and anticipated stigma) and a health outcome (i.e., health care use outcomes) (Fergus & Zimmerman, 2005).

Table 8: Main Effects Logistic Regression Results Examining the Relationships Between Minority Stress Components and Health Care Use Among Transgender and Other Gender Diverse Youth

	Difficulty accessing care (n=171)			Used medical gender affirmation services (n=131)		
	Odds Ratio	**95% CI**	**p-value**	**Odds Ratio**	**95% CI**	**p-value**
Enacted stigma (Component 1)[a]	1.03	0.70,1.52	0.884	1.04	0.64,1.68	0.867
Resilience (Component 2)[b]	1.12	0.82,1.53	0.475	**1.73**	**1.15,2.59**	**0.008**
Social support (Component 3)[c]	0.86	0.57,1.30	0.474	1.35	0.80,2.27	0.267
Mis-gendering	1.03	0.94,1.14	0.523	0.93	0.83,1.05	0.220
Anticipated trans-related stigma	0.99	0.95,1.05	0.904	**0.92**	**0.86,0.98**	**0.012**
Age	**1.16**	**1.00,1.34**	**0.049**	**1.63**	**1.29,2.07**	**<0.001**
Gender identity						
Trans-feminine	Reference Group			Reference Group		
Trans-masculine	1.96	0.63,6.13	0.247	1.02	0.31,3.41	0.967
Other gender diverse (AMAB)	0.82	0.18,3.60	0.788	**0.07**	**0.005,0.99**	**0.049**
Other gender diverse (AFAB)	1.81	0.54,6.02	0.334	**0.08**	**0.01,0.47**	**0.005**
Race/ethnicity						
Non-Hispanic White	Reference Group			Reference Group		
Racial minority	1.85	0.86,3.99	0.115	0.78	0.27,2.21	0.635
Region						
Northeast	Reference Group			Reference Group		
Midwest	1.45	0.44,4.77	0.540	0.24	0.05,1.03	0.055
South	1.15	0.36,3.73	0.810	**0.21**	**0.05,0.84**	**0.028**
West	1.23	0.35,4.40	0.745	1.06	0.26,4.35	0.940
Health insurance						
Does not have insurance coverage	Reference Group			Reference Group		
Has insurance coverage	0.52	0.18,1.52	0.230	1.39	0.27,7.19	0.698

[a] Component 1 is comprised of gender-related discrimination, gender-related victimization, and gender-related rejection

[b] Component 2 is comprised of internalized trans-related stigma (reversed), self-affirmation, and community connectedness

[c] Component 3 is comprised of social support

The interaction between resilience and anticipated stigma was not significantly associated with difficulty accessing care, but there was a statistically significant relationship between the interaction term for enacted stigma and resilience and difficulty accessing care (Table 9).

Table 9: Logistic Regression Results Examining the Interaction Between Enacted Stigma and Resilience on Difficulty Accessing Care Among Transgender and Other Gender Diverse Youth

	Difficulty accessing care (n=171)		
	Odds Ratio	**95% CI**	**p-value**
Enacted stigma (Component 1)[a]	0.99	0.67,1.48	0.976
Resilience (Component 2)[b]	0.58	0.28,1.20	0.143
Interaction term (enacted stigma x resilience)			
Enacted stigma quartile 1	Reference Group		
Enacted stigma quartile 2	1.79	0.70,4.58	0.222
Enacted stigma quartile 3	1.53	0.60,3.90	0.378
Enacted stigma quartile 4	**4.35**	**1.53,12.38**	**0.006**
Social support (Component 3)[c]	0.84	0.56,1.29	0.431
Mis-gendering	1.06	0.95,1.17	0.305
Anticipated trans-related stigma	1.01	0.96,1.06	0.841
Age	**1.20**	**1.03,1.40**	**0.022**
Gender identity			
Trans-feminine	Reference Group		
Trans-masculine	2.21	0.66,7.25	0.188
Other gender diverse (AMAB)	0.77	0.16,3.64	0.741
Other gender diverse (AFAB)	1.65	0.46,5.78	0.435
Race/ethnicity			
Non-Hispanic White	Reference Group		
Racial minority	2.19	0.98,4.89	0.055
U.S. Region			
Northeast	Reference Group		
Midwest	1.76	0.49,6.31	0.382
South	1.58	0.45,5.52	0.473
West	1.74	0.45,6.73	0.420
Health insurance			
Does not have insurance coverage	Reference Group		
Has insurance coverage	0.54	0.18,1.62	0.270

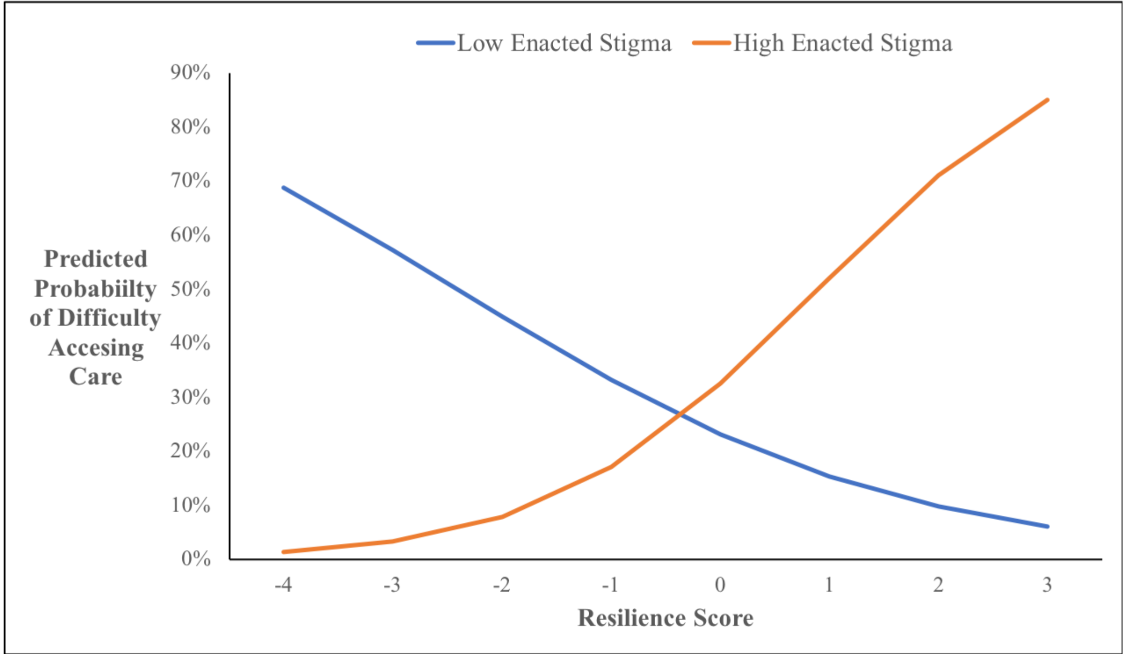
[a] Component 1 is comprised of gender-related discrimination, gender-related victimization, and gender-related rejection

[b] Component 2 is comprised of internalized trans-related stigma (reversed), self-affirmation, and community connectedness

[c] Component 3 is comprised of social support

First, the continuous scores for the enacted stigma and resilience components were included as the interaction term; however, in order to better understand the interaction, the enacted stigma component was also examined as a categorical variable, based on a quartile split, ranging from participants who reported experiencing very low enacted stigma (first quartile) to participants who reported experiencing very high enacted stigma (fourth quartile). A quartile split is appropriate because the enacted stigma score is approximately normally distributed and examining quartiles enables the exploration of extremely low and extremely high experiences of stigma. Figure 4 demonstrates that for participants with the lowest enacted stigma (first quartile), as their score on the resilience component increased, their predicted probability of having difficulty accessing health care decreased. However, for participants who reported being in the highest quartile of enacted stigma, as their score on the resilience component increased, their predicted probability of having difficulty accessing care increased. There were no significant associations when examining participants in the first quartile vs. the second or third quartile of the enacted stigma score.

Figure 4: Predicted Probability of Having Difficulty Accessing Care Across the Resilience Component for TGGD Youth with the Lowest and Highest Enacted Stigma Scores



Use of medical gender affirmation services. The logistic regression model examining the relationships between the components (i.e., minority stress constructs) and medical gender affirmation services found that some of the minority stress constructs were associated with the use of this type of care. Participants who reported experiencing more resilience (OR=1.73, p=0.008) were more likely to report accessing medical gender affirmation services and participants experiencing more anticipated stigma (OR=0.92, p=0.012) were less likely to report accessing these services. Some of the demographic variables were also significantly associated with use of this type of care. Participants who were older reported more use of medical gender affirmation services; for each 1-year increase in age, participants were 63% more likely to report use of this type of care (p<0.001). In addition, compared with trans-feminine participants, participants who identify as other gender diverse AMAB (OR=0.07, p=0.049) and other gender diverse AFAB (OR=0.08, p=0.005) were both less likely to report accessing medical gender affirmation services. Finally, compared with participants living in the Northeast, participants living in the South were also less likely to report use of medical gender affirmation services (OR=0.21, p=0.028). Interaction terms between enacted stigma and resilience and anticipated stigma and resilience were also tested in separate logistic regression models examining use of medical gender affirmation services, but the interaction terms were not statistically significant (Results not shown).

Discussion

These findings suggest that broad experiences of stigma and resilience (i.e., occurring inside and outside of health care settings) matter for access to different types of health care for TGGD youth. When examining the relationships between these different aspects of stigma, resilience, and multiple health care use outcomes, findings varied by type of health care use.

For the models examining general health care use, even though none of the stigma or resilience variables were associated with difficulty accessing health care in general, the interaction between enacted stigma and resilience was significant. For individuals who experienced more enacted stigma, as their resilience score increased, the predicted probability of reporting that they had experienced difficulty accessing care increased. However, for individuals who experienced less enacted stigma, as their resilience score increased, the predicted probability of reporting that they had difficulty accessing care decreased. While individuals who experience less enacted stigma have less difficulty accessing care as their resilience increases, it is possible that TGGD youth who experience more enacted stigma may try to access more care when they have less internalized trans-related stigma, more self-affirmation, and a greater connection to TGGD communities. This increased attempt at trying to access care may result in an increase in difficulty accessing care. On the other hand, TGGD individuals who experience less enacted stigma may benefit from these resilience factors as a way to improve access to care.

When examining the relationships between use of medical gender affirmation services, stigma, and resilience, the results were different. Aligned with Minority Stress Theory (Meyer, 1995, 2003), having more anticipated stigma was associated with less use of medical gender affirmation services, and having more resilience was associated with more use of medical gender affirmation services. Individuals who generally expect that more stigma will occur may also be more likely to anticipate stigma within health care settings, which could prevent them from accessing medical gender affirmation services. In addition, anticipated stigma in other environments (e.g., at home, in school) may prevent TGGD youth from accessing medical gender affirmation services, especially if there are concerns about anticipated stigma related to outness and changes to gender presentation. However, a sensitivity analysis found that when gender expression was included in the model, the relationship between anticipated stigma and use of medical gender affirmation services did not change.

The relationship between resilience and the use of medical gender affirmation services also occurs as expected. Having a more positive internalized sense of self and more of a connection to a community may help to increase access to care. Particularly with medical gender affirmation services, being connected to a community may help TGGD youth navigate health care systems and find health care providers who offer medical gender affirmation services. In addition, it is possible that having a more positive internalized sense of self (with less internalized trans-related stigma and greater self-affirmation) may be reciprocally related to the use of medical gender affirmation services. For youth who want to access medical gender affirmation services, using this type of health care may promote a process of internalized self-affirmation (Reisner, Radix, et al., 2016). It is important to note that medical gender affirmation services are not always needed or desired, but for individuals who want hormones, surgery, etc., these services can be essential to promote improved mental health and well-being (Murad et al., 2010; White Hughto & Reisner, 2016).

Even though results differed across different types of care, one variable was consistently associated with health care use: age. Older participants in the study were both more likely to have difficulty accessing care and more likely to report use of medical gender affirmation services. In both cases, these results demonstrate that as TGGD youth get older, they may be more likely to try to access different types of medical services. The two outcomes examined in this study are not mutually exclusive; a measurement of difficulty accessing care is a general estimate of health care and may include difficulty accessing medical gender affirmation services. It is possible that as older TGGD youth begin to access more care (including medical gender affirmation services), they may also experience more barriers to getting care.

These findings are consistent with previous studies that highlight that stigma and resilience play a role in TGGD youth's access to health care services (Gridley et al., 2016; Kosenko et al., 2013). The current study builds on previous findings by highlighting how stigma and resilience both inside and outside of health care settings may play a role in access to and use of care, and that these relationships vary across different types of health care. Furthermore, while the relationships between stigma, resilience, and both health care use outcomes may be similar for all TGGD populations, the circumstances are distinct for TGGD youth. Stigma occurring both inside and outside of health care settings may create unique challenges for TGGD youth to access health care. For example, TGGD youth may rely on parents or guardians for access to health care (e.g., transportation to care, paying for care, and consent for accessing services); when TGGD youth do not have family support, but instead experience stigma, health care (and especially medical gender affirmation services) may not be an available and affordable option (Grossman & D'augelli, 2006; Grossman et al., 2005). Therefore, further research understanding the specific experiences of TGGD youth is important; this research should continue to examine the relationships between stigma, resilience, and health care access and use, across multiple types of health care services, including for example, mental health care services, emergency care, HIV care, etc.

Implications. These findings have important implications for public health programming. In order to improve access to health care for TGGD youth, it is important to address experiences of stigma both inside and outside of health care settings. Minority stressors and resilience occur across multiple settings, and in order to improve access to resources it is important to consider how minority stress and resilience factors across multiple environments may shape access to and use of different types of health care. While addressing stigma within health care settings is also important, public health programs that work to address stigma and foster resilience across multiple environments, and not just within health care settings, may be more successful at helping to improve access to and use of health care for TGGD youth.

This study also demonstrates that Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) can be useful for better understanding the ways that stigma and resilience influence different types of health care use for TGGD youth in the United States. Even though the PCA in this study did not categorize the different aspects of stigma and resilience exactly according to Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015), components still distinguished between enacted stigma (distal minority stressors) and resilience, with anticipated stigma (a proximal minority stressor) as a separate variable. This highlights the importance for research using Minority Stress Theory to expand beyond understanding the relationships between minority stressors, resilience, and mental and physical health; it is important to also understand the relationships between these factors and health care use.

Health care and experiences of health are reciprocally related to each other. Individuals who experience more adverse health outcomes may have more need for health care services, but may also have more difficulty accessing care, especially if these adverse health outcomes are associated with additional forms of stigma (e.g., mental health stigma, HIV stigma) (Corrigan, 2004; Gamarel et al., 2018; Golub & Gamarel, 2013; Logie et al., 2017). At the same time, having more access to health care may help to improve health outcomes (U.S. Department of Health and Human Services, 2014b), while having less access to care (and experiencing more barriers while trying to access care) can result in poorer health outcomes (Seelman et al., 2017). For example, one study found that lack of access to health care due to fears of mistreatment was associated with a poorer reporting of self-rated health as well as increased depression, suicidal ideation, and suicide attempts (Seelman et al., 2017). Though experiences of health extend beyond just access to and use of health care services, health care plays an important role; therefore, it is important that research continue to further explore the multiple and nuanced ways in which experiences of stigma and resilience influence access to care for TGGD populations, and especially TGGD youth.

Limitations. There were some limitations to this research. This study is cross-sectional, so causal inferences cannot be made. The study is also comprised of a convenience sample of TGGD youth; therefore, caution should be taken when generalizing results. Despite this limitation, convenience samples are common for recruiting small and hard-to-reach populations and are a useful way to ensure recruitment of a large sample of TGGD youth (Muhib et al., 2001). Recruitment took place online, which may have contributed to a study sample that was mostly non-Hispanic White (Bauermeister et al., 2012; Du Bois, Johnson, & Mustanski, 2012; Sullivan et al., 2011), even though estimates suggest that a higher percentage of TGGD people are people of color when compared with the rest of the U.S. population (Flores, Brown, & Herman, 2016). In addition, the small sample size of this study limited the variables that were included in the logistic regression models (Peduzzi et al., 1996). It would also have been useful to explore differences in experiences of stigma, resilience, and health care use across gender identity; however, there were not enough participants in the sample to make this comparison, with an especially small number of trans-feminine participants. Still, this sample includes an exceptionally large number of other gender diverse individuals not identifying as transgender and the variables included in this study are useful for exploring the relationships between minority stress, resilience, and health care.

Conclusions. This study demonstrates that stigma and resilience experienced across multiple settings are related to access to different types of health care. Understanding the nuanced role that stigma and resilience play in health care use is important, especially when considering these relationships across multiple types of health care. Stigma and resilience occur across multiple settings and it is important to reduce stigma and foster resilience both inside and outside of health care settings in order to increase access to health care use among TGGD youth.

CHAPTER IV: State-Level Trans-Specific Policies, Race and Ethnicity, and Health Care Use Among Transgender and Other Gender Diverse People in the United States

Introduction

Over the past decade, the presence of trans-specific policies in the United States have increased, including both policies that provide protections for transgender and other gender diverse (TGGD) people as well as policies that specifically stigmatize and discriminate against TGGD populations (Stryker, 2017). Policies enacted at federal, state, and local levels can shape experiences of health and health care access for TGGD people. However, to date, little research has examined the relationships between state-level trans-specific policies and TGGD people's experiences with health care use. Furthermore, even less is understood about how the relationships between policies and health care may intersect with other identities, such as race and ethnicity.

Policies and TGGD Health. Policies can limit or enable access to resources, while also contributing to the social climate; for example, policies that allow for religious exemptions or policies that limit TGGD access to public accommodations, such as bathrooms, can increase negative representations of TGGD people and allow for experiences of discrimination and victimization to occur (Herman, 2013; Veldhuis et al., 2018; Wang et al., 2016). On the other hand, policies such as non-discrimination protections or policies that prohibit the exclusion of TGGD individuals in health insurance coverage can promote resilience, allowing for increased access to social services and health care (Flores, Herman, & Mallory, 2015; Hatzenbuehler et al., 2009; Stroumsa, 2014). These policies may also reflect already-existing social norms, especially across different U.S. regions.

Pervasive trans-related stigma in U.S. society has serious consequences for health, with TGGD people (and especially TGGD people of color) experiencing large health inequities in a variety of health outcomes including, for example, psychological distress, suicidal ideation, substance use disorders, and HIV (Bauermeister et al., 2016; Herbst et al., 2008; James et al., 2016; Operario, Yang, Reisner, Iwamoto, & Nemoto, 2014). At the same time, stigma also creates a number of barriers for accessing health care (Edmiston et al., 2016; Hughto et al., 2015), with many TGGD people report delaying or not using care due to fears of being mistreated (Grant et al., 2011; James et al., 2016).

Previous research has also demonstrated that the influence of stigma on the health of TGGD people may vary by place. Social climates vary across the United States, with variations across U.S. regions and across states specifically. Though not all studies were conducted specifically among TGGD people, some research has found that federal and state-level policies matter for health (Du Bois et al., 2018; Gleason et al., 2016; Hatzenbuehler & Keyes, 2013; Hatzenbuehler et al., 2009; Perez-Brumer et al., 2015; Raifman, Moscoe, Austin, & McConnell, 2017). For example, one study conducted among sexual minorities found that living in a state that did not extend non-discrimination protections (specifically hate crime laws and employment-based non-discrimination protections) to include sexual orientation was associated with poorer mental health outcomes (Hatzenbuehler et al., 2009). Another study conducted among sexual minorities found that living in a county where more school districts had anti-bulling policies was associated with fewer suicide attempts among lesbian and gay youth (Hatzenbuehler & Keyes, 2013).

Some research has also specifically examined how policies and social climate play a role for TGGD people specifically. Research examining the experiences of TGGD people found that living in places with lower levels of state-level structural stigma (including the density of same-sex couples, the proportion of Gay-Straight Alliances per public high school, policies specific to sexual orientation discrimination, and aggregated public opinions about homosexuality) (Hughto et al., 2015) (Perez-Brumer et al., 2015). Another study specifically examined the role of state-level non-discrimination policies and found that living in a state where there were no inclusions for gender identity or gender expression in the state non-discrimination policy was associated with an increase in perceived community-level stigma, which was subsequently associated with poorer mental health outcomes (Gleason et al., 2016). Most of this research has not focused on health care access; however, one study using data from the Behavioral Risk Factor Surveillance System (BRFSS) across 26 U.S. states, found that an index measuring state-level policies related to TGGD people was associated with the length of time since a last routine checkup (Du Bois et al., 2018). Taken together, these studies suggest that LGBTQ-related policies and indicators for social climate matter for the health of TGGD people. However, more work is needed to understand how a variety of trans-specific policies and social indicators play a role in TGGD health care use.

Differences Across Race/Ethnicity. Additional work is also needed to understand how trans-specific policies may play a role in health experiences of specific TGGD populations. For example, trans-specific policies may have differential relationships with health care use for non-Hispanic White TGGD people when compared with TGGD people of color. Though no research has specifically examined the ways that trans-specific policies shape health experiences across different groups of TGGD people, intersectionality theory explains that TGGD people of color and non-Hispanic White TGGD people experience the world differently due to their experiences of multiple identities (Crenshaw, 1991). This means that the experiences of race and gender identity are not additive, but instead, TGGD people of color have fundamentally different experiences with power and privilege than White TGGD people (Crenshaw, 1991).

TGGD people of color report experiencing more trans-related stigma both in general and within health care (Human Rights Campaign Foundation & Trans People of Color Coalition, 2017; James et al., 2016; Kattari, Walls, Whitfield, & Langenderfer-Magruder, 2015). Differences in experiences with stigma and health care may occur because in addition to having to deal with trans-related stigma, TGGD people of color also need to navigate racist stigma (Washington, 2006). However, findings from the 2015 USTS (James et al., 2016) suggest that TGGD people of color may also experience a greater prevalence of trans-related stigma than non-Hispanic White TGGD people do. Experiences of trans-related stigma may also look very different for TGGD people of color; for example, the frequency and severity of experiences of discrimination and victimization may vary. For example, from 2013-2017, of the 102 TGGD people killed in the United States because of their gender identity (the most severe form of victimization), 85% (n=87) were TGGD People of Color (Human Rights Campaign Foundation & Trans People of Color Coalition, 2017). Finally, the consequences of experiencing trans-related stigma may also vary by race/ethnicity. TGGD People of Color disproportionately experience systematic vulnerability (i.e., social conditions like homelessness or poverty that are known to increase health risks), while also experiencing greater health inequities including higher rates of suicide attempts, substance use, and HIV (Frohlich & Potvin, 2008; James et al., 2016).

Taken together, this research highlights that policies matter for the health of TGGD people and that experiences of stigma and health care will vary for TGGD people of color. However, more research is still needed to understand the nuanced ways in which policies influence health care use among TGGD people, and the ways in which this differs across race/ethnicity.

Paper Objective and Hypotheses. The purpose of this paper is to examine the associations between state-level trans-specific policies and self-reported health care utilization among TGGD people across U.S. states. This paper will also examine if the relationships between health care use and race/ethnicity vary across states. The hypothesis for this analysis is that protective state-level policies (e.g., non-discrimination policies that include gender identity and/or gender expression) will be associated with an increase in health care use, while harmful state-level policies (e.g., religious exemptions) will be associated with a decrease in health care use. In addition, it is expected that the relationships between policies and health care use will vary across U.S. states (with a significant random intercept), and that the experience of health care use across U.S. states will vary by race/ethnicity (with a significant random slope).

Methods

This is a secondary data analysis of the U.S. Trans Survey (USTS), a large national survey of TGGD people, implemented by the National Center for Transgender Equality (NCTE) (National Center for Transgender Equality, 2015).

Study Sample. The survey includes 27,715 TGGD respondents across the United States. Eligibility criteria include identifying along a spectrum of self-reported TGGD identities, being at least age 18, and living in a U.S. state or territory. For this analysis, individuals who identify as crossdressers and those living in U.S. territories outside of the 50 U.S. states and the District of Columbia were not be included in the analysis. Individuals who identify as cross-dressers (n=758) may have fundamentally different experiences from other TGGD individuals. In addition, the number of participants from the U.S. regions was very small (e.g., 27 from Puerto Rico).

Recruitment. Data were collected over a 34-day period, between August and September of 2015. With the help of approximately 400 LGBTQ organizations, the NCTE used multiple strategies for recruiting participants, including email, social media, print media, and additional promotional campaigns.

Procedures. The survey was conducted in both English and Spanish in an online format. The survey was comprised of 32 sections and a total of 324 possible questions that covered a broad range of topics, including, for example, experiences with health, health care, employment, housing, etc. Survey questions were designed through collaborations with a team of researchers and advocates, all individuals with a range of expertise that were important for survey development (e.g., research experience, lived experience).

In addition, to increase access to the survey, 71 LGBTQ organizations also participated in in-person events where TGGD people could take the survey. These organizations offered spaces and resources (such as computers or other web-based devices) where individuals could complete the survey. Approximately 200 participants completed surveys at these events.

All data were collected anonymously. As an incentive for completing the survey, participants entered into a cash-prize drawing. IRB approval to collect the data was attained by the NCTE from the University of California-Los Angeles North General IRB. Permission to use the dataset was acquired from the NCTE.

Measures include the health care use outcome, state-level trans-specific policy variables, and other individual-level and state-level covariates.

Health care use was measured with one yes/no question asking: "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 as a trans person?"

Policies. State-level policy data were retrieved from the Movement Advancement Project (Movement Advancement Project, 2018). Policies include those related to experiences of discrimination (inclusion of gender identity/expression in non-discrimination policies, religious exemption laws), health insurance policies (for private health insurance and for Medicaid), and regulations for identity documents (for changing a gender marker on a state-issued government ID and for a legal name change). These policies all vary across states and are important because they may influence access to health care for TGGD individuals (Movement Advancement Project, 2018; Russell, Pollitt, Li, & Grossman, 2018). All policies are categorical variables; maps highlighting the distribution of these variables across states are presented in Figure 5-10.

Figure 5: State-Level Non-Discrimination Protections for Gender Identity and Expression

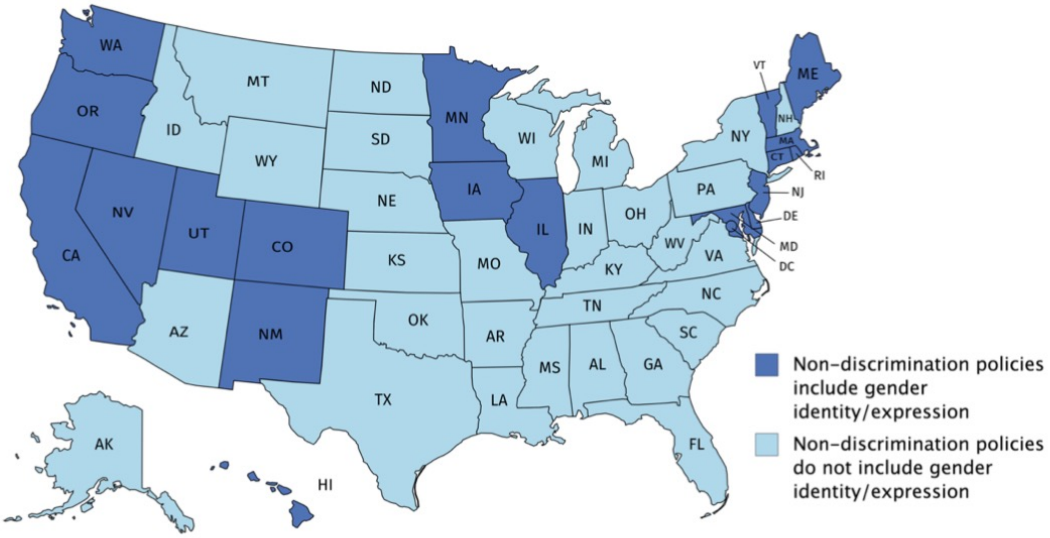


Figure 6: State-Level Religious Exemption Laws

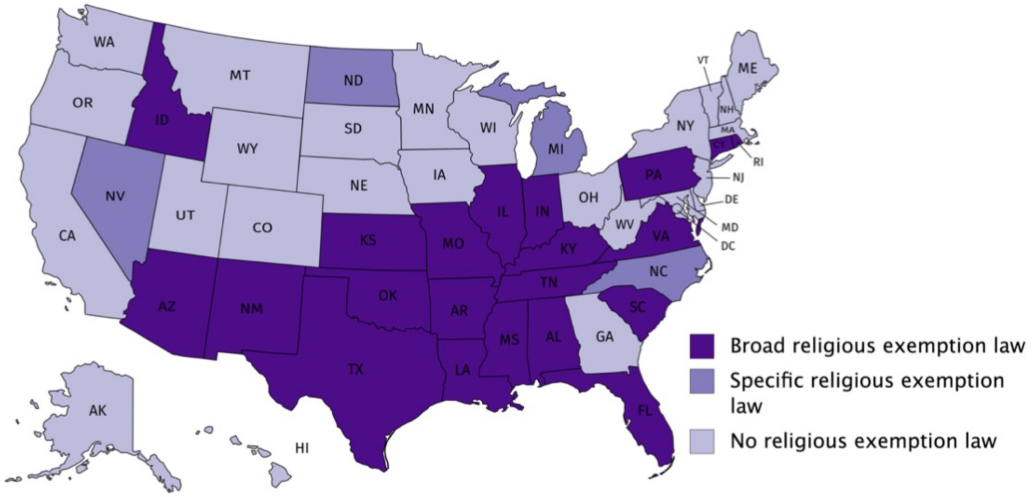


Figure 7: State-Level Private Health Insurance Policies

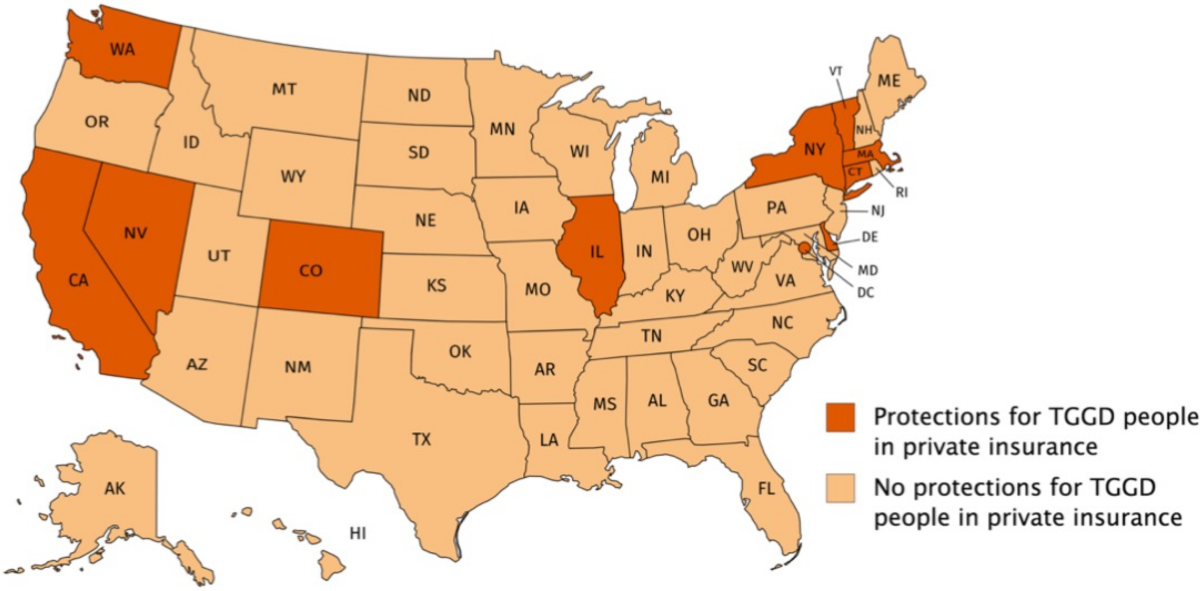


Figure 8: State-Level Medicaid Policies

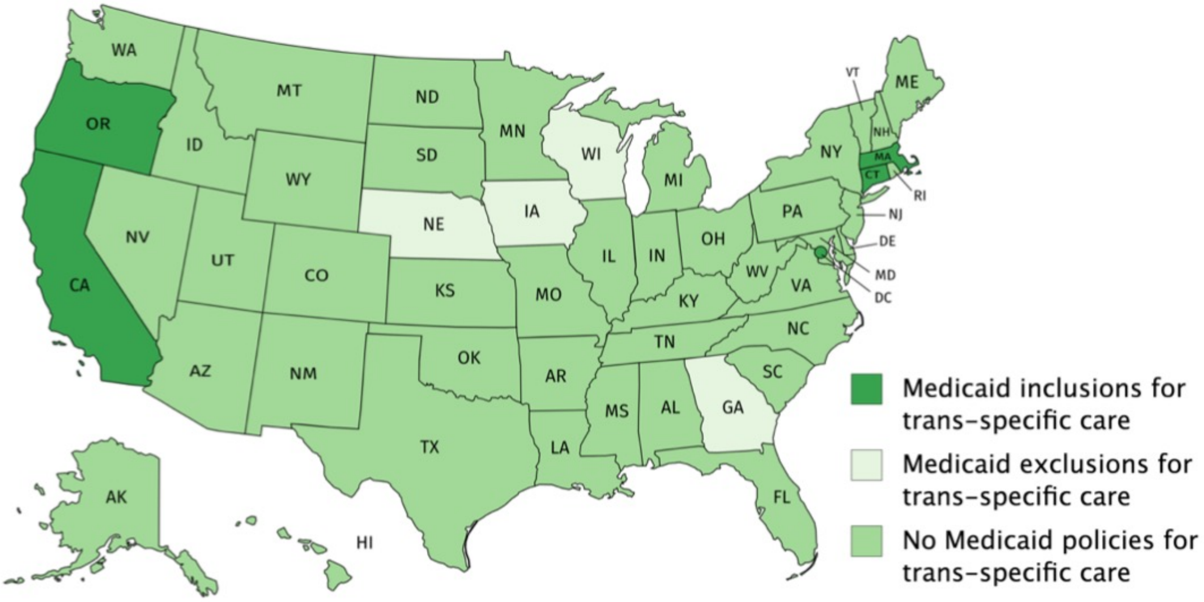


Figure 9: State-Level Policies for Changing a Gender Marker on a State ID

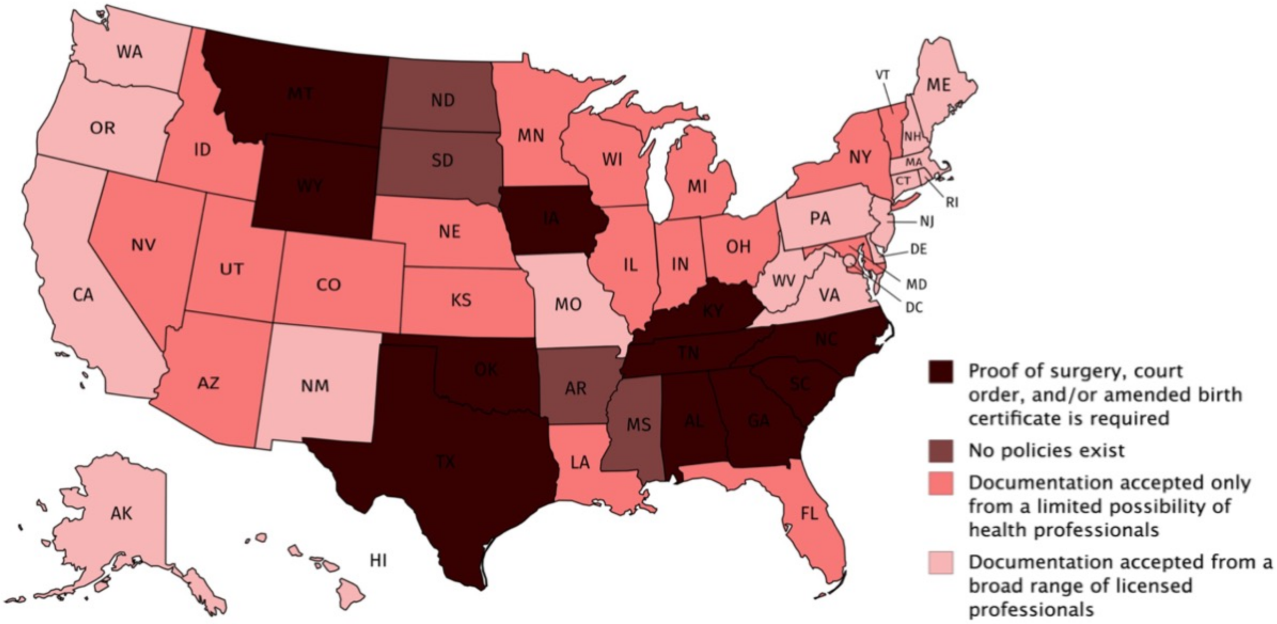
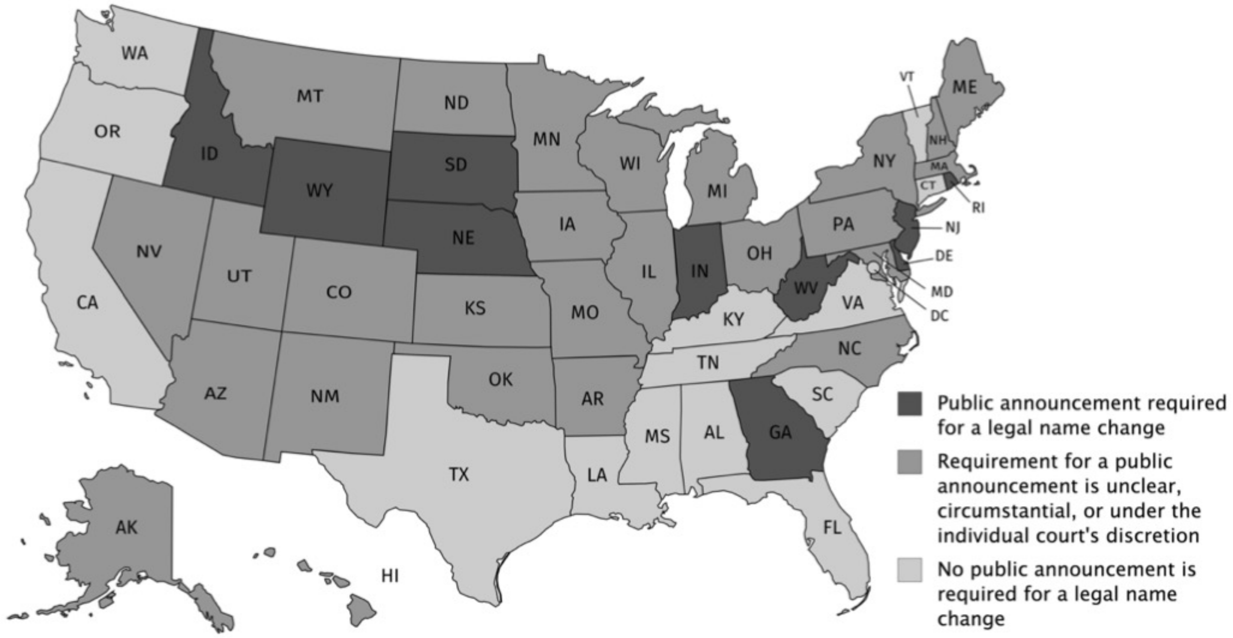


Figure 10: State-Level Policies for Getting a Legal Name Change

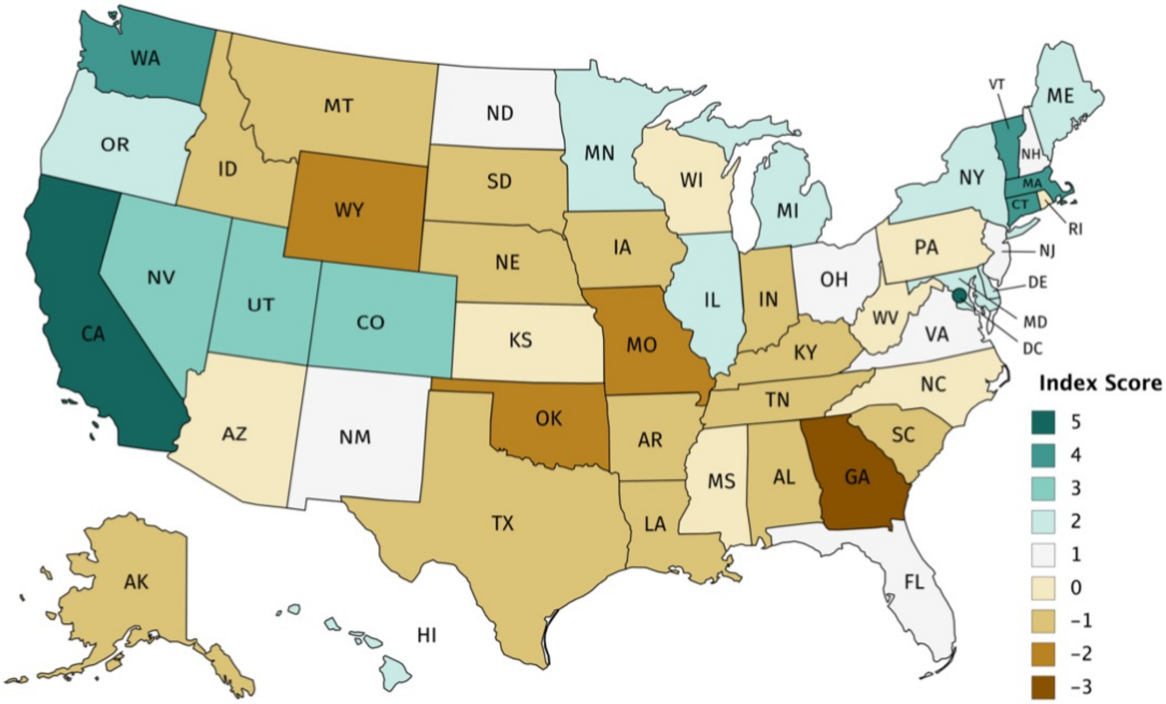


State-level policies were determined based on the policies that existed at the start of USTS data collection (August 2015). However, for identity document policies, across most states, these regulations are typically determined by information on state and local websites; therefore, these policies are based on current data from the Movement Advancement Project (Movement

Advancement Project, 2018) (July 2018 for changing a gender marker and February 2017 for a legal name change).

Policies were examined separately, but also as a cumulative index that captures the policy climate of each state. Analyzing the policies separately allows for a more nuanced understanding of how each policy is associated with health care access and using a policy index elucidates how the broader socio-political context is associated with health care (Hatzenbuehler et al., 2009; Perez-Brumer et al., 2015). To create the index, each policy variable was converted into a categorical variable, based on whether the state has a protective or harmful policy; for each policy, the state received a score of -1 if the policy is harmful, a +1 if the policy is protective, and a 0 if the policy does not exist. The index was then comprised of a sum of each variable, where each additional point on the scale indicates an additional protective policy (and each negative point indicates an additional harmful policy). The index ranged from -3 to 5 and the distribution across U.S. states is presented in Figure 11.

Figure 11: Distribution of Composite Policy Index Across U.S. States



The policy index allows us to better understand the social and political climate in each state. Since we are not certain that the specific policies included in this study are the exact ones that matter for health care use, understanding the social and political is also important (and may actually matter more). However, the policy index does fail to capture some of the nuances of the individual policies; therefore, using both methods (examining policies separately and as an index) provides the best overview for understanding the relationship between state-level, trans-specific policies and health care use among TGGD populations.

Individual-level covariates include demographics, experiences of discrimination and victimization, outness about gender identity, social support, systematic vulnerability, health status, health insurance coverage, and identity document changes.

Demographic variables include age, gender identity, sexual orientation, race, U.S. citizenship status, highest education level, and employment status. These demographic characteristics are included because previous research suggests that they all have an influence on access to resources, including access to health care (Ferrer, 2007). Age was measured as a continuous variable in years. Gender identity is a categorical variable, including: trans-feminine, trans-masculine, other gender diverse and assigned male at birth (AMAB), and other gender diverse and assigned female at birth (AFAB). Sexual orientation was measured using four categories: Heterosexual/Straight; LGB+; Asexual; and Other.

For inclusion as an individual-level control variable, race/ethnicity were measured as a categorical variable, including non-Hispanic White; American Indian or Alaska Native; Asian, Native Hawaiian, or Pacific Islander; Black; Latinx/Hispanic; Multiracial; or Other. The racial group "Other" includes individuals who identified as a racial group not listed in the USTS and individuals who identified as Middle Eastern or North African because there were not enough individuals in this group to measure their unique experiences across U.S. states (n=128).

U.S. citizenship status is a binary variable, based on whether or not a participant is a U.S. citizen; non-citizens include those with and without documentation. The highest education level attained was measured using four categories: High school graduate; some college; undergraduate degree; and graduate or professional degree. Current employment status was measured as being employed (full-time, part-time, or self-employed), unemployed, and out of the labor force (e.g., individuals who are students, retired, homemakers or full-time parents, and those who are not employed due to a disability).

Experiences of trans-related stigma and racism. Trans-related stigma and racism variables include experiences of discrimination, verbal victimization, and physical violence occurring in the past year. These experiences were considered trans-related stigma if participants attributed these experiences to their trans status/gender identity and/or gender expression/appearance and were considered to be racism if they attributed them to their race.

Gender expression, outness, and social support. Gender expression was measured based on the yes/no response to the question: “Do you currently live full-time in a gender that is different from the one assigned to you at birth?” Outness was measured using a 0-8 scale, where each point on the scale indicates an additional group (e.g., family, friends, co-workers) to whom the respondent has disclosed their gender identity (defined as a group where all or most of the people in that group know that the participant is trans). A binary social support variable captures whether or not immediate family, co-workers, and/or classmates provide social support, defined as having a group where some, most, or all of the people in that group know about the participant’s gender identity and that the people in that group are, on average, very supportive or supportive.

Systematic vulnerability. For this analysis, systematic vulnerability is defined as social conditions that put a group or individual at a "higher risk of experiencing health risks" (Frohlich & Potvin, 2008). This is important to understand because these experiences may be linked with experiences of health care use (Decker et al., 2015; Massoglia & Pridemore, 2015; Stiehm, 2000; Tang et al., 2015). Systematic vulnerability is examined through four separate binary variables measuring lifetime experiences of homelessness and sex work, current experiences of poverty, and incarceration in the past year.

Health status includes measures of health outcomes found to be disproportionately experienced by TGGD populations (Corrigan, 2004; Gamarel et al., 2018; Golub & Gamarel, 2013; Logie et al., 2017). These variables include: experiences of psychological distress in the past thirty days (measured through the Kessler Psychological Distress Scale [K6]) (Kessler et al., 2002), lifetime experiences of "serious" suicidal thoughts, HIV status (including three categories: living with HIV, not living with HIV, and does not know their status/has never been tested), alcohol use in the past thirty days (measured based on having at least one incident of binge drinking), and any illicit drug use (e.g., cocaine, heroin) or use of prescription drugs (e.g., Oxycontin, Xanax) not as prescribed in the past thirty days.

Health insurance coverage was measured based on the yes/no answer to the question: Are you currently covered by any health insurance or health coverage plan?" This includes any type of health insurance coverage (e.g., private health insurance, Medicaid, Medicare).

Legal document changes were measured using two variables, one that addresses changing a name on legal documents and one that addresses changing the gender marker. Both of these are binary variables, where 0 indicates that none of the participant's identity documents/records list the participant's preferred name or gender, and 1 indicates that some or all of their identity documents/records list the name or gender that the participant prefers.

State-level covariates include variables describing the racial makeup of each state, the state's population density, and the rural vs. urban makeup of the state. These state-level characteristics all reflect on the context of the state in ways that may influence experiences of identity and access to health care. Data on racial makeup were used from Census's 2017 American Community Survey (U.S. Census Bureau, 2017) and were examined as the percentage of the population that is non-Hispanic White in order to broadly capture the racial diversity (or lack of diversity) of a state. Data on population density of each state are available through the decennial Census, which was last collected in 2010, and was measured as the number of people per square mile.

The rural and urban makeup of each state was measured using data from the United States Department of Agriculture (USDA). The USDA ranks each U.S. county using Rural-Urban Continuum Codes that are updated every ten years and were most recently applied in 2013 (United States Department of Agriculture, 2016). Each county is scored on a range from 1 (most urban) to 9 (most rural). Rurality was measured by the proportion of counties in a state that are ranked with a 9 and urbanity was measured by the proportion of counties in a state that are ranked with a 1.

Analysis. Data were analyzed using the STATA 14 software package (College Station, Texas). Multilevel logistic regression was used to understand the relationships between state-level trans-specific policies and health care use.

Cleaning the data. Fist, data were assessed for meaningful missingness (i.e., systematic bias resulting from missing data) and multicollinearity. Missing data on the outcome variable were found to be missing at random and none of the covariates were missing more than 10% of responses, so all missing data were dropped from the dataset (Little & Rubin, 2014; Raghunathan, 2004), resulting in a sample size of 23,323. After multicollinearity was assessed, the model was re-specified by removing a variable measuring who won the 2016 presidential election, since this variable was closely associated with multiple policy variables (Cohen et al., 2013).

Descriptive statistics were computed, including frequencies of categorical variables and measures of central tendency and variability (i.e., means and standard deviations) of continuous variables. Bivariate analyses were also conducted to examine the independent relationships between each independent variable and the outcome using chi-square tests (for categorical variables) and t-tests (for continuous variables). An alpha level of 0.05 was used to determine significance for all analyses in the study.

Multilevel logistic regression. Two separate multilevel logistic regression models were fit, with one model (Model 1) including the composite policy score to generally assess the relationship between the political climate and health care use and the other model (Model 2) including all of the policy variables separately to determine which specific policies are associated with health care use. Both Models 1 and 2 included random effects terms, including a random intercept and a random slope. U.S. state was included as a random intercept; this variable was comprised of all fifty U.S. states, including the District of Columbia (for a total of 51 U.S. regions). Adding U.S. state as the random intercept term accounts for the clustering of data by state, since state-level trans-specific policies vary across states. Race/ethnicity was also included in both models as the random slope term. For the random slope, race/ethnicity was measured as a binary variable based on whether a participant identified as non-Hispanic White or as a person of color. Including race/ethnicity as a random slope allows for an examination of how much the relationships between race/ethnicity and health care use vary across U.S. states.

Results

Descriptive Statistics and Binary Analyses. Descriptive statistics and results of binary analyses are presented in Tables 10 and 11. Approximately one-quarter of participants (n=5,430) report not using health care in the past year due to fears of mistreatment. The average age of the sample is 30.59 (SD=12.79). Approximately one-third of the sample is trans-feminine, trans-masculine, or another gender diverse identity (AFAB), with only 7% being another gender diverse identity and AMAB. Most of the sample is LGB+ (71.59%, n=16,698), non-Hispanic White (80.8%, n=18,845), and a U.S. citizen (98.36%, n=22,941). About two-thirds of the sample is employed and approximately 85% of the sample has at least some college education.

Table 10: Sample Descriptive Statistics for Individual-Level Covariates (n=23,323)

Variables	**Sample Distribution**	**Report not using health care due to fear of mistreatment**
Demographic Characteristics		
Age, mean (SD)***	30.59 (12.76)	28.49 (10.01)
Gender identity, % (n)***		
Trans-feminine	34.01 (7,933)	20.96 (1,663)
Trans-masculine	29.93 (6,981)	31.30 (2,185)
Other gender diverse (AFAB)	29.00 (6,764)	20.17 (1,364)
Other gender diverse (AMAB)	7.05 (1,645)	13.25 (218)
Sexual identity, % (n)***		
Heterosexual/Straight	11.18 (2,608)	21.36 (557)
LGB+	71.59 (16,698)	23.84 (3,980)
Asexual	10.66 (2,487)	20.43 (508)
Other	6.56 (1,530)	25.16 (385)
Race/Ethnicity, % (n)***		
Non-Hispanic White	80.80 (18,845)	22.49 (4,238)
American Indian/Alaska Native	1.14 (267)	35.96 (96)
Asian, Native Hawaiian, Pacific Islander	2.80 (654)	22.94 (150)
Black	2.73 (636)	25.31 (161)
Latinx/Hispanic	5.09 (1,186)	24.70 (293)
Multiracial	4.76 (1,110)	27.48 (305)
Other	2.68 (625)	29.92 (187)
Has U.S. citizenship, % (n)		
Yes	98.36 (22,941)	23.26 (5,337)
No	1.64 (382)	24.35 (93)
Highest education level, % (n)*		
Less than high school	3.02 (704)	23.58 (166)
High school graduate (including GED)	11.65 (2,718)	23.91 (650)
Some college (no degree)	38.21 (8,912)	23.75 (2,117)
Undergraduate degree	34.15 (7,965)	23.44 (1,867)
Graduate or professional degree	12.97 (3,024)	20.83 (630)
Employment status, % (n)***		
Employed	66.40 (15,487)	23.81 (2,687)

Unemployed	12.97 (3,025)	24.17 (731)
Out of the labor force	20.63 (4,811)	21.04 (1,012)
Experiences of Trans-Related Stigma		
Experienced discrimination, % (n)***		
Yes	13.83 (3,225)	49.89 (1,609)
No	86.17 (20,098)	19.01 (3,821)
Experienced verbal harassment, % (n)***		
Yes	47.58 (11,098)	33.57 (3,726)
No	52.42 (12,225)	13.94 (1,704)
Experienced physical violence, % (n)***		
Yes	8.76 (2,043)	46.26 (945)
No	91.24 (21,280)	21.08 (4,485)
Experiences of Racism		
Experienced discrimination, % (n)***		
Yes	1.83 (427)	45.20 (193)
No	98.17 (22,896)	22.87 (5,237)
Experienced verbal harassment, % (n)***		
Yes	4.83 (1,126)	37.39 (421)
No	95.17 (22,197)	22.57 (5,009)
Experienced physical violence, % (n)***		
Yes	0.87 (203)	41.87 (85)
No	99.13 (23,120)	23.12 (5,345)
Gender Expression, Outness, and Social Support		
Living full time in gender different from sex assigned at birth, % (n)***		
Yes	62.03 (14,467)	28.11 (4,066)
No	37.97 (8,856)	15.40 (1,364)
Outness scale, mean (SD)***	3.49 (2.33)	3.88 (2.18)
Has support from family, coworkers, or classmates, % (n)		
Yes	62.31 (14,533)	23.00 (3,343)
No	37.69 (8,790)	23.74 (2,087)
Systematic Vulnerability		
Living at/near poverty, % (n)***		
Yes	33.51 (7,815)	27.22 (2,127)
No	66.49 (15,508)	21.30 (3,303)
Ever experienced homelessness, % (n)***		
Yes	29.23 (6,818)	33.34 (2,273)
No	70.77 (16,505)	19.13 (3,157)
Incarcerated in the past year, % (n)**		
Yes	1.29 (301)	30.90 (93)
No	98.71 (23,022)	23.18 (5,337)
Ever engaged in sex work/industry, % (n)***		
Yes	10.50 (2,449)	32.05 (785)
No	89.50 (20,874)	22.25 (4,645)
Health Status and Health Insurance		
Psychological distress, % (n)***		
Yes	39.24 (9,152)	31.98 (2,927)
No	60.76 (14,171)	17.66 (2,503)
Suicidal ideation, % (n)***		
Yes	82.90 (19,334)	25.85 (4,998)
No	17.10 (3,989)	10.83 (432)
HIV status, % (n)***		
Not living with HIV	51.12 (11,923)	25.55 (3,046)
Living with HIV	0.63 (147)	14.97 (22)
Never tested/does not know	48.25 (11,253)	20.99 (2,362)

Binge drinking in the past month, % (n)***		
Yes	25.12 (5,858)	26.80 (1,570)
No	74.88 (17,465)	22.10 (3,860)
Used drugs in the past month, % (n)***		
Yes	27.92 (6,512)	27.99 (1,823)
No	72.08 (16,811)	21.46 (3,607)
Has health insurance coverage, % (n)***		
Yes	87.68 (20,449)	22.65 (4,632)
No	12.32 (2,874)	27.77 (798)
Identity Documents		
Has preferred name on IDs, % (n)***		
Yes	50.65 (11,813)	21.57 (2,548)
No	49.35 (11,510)	25.04 (2,882)
Has preferred gender on IDs, % (n)*		
Yes	32.38 (7,551)	22.25 (1,680)
No	67.62 (15,772)	23.78 (3,750)
Total	**23,323**	**23.28 (5,430)**

*p<0.05, **p<0.01, ***p<0.001

Table 11: Sample Descriptive Statistics for Policies and State-Level Covariates (n=23,323)

Variables	**Sample Distribution**	**Did not use health care due to fear of mistreatment**
Policies		
Non-discrimination protections, % (n)*		
State includes gender identity/expression	47.83 (11,155)	22.62 (2,523)
State does not include gender identity/expression	52.17 (12,168)	23.89 (2,907)
Religious exemption laws, % (n)*		
Broad law exists in state	57.13 (13,325)	23.73 (1,987)
Only specific law exists in state	6.96 (1,624)	25.49 (414)
No law exists in state	35.90 (8,374)	22.73 (3,029)
Private health insurance, % (n)		
Has TGGD-specific protections in state policy	39.15 (9,131)	22.80 (2,082)
Does not have TGGD-specific protections in state policy	60.85 (14,192)	23.59 (3,348)
Medicaid, % (n)*		
State has TGGD-specific Medicaid policies	71.10 (16,582)	23.79 (3,945)
State excludes TGGD-specific care	5.63 (1,312)	22.56 (296)
State includes TGGD-specific care	23.28 (5,429)	21.90 (1,189)
Gender marker change requirements on state ID, % (n)***		
No policies exist in state	1.38 (321)	26.48 (85)
State requires proof of surgery, court order, or amended birth certificate	19.00 (4,432)	25.38 (1,125)
State accepts documentation from a limited list of providers	37.77 (8,810)	23.85 (2,101)
State accepts documentation from a broad range of providers	41.85 (9,760)	21.71 (2,119)
Legal name change requirements, % (n)*		
State has unclear rules or decided by an individual court	49.04 (11,438)	23.93 (2,737)
State requires a public announcement	8.30 (1,936)	21.85 (423)
State does not require a public announcement	42.66 (9,949)	22.82 (2,270)
Composite Score, mean (SD)**	1.61 (2.14)	1.54 (2.13)
State Characteristics		
State proportion of White people, mean (SD)	77.78 (8.64)	77.59 (8.70)
State population density, mean (SD)	323.56 (891.68)	336.60 (982.30)
State proportion living in a rural area, mean (SD)	0.01 (0.02)	0.01 (0.02)
State proportion living in an urban area, mean (SD)	0.56 (0.22)	.56 (0.23)
Total	**23,323**	**23.28 (5,430)**

*p<0.05, **p<0.01, ***p<0.001

Generally, participants disproportionately lived in states with protective policies (e.g., California and New York), so the distribution of participants living in states with protective policies (Table 11) does not reflect the average U.S. state characteristics. For example, in 2015, only 21.57% of states had trans-specific protections in their private health insurance policies, but 39.15% of participants reported living in a state that had this policy. The distribution of the policy composite score across states (n=51; Figure 12) is also different than the distribution across participants (n=23,323, Figure 13).

Figure 12: The Distribution of the Composite Policy Index Across States

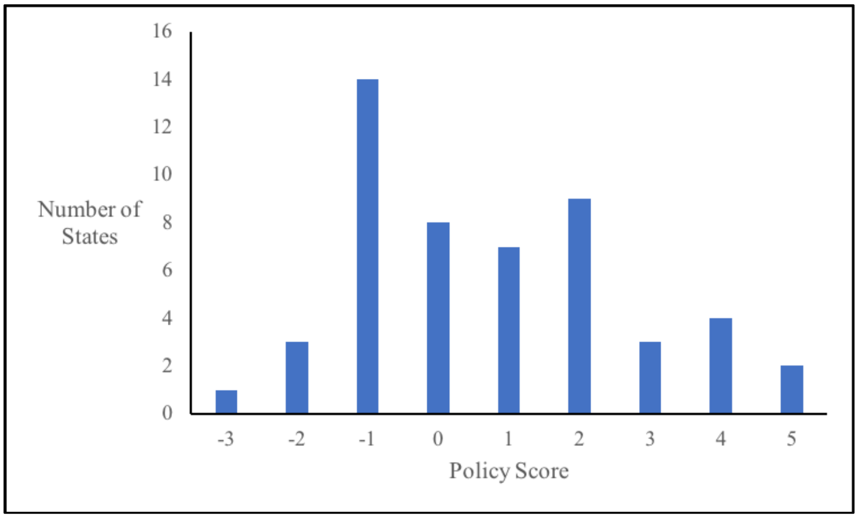
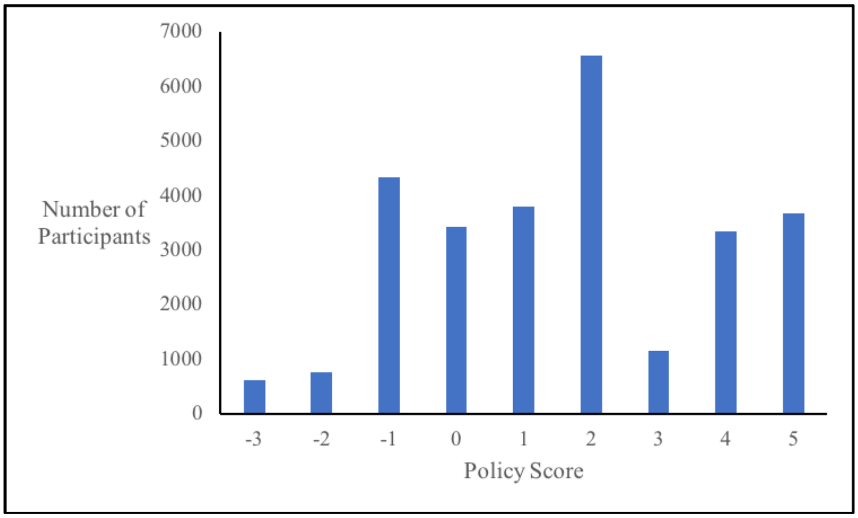


Figure 13: The Distribution of the Composite Policy Index Across Participants



Multilevel Logistic Regression Results demonstrate that the policy composite index is significantly associated with non-use of health care (Table 12). For each additional protective policy on the index, participants were 3% less likely to report not using care to due fear of mistreatment (p=0.025). However, when examining the relationship between each individual policy and non-use of care, no statistically significant associations were found (Table 13).

None of the state-level control variables were significantly associated with the outcome. However, most demographic characteristics were associated with non-use of care (Table 3). Participants were more likely to not use care if they were younger (OR=0.98, p<0.001), trans-masculine (compared with trans-feminine; OR=1.63, p<0.001) and had more education (for a graduate/professional degree, compared with did not graduate high school: OR=1.76, p<0.001). On the other hand, participants were less likely to report non-use of care if they identified gender diverse, but not trans-feminine or trans-masculine (compared with trans-feminine; AFAB OR=0.83, p=0.001; AMAB OR=0.60, p<0.001), were not employed (OR=0.81, p<0.001), or were out of the labor force (OR=0.85, p<0.001).

All types of trans-related stigma were associated with an increased likelihood of not getting care due to fear of mistreatment (discrimination OR=2.48, p<0.001; verbal harassment OR=1.93, p<0.001; physical violence OR=1.38, p<0.001), but for the racism variables only verbal harassment was associated with not getting care (OR=1.29, p=0.003). The outness scale was not associated with health care use, but living full time in a gender that is different from one's sex assigned at birth was associated with an 86% increase in reports of not using care (p<0.001). In addition, participants who reported having support from their family, co-workers, or classmates were 19% less likely to report not using care (p<0.001).

Homelessness was the only systematic vulnerability variable significantly associated with health care use, with participants being more likely to report not using care if they had ever experienced homelessness (OR=1.44, p<0.001). Participants who reported experiencing psychological distress (OR=1.75, p<0.001) and suicidal ideation (OR=1.71, p<0.001) were also more likely to report not using care due to fears of mistreatment. Compared with those not living with HIV, participants who were living with HIV (OR=0.53, p=0.012) and participants who did not know their status (OR=0.87, p=0.001) were less likely to report not getting care. Finally, participants who reported having their preferred name on their identification forms were less likely to report not getting care due to fears of mistreatment (OR=0.83, p<0.001).

For both models (Model 1 and 2), the random intercept term (U.S. state) was statistically significant. This means that even after controlling for all individual and state-level variables in the model, there was still some unobserved heterogeneity across state (i.e., the likelihood of reporting not using care due to fear of mistreatment varied across U.S. states). For both models, the random slope (race/ethnicity) was also statistically significant. This means that the relationship between race/ethnicity and not using care due to fear of mistreatment varies across states. This was significant even after controlling for an individual's race/ethnicity, experiences of racist stigma, and the racial composition of each state.

Table 12: Multilevel logistic regression results examining the relationship between the composite policy score and not using care due to fear of mistreatment (n=23,323)

	Adjusted OR	95% CI	p-value
Policies			
Policy composite score	**0.97**	**0.94,1.00**	**0.025**
State-Level Characteristics			
State proportion of White people, mean (SD)	0.99	0.99,1.00	0.068
State population density, mean (SD)	1.00	1.00,1.00	0.833
State proportion living in a rural area, mean (SD)	1.22	0.07,22.64	0.892
State proportion living in an urban area, mean (SD)	0.94	0.72,1.22	0.636
Individual-Level Sociodemographic Characteristics			
Age	**0.98**	**0.98,0.99**	**<0.001**
Gender identity			

	Trans-feminine	Reference Group		
	Trans-masculine	**1.63**	**1.49,1.78**	**<0.001**
	Other gender diverse (AFAB)	**0.83**	**0.75,0.93**	**0.001**
	Other gender diverse (AMAB)	**0.60**	**0.51,0.71**	**<0.001**
Sexual identity				
	Heterosexual/Straight	Reference Group		
	LGB+	1.06	0.95,1.20	0.301
	Asexual	1.05	0.90,1.23	0.524
	Other	1.10	0.92,1.30	0.292
Race/Ethnicity				
	White	Reference Group		
	American Indian/Alaska Native	1.32	0.99,1.77	0.059
	Asian, Native Hawaiian, Pacific Islander	0.93	0.75,1.16	0.511
	Black	0.95	0.77,1.18	0.661
	Latinx/Hispanic	0.97	0.82,1.14	0.686
	Multiracial	1.01	0.86,1.20	0.842
	Other	1.19	0.97,1.46	0.087
Has U.S. citizenship		0.96	0.74,1.25	0.749
Highest education level				
	Less than high school	Reference Group		
	High school graduate (including GED)	1.20	0.97,1.49	0.089
	Some college (no degree)	**1.32**	**1.08,1.61**	**0.007**
	Undergraduate degree	**1.64**	**1.34,2.02**	**<0.001**
	Graduate or professional degree	**1.76**	**1.40,2.21**	**<0.001**
Employment status				
	Employed	Reference Group		
	Unemployed	**0.81**	**0.73,0.89**	**<0.001**
	Out of the labor force	**0.85**	**0.78,0.93**	**<0.001**
Experiences of Trans-Related Stigma				
Experienced discrimination		**2.48**	**2.27,2.72**	**<0.001**
Experienced verbal harassment		**1.93**	**1.79,2.08**	**<0.001**
Experienced physical violence		**1.38**	**1.23,1.54**	**<0.001**
Experiences of Racism				
Experienced discrimination		0.91	0.71,1.17	0.464
Experienced verbal harassment		**1.29**	**1.09,1.52**	**0.003**
Experienced physical violence		0.84	0.59,1.18	0.305
Gender Expression, Outness, and Social Support				
Living full time in gender different from sex assigned at birth		**1.86**	**1.70,2.04**	**<0.001**
Outness scale		1.00	0.98,1.03	0.614
Has support from family, coworkers, or classmates		**0.81**	**0.75,0.88**	**<0.001**
Systematic Vulnerability				
Living at/near poverty		1.03	0.96,1.11	0.412
Ever experienced homelessness		**1.44**	**1.33,1.55**	**<0.001**
Incarcerated in the past year		0.84	0.63,1.11	0.212
Ever engaged in sex work/industry		0.97	0.87,1.08	0.625
Health Status and Health Insurance				
Psychological distress		**1.75**	**1.63,1.89**	**<0.001**
Suicidal ideation		**1.71**	**1.53,1.92**	**<0.001**
HIV status				
	Not living with HIV	Reference Group		
	Living with HIV	**0.53**	**0.32,0.87**	**0.012**
	Never tested/does not know	**0.87**	**0.81,0.95**	**0.001**
Binge drinking in the past month		1.00	0.92,1.08	0.921

Used drugs in the past month	1.05	0.97,1.13	0.202
Has health insurance coverage	0.99	0.89,1.09	0.808
Identity documents			
Has preferred name on IDs	**0.83**	**0.76,0.91**	**<0.001**
Has preferred gender on IDs	0.94	0.85,1.04	0.225
Random Intercept	**0.005**	**0.0006, 0.04**	
Random Slope	**0.02**	**0.007, 0.05**	

Table 13: Multilevel logistic regression results examining the relationships between individual policies and not using care due fears of mistreatment (n=23,323)

	Adjusted OR[a]	**95% CI**	**p-value**
Policies			
Non-discrimination protections, % (n)			
State includes gender identity/expression	1.07	0.94,1.21	0.299
State does not include gender identity/expression	Reference Group		
Religious exemption laws, % (n)			
Broad law exists in state	1.03	0.91,1.16	0.655
Only specific law exists in state	0.98	0.83,1.17	0.846
No law exists in state	Reference Group		
Private health insurance, % (n)			
Has TGGD-specific protections in state policy	0.94	0.83,1.07	0.336
Does not have TGGD-specific protections in state policy	Reference Group		
Medicaid, % (n)			
State has TGGD-specific Medicaid policies	Reference Group		
State excludes TGGD-specific care	0.88	0.71,1.09	0.247
State includes TGGD-specific care	0.98	0.84,1.13	0.732
Gender marker change requirements on state ID, % (n)			
No policies exist in state	Reference Group		
State requires proof of surgery, court order, or amended birth certificate	1.03	0.73,1.46	0.850
State accepts documentation from a limited list of providers	0.90	0.63,1.29	0.552
State accepts documentation from a broad range of providers	0.80	0.55,1.16	0.232
Legal name change requirements, % (n)			
State has unclear rules or decided by an individual court	Reference Group		
State requires a public announcement	0.90	0.76,1.06	0.216
State does not require a public announcement	0.94	0.85,1.04	0.238
Random Intercept	**0.003**	**0.0001, 0.07**	
Random Slope	**0.007**	**0.0009, 0.06**	

[a] Model also controlled for: state-level characteristics (percentage of White individuals in the state, population density, proportion of individuals in the state living in a rural area, proportion of individuals in the state living in an urban area), individual-level sociodemographic characteristics (age, gender identity, sexual identity, race/ethnicity, U.S. citizenship status, education level, employment status), experiences of trans-related stigma (discrimination, verbal harassment, physical violence), experiences of racism (discrimination, verbal harassment, physical violence) gender expression, outness, social support, systematic vulnerability (poverty, homelessness, incarceration, sex work), health status (psychological distress, suicidal ideation, HIV status, binge drinking, drug use), health insurance coverage, and identity documents (has preferred name on IDs, has preferred gender on IDs).

Discussion

This paper uses two approaches to understand the relationships between state-level trans-specific policies and non-use of health care due to fear of mistreatment. The first approach examines six separate state-level policies, addressing issues of trans-related discrimination, health insurance coverage, and changes to identity documents. The second approach combines these six policies to create a policy index and further explore the relationship between the social and political context of each state and non-use of health care due to fears of mistreatment. Overall, findings suggest that that state-level trans-specific policies matter for health care use among TGGD individuals.

Policies and Health Care. Even though none of the individual policies were significantly associated with non-use of health care when examined using multilevel modeling, the composite score was significantly associated with not using care. Living in a state with more protective policies was associated with fewer reports of not using health care due to fears of mistreatment. It may not be individual policies that matter as much for avoiding health care due to fear of mistreatment, but rather the overall social climate that results from a combination of harmful or protective policies. The existence of policies within a state and the political/social environment within that state are generally reciprocally related to each other. Stigmatizing policies may be more likely to be passed within a state that already has a stigmatizing social environment; however, the existence of these policies within that state reinforce those stigmatizing ideologies and create further stigma and lack of access to resources. At the same time, protective policies are also more likely to be enacted in states that have more accepting and trans-friendly political/social environments, and the existence of protective policies within these states also furthers these ideologies that promote acceptance.

There are multiple ways in which a political/social environment may influence health care use among TGGD people in the United States. When stigmatizing policies exist within states, TGGD people may be more likely to anticipate and experience acts of discrimination and/or violence, including within health care settings. The policies included in this analysis highlight laws that allow or prohibit trans-related stigma to occur. For example, when non-discrimination laws include gender identity and gender expression, that extends to health care settings. Therefore, states with more stigmatizing policies and fewer protective ones may have health care settings (and other social environments) that are more likely to perpetuate trans-related stigma. When stigma is experienced within health care settings (or other social institutions), the anticipation of stigma also increases (Goffman, 1963; Hatzenbuehler, 2009). When the anticipation of stigma within health care settings is high, it makes sense that TGGD people will be more likely to delay or not use care due to these concerns.

The current findings build on previous research that highlights that social environments (measured through composite indices comprised of multiple policies) matter for the health of TGGD individuals. The current study is consistent with previous findings suggesting that state-level policies matter for experiences of health and health care of TGGD people (Du Bois et al., 2018; Perez-Brumer et al., 2015). The current study builds on previous findings by demonstrating that when analyzing all 50 states (and Washington, DC), having more protective policies is associated with less non-use of care due to fears of mistreatment, and the relationship between race/ethnicity and health care non-use varies across states. The current study also builds on previous research by highlighting that even after controlling for state-level policies and individual-level and state-level covariates, the relationship between the state where an individual lives and the likelihood of not using health care matters. There may be other political, social, demographic, and historical characteristics of U.S. states that were not measured in this study that play a role in access to health care for TGGD people.

Race/Ethnicity and Health Care. The relationship between race/ethnicity and not using care due to fears of mistreatment varied across states, even after controlling for transgender-specific policies, an individual's race/ethnicity, experiences of racism, and the racial makeup of the states. Even though this study controlled for the prevalence of trans-related stigma and racism, other aspects of these experiences are not included (e.g., the severity, prevalence, and expectation of stigma). Given the different social and historical contexts of race and racism across U.S. states and regions (Omi & Winant, 2014), it makes sense that these experiences would vary across states, and result in a different relationship between race and health care non-use across states.

Using an intersectionality framework (Crenshaw, 1991), these findings also suggest that experiences of trans-related discrimination may also vary by race and ethnicity. Even though this study controls for the prevalence of experiences of trans-related discrimination, the nuances in how these experiences occur and the anticipation of trans-related stigma are not included. These aspects of stigma may vary across TGGD individuals of different races and ethnicities, and especially between non-Hispanic White TGGD people and TGGD people of color. Therefore, if experiences of racism vary across state, then experiences of trans-related discrimination for TGGD people of color may also vary across state.

Covariates and Health Care. Many of the individual-level covariates were also significantly associated with non-use of care due to fears of mistreatment. These variables may be related to an increase in the expectation of experiencing stigma or they may be related to generally having additional barriers to accessing care. Individuals who expect more stigma or who need to employ more effort to access care may be more likely to report not using care due to fears of mistreatment (Goffman, 1963; Hughto et al., 2015; Jaffee et al., 2016). Alternatively, individuals who have easier access to care, more support to help them navigate health care systems, or who see a greater need in accessing care may be less likely to avoid care, even if they experience a fear of being mistreated (Meyer, 2015). It is important to note that since these findings are cross-sectional, it is not possible to determine causal effects. For example, psychological distress was associated with greater non-use of care; however, it is possible that not using care due to fear of mistreatment can also increase psychological distress.

Finally, some of the relationships between covariates and non-use of care were unexpected. Individuals with more education and individuals who were employed were more likely to report not using care. At the same time, individuals who did not know their HIV status were less likely to report not using care. It is possible that these participants are more likely to not use care for other reasons, for example, because of cost or HIV-related stigma (Gamarel et al., 2018; James et al., 2016). However, further research on these relationships is warranted.

Policy Implications. Findings suggest that advocacy for more state-level transgender-specific protective policies is important for improving access to health care services for TGGD people. The implementation of these policies should be considered within the context of race/ethnicity to ensure that TGGD people of color also benefit from these protections. The significant results of the composite index in the multivariate model demonstrate that a combination of protective policies addressing discrimination-related laws, health insurance policies, and regulations for identity documents should allow for TGGD people and especially TGGD people of color to have more rights. Since these findings suggest that the policy climate is what matters for access to health care, it is especially important to also consider advocating for protective policies (or against harmful ones) that are not included in this analysis; for example, these may include bathroom bills, safe school laws, conversion therapy laws, etc.

Research Implications. Additional research is needed to better understand the relationships between trans-related stigma, experiences of race/ethnicity and racism, the expectation of stigma within health care, and delays or non-use of health care. Future research should consider employing an intersectionality approach (Crenshaw, 1991) to better understand why the relationship between race/ethnicity and not using care due to fears of mistreatment varies across state. Across states, advocating for more accepting social contexts is important; however, since not using care due to fear of mistreatment varies across states, it is also important to understand the needs of TGGD individuals as well as the specific social and political contexts within specific states where non-use of care is especially high.

Limitations. There were some limitations to this research. Data are cross-sectional, so no causal inferences can be made. Given that TGGD people comprise approximately 0.6% of the U.S. adult population (Flores, Herman, et al., 2016), a sample of more than 27,000 individuals in the entire USTS is incredibly large. However, caution should be made when interpreting results, since data are based on a convenience sample. Convenience samples are less generalizable to the general population; however, they are commonly used with hard-to-reach populations (Muhib et al., 2001). Furthermore, even though estimates suggest that TGGD populations in the United States are disproportionately comprised of people of color (Flores, Brown, et al., 2016), the sample in this analysis is disproportionately White, highlighting some of the challenges of a convenience sample, especially with most of the data being collected online (Bauermeister et al., 2012; Du Bois et al., 2012; Sullivan et al., 2011).

Though this analysis tried to account for the policies that existed at the time of data collection, it is important to note that two of the policy variables (both related to government identity document regulations) were based on more current policies. Furthermore, even if a policy did not exist in 2015, it is possible that policies were still being discussed at this time, potentially changing the social and political climate. Longitudinal analyses may be more appropriate in capturing the nuances in how changes in policies over time influence health care access and use.

It is also important to note that this analysis attempts to understand how state-level policies account for differences in health care use (or non-use) across U.S. states. However, the survey does not include questions about how long participants have been living in each state, where they may have lived previously, and why they are living in their current state. Often, in the United States, sexual and gender minority populations migrate to locations that have environments that are more accepting of their identities; this may involve migration to a different region of the United States or migration from a rural to an urban area (Black, Gates, Sanders, & Taylor, 2000; P. L. Doan & Higgins, 2011). Especially due to an increase in urban cost of living and gentrification (P. L. Doan & Higgins, 2011), this type of migration can be limited to individuals who have the privilege and ability to make this kind of move (or at least for individuals with privilege, this type of migration may be accomplished with fewer barriers). This means that the decisions to live in specific U.S. states are not random; these decisions to migrate to cities may play a role in changing the social environment and may influence the decision to access health care. Future survey research with TGGD populations across the United States should consider including survey items asking about migration.

Despite these limitations, this study also has many strengths. This study analyzes data that includes a very large sample of TGGD people across the United States and employs a unique and nuanced approach to understanding different ways that policies may influence access to health care for TGGD individuals in the United States. Furthermore, this study not only considers TGGD identity, but also race/ethnicity and its role in access to health care for TGGD individuals.

Conclusions. Overall, this study demonstrates that the social climate created by trans-specific policies matters for TGGD people's access to health care. This study also demonstrates that experiences of health care non-use among TGGD people and across states varies by race/ethnicity. Within a U.S. political climate where policies related to TGGD experiences are increasing, it is essential that we consider policies that protect the health of TGGD people and especially TGGD People of Color; through these policies, we can work towards achieving greater health equity.

CHAPTER V: State-Level Trans-Specific Policies, Race/Ethnicity, and Use of Medical Gender Affirmation Services among Transgender and Other Gender Diverse People in the United States

Introduction

Though not all transgender and other gender diverse people (i.e., individuals whose gender identity is not the same as their sex assigned at birth; TGGD) seek medial gender affirmation services (e.g., hormone replacement treatment [HRT], surgery), for those who do, these services play an essential role in improving quality of life and mental health outcomes (e.g., reduced depression and anxiety) (White Hughto & Reisner, 2016). Unfortunately, there are many barriers for accessing these services (Gridley et al., 2016; Puckett et al., 2018; Sanchez, Sanchez, & Danoff, 2009). According to the U.S. Transgender Survey (USTS), conducted among a large national convenience sample of TGGD people, even though 78% of participants reported wanting HRT, only 49% of participants reported ever receiving HRT (James et al., 2016). Research has focused on barriers related to the health care experience (e.g., stigma within health care settings, medical gatekeeping, lack of provider knowledge) and health insurance (Gridley et al., 2016; Puckett et al., 2018; Xavier et al., 2013), but little is known about the how state-level U.S. policies influence use of medical gender affirmation services.

State-Level Policies and Medical Gender Affirmation Services. The prevalence of state and federal policies specific to the experiences of TGGD people has been increasing over the past decade (Human Rights Campaign Foundation, 2017; Stryker, 2017). These policies can function to increase stigma and limit access to resources (e.g., bathroom bills, military bans, religious exemptions, health insurance exclusions); however, these policies can also be protective, with policies such as non-discrimination laws that include gender identity and/or expression, or health insurance protections. These policies have been found to matter for the health of TGGD people (Du Bois et al., 2018; Gleason et al., 2016; Perez-Brumer et al., 2015).

Policies can determine access to resources, but they can also influence or reflect how accepting or stigmatizing a social environment is for TGGD people. Previous research demonstrates that living in environments with more protective policies, and fewer stigmatizing ones, is associated with improved mental and physical health outcomes and increased access to health care services for TGGD people (Du Bois et al., 2018; Gleason et al., 2016; Perez-Brumer et al., 2015). For example, one study used data from the Behavioral Risk Factor Surveillance System (BRFSS) across 26 U.S. states, and found that living in a state with more protective TGGD-specific policies was associated with TGGD people having fewer poor mental health days, a reduced average of alcoholic drinks per day, and a shorter time since the last routine health care checkup (Du Bois et al., 2018). Though these studies have explored the role of policies on different aspects of health and health care, no previous research to our knowledge has examined the role that state-level TGGD-specific policies play in access to medical gender affirmation services. Accessing medical gender affirmation services is unique from other health care and health experiences, and therefore more research is needed to understand these relationships.

The Role of Race and Ethnicity. Race and ethnicity may also play a role in access to medical gender affirmation services. Using an intersectionality approach (Crenshaw, 1991), it is important to consider how stigma related to multiple marginalized identities plays a role in access to health care services. TGGD people of color not only experience more stigma due to experiences of both racism and trans-related stigma, but their experiences of trans-related stigma may be different than their non-Hispanic White counterparts, with a greater prevalence and severity of stigma, and increased consequences to stigma (Human Rights Campaign Foundation & Trans People of Color Coalition, 2017; James et al., 2016; Logie et al., 2011; Marcellin et al., 2014; Reisner et al., 2014). TGGD people of color report experiencing higher rates of trans-related victimization, verbal harassment, and discrimination (James et al., 2016). Due to experiences of stigma, TGGD people of color are also more likely to report experiencing systematic vulnerability (e.g., homelessness, unemployment, incarceration), resulting in increased exposure to health risks (James et al., 2016). Racism and trans-related stigma embedded within health care systems can also create additional challenges for TGGD people to access care (Hughto et al., 2015; Washington, 2006), with people of color being more likely to receive poorer treatment and to have more mistrust in providers and medical systems (Cuevas et al., 2016; Institute of Medicine, 2003). These forms of stigma may create additional barriers for accessing medical gender affirmation services too. Despite the importance of understanding how multiple identities play a role in access to health care, little is also known about how the relationship between state-level TGGD-specific policies and access to medical gender affirmation services varies by race/ethnicity.

Study Objective. This analysis uses data from USTS (National Center for Transgender Equality, 2015), policy data from the Movement Advancement Project (Movement Advancement Project, 2018), and other publicly-available data on state-level characteristics to determine the relationships between state-level TGGD-specific policies and the use of medical gender affirmation services among TGGD people in the United States. This study employs multilevel modeling to account for clustering of data by state and includes race/ethnicity as a random slope to determine if the relationship between race/ethnicity and use medical gender affirmation services varies across states.

Methods

This is a secondary data analysis of the USTS, a large national survey of TGGD people, implemented by the National Center for Transgender Equality (NCTE) (National Center for Transgender Equality, 2015).

Study Sample and Recruitment. The survey includes 27,715 TGGD respondents across the United States. Eligibility criteria included identifying along a spectrum of self-reported TGGD identities, being at least age 18, and living in a U.S. state or territory. For this analysis, individuals who identify as crossdressers and those who are living in U.S. territories outside of the 50 U.S. states and the District of Columbia were not be included in the analysis. Individuals who identify as cross-dressers (n=758) may have fundamentally different experiences from other TGGD individuals. In addition, the number of participants from the U.S. regions was very small (e.g., 27 from Puerto Rico). Individuals were also only included in each model if they reported wanting to access to that specific type of medical gender-affirming care. With the help of approximately 400 LGBTQ organizations, the NCTE used multiple strategies for recruiting participants, including email, social media, print media, and additional promotional campaigns.

Procedures. Data were collected over a 34-day period, between August and September of 2015. The survey was conducted in both English and Spanish in an online format. The survey was comprised of 32 sections and a total of 324 possible questions that covered a broad range of topics, including, for example, experiences with health, health care, employment, housing, etc. Survey questions were designed through collaborations with a team of researchers and advocates, all individuals with a range of expertise that were important for survey development (e.g., research experience, lived experience).

In addition, to increase access to the survey, 71 LGBTQ organizations also participated in in-person events where TGGD people could take the survey. These organizations offered spaces and resources (such as computers or other web-based devices) where individuals could complete the survey. Approximately 200 participants completed surveys at these events.

All data were collected anonymously. As an incentive for completing the survey, participants entered into a cash-prize drawing. IRB approval to collect the data was attained by the NCTE from the University of California-Los Angeles North General IRB. Permission to use the dataset was acquired from the NCTE.

Measures include medical gender affirmation outcomes, state-level trans-specific policy variables, and other individual-level and state-level control variables.

Medical Gender Affirmation Services can include a range of health care services, such as pubertal blockers (for children and adolescents), HRT, chest surgery, genital surgery, etc. For this analysis, two measures are included: use of HRT and use of therapy/counseling. The World Professional Association for Transgender Health's (WPATH) standards of care for TGGD people recommend that TGGD people attain a referral from a mental health care provider prior to accessing these different medical gender affirmation services (Coleman et al., 2012). Therefore, access to therapy/counseling is also essential for accessing medical gender affirmation services. Participants were first asked if they ever wanted to access each health care outcome (therapy/counseling, HRT) because of their "gender identity or gender transition," and they were then asked if they ever used these services related to their "gender identity or gender transition." Among those who wanted to access to counseling/therapy (n=20,312; 78.07% of total sample) or HRT (n=20,628; 29.29% of total sample), a binary variable was created to indicate whether or not these services were ever accessed.

Policies. State-level policy data is from the Movement Advancement Project (Movement Advancement Project, 2018). Policies include those related to experiences of discrimination (inclusion of gender identity/expression in non-discrimination policies, religious exemption laws), health insurance policies (for private health insurance and for Medicaid), and regulations for identity documents (for changing a gender marker on a state-issued government ID and for a legal name change). These policies all vary across states and are important because they may influence access to health care (and more specifically, access to medical gender affirmation services) for TGGD individuals (Movement Advancement Project, 2018; Russell et al., 2018). All policies are categorical variables; maps highlighting the distribution of these variables across states are presented in Figure 5-10 from Chapter IV.

State-level policies were determined based on the policies that existed at the start of the USTS data collection (August 2015). However, for identity document policies, across most states, these regulations are typically determined by information on state and local websites; therefore, these policies are based on current data from the Movement Advancement Project (July 2018 for changing a gender marker and February 2017 for a legal name change).

Policies were examined separately, but also as a cumulative index that captures the policy climate of each state. Analyzing the policies separately allows for a more nuanced understanding of how each policy is associated with therapy/counseling and HRT use and using a policy index elucidates how the broader socio-political context is associated with the use of these medical gender affirmation services (Du Bois et al., 2018; Hatzenbuehler et al., 2009; Perez-Brumer et al., 2015). The index is especially useful because even though we know that these six policies are important (Movement Advancement Project, 2015a, 2015b, 2015c, 2018), we do not know if these are the exact policies that we need to focus on when considering access to and use of medical gender affirmation services. To create the index, each policy variable was converted into a categorical variable, based on whether the state has a protective or harmful policy; for each policy, the state received a score of -1 if the policy is harmful, a +1 if the policy is protective, and a 0 if the policy does not exist. The index was then comprised of a sum of each variable, where each additional point on the scale indicates an additional protective policy (and each negative point indicates an additional harmful policy). The final composite index ranged from -3 to 5 and the distribution of the index across states is presented in Figure 11 in Chapter IV.

Individual-level control variables include demographics, experiences of discrimination and victimization, outness about gender identity, social support, systematic vulnerability, health status, health insurance coverage, and identity document changes.

Demographic variables include age, gender identity, sexual orientation, race, U.S. citizenship status, highest education level, and employment status. Age was measured as a continuous variable in years. Gender identity is a categorical variable, including: trans-feminine, trans-masculine, other gender diverse and assigned male at birth (AMAB), and other gender diverse and assigned female at birth (AFAB). Sexual orientation was measured as Heterosexual/Straight; LGB+; Asexual; and Other.

For inclusion as an individual-level control variable, race/ethnicity were measured as a categorical variable, including non-Hispanic White; American Indian or Alaska Native; Asian, Native Hawaiian, or Pacific Islander; Black; Latinx/Hispanic; Multiracial; or Other. The racial group "Other" includes individuals who identified as a racial group not listed in the USTS and individuals who identified as Middle Eastern or North African because there were not enough individuals in this group to measure their unique experiences across U.S. states (n=128).

U.S. citizenship status is a binary variable, based on whether or not a participant is a U.S. citizen. Education level was measured based on educational attainment across four categories: High school graduate; some college; undergraduate degree; and graduate or professional degree. Current employment status was measured as being employed (full-time, part-time, or self-employed), unemployed, and out of the labor force (e.g., individuals who are students, retired, homemakers or full-time parents, and those who are not employed due to a disability).

Experiences of trans-related stigma and racism. Trans-related stigma and racism variables include experiences of discrimination, verbal victimization, and physical violence occurring in the past year. These experiences were considered to be trans-related stigma if participants attributed these experiences to their trans status/gender identity and/or gender expression/appearance and they were considered to be racism if participants attributed the experiences to their race.

Gender expression, outness, and social support. Gender expression was measured based on the yes/no response to the question: “Do you currently live full-time in a gender that is different from the one assigned to you at birth?” Outness was measured using a 0-8 scale, where each point on the scale indicates an additional group (e.g., family, friends, co-workers) to whom the respondent has disclosed their gender identity (defined as a group where all or most of the people in that group know that the participant is TGGD). A binary social support variable captures whether or not immediate family, co-workers, and/or classmates provide social support, defined as having a group where some, most, or all of the people in that group know about the participant’s gender identity and that the people in that group are, on average, very supportive or supportive.

Systematic vulnerability. For this analysis, systematic vulnerability is defined as social conditions that put a group or individual at a “higher risk of experiencing health risks” (Frohlich & Potvin, 2008). This is important to understand because these experiences may be linked with experiences of health care use and medical gender affirmation services, specifically (Decker et al., 2015; Massoglia & Pridemore, 2015; Stiehm, 2000; Tang et al., 2015; Xavier et al., 2013). Systematic vulnerability is examined through four separate binary variables measuring lifetime experiences of homelessness and sex work, current experiences of poverty, and incarceration in the past year.

Health status includes measures of health outcomes found to be disproportionately experienced by TGGD populations (Bauermeister et al., 2016; James et al., 2016; Mustanski et al., 2010; Poteat, Scheim, Xavier, Reisner, & Baral, 2016; Xavier et al., 2005). These variables include: experiences of psychological distress in the past thirty days (measured through the Kessler Psychological Distress Scale [K6]) (Kessler et al., 2002), lifetime experiences of "serious" suicidal thoughts, HIV status (including three categories: living with HIV, not living with HIV, and does not know their status/has never been tested), alcohol use in the past thirty days (measured based on having at least one incident of binge drinking), and any illicit drug use (e.g., cocaine, heroin) or use of prescription drugs (e.g., Oxycontin, Xanax) not as prescribed in the past thirty days.

Health insurance coverage was measured based on the yes/no answer to the question: Are you currently covered by any health insurance or health coverage plan?" This includes any type of health insurance coverage (e.g., private health insurance, Medicaid, Medicare).

State-level control variables include variables describing the racial makeup of each state, the state's population density, and the urban makeup of the state. These state-level characteristics all reflect on the context of the state in ways that may influence experiences of identity and access to medical gender affirmation services. Data on racial makeup were used from Census's 2017 American Community Survey (U.S. Census Bureau, 2017) and were included as the percentage of the population that is non-Hispanic White in order to broadly capture the racial diversity (or lack of diversity) of a state. Data on population density of each state are available through the decennial Census, which was last collected in 2010, and was measured as the number of people per square mile. The urban makeup of each state was included using data from the United States Department of Agriculture (USDA). The USDA ranks each U.S. county using Rural-Urban Continuum Codes that are updated every ten years and were most recently applied in 2013 (United States Department of Agriculture, 2016). Each county is scored on a range from 1 (most urban) to 9 (most rural). Urbanity was measured as the proportion of counties in a state that are ranked with a 1.

Analysis. Data were analyzed using the STATA 14 software package (College Station, Texas). Multilevel logistic regression was used to understand the relationships between state-level trans-specific policies and the use of medical gender affirmation services.

Cleaning the data. Fist, data were assessed for meaningful missingness (i.e., systematic bias resulting from missing data) and multicollinearity. Missing data on the outcome variable were found to be missing at random and none of the covariates were missing more than 10% of responses, so all missing data were dropped from the dataset (Little & Rubin, 2014; Raghunathan, 2004), resulting in a sample size of 18,195 participants who reported wanting therapy counseling and 18,421 participants who reported wanting HRT. After multicollinearity was assessed, the model was re-specified; a state-level variable measuring who won the 2016 presidential election was removed from the analysis, since this variable was closely associated with multiple policy variables (Cohen et al., 2013).

Descriptive statistics included computing frequencies of categorical variables and measures of central tendency and variability (i.e., means and standard deviations) of continuous variables. Bivariate analyses were also conducted to examine the independent relationships between each independent variable and each outcome (therapy/counseling and HRT) using chi-square tests (for categorical variables) and t-tests (for continuous variables). An alpha level of 0.05 was used to determine significance for all analyses in the study.

Multilevel logistic regression. Four separate multilevel logistic regression models were fit, with two models being fit for each outcome. For each outcome, a separate model was fit to assess the relationship with the composite policy score and the outcome; these models examine the general political climate. Two separate models were also fit to examine the relationships between all of the individual policies and each outcome (therapy/counseling and HRT). In order to account for the clustering of data by state, U.S. state was included as a random intercept; this included all 50 states and the District of Columbia (for a total of 51 regions). Race/ethnicity was included as the random slope. This was a binary variable based on whether an individual was non-Hispanic White or a person of color. The random slope determines if the relationship between race/ethnicity and health care use vary across states.

Results

Descriptive Statistics and Binary Analyses. Descriptive statistics and results of binary analyses are presented in Tables 14 and 15. The majority of participants reported using therapy/counseling (67.33%, n=12,250) or HRT (61.38%, 11,307). The average age of participants in both samples was approximately 31, ranging from 18 to 81. For both samples, approximately 40% were trans-feminine, with only approximately 5-6% of participants identifying as another gender diverse identity (AFAB). For both samples, most participants were LGB+ (therapy/counseling: 73.17%, n=13,313; HRT: 71.85%, n=13,236), non-Hispanic White (therapy/counseling: 81.62%, n=14,851; HRT: 81.48%, 15,010), and U.S. citizens (therapy/counseling: 98.40%, n=17,903; HRT: 98.41%, 18,128). About two-thirds of both samples were employed and a little more than 85% of both samples had at least some college education

Table 14: Sample Descriptive Statistics for Individual-Level Covariates Used to Examine Therapy/Counseling and Hormone Use

	Therapy/Counseling (n=18,195)			Hormones (n=18,421)		
Variables	**Sample Distribution of those who Wanted Counseling/Therapy**	**Received Counseling/ Therapy**	**p-value**	**Sample Distribution of those who Wanted HRT**	**Received HRT**	**p-value**
Demographic Characteristics						
Age, mean (SD)	31.03 (12.84)	33.77 (13.51)	**<0.001**	31.45 (12.97)	34.81 (13.41)	**<0.001**
Gender identity, % (n)			**<0.001**			**<0.001**
Trans-feminine	37.47 (6,817)	82.37 (5,615)		41.25 (7,599)	74.92 (5,693)	
Trans-masculine	30.70 (5,586)	76.28 (4,261)		36.11 (6,651)	67.88 (4,515)	
Other gender diverse (AFAB)	25.45 (4,631)	39.00 (1,806)		17.46 (3,217)	24.65 (793)	
Other gender diverse (AMAB)	6.38 (1,161)	48.92 (568)		5.18 (954)	32.08 (306)	
Sexual identity, % (n)			**<0.001**			**<0.001**
Heterosexual/Straight	11.01 (2,004)	83.38 (1,671)		12.75 (2,349)	78.20 (1,837)	
LGB+	73.17 (13,313)	68.14 (9,072)		71.85 (13,236)	61.89 (8,192)	
Asexual	9.40 (1,711)	48.51 (830)		9.11 (1,679)	41.81 (702)	
Other	6.41 (1,167)	58.01 (677)		6.28 (1,157)	49.78 (576)	
Race/Ethnicity, % (n)			**<0.001**			**<0.001**
White	81.62 (14,851)	68.75 (10,210)		81.48 (15,010)	61.92 (9,294)	
American Indian/Alaska Native	1.13 (205)	62.44 (128)		1.19 (220)	58.64 (129)	
Asian, Native Hawaiian, Pacific Islander	2.59 (472)	61.86 (292)		2.68 (493)	55.78 (275)	
Black	2.53 (461)	64.64 (298)		2.71 (500)	65.80 (329)	
Latinx/Hispanic	5.03 (916)	57.97 (531)		4.90 (902)	56.43 (509)	
Multiracial	4.48 (816)	57.97 (473)		4.46 (822)	57.06 (469)	
Other	2.61 (474)	67.09 (318)		2.57 (474)	63.71 (302)	
Has U.S. citizenship, % (n)			**0.014**			0.152
Yes	98.40 (17,903)	67.44 (12,037)		98.41 (18,128)	61.45 (11,139)	
No	1.60 (292)	60.62 (177)		1.59 (293)	57.34 (168)	
Highest education level, % (n)			**<0.001**			**<0.001**
Less than high school	2.73 (496)	42.94 (213)		2.92 (537)	34.26 (184)	
High school graduate (including GED)	11.12 (2,023)	51.71 (1,046)		11.76 (2,166)	42.47 (920)	
Some college (no degree)	37.71 (6,862)	59.87 (4,108)		37.50 (6,908)	53.58 (3,701)	
Undergraduate degree	34.93 (6,355)	75.12 (4,774)		34.53 (6,361)	70.49 (4,484)	
Graduate or professional degree	13.51 (2,459)	85.77 (2,109)		13.29 (2,449)	82.40 (2,018)	
Employment status, % (n)			**<0.001**			**<0.001**
Employed	67.45 (12,272)	71.25 (8,744)		67.42 (12,420)	65.75 (8,166)	
Unemployed	12.72 (2,314)	52.59 (1,217)		12.69 (2,338)	44.87 (1,049)	
Out of the labor force	19.84 (3,609)	63.42 (2,289)		19.88 (3,663)	57.11 (2,092)	

Experiences of Trans-Related Stigma							
Experienced discrimination, % (n)				**<0.001**			**<0.001**
	Yes	14.75 (2,683)	73.20 (1,964)		15.26 (2,811)	71.33 (2,005)	
	No	85.25 (15,512)	66.31 (10,286)		84.74 (15,610)	59.59 (9,302)	
Experienced verbal harassment, % (n)				**<0.001**			**<0.001**
	Yes	49.13 (8,940)	65.18 (5,827)		47.81 (8,807)	59.33 (5,225)	
	No	50.87 (9,255)	69.40 (6,423)		52.19 (9,614)	63.26 (6,082)	
Experienced physical violence, % (n)				**<0.001**			**0.035**
	Yes	9.19 (1,672)	61.96 (1,036)		9.00 (1,658)	59.11 (980)	
	No	90.81 (16,523)	67.87 (11,214)		91.00 (16,763)	61.61 (10,327)	
Experiences of Racism							
Experienced discrimination, % (n)				**<0.001**			0.239
	Yes	1.79 (326)	57.67 (188)		1.70 (313)	58.15 (182)	
	No	98.21 (17,869)	67.50 (12,062)		98.30 (18,108)	61.44 (11,125)	
Experienced verbal harassment, % (n)				**<0.001**			**<0.001**
	Yes	4.83 (878)	55.81 (490)		4.40 (810)	53.58 (434)	
	No	95.17 (17,317)	67.91 (11,760)		95.60 (17,611)	61.74 (10,873)	
Experienced physical violence, % (n)				**<0.001**			0.235
	Yes	0.89 (162)	51.85 (84)		0.76 (140)	56.14 (80)	
	No	99.11 (18,033)	67.47 (12,166)		99.24 (18,281)	61.41 (11,227)	
Gender Expression, Outness, and Social Support							
Living full time in gender different from sex assigned at birth, % (n)				**<0.001**			**<0.001**
	Yes	62.80 (11,426)	79.89 (9,128)		68.20 (12,564)	78.44 (9,855)	
	No	37.20 (6,769)	46.12 (3,122)		31.80 (5,857)	24.79 (1,452)	
Outness scale, mean (SD)		3.61 (2.34)	4.35 (2.16)	**<0.001**	3.90 (2.27)	4.85 (1.91)	**<0.001**
Has social support, % (n)				**<0.001**			**<0.001**
	Yes	63.49 (11,552)	76.80 (8,872)		66.67 (12,281)	70.61 (8,672)	
	No	36.51 (6,643)	50.85 (3,378)		33.33 (6,140)	42.92 (2,635)	
Systematic Vulnerability							
Living at/near poverty, % (n)				**<0.001**			**<0.001**
	Yes	32.67 (5,945)	57.86 (3,440)		32.34 (5,958)	51.76 (3,084)	
	No	67.33 (12,250)	71.92 (8,810)		67.66 (12,463)	65.98 (8,223)	
Ever experienced homelessness, % (n)				0.061			**<0.001**
	Yes	29.83 (5,427)	68.33 (3,708)		30.88 (5,689)	66.85 (3,803)	
	No	70.17 (12,768)	66.90 (8,542)		69.12 (12,732)	58.94 (7,504)	
Incarcerated in the past year, % (n)				0.527			0.429
	Yes	1.27 (231)	69.26 (160)		1.38 (254)	63.78 (162)	

No	98.73 (17,964)	67.30 (12,090)		98.62 (18,167)	61.35 (11,145)	
Ever engaged in sex work/industry, % (n)			**0.005**			**<0.001**
Yes	10.16 (1,849)	70.25 (1,299)		10.94 (2,016)	72.72 (1,466)	
No	89.84 (16,346)	66.99 (10,951)		89.06 (16,405)	59.99 (9,841)	
Health Status and Health Insurance						
Psychological distress, % (n)			**<0.001**			**<0.001**
Yes	40.44 (7,358)	55.25 (4,065)		38.29 (7,054)	46.27 (3,264)	
No	59.56 (10,837)	75.53 (8,185)		61.71 (11,367)	70.76 (8,043)	
Suicidal ideation, % (n)			**<0.001**			**<0.001**
Yes	84.46 (15,368)	66.53 (10,224)		83.81 (15,439)	60.70 (9,371)	
No	15.54 (2,827)	71.67 (2,026)		16.19 (2,982)	64.92 (1,936)	
HIV status, % (n)			**<0.001**			**<0.001**
Not living with HIV	52.67 (9,583)	77.85 (7,460)		53.50 (9,855)	75.97 (7,487)	
Living with HIV	0.55 (100)	73.00 (73)		0.69 (128)	82.81 (106)	
Never tested/does not know	46.78 (8,512)	55.42 (4,717)		45.81 (8,438)	44.02 (3,714)	
Binge drinking in the past month, % (n)			0.338			**<0.001**
Yes	25.71 (4,678)	67.89 (3,176)		25.39 (4,678)	63.83 (2,986)	
No	74.29 (13,517)	67.13 (9,074)		74.61 (13,743)	60.55 (8,321)	
Used drugs in the past month, % (n)			**0.009**			**<0.001**
Yes	28.63 (5,209)	68.77 (3,582)		28.66 (5,280)	66.23 (3,497)	
No	71.37 (12,986)	66.75 (8,668)		71.34 (13,141)	59.43 (7,810)	
Has health insurance coverage, % (n)			**<0.001**			**<0.001**
Yes	87.99 (16,009)	69.30 (11,094)		87.56 (16,130)	62.79 (10,128)	
No	12.01 (2,186)	52.88 (1,156)		12.44 (2,291)	51.46 (1,179)	
Total	18,195	67.33 (12,250)		18,421	61.38 (11,307)	

Table 15: Descriptive Statistic for Policy Variables and State-Level Covariates Examining Therapy/Counseling and HRT Use

	Wanted Therapy/Counseling (n=18,195)			**Wanted HRT (n=18,421)**		
Variables	**Sample Distribution**	**Received Therapy**	**p-value**	**Sample Distribution**	**Received HRT**	**p-value**
Policies						
Non-discrimination protections, % (n)			**<0.001**			**<0.001**
State includes gender identity/expression	47.81 (8,699)	69.80 (6,072)		47.71 (8,788)	66.02 (5,802)	
State does not include gender identity/expression	52.19 (9,496)	65.06 (6,178)		52.29 (9,633)	57.15 (5,505)	
Religious exemption laws, % (n)			**<0.001**			**<0.001**
Broad law exists in state	35.61 (6,480)	64.03 (4,149)		36.04 (6,639)	56.54 (3,754)	
Only specific law exists in state	6.97 (1,269)	64.38 (817)		7.06 (1,300)	55.62 (723)	
No law exists in state	57.41 (10,446)	69.73 (7,284)		56.90 (10,482)	65.16 (6,830)	
Private health insurance, % (n)			**<0.001**			**<0.001**
Has TGGD-specific protections in state policy	39.13 (7,119)	70.70 (5,033)		39.14 (7,210)	67.02 (4,832)	
Does not have TGGD-specific protections in state policy	60.87 (11,076)	65.16 (7,217)		60.86 (11,211)	57.76 (6,475)	
Medicaid, % (n)			**<0.001**			**<0.001**
State has TGGD-specific Medicaid policies	71.31 (12,975)	66.09 (8,575)		71.43 (13,158)	59.37 (7,812)	
State excludes TGGD-specific care	5.57 (1,014)	63.91 (648)		5.53 (1,018)	58.84 (599)	
State includes TGGD-specific care	23.12 (4,206)	71.97 (3,027)		23.04 (4,245)	68.22 (2,896)	
Gender marker change requirements on state ID, % (n)			**<0.001**			**<0.001**
No policies exist in state	1.45 (264)	63.26 (167)		1.49 (274)	50.73 (139)	
State requires proof of surgery, court order, or amended birth certificate	19.07 (3,469)	62.78 (2,178)		19.18 (3,534)	55.43 (1,959)	
State accepts documentation from a limited list of providers	37.93 (6,902)	66.85 (4,614)		37.71 (6,946)	60.03 (4,170)	
State accepts documentation from a broad range of providers	41.55 (7,560)	69.99 (5,291)		41.62 (7,667)	65.72 (5,039)	
Legal name change requirements, % (n)			**0.002**			**<0.001**
State has unclear rules or decided by an individual court	48.97 (8,911)	67.82 (6,043)		49.09 (9,043)	61.38 (5,551)	
State requires a public announcement	8.44 (1,536)	63.22 (971)		8.21 (1,512)	56.15 (849)	
State does not require a public announcement	42.58 (7,748)	67.58 (5,236)		42.70 (7,866)	62.38 (4,907)	
Composite Score, mean (SD)	1.61 (2.15)	1.71 (2.14)	**<0.001**	1.61 (2.15)	1.77 (2.16)	**<0.001**
State Characteristics						
State proportion of White people, mean (SD)	77.81 (8.59)	77.84 (8.63)	0.543	77.83 (8.63)	77.63 (8.79)	**<0.001**
State population density, mean (SD)	318.36 (872.72)	327.95 (909.44)	**0.033**	315.44 (864.55)	338.59 (972.34)	**<0.001**
State proportion living in an urban area, mean (SD)	0.56 (0.22)	0.56 (0.22)	**<0.001**	0.56 (0.22)	0.57 (0.22)	**<0.001**

Generally, participants disproportionately lived in states with protective policies (e.g., California and New York), so the distribution of participants living in states with protective policies (Table 15) does not reflect the prevalence of state-level policies across the country. For example, in 2015, only 21.57% of states had trans-specific protections in their private health insurance policies, but approximately 39% of participants in both samples reported living in a state that had this policy. The distribution of the policy composite score across states is also different than the distribution across participants, with the mean composite score among participants being 1.61 across both samples (Range: -3, 5).

Multilevel Logistic Regression Results. Findings from the multilevel logistic regression models demonstrate that the policy composite score was significantly associated with the use of both therapy/counseling and HRT. Across all nine points on the scale, for each additional point on the index, the odds of receiving therapy/counseling increased by 4% (p=0.031) and the odds of receiving HRT increased in by 6% (p=0.003).

When examining all of the policies separately, results demonstrate that individual policies also matter for each of these health care use outcomes (Table 16). Compared with individuals who live in a state where no religious exemption laws exist, living in a state where a broad religious exemption law exists was associated with a 16% decrease in accessing counseling/therapy (p=0.010). Medicaid policies also mattered for counseling/therapy use; compared with individuals living in states that have no TGGD-specific Medicaid policies, individuals living in states that specifically exclude TGGD individuals were less likely to use therapy/counseling services (OR=0.70, p=0.005) and those living in states that explicitly include TGGD individuals in Medicaid policies were more likely to use therapy/counseling (OR=1.26, p=0.009). For HRT use, only one individual policy was significantly associated with accessing this type of care. Having non-discrimination protections for TGGD people was associated with increased use of HRT (OR=1.21, p=0.029).

Based on the models with all policies included separately (Table 16), none of the state-level covariates were statistically associated with either health care outcome, but most of the individual-level covariates were statistically significant. Participants who were older were more likely to access both types of care; for each additional year of age, participants were 3% more likely to access therapy/counseling (p<0.001) and HRT (p<0.001). Compared with trans-feminine participants, those of all other genders were less likely to access both therapy/counseling and HRT, with other gender diverse individuals who were AFAB being the least likely to access both types of services (Therapy/Counseling for other gender diverse AFAB: OR=0.30, p<0.001; HRT for other gender diverse AFAB: OR=0.12, p<0.001).

For sexual identity, when compared with individuals who identify as heterosexual or straight, asexual participants were less likely to access therapy/counseling (OR=0.76, p=0.004) and those identifying as LGB or as a sexual identity that was not included in the survey were less likely to access both therapy/counseling (LGB: OR=0.83, p=0.011; Other identity: OR=0.79, p=0.027) and HRT (LGB: OR=0.79, p=0.001; Other identity: OR=0.73, p=0.005). Participants who identified as American Indian/Alaska Native (OR=0.61, p=0.006), Latinx/Hispanic (OR=0.76, p=0.003), and Multiracial (OR=0.82, p=0.033) were all less likely to access therapy/counseling than their non-Hispanic White counterparts, but race/ethnicity was not significantly associated with HRT use. For both types of care, being a U.S. citizen was associated with an increase in use of care, with citizens being 39% more likely to access therapy/counseling (p=0.036) and 51% more likely to access HRT (p=0.018). Finally, as education increased, participants were more likely to access services; compared with individuals with less than a high school degree, the odds of accessing therapy/counseling and HRT among participants with a graduate or professional degree were 3.10 (p<0.001) times and 3.60 (p<0.001) times greater, respectively.

Across both outcomes, none of the racism variables were statistically significant. For the trans-related stigma variables, verbal harassment was the only covariate associated with therapy/counseling use (OR=0.85, p=<0.001); however, for HRT, all three trans-related stigma variables were statistically significant. Participants who reported experiencing trans-related discrimination were more likely to access HRT (OR=1.34, p<0.001), but participants experiencing verbal harassment (OR=0.67, p<0.001) and physical violence (0.81, p=0.001) were less likely to access HRT.

For both health care outcomes, living full time in a gender that is different from one's sex assigned at birth (Therapy/Counseling OR: 1.65, p<0.001; HRT OR=5.67, p<0.001) and having a higher score on the outness scale (Therapy/Counseling OR: 1.42, p<0.001; HRT OR=1.48, p<0.001) were both associated with an increase in use of services. Social support was also associated with both types of care; participants reporting that they had social support from family, coworkers, and classmates were more likely to report using both therapy/counseling (OR=1.25, p<0.001) and HRT (OR=1.14, p=0.008).

Among the systematic vulnerability variables, living at/near poverty was associated with a decrease of services for both outcomes (Therapy/Counseling OR=0.87, p=0.002; HRT OR=0.77, p<0.001). Having experienced homelessness was associated with a 11% decrease in using therapy/counseling (p=0.008), but a 13% increase in using HRT (p=0.016). In addition, being incarcerated in the past year and ever engaging in sex work were both only associated with HRT use, but with relationships in opposite directions; those who were incarcerated were 38% less likely to access HRT (p=0.006), while those who engaged in sex work were 27% more likely to access to HRT (p=0.002).

Many of the health status covariates were significantly associated with the use of medical gender affirmation services. Current (i.e., in the past month) experiences of psychological distress were associated with a decrease in both therapy/counseling (OR=0.86, p<0.001) and HRT (OR=0.71, p<0.001). However, having a lifetime history of suicidal ideation was associated with an increase in the use of care (Therapy/Counseling OR=1.13, p=0.042; HRT OR=1.16, p=0.021). In addition, compared with individuals not living with HIV, living with HIV was associated with a 56% decrease in the use of counseling/therapy (p=0.003) and not knowing one's HIV status was associated with a decrease in use of both counseling/therapy (OR=0.76, p<0.001) and HRT (OR=0.52, p<0.001). Drug use in the past month was also associated with an increase in HRT use (OR=1.20, p<0.001). Finally, having health insurance coverage was associated with an increase in both types of medical gender affirmation services (Counseling/Therapy OR=1.82, p<0.001; HRT OR=1.42, p<0.001).

For both outcomes, when examining all of the policies separately in the model, the random intercept is statistically significant. This means that there is unobserved heterogeneity; even after controlling for all of the individual and state-level variables in the model, the likelihood of accessing therapy/counseling or HRT still varies by state. For both health care outcomes, the random slope of race/ethnicity is also statistically significant. This indicates that, even after controlling for all other factors in the model, the relationship between race/ethnicity and use of medical gender affirmation services varies across U.S. states.

Table 16: Multilevel logistic regression results examining the relationships between individual policies and medial gender affirmation services

	Counseling/Therapy n=18,195			Hormone Replacement Treatment n=18,421		
	Odds Ratio	**95% CI**	**p-value**	**Odds Ratio**	**95% CI**	**p-value**
State-Level Policies						
Non-discrimination protections						
State includes gender identity/expression	0.89	0.78,1.02	0.105	**1.21**	**1.02,1.43**	**0.029**
State does not include gender identity/expression	Reference Group			Reference Group		
Religious exemption laws						
Broad law exists in state	**0.84**	**0.74,0.96**	**0.010**	0.93	0.79,1.09	0.394
Only specific law exists in state	0.92	0.75,1.12	0.396	1.12	0.87,1.46	0.370
No law exists in state	Reference Group			Reference Group		
Private health insurance						
Has TGGD-specific protections in state policy	1.06	0.93,1.21	0.381	1.15	0.96,1.36	0.122
Does not have TGGD-specific protections in state policy	Reference Group			Reference Group		
Medicaid						
State has no TGGD-specific Medicaid policies	Reference Group			Reference Group		
State excludes TGGD-specific care	**0.70**	**0.55,0.90**	**0.005**	0.90	0.473	0.67,1.20
State includes TGGD-specific care	**1.26**	**1.06,1.49**	**0.009**	0.97	0.813	0.77,1.23
Gender marker change requirements on state ID						
No policies exist in state	Reference Group			Reference Group		
State requires proof of surgery, court order, or amended birth certificate	1.23	0.85,1.78	0.271	1.28	0.85,1.95	0.241
State accepts documentation from a limited list of providers	1.20	0.82,1.74	0.351	1.13	0.74,1.73	0.570
State accepts documentation from a broad range of providers	1.14	0.78,1.67	0.485	1.30	0.84,2.00	0.234
Legal name change requirements						
State has unclear rules or decided by an individual court	Reference Group			Reference Group		
State requires a public announcement	1.03	0.86,1.23	0.741	0.90	0.72,1.11	0.342
State does not require a public announcement	0.97	0.87,1.09	0.667	0.90	0.77,1.04	0.160
State-Level Characteristics						
State proportion of White people	1.00	1.00,1.00	0.420	1.00	0.99,1.00	0.760
State population density	1.00	1.00,1.00	0.875	1.00	1.00,1.00	0.552
State proportion living in an urban area	0.88	0.67,1.16	0.360	1.06	0.77,1.47	0.711
Individual-Level Sociodemographic Characteristics						
Age	**1.03**	**0.68,0.85**	**<0.001**	**1.03**	**1.02,1.03**	**<0.001**
Gender identity						
Trans-feminine	Reference Group			Reference Group		
Trans-masculine	**0.76**	**0.68,0.85**	**<0.001**	**0.49**	**0.44,0.55**	**<0.001**
Other gender diverse (AFAB)	**0.30**	**0.27,0.34**	**<0.001**	**0.12**	**0.11,0.14**	**<0.001**

Other gender diverse (AMAB)	**0.39**	**0.34,0.46**	**<0.001**	**0.24**	**0.20,0.29**	**<0.001**
Sexual identity						
Heterosexual/Straight	Reference Group			Reference Group		
LGB+	**0.83**	**0.72,0.96**	**0.011**	**0.79**	**0.69,0.91**	**0.001**
Asexual	**0.67**	**0.55,0.80**	**<0.001**	0.90	0.74,1.09	0.272
Other	**0.72**	**0.59,0.88**	**0.001**	**0.63**	**0.51,0.77**	**<0.001**
Race/Ethnicity						
White	Reference Group			Reference Group		
American Indian/Alaska Native	**0.61**	**0.43,0.87**	**0.006**	0.69	0.47,1.00	0.055
Asian, Native Hawaiian, Pacific Islander	0.99	0.77,1.26	0.931	1.06	0.80,1.39	0.693
Black	0.93	0.72,1.20	0.574	1.04	0.78,1.37	0.810
Latinx/Hispanic	**0.76**	**0.63,0.91**	**0.003**	0.97	0.79,1.19	0.782
Multiracial	**0.82**	**0.68,0.98**	**0.033**	1.07	0.87,1.31	0.543
Other	0.98	0.76,1.26	0.889	1.07	0.81,1.40	0.654
Has U.S. citizenship	**1.39**	**1.02,1.88**	**0.036**	**1.51**	**1.07,2.12**	**0.018**
Highest education level						
Less than high school	Reference Group			Reference Group		
High school graduate (including GED)	1.16	0.91,1.47	0.227	1.18	0.91,1.54	0.218
Some college (no degree)	**1.59**	**1.27,1.98**	**<0.001**	**1.86**	**1.45,2.39**	**<0.001**
Undergraduate degree	**2.24**	**1.78,2.82**	**<0.001**	**2.76**	**2.14,3.57**	**<0.001**
Graduate or professional degree	**3.10**	**2.38,4.03**	**<0.001**	**3.60**	**2.69,4.81**	**<0.001**
Employment status						
Employed	Reference Group			Reference Group		
Unemployed	**0.89**	**0.79,0.99**	**0.038**	**0.83**	**0.73,0.95**	**0.006**
Out of the labor force	1.10	1.00,1.22	0.055	1.08	0.96,1.21	0.197
Experiences of Trans-Related Stigma						
Experienced discrimination	1.03	0.91,1.17	0.644	**1.34**	**1.17,1.53**	**<0.001**
Experienced verbal harassment	**0.85**	**0.78,0.93**	**<0.001**	**0.67**	**0.61,0.74**	**<0.001**
Experienced physical violence	0.91	0.79,1.05	0.188	**0.81**	**0.69,0.95**	**0.010**
Experiences of Racism						
Experienced discrimination	0.92	0.66,1.27	0.610	0.86	0.59,1.25	0.422
Experienced verbal harassment	0.98	0.80,1.21	0.880	0.94	0.74,1.19	0.583
Experienced physical violence	0.89	0.58,1.36	0.590	1.27	0.75,2.14	0.376
Gender Expression, Outness, and Social Support						
Living full time in gender different from sex assigned at birth	**1.65**	**1.50,1.81**	**<0.001**	**5.67**	**5.08,6.32**	**<0.001**
Outness scale	**1.42**	**1.38,1.45**	**<0.001**	**1.48**	**1.44,1.52**	**<0.001**
Has support from family, coworkers, or classmates	**1.25**	**1.14,1.36**	**<0.001**	**1.14**	**1.03,1.26**	**0.008**

Systematic Vulnerability						
Living at/near poverty	**0.87**	**0.80,0.95**	**0.002**	**0.77**	**1.02,1.26**	**<0.001**
Ever experienced homelessness	**0.89**	**0.81,0.97**	**0.012**	**1.13**	**1.02,1.26**	**0.016**
Incarcerated in the past year	0.81	0.58,1.14	0.223	**0.62**	**0.44,0.87**	**0.006**
Ever engaged in sex work/industry	0.94	0.82,1.08	0.359	**1.27**	**1.09,1.48**	**0.002**
Health Status and Health Insurance						
Psychological distress	**0.86**	**0.79,0.93**	**<0.001**	**0.71**	**0.64,0.78**	**<0.001**
Suicidal ideation	**1.13**	**1.00,1.27**	**0.042**	**1.16**	**1.02,1.31**	**0.021**
HIV status						
Not living with HIV	Reference Group			Reference Group		
Living with HIV	**0.44**	**0.26,0.76**	**0.003**	0.67	0.37,1.20	0.178
Never tested/does not know	**0.76**	**0.69,0.83**	**<0.001**	**0.51**	**0.46,0.56**	**<0.001**
Binge drinking in the past month	0.98	0.89,1.08	0.679	1.04	0.84,1.15	0.434
Used drugs in the past month	1.04	0.95,1.14	0.434	**1.20**	**1.09,1.33**	**<0.001**
Has health insurance coverage	**1.82**	**1.62,2.04**	**<0.001**	**1.42**	**1.25,1.62**	**<0.001**
Random Intercept	**0.003**	**0.00,0.04**		**0.01**	**0.00,0.05**	
Random Slope	**0.01**	**0.00,0.05**		**0.01**	**0.00,0.11**	

When the odds ratio is statistically significant, and the 95% confidence interval appears to cross 1, it is because of rounding

Discussion

Though some research has demonstrated that state-level policies matter for the health of TGGD populations (Du Bois et al., 2018; Gleason et al., 2016; Perez-Brumer et al., 2015), this is the first study exploring the relationship between state-level TGGD-specific policies and the use of medical gender affirmation services. Even though therapy/counseling extends to mental health care services beyond medical gender affirmation, for this study, participants specifically report the use of therapy/counseling for "gender identity or gender transition." Though some clinics use an informed consent model that does not require the use of therapy/counseling prior to accessing HRT or other medical gender affirmation services (Reisner, Bradford, et al., 2015; Schulz, 2018; Wylie et al., 2016), the WPATH standards of care (Coleman et al., 2012) recommend receiving a mental health referral prior to accessing HRT or surgeries. As a result, therapists/counselors are often perceived as gatekeepers for other types of medical gender affirmation services (Budge, 2015; Xavier et al., 2013). Therefore, in many cases, counseling/therapy is a required step for accessing HRT. As a result, many results were similar across both types of health care; however, in some cases, results varied.

Policies and Use of Medical Gender Affirmation Services. Policies related to discrimination were associated with both outcomes. TGGD people living in states with broad religious exemption laws were less likely to report using therapy/counseling when they wanted it, compared with individuals living in states with no religious exemption laws. In addition, TGGD individuals living in states that extend non-discrimination to include gender identity and/or gender expression were more likely to report accessing HRT. Policies related to discrimination may reflect the experiences of stigma that may occur within each state. Living in states with more protective non-discrimination policies and without religious exemption laws may help to reduce experiences of both enacted and anticipated stigma. Previous research demonstrates that stigma (and especially stigma within health care settings) is a barrier for accessing medical gender affirmation services (Gridley et al., 2016; Hughto et al., 2015; Kosenko et al., 2013). These policies prohibit and/or allow for discrimination to occur across a range of settings, including within health care settings. Therefore, it is possible that individuals living in states with more protective non-discrimination policies and those living in states without stigmatizing religious exemption laws may be less likely to anticipate stigma within health care settings, and more able to access medical gender affirmation services when they want them.

Medicaid policies were only associated with the use of therapy/counseling, with explicit TGGD inclusions being associated with an increased use of therapy/counseling and explicit exclusions being associated with a decrease in use of therapy/counseling. The cost of care can be a huge barrier for accessing health care, especially therapy/counseling (James et al., 2016; Padula & Baker, 2017; Roehrig, 2016). Since Medicaid policies were significantly associated with use of therapy/counseling and private health insurance policies were not, these findings indicate that for participants who use Medicaid, the possibility of health insurance coverage for therapy/counseling visits may be especially important.

It is unclear exactly why Medicaid policies were associated with therapy/counseling and not HRT. Even though therapy/counseling and HRT are related and often occur together, some health care settings have shifted to an informed consent model that would not require the use of therapy/counseling (Reisner, Bradford, et al., 2015; Schulz, 2018; Wylie et al., 2016). In addition, the needs and values for each of these types of services may be different. HRT is related to physical changes in gender expression; this may also result in different motivations for attaining HRT, compared with therapy/counseling. Therefore, even though cost can also be a huge barrier for accessing HRT (Padula & Baker, 2017; Padula, Heru, & Campbell, 2016; Puckett et al., 2018), TGGD people may be able to find ways to attain this type of care, despite health insurance policies. Still, these relationships are not entirely clear and more research examining the relationships between health insurance and Medicaid policies and medical gender affirmation services is warranted.

When examining policies related to discrimination, health insurance, and changing identity documents as a combined index, results were similar across both outcomes; individuals living in states with more protective and fewer stigmatizing policies were more likely to access both therapy/counseling and HRT. This demonstrates that the overall sociopolitical climate matters for use of medical gender affirmation services. When considering how both separate policies and the policy composite index are associated with health care use, it is important to note that the individual policies are all reciprocally related to the social and political climate in which they exist (measured by the composite score). For example, a law maker may be more likely to pass a stigmatizing policy if they live in a state with a more stigmatizing environment. However, that stigmatizing policy also contributes to the social and political context, making it easier to pass more policies like that in the future. This highlights the iterative nature of Bronfenbrenner's Socio-ecological Model (Bronfenbrenner, 1979), which recognizes that individuals and institutions function within cultural ideologies that are embedded in society, but also that these cultural ideologies are generated by individuals and institutions.

Variation in Medical Gender Affirmation Services Across U.S. States and Across Race/Ethnicity. Even after controlling for all other covariates in the models, the random effects terms were statistically significant for both health care outcomes. The significant random intercept indicates that experiences with medical gender affirmation services varied across states. There may be other factors related to the social and physical environment in each state that account for this variation. For example, this study did not include measures of the availability of medical gender affirmation services or other social factors (e.g., experiences in schools, with bathrooms) that may account for trans-related stigma in the social environment; these unmeasured variables may play a role in the use (or non-use) of medical gender affirmation services and may account for differences across U.S. states.

The random slope was also significant, indicating that, even after controlling for all of the other variables in the models, the relationship between race/ethnicity and use of medical gender affirmation services varied across states. Even though this study controlled for an individual's race/ethnicity, an individual's experiences of racism, and a state's racial makeup, other factors related to race/ethnicity (e.g., the frequency and severity of trans-related and racist stigma) may account for differences in race/ethnicity and health care use across state. Given that different U.S. states and regions have varied social and historical contexts, especially regarding experiences of race/ethnicity and racism (Omi & Winant, 2014), it makes sense that the relationship between race/ethnicity and the use of the medical gender affirmation services varies across states.

Covariates and Use of Medical Gender Affirmation Services. None of the state-level covariates were significantly associated with therapy/counseling or HRT, but many of the individual-level covariates were. It is possible that many of these variables have significant relationships with use of medical gender affirmation services because they play a role in experiences and anticipation of stigma (inside and outside of health care) or access to medical gender affirmation services. For example, experiences of trans-related stigma may be related to experiences of and anticipation of stigma (Goffman, 1963; Hatzenbuehler, 2009), while systematic vulnerability variables and health insurance may be related to access to care (Kulkarni, Baldwin, Lightstone, Gelberg, & Diamant, 2010; Puckett et al., 2018; Spicer, 2010).

There were a few surprising relationships among the covariates. Some of these surprising relationships may be related to the timing specified in each variable. Even though this is a cross-sectional study, different variables were measured in different time frames. For example, experiencing serious psychological distress was measured based on whether or not this occurred in the past 30 days, while suicidal ideation was measured as occurring in one's lifetime. Given these different time frames, it makes sense that results would vary across these two variables. Experiencing recent psychological distress was associated with a decrease in use of medical gender affirmation services. Since findings are cross-sectional, causal inferences cannot be made. It is possible that experiencing distress is a barrier for care, but it is also possible that not accessing care is causing psychological distress. At the same time, lifetime experiences of suicidal ideation were associated with increased use of medical gender affirmation services. Again, causal inferences cannot be made; however, it is possible that previously experiencing suicidal ideation was associated with an increased use of care, or, it is possible that these two experiences are occurring synergistically. Extant research on medical gender affirmation services highlights that access to this type of care is associated with improved quality of life and mental health outcomes (Murad et al., 2010; White Hughto & Reisner, 2016); the opposite directions of these relationships do not contradict this, but instead may be related to the cross-sectional nature of the study and the timeframes of the measurements.

Among the health status variables, the relationship between drug use and HRT was also surprising. Use of illicit drugs or prescription drugs not as prescribed in the past month was associated with a lifetime use of HRT. Though a causal relationship cannot be inferred, more work exploring this relationship is needed.

Other surprising results occurred among the trans-related discrimination covariates. Again, the cross-sectional nature of the data limits our ability to fully explain these relationships. Experiencing trans-related discrimination was associated with an increase in use of HRT, while experiences of trans-related verbal harassment and physical violence were associated with a decrease in use of HRT. Previous literature suggests that stigma often occurs when TGGD people try to access medical gender affirmation services (Gridley et al., 2016; Puckett et al., 2018); therefore, it is possible that experiences of discrimination occurred while participants were trying to access HRT. It is also possible that individuals experiencing more discrimination may have an increased motivation for seeking HRT, since this could reduce experiences trans-related discrimination (Begun & Kattari, 2016; L. Doan, Quadlin, & Powell, 2019). However, it is unclear why experiences of discrimination were related to increased use of HRT, while verbal harassment and physical violence were related to reduced experiences of HRT. More research on these relationships is warranted.

Finally, the relationships between the systematic vulnerability covariates and use of medical gender affirmation services did not all occur as expected. Systematic vulnerability is understood to limit access to health care (Kulkarni et al., 2010; Kushel, Gupta, Gee, & Haas, 2006; Spicer, 2010). Though the systematic vulnerability variables were mostly associated with reduced use of medical gender affirmation services, in some cases, these relationships occurred in the opposite direction. Again, it is important to note that no causal inferences can be made. However, it is possible that the experience of systematic vulnerability may facilitate access to specific types of resources. For example, individuals who had ever experienced homelessness may have been connected to health care through homeless shelter or other services aimed at assisting homeless populations. While it may be less likely that homeless shelters and services would connect TGGD populations directly to medical gender affirmation services, homeless services may connect TGGD individuals (and especially trans-feminine individuals) to HIV-related prevention and/or treatment (Aidala, Lee, Abramson, Messeri, & Siegler, 2007). Since TGGD people experience a disproportionate burden of HIV in the United States (Poteat, Reisner, & Radix, 2014), HIV-related services may be more likely to be specifically focused on TGGD populations, and in those environments, TGGD people may be able to find gender-affirming providers who can offer HRT or refer patients to other providers who offer HRT. This may similarly explain the relationship between engagement in sex work and an increased use of HRT.

Policy Implications. These findings highlight the importance of advocating for state-level policies that provide protections to TGGD populations (and against those that further perpetuate trans-related stigma). Both individual policies and a combination of these policies may influence access to medical gender affirmation services. For those who seek medical gender affirmation services, access to both therapy/counseling and HRT are important for improved health among TGGD populations (Murad et al., 2010; White Hughto & Reisner, 2016). If we aim to achieve health equity among marginalized populations, such as TGGD people, it is necessary to consider how these policies may shape access to health care, and ultimately health outcomes. Pervasive trans-related stigma contributes to poor access to care and poor health outcomes (Hughto et al., 2015), but the passing of more protective policies may help to foster resilience and reduce experiences of stigma, ultimately improving the health of TGGD populations.

When considering state-level TGGD-specific policies, it is also important to consider the role of race/ethnicity. The relationship between race/ethnicity and use of medical gender affirmation services varied across states, indicating that the state-level social environment may play a role in the relationship between race/ethnicity and use of care. It is important to consider how the implementation of TGGD-specific policies may shape experiences for different TGGD groups in different ways. When implementing policies, the effects on the lives of the most marginalized and stigmatized populations (i.e., those who experience multiple and intersecting forms of stigma, like TGGD people of color), should be considered. Failure to understand policies from an intersectional lens may prevent TGGD people of color from being able to benefit from policy protections.

Research Implications. Further research is needed to better understand the nuanced relationships between federal, state, and local TGGD-specific policies and access to medical gender affirmation services among TGGD people. Both individual policies and composite indices of policies can be useful for understanding the relationships or effects of each policy, but also for examining the social context more broadly. While the USTS provides rich data for exploring state-level policies and differences in experiences of TGGD people across states, longitudinal studies would allow for causal inferences and a deeper understanding of the effects of policies and policy changes over time. As more longitudinal studies begin collecting data on experiences of gender identity (e.g., BRFSS), further analyses exploring the effects of these policies over time will be possible. In addition, as more research begins using probability samples of TGGD populations (e.g., *TransPop*) (Meyer, Bockting, Herman, Reisner, & Choi, 2016), findings will be able to make more generalizable inferences to TGGD populations in the United States. As these data are collected, it is important to further explore experiences of stigma and consider applying an intersectionality approach (Crenshaw, 1989), so that the needs of TGGD populations who experience multiple marginalized identities are addressed.

Limitations. There were some limitations to this research. Data are cross sectional, so no causal inferences can be made. Furthermore, the study was based on a convenience sample, so caution should be taken when generalizing results. Convenience samples are common among hard-to-reach populations (Muhib et al., 2001), and despite issues with generalizability, this community-based sample is very large (27,000 individuals), especially considering that TGGD adults are estimated to comprise approximately 0.6% of the U.S. adult population (Flores, Herman, et al., 2016). Data were also collected by and with TGGD people and with the assistance of LGBTQ organizations throughout the country, increasing the cultural appropriateness and relevance of the survey.

The study's convenience sample may be the reason why the participants in the USTS are mostly non-Hispanic White (comprising approximately 82% of the study sample), even though estimates suggest that TGGD populations in the United States are disproportionately comprised of people of color (Flores, Brown, et al., 2016). The largely non-Hispanic White sample may also be the result of collecting data online (Bauermeister et al., 2012; Du Bois et al., 2012; Sullivan et al., 2011); in-person and community-based recruitment may reach more TGGD people of color. Even though the USTS allowed for in-person data collection events, most of the data were collected online. More in-person recruitment, as well as research including probability samples, may help to better represent racial and ethnic diversity among TGGD people.

Though this analysis tried to account for policies that existed at the time of the USTS data collection (in August 2015), it is important to note that policies that were implemented later (or policies that were never implemented) may still have been discussed within states at these times. These discussions could still influence the social environment, even if the policies were not enacted at that time. Furthermore, policies related to identity documents were based on more recent data;

these policies may have changed since data were collection in 2015. Further research should explore policy environments and how these conversations around policies may influence experiences of health and health care use among TGGD people.

This study examined therapy/counseling as an aspect of medical gender affirmation services, because the survey asked participants about their experiences with therapy/counseling "related to their gender identity or gender transition." Even though therapy/counseling is often needed to access other medical gender affirmation services (Coleman et al., 2012), it is possible that this survey question also measures experiences with therapy/counseling as a mental health service. No additional questions were asked about mental health services, but more research should explore the role of therapy/counseling for TGGD people, both as a service related to medical gender affirmation services, and a health care service that can help improve mental and emotional well-being.

Finally, even though this study explored state-level differences in use of medical gender affirmation services, it was not possible to control for possible U.S. migration patterns among the participants. The USTS did not include questions about the length of time that participants lived in a state or other states that they had lived in previously. It is possible that the decision to live in a particular state (especially if it has a more accepting environment for TGGD people) is not random, but instead occurs because individuals choose to live in places that are more accepting of their identity (if they have the privilege and ability to do this). Future research aiming at understanding the social and political context and differences in experiences across U.S. states for TGGD people should consider asking additional questions about state residency.

Conclusions. Overall, this study demonstrates that state-level TGGD-specific policies matter for access to and use of medical gender affirmation services for TGGD people across the

United States. This study also demonstrates the importance of considering how race/ethnicity may change the use of medical gender affirmation services across U.S. states. Within a stigmatizing U.S. political climate, where policies specific to the experiences of TGGD people are increasing (Human Rights Campaign Foundation, 2019a; Warbelow, Oakley, & Kutney, 2018), it is important to advocate for protective policies and advocate against harmful ones, in order to improve the health of TGGD people. Improving TGGD-specific policies can help to increase access to needed health care services and, as a result, may ultimately help to improve health outcomes and reduce health inequities experienced by TGGD people in the United States.

CHAPTER VI: Discussion and Conclusions

Overview of Findings

Chapters II through V explore the role of stigma and resilience on health care use among TGGD people. Across all of the papers, there were many similarities in the findings. An overview of these findings is presented in Table 17. All four papers explored the role of stigma and resilience on different types of health care use among TGGD populations across the United States. Though some of the findings varied, stigma was generally linked to less access to and use of health care, while resilience assets and resources were associated with increased use of care.

Differences in results were also found based on multiple aspects of identity (e.g., gender identity, race/ethnicity, and age) and across types of care. For example, in Chapter II, experiences within health care settings were mostly consistent across gender identity; however, gender identity was associated with health care in Chapters III through V. Chapter IV found that trans-masculine participants were least likely to not use health care due to fears of mistreatment, but Chapter V found that trans-feminine participants were most likely to use medical gender affirmation services. Furthermore, in Chapter II, race/ethnicity was described as playing an important role in health care experiences. In Chapters IV and V, the relationship between health care use and race/ethnicity varied across U.S. states. Chapter V also found that Native American or Alaska Native, Latinx/Hispanic, and Multiracial participants were less likely to access therapy/counseling, but these differences were not found for HRT. These differences demonstrate that it is important to explore the role of multiple aspects of identity without assuming that TGGD populations are homogenous and that results will be consistent across all participants or across types of care.

Table 17: Overview of findings across chapters II through V

	Chapter II	Chapter III	Chapter IV	Chapter V
Overview of results	• Stigma and resilience were identified across the entire health care experience • Stigma and resilience played a role in the motivation to seek care, especially primary care • Stigma and resilience outside of health care settings (especially with family and social networks and with health insurance companies) also played a large role in care experiences and the motivation to seek care, especially specialized care.	• For individuals experiencing high stigma, as their resilience increased, difficulty accessing care increased. • For individuals experiencing low stigma, as their resilience increased, difficulty accessing care decreased. • Anticipated stigma was associated with less use of medical gender affirmation services. • Resilience was associated with more use of medical gender affirmation services.	• Higher scores on the policy index (i.e., more protective) were associated with less non-use of care due to fears of mistreatment. • None of the individual policies were significantly associated with non-use of health care due to fears of mistreatment.	• Higher scores on the policy index (i.e., more protective) were associated with increased use of therapy/counseling and HRT • Broad religious exemption laws were associated with less use of therapy/counseling. • Medicaid exclusions were associated with less therapy/counseling, while inclusions were associated with more use of therapy/counseling. • Inclusive non-discrimination policies were associated with more access to HRT.
How results differed across gender identity, race/ethnicity, and age				
Across gender identity	• The only major differences found were in the types of care that were accessed.	• Other gender diverse participants were much less likely to report accessing medical gender affirmation services.	• Trans-masculine participants were most likely to report non-use of care • Other gender diverse participants were least likely to report non-use of care	• Trans-feminine participants were most likely to access medical gender affirmation services. • Other gender diverse participants were least likely to access medical gender affirmation services.
The role of race/ ethnicity	• Race/ethnicity was described as playing an important role in experiences of stigma and resilience across the health care experience and outside of health care.	• Race/ethnicity was not statistically significant for either health care use outcome.	• The relationship between race/ethnicity and non-use of health care due to fears of mistreatment varied across states.	• The relationship between race/ethnicity and the use of medical gender affirmation services varied across states. • Native American or Alaska Native, Latinx/Hispanic, and Multiracial participants were less likely to access therapy/counseling.
The role of age	• Youth-specific challenges included a reliance on parents/guardians for housing, transportation, and access to care (e.g., signing consent forms, paying for care). • School environments played a role in accessing health care.	• As age increased, youth were more likely to have difficulty accessing health care. • As age increased, youth were more likely to access medical gender affirmation services.	• Among adults, as age increased, participants were less likely to report non-use of health care due to fears of mistreatment	• Among adults, as age increased, participants were more likely to access both types of medical gender affirmation services.

Filling Gaps in the Literature and Addressing Hypotheses

This dissertation set out to fill gaps in the extant research exploring the relationships between stigma, resilience, and health care among TGGD populations in the United States. The four papers presented in Chapters II through V address the four general hypotheses[5] that were presented prior to completing these analyses:

> H1: Stigma will reduce access to and use of health care.
>
> H2: Resilience will moderate the relationship between stigma and health care. Resilience will either increase care or reduce the negative relationship between stigma and health care use/access.
>
> H3: The relationships between stigma, resilience, and health care will vary across different types of health care (e.g., primary health care, medical gender affirmation services, mental health care).
>
> H4: The relationships between stigma, resilience, and health care will vary across sub-groups of TGGD populations (e.g., across race/ethnicity, age, and gender identity).

After completing four analyses across three different research studies (AVA, Project Moxie, and the USTS), the findings build on previous literature, fill key gaps in the literature, and address these four hypotheses by demonstrating that: 1) Stigma and resilience both inside and outside of health care settings play a role in the use of health care services for TGGD populations (H1 and H2); 2) Experiences of stigma and resilience have different relationships with health care, depending on the type of health care (Hypothesis 3); 3) It is important to consider multiple aspects of identity when trying to understand the role that stigma and resilience play on health care use for

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[5] It is important to note that these are general hypotheses. Though three of the dissertation papers are quantitative papers, the first study (Chapter II), is a mixed methods paper with a qualitative focus. Therefore, research questions and not hypotheses are presented within this paper. Still, this paper adds to our knowledge and helps to us to broadly address these general hypotheses about the relationships between stigma, resilience, and health care among TGGD populations.

TGGD populations (Hypothesis 4); and 4) Aspects of stigma and resilience occurring across the Socio-Ecological Model (Bronfenbrenner, 1979, 1994) should be considered.

Stigma and Resilience Inside and Outside of Health Care Settings. Together, all four dissertation papers demonstrate the importance of focusing on stigma and resilience both inside and outside of health care settings when considering use of and access to health care among TGGD populations. These papers confirm both H1 and H2. Aligned with H1, most study results demonstrated that stigma is associated with a decrease in access to and use of health care. When addressing H2, most of the findings also demonstrate that resilience helped to either increase access to care or quality of care, while also playing a role in the relationship between stigma and health care access and use.

Chapter II highlights the importance of stigma and resilience inside and outside of health care settings, with the focus being more on stigma and gender affirmation within health care. This study identifies that stigma and gender affirmation across the entire health care experience matter. This work highlights that it is important to consider gender affirmation, not just in patient/provider relationships, but also when trans-feminine and trans-masculine youth of color are seeking care, making health care appointments, waiting in clinic waiting rooms, and visiting pharmacies. Even though this paper focuses on all aspects of the health care setting, it also highlights how outside factors, such as social networks and health insurance companies, also play a role. This study explored factors of stigma and resilience across the Socio-Ecological Model (Bronfenbrenner, 1979, 1994), and as a result, participants described multiple aspects of their lives and the way in which those experiences played a role in health care experiences as well as the motivation to seek care. Across all of these aspects of participants' lives, stigma was consistently described as being problematic, and often limiting care or contributing to negative health care experiences. At the same time, positive and supportive experiences were described as contributing to increased access to care and improved quality of health care experiences.

Chapter III builds on the findings from Chapter II to explore experiences of stigma and resilience more broadly. The stigma and resilience scales used in this study include a few items that pertain to health care settings, but most of the items address more general experiences of stigma and resilience occurring across a variety of social settings (Testa et al., 2015). The relationships between enacted stigma, resilience, and two different health care outcomes (difficulty accessing health care because of gender identity and the use of medical gender affirmation services) demonstrates that stigma and resilience matter for health care use. This study highlights the role that resilience plays as a moderating factor. On its own, enacted stigma and resilience were not associated with difficulty accessing health care due to gender identity. However, when examining an interaction between stigma and resilience, findings demonstrate that for individuals experiencing the least enacted stigma, as individuals experienced more resilience, the predicted probability of reporting difficulty accessing care also increased. However, for participants experiencing the most enacted stigma, experiencing more resilience was associated with more difficulty accessing care. Compared with TGGD youth who experience stigma and no resilience, TGGD youth who experience more stigma and resilience may also try to access more health care services, and therefore may experience more difficulty when accessing care. Even though these findings are complicated, they still confirm H2 and demonstrates that even when stigma and resilience are not independently associated with health care, the interaction between them matters.

Analyses in Chapter III also demonstrate that stigma and resilience matter for TGGD youth's use of medical gender affirmation services. For each additional point on the resilience component score, participants were 73% more likely to report accessing medical gender affirmation services (among individuals who wanted this type of care). This finding is cross-sectional, and therefore it is possible that accessing medical gender affirmation has a reciprocal relationship with resilience; however, it is still important to note that resilience is associated with increased use of care. In addition, experiencing more anticipated stigma was associated with a decreased use of medical gender affirmation services (OR=0.92, p=0.012). Anticipating stigma both in broad environments and specifically within healthcare settings may prevent the use of medical gender affirmation services due to fears of being mistreated by health care providers or because of concerns about outness and changes to gender presentation that occur when accessing medical gender affirmation services. These findings also confirm both H1 and H2, highlighting that stigma is associated with reduced use of care and resilience is associated with increased use of care. However, differences in findings across types of care demonstrate that more work is needed to better understand the relationships between stigma, resilience, and different types of care.

Finally, Chapters IV and V further elucidate the role of stigma and resilience outside of health care settings, especially at a structural level. Chapters IV and V analyzed data from the USTS (National Center for Transgender Equality, 2015) and policy data from the Movement Advancement Project (Movement Advancement Project, 2018) to examine the relationships between state-level trans-specific policies and health care use among TGGD people in the United States. Across three different health care use outcomes (non-use of care due to fears of mistreatment, use of therapy/counseling related to “gender identity or gender transition,” and use of HRT related to “gender identity or gender transition”), findings suggested that living in states with more protective policies and fewer stigmatizing ones was associated with more use of health care services. These findings highlight that we need to consider stigma and resilience in broad ways. In addition to considering how experiences of stigma and resilience matter inside of health care settings, we also need to consider how they matter outside of health care settings. Chapters IV and V demonstrate that these experiences of stigma and resilience extend beyond intrapersonal or interpersonal experiences, highlighting that it is important to also consider how stigma and resilience within policies and within the social and political context also matter for access to health care.

Differences Across Types of Health Care. Findings demonstrate that experiences of stigma and resilience and their relationships with health care use varied across different types of health care, confirming H3. In Chapter II, trans-feminine and trans-masculine youth of color described how the experiences of stigma and resilience, and especially the anticipation of stigma, played a larger role in decisions made about whether to seek primary care than other types of care. In many cases, participants highlighted how they knew that primary care was important, but did not feel it was worth all of the potential stigma that they would experience. When discussing other types of care (e.g., medical gender affirmation services, mental health care), participants still described experiences of stigma and resilience, but not in terms of decision-making about attaining this type of care. Instead, outside factors, including social networks and settings (e.g., families, friends, schools, workplace environments) and health insurance played a larger role in motivating or prohibiting youth from attaining these services, especially at a particular time. In many cases, participants often did not describe these external factors as ones that would prohibit them from attaining this type of care forever, but instead these were described as factors that delayed getting these types of services.

Chapters III, IV, and V all used separate regression models for an outcome addressing general challenges with using care (difficulty delaying care for Chapter III and not using care due to fear of mistreatment for Chapter IV) and the use of medical gender affirmation services. These studies found varied results across the different health care outcomes. In Chapter III, in the models without interaction terms, none of the Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) components or variables (enacted stigma, resilience, social support, mis-gendering, and anticipated stigma) were associated with TGGD youth's difficulty accessing care; however, resilience and anticipated stigma were associated with medical gender affirmation services. In addition, in Chapter IV, only the composite policy index was associated with TGGD individuals' non-use of care due to fear of mistreatment. However, in Chapter V, in addition to the policy composite index being significantly associated with medical gender affirmation services, individual policies also mattered for use of this type of health care. These findings demonstrate that the relationships between stigma, resilience, and health care matter for all types of care, but the ways in which these relationships are associated with motivation or actual receipt of care varies across types of care.

Even though this dissertation explored multiple types of health care use, the only types of care fully explored across all three research studies (AVA, Moxie, USTS) were general experiences with care and medical gender affirmation services. It is important that additional research should also focus on mental health care, gynecological services, HIV prevention and treatment, and other types of specialized health care (e.g., dental care, care for managing chronic diseases, etc.). Since differences were found across the types of care examined in this dissertation, it is possible that the experiences and use of these other types of care may also vary.

Considering Multiple Aspects of Identity. These four dissertation papers aimed to understand the experiences of diverse and specific populations of TGGD people. Chapters II and III focus specifically on TGGD youth and Chapters II, IV, and V all consider race/ethnicity in addition to gender identity. When considering experiences of trans-related stigma and resilience along with other aspects of identity (e.g., age, race/ethnicity, gender identity) it is important to use an intersectionality framework (Bowleg, 2012; Crenshaw, 1991). Building on this approach, this dissertation understands that experiences of TGGD youth and TGGD people of color (and TGGD youth of color), and experiences across gender identity, are unique and will be different when compared with experiences of TGGD adults, non-Hispanic White TGGD populations, or TGGD populations more generally. Across some studies (Chapters III through V), H4 was confirmed; however, in Chapter II, even though participants described how their experiences were uniquely related to their race/ethnicity, few differences were found across gender identity.

TGGD youth. When considering the experiences of TGGD youth, it is important to understand the role of adolescent identity development. This distinct and important developmental period can influence experiences of stigma, resilience, and health care for TGGD youth (Grossman & D'augelli, 2006; Muuss, 1996). Youth may have specific and distinct concerns, especially as they relate to experiences with families and with schools; these different aspects of TGGD youth’s lives may influence the ability to live in one’s gender and the ability to access health care (Corliss et al., 2008; Gridley et al., 2016; Grossman & D'augelli, 2006). In some cases, youth may need to rely on their families or guardians for housing and other resources, such as transportation and paying for health care. When families are not supportive of TGGD youth’s identity, accessing these services may become especially challenging. These unique circumstances for TGGD youth were qualitatively described in Chapter II and likely play a role in the quantitative results in Chapter III, which highlight that stigma and resilience both inside and outside of health care settings matter for access to and use of health care. When considering stigma and resilience outside of health care settings for younger, rather than older, TGGD people, it is especially important to understand how reliance on families and experiences in settings, such as schools, matter for health and health care. However, despite having these unique experiences, little research has explored the specific needs of TGGD youth. As research continues to grow for TGGD populations, and large datasets (e.g., USTS) and probability samples (e.g., BRFSS) with TGGD people are being explored, it is important to ensure that population-level data is also being considered for TGGD youth specifically.

Gender identity and race/ethnicity. Due to experiences of racism, TGGD people of color experience additional types of stigma; however, experiences of trans-related stigma may also look different for TGGD people of color compared with non-Hispanic White TGGD populations. In the USTS (James et al., 2016), TGGD people of color report higher rates of trans-related stigma across a range of social settings and institutions (e.g., in schools, housing, employment, etc.), higher rates of systematic vulnerability (e.g., homelessness, poverty, incarceration), and more adverse health outcomes (HIV, suicidal ideation, psychological distress). This research suggests that in addition to experiencing more stigma due to racism, TGGD people of color also may experience trans-related stigma differently, with a greater prevalence of stigma and different consequences of stigma. These experiences of stigma may also look different, with TGGD people of color experiencing more severe stigma (Human Rights Campaign Foundation & Trans People of Color Coalition, 2017).

This dissertation considers the specific experiences of trans-masculine and trans-feminine youth of color (Chapter II). In addition, Chapters IV and V further elucidate what we know about race/ethnicity and health care use among TGGD people in the United States by highlighting that the relationship between race/ethnicity and health care use among TGGD people varies across U.S. states. This demonstrates that it is not only experiences of gender identity and race/ethnicity that matter, but this also demonstrates that the experiences of identity and health care vary across different U.S. states. Experiences related to different aspects of identity are not static, but instead are influenced by the specific social and political contexts across the United States.

Even though this dissertation uses an intersectionality approach with a focus on race/ethnicity, it is important to note that none of the three research studies (AVA, Moxie, USTS) were specifically aimed at understanding the experiences of TGGD people of color. As a result, some of the samples (Chapters III through V) are disproportionately comprised of non-Hispanic White TGGD people and none of the studies ask nuanced and important questions specifically related to the experiences of race/ethnicity and intersectionality. More work focusing on TGGD people of color is needed to fully understand the nuances of experiences of stigma, resilience, and health.

Differences across gender identity. Finally, this dissertation also explored differences across gender identity. Though little research has fully explored differences across gender identity, some research highlights that experiences with stigma, resilience, and health are different for trans-feminine, trans-masculine, and other gender diverse people (Downing & Przedworski, 2018; Richards et al., 2016; Stephenson, Riley, et al., 2017). Chapter II explicitly conducts a comparative analysis to understand differences and similarities in experiences of trans-masculine and trans-feminine youth of color. No major differences were found in experiences of stigma and gender affirmation in health care; however, when examining experiences for other types of care, such as HIV prevention and treatment, or experiences outside of health care settings, more differences are likely to exist (Harper, Jadwin-Cakmak, et al., 2019; Reisner et al., 2017).

Though Chapters III through V did not explicitly make comparisons across gender identity, all regression analyses controlled for gender identity and found differences across groups. In the

Moxie study, findings demonstrate that among all participants reporting that they wanted to access medical gender affirmation services, gender diverse participants not identifying as trans-masculine or trans-feminine, including those AFAB and AMAB, were less likely to report using these services. The USTS analysis in Chapter V demonstrated similar results; in this study, trans-masculine and other gender diverse participants not identifying as trans-masculine or trans-feminine (including AFAB and AMAB) were all less likely than trans-feminine participants to report accessing medical gender affirmation services. Cultural ideologies perpetuating the idea of a male/female binary (Butler, 2004) may add additional challenges for other gender diverse individuals who do not identify as male or female and who want to access medical gender affirmation services. Additional research on the differences in use of medical gender affirmation services between trans-masculine, trans-feminine, and other gender diverse people and is warranted.

It is also important to note that in the USTS analysis in Chapter IV, there were also differences across gender identity when examining non-use of health care due to fears of mistreatment. However, for this health care outcome results were a bit different. Other gender diverse AFAB and AMAB participants were less likely than trans-masculine and trans-feminine participants to report non-use of health care due to fear of mistreatment. However, trans-masculine participants were more likely than trans-feminine participants to report non-use of health care due to fear of mistreatment. Again, further research on these differences across gender identity are warranted. Additional qualitative data may be able to further elucidate differences in health care experiences between trans-feminine, trans-masculine, and other gender diverse people.

Understanding Stigma and Resilience Across the Socio-Ecological Model. Though not tied to one of the dissertation's four hypotheses, together, these four dissertation papers addressed experiences of stigma and resilience across the Socio-Ecological Model (Bronfenbrenner, 1979, 1994). Chapter II focuses on interpersonal experiences between TGGD youth of color and health care providers, but it also examines stigma and resilience at an institutional level, with a focus on health care settings. Structural stigma was also discussed during interviews, with policies playing a role in experiences of both stigma and gender affirmation within health care.

Chapter III focuses on intrapersonal, interpersonal and community-level experiences of stigma and resilience. Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) constructs included in this analysis address distal (interpersonal) minority stress, such as discrimination, victimization, and rejection; proximal (intrapersonal) minority stress, such as anticipated and internalized stigma; and resilience across the Socio-Ecological Model, including pride, social support, and community connectedness. The PCA conducted in Chapter III found that while the enacted stigma component was comprised of only interpersonal experiences of stigma (including discrimination, victimization, and rejection), the resilience component included variables across the Socio-Ecological Model (Bronfenbrenner, 1979, 1994), including pride, community connectedness, and a negative variable for internalized trans-related stigma. Together, these multiple aspects of stigma and resilience were found to matter for health care use.

Finally, Chapters IV and V had more of a focus on structural stigma, with an analysis of state-level trans-specific policies. Even though stigma has been identified as occurring at a structural level (Goffman, 1963; Hughto et al., 2015; Link & Phelan, 2001), and even though stigma is understood to be a fundamental cause of health (Hatzenbuehler et al., 2013), most research aimed at understanding experiences of stigma and resilience focus exclusively on intrapersonal and interpersonal factors (Link & Phelan, 2001). Structural stigma targeted at TGGD people is embedded within U.S. society; while this type of stigma is more difficult to measure and to change, unless public health research and interventions address stigma as both a structural factor (Goffman, 1963) and a fundamental cause of health (Hatzenbuehler et al., 2013), health inequities for TGGD populations will continue to increase in the United States.

Despite the importance of focusing on structural aspects of stigma and resilience, Bronfenbrenner's Socio-Ecological Model (Bronfenbrenner, 1979, 1994) recognizes the reciprocal and iterative relationship between an individual and their environment, indicating that individuals are products of their environments, but also that environments are created by people. Therefore, in order to make structural changes, we need to consider other levels of the Socio-Ecological Model as well. Furthermore, even though structural change is key to reducing health inequities, structural changes are slow and challenging, and therefore it is important for public health research and interventions to also understand experiences of both stigma and resilience across the Socio-Ecological Model, with an aim to also understand and improve experiences at intrapersonal, interpersonal, and community levels.

Programmatic and Policy Implications: Multi-Level Interventions

In order to reduce health inequities and increase access to health care for TGGD populations, multi-level public health interventions are needed to help reduce stigma and foster resilience. This can occur, for example, through intrapersonal experiences of self-affirmation; reduced interpersonal experiences of discrimination, victimization, and rejection; building an increased sense of community; and dismantling the gender binary (or at the very least ending the stigma and power dynamics associated with living outside of the norms of the traditional gender binary). The findings from this dissertation point to specific public health interventions, including those needed to improve experiences both inside and outside of health care settings, including health care interventions, policy interventions and advocacy, and structural interventions to dismantle the gender binary.

Health Care Interventions. There are multiple possible public health interventions that can help to reduce stigma and increase resilience and gender affirmation within health care settings. These interventions can focus on training for both staff and providers, as well as changes to health care environments.

Staff and provider training. Consistent with other research exploring health care experiences for TGGD populations (Jaffee et al., 2016; James et al., 2016; Poteat et al., 2013; Snelgrove et al., 2012), Chapter II highlights that the lack of provider knowledge is a barrier for accessing respectful and gender-affirming care. In fact, when asked to offer recommendations for providers, participants consistently stated that providers need more training and more knowledge about the experiences of TGGD people.

Training on the specific needs of TGGD populations is needed for a range of types of providers, not just those specifically providing medical gender affirmation services. It may be especially important for pediatricians and general practitioners to have this kind of training and knowledge in order to be able to improve experiences of primary care; however, this is also incredibly important for other providers, including, for example, mental health practitioners and gynecologists. In addition, findings from the AVA study suggest that it is not only providers who need training, but also other staff working within the health care environment, including administrative staff (especially those interacting with patients in waiting rooms), pharmacists, and staff working at health insurance companies.

Ideally, training focused on the needs of TGGD people would use an approach to develop cultural humility. Distinct from cultural competency, cultural humility involves an ongoing lifelong process of self-reflection and self-evaluation of the power dynamics between a provider (or staff member) and their patients who hold various marginalized identities (Tervalon & Murray-Garcia, 1998). This process involves “engaging authentically” with others and coming from a “place of learning,” as opposed to assuming that we are ever experts in the lived experiences of others (Xavier et al., 2005).

One way to deliver cultural humility training is through medical schools, nursing schools, psychology departments, social work schools, pharmacy schools, and other schools training providers who offer clinical and/or medical services. In 2009-2010, a study examining 150 U.S. and Canadian medical schools found that the median time spent focusing on LGBTQ needs in the entire medical curriculum was only five hours (Obedin-Maliver et al., 2011). Some research has demonstrated that this has improved over time (Honigberg et al., 2017); however, much work is still needed to provide training to medical professionals on the specific needs of TGGD populations, and especially TGGD youth and TGGD youth of color.

In addition to providing training within schools, training can also occur as continuing education for individuals who already work as providers or staff within health care settings. Resources for these types of trainings are available through organizations such as Fenway Health (Fenway Health, 2018), and local interventions such as the Health Access Initiative, which provides training to providers in Michigan (Bauermeister et al., 2017).

Changing health care environments. Interventions that combine provider and staff training with environmental changes for health care settings may be most successful. These environmental changes should address some of the other aspects of the health care experience described by participants in Chapter II, including, for example, changes to waiting rooms (e.g., the standard for how names are called, the inclusion of signs and brochures that are affirming and specific to the experiences of TGGD people), inclusive policies around providing documentation, inclusive intake forms, inclusive electronic medical records, and gender-neutral bathrooms. Environmental changes to health care settings can help to increase feelings of gender affirmation as well as safety during multiple aspects of the health care visit, including when making appointments, checking in for appointments, waiting in waiting rooms, and during visits with providers.

Reducing Stigma in Environments Outside of Health Care Settings. In addition to making changes within health care settings, Chapters II through V all demonstrate the importance of also focusing on experiences of stigma and resilience outside of health care settings as a way to increase access to and use of health care services for TGGD populations. These interventions could exist at intrapersonal, interpersonal, community, and structural levels and ideally should focus on reducing stigma and increasing access to resilience resources.

When considering experiences of TGGD youth specifically, interventions occurring specifically among families or within schools may be especially important. However, interventions occurring across other settings such as workplace environments, religious institutions, transportation, and other public accommodations, can also help to reduce stigma, increase resilience, and therefore increase access to health care and improve health for TGGD people. These interventions should focus on changing these specific contexts to increase acceptance, gender affirmation, and access to resources for TGGD people. These interventions could take many forms, and could exist as interventions aimed at increasing awareness and understanding of the experiences of TGGD people, building and mobilizing TGGD communities (and especially interventions specifically aimed at building and mobilizing specific TGGD communities, such as TGGD communities of color), implementing peer-led interventions facilitated by TGGD people (e.g., peer navigation, peer support groups), providing physical and mental health resources, increasing access to resources with the aim of reducing systematic vulnerability (e.g., homelessness, poverty), etc. Though not specific to improving access to health care, some of these types of interventions have been implemented or explored in the United States as well as in global settings as strategies for improving the health of TGGD populations (Garofalo, Kuhns, Reisner, Biello, & Mimiaga, 2018; Hughto et al., 2015; Parker, Garcia, Muñoz-Laboy, Murray, & Seffner, 2019; Poteat et al., 2015; Rebchook et al., 2017). These types of interventions may be especially useful because they may help to not only increase access to resources, but may also help to foster more accepting and affirming environments for TGGD people.

Policy Interventions. Findings from this dissertation also highlight the importance of policy interventions. Policies at federal, state, and local levels need to acknowledge, affirm, and protect TGGD people and identity. Findings from this dissertation and previous research (Du Bois et al., 2018; Gleason et al., 2016; Perez-Brumer et al., 2015) demonstrate that policies matter for the health and health care access of TGGD people. Policy changes can have both direct and indirect effects on the health of TGGD people, with tangible benefits (such as increased access to resources) and psychological benefits (such as increased affirmation of gender identity); together, these tangible and psychological benefits can all work toward improving health outcomes and health care access.

Policies can increase access to resources. More protective and accepting policies can help to increase access to resources. For example, this can occur through inclusions in private health insurance or Medicaid policies that help to increase access to health care. Non-discrimination policies can also help to increase education, employment, housing, and the use of public accommodations. Access to these types of resources can help to reduce systematic vulnerability and therefore can also work to decrease health inequities experienced by TGGD populations. Findings from this dissertation also suggest that in order for specific and diverse groups of TGGD people to benefit from protective policies, it is important for policies to consider multiple aspects of identity (e.g., race/ethnicity, age) in order to ensure that the most marginalized TGGD people are also benefiting from positive policy changes.

Policies can also help to increase the safety of TGGD people, and especially TGGD people of color, who disproportionately suffer from trans-related discrimination and victimization (Human Rights Campaign Foundation & Trans People of Color Coalition, 2017; James et al., 2016). While non-discrimination protections that include gender identity and gender expression may not be able to completely expel stigma, they take steps towards doing that by acknowledging and affirming diverse gender identities and expressions, demonstrating that stigma based on gender identity or expression is wrong, and creating consequences for individuals who perpetuate this kind of discrimination and victimization. In April 2019, the U.S. House of Representatives held hearings on the Equality Act, which would extend federal civil rights laws to include non-discrimination protections based on sexual orientation and gender identity (*H.R.5 Equality Act*, 2019). In his testimony at this hearing (*H.R.5 Equality Act*, 2019), Reverend Dr. Dennis Wiley stated:

> *"In a speech titled 'The American Dream,' delivered at Lincoln University in 1961, [Rev. Dr. Martin Luther] King observed that while morality cannot be legislated, 'behavior can be regulated.' In other words, according to King, 'It may be true that the law can't make a [person] love me, but it can keep [that person] from lynching me.'"*

Even though a policy cannot completely remove experiences of stigma and hate, policies can regulate behaviors. Prohibiting discriminatory and victimizing behaviors targeted at TGGD people (at interpersonal and institutional levels) can help to reduce stigma, increase safety and access to resources, and ultimately improve the lives of TGGD people.

Psychological benefits of policies. Policies protecting the rights of TGGD people can also have psychological benefits. Protective policies can acknowledge and affirm gender identity. These policies contribute to the cultural ideologies around the gender binary and the norms that prohibit or allow for stigma to be perpetuated against TGGD populations (Butler, 2004; Geronimus et al., 2016). The lack of protective policies creates negative societal cues for TGGD people through exclusion and erasure (Bauer et al., 2009; Geronimus et al., 2016), and stigmatizing policies actively attack individuals based on their gender identity. However, protective policies can work to create "identity-safe environments" (i.e., environments free of stressors related to experiences of specific social identities) by demonstrating societal values and recognizing the importance of accepting and appreciating individuals of all gender identities (Geronimus et al., 2016).

Political advocacy. Since policy changes can help to address structural aspects of stigma and can help to foster resilience within social environments, political advocacy is an important intervention for helping to improve access to and use of health care services for TGGD populations. Policies influence the environment, but individuals and communities can also influence policy; therefore, increased advocacy targeting federal, state, and local policies, as well as advocacy promoting an increase in accepting and affirming elected officials, including elected officials who identify as TGGD, is important. Multiple political advocacy organizations exist with the goal of improving the lives of TGGD people, including, for example, the National Center for Transgender Equality and the Human Rights Campaign.

When advocating for the rights of TGGD people, these national and local advocacy organizations can also consider the role of other aspects of identity, such as race and ethnicity, in order to ensure that this political advocacy is benefitting the most marginalized TGGD people. If an intersectionality approach were applied to political advocacy, it would not only consider the role of racism more broadly, but it would consider the unique circumstances that TGGD people of different races/ethnicities face; this includes understanding differences between people of color with different racial/ethnic identities. In order to ensure that an intersectionality lens is applied, consideration should be made based on specific experiences; however, racially/ethnically diverse TGGD people and communities should be included at the center of a process of political advocacy in order to ensure that their needs are being met and that they are able to benefit from political and social change.

Logistics of enacting policy. Despite research demonstrating that protective policies for TGGD people can help to improve the health of TGGD populations in the United States, the logistics of enacting new policies or changing already-existing policies is challenging. A gap between policy and research currently exists, largely because of the opposing methods, timelines, and priorities of academic research environments and political ones (Anderson Moore, 2006; Lee & Belohlav, 2014; Oliver, Innvar, Lorenc, Woodman, & Thomas, 2014).

In order for research to be used for political advocacy, it is important to simplify language and ensure the dissemination of findings through mechanisms beyond academic peer-reviewed journals (Anderson Moore, 2006; Green, Glasgow, Atkins, & Stange, 2009). For example, this may involve writing policy briefs, amicus briefs, testimony for the U.S. congress, or editorials that can help to reach a more general U.S. population. Expanding the dissemination of research findings helps findings such as the ones presented in this dissertation to be relevant and useful for political advocacy and policy change (Oliver et al., 2014).

This additional dissemination may also assist with the barrier of timing (Green et al., 2009). Conducting research and publishing in peer-reviewed journals is a lengthy process; however, political change often occurs in specific time periods and depends largely on the political environment during a specific moment in time in order to be able to make change (Lee & Belohlav, 2014). In some cases, in order to align research findings with policy change to assure that political decisions are evidence-based, it may be necessary to present preliminary findings, or present findings before they have been published in a peer-reviewed journal. Though this may be necessary, caution should be taken when presenting findings before a study has been completed; in these cases, transparency about the findings and the stage of the research is especially important.

When engaging in political advocacy, it is important to also consider the audience that is needed for making policy change. The audience will depend largely on the specific research and the level at which policy change is needed. Policy can occur at many levels, including within government (at federal, state, and local levels) or within other institutions and organizations (e.g., universities, professional organizations). For example, in order to make policy change that helps to increase cultural humility training specific to TGGD populations within medical school, it could be important to involve the American Medical Association, the Association of American Medical Colleges, and the American Medical Student Association. To change standards of care to make them more inclusive of TGGD people's experiences and reduce medical gatekeeping related to medical gender affirmation services, advocacy may need to take place with WPATH.

Finally, when advocating for more protective and inclusive policies for TGGD people within government, it is important to consider political allies as well as opposition. The message that is presented will vary depending on the audience and their views and values; however, engaging politicians in support of and in opposition of a particular policy may be needed in order for policy change to occur. In addition, in order to advocate for policy change through federal, state, and local governments, it is also important to engage community members and stakeholders who may be able to influence policymakers (Lee & Belohlav, 2014). For example, this may include engaging and collaborating with community originations or advocacy organizations in order to ensure that policymakers are all receiving the same message from multiple influential people and organizations.

Regardless of the audience and methods for dissemination of research evidence, in order to make policy change that is relevant and important for TGGD populations, TGGD people need to be included in this process as well. Researchers (especially cisgender researchers) who do not share the lived experiences of TGGD people need to work together with TGGD individuals and communities in a participatory and inclusive way in order to ensure that the voices of TGGD people are at the center of a political advocacy movement (Reisner, Keatley, et al., 2016). Any political advocacy that is conducted without the consideration and inclusion of TGGD people may not be relevant and may have harmful consequences for TGGD communities.

Dismantling the Gender Binary. At a structural level, interventions need to also go beyond policy change to address the deeply-rooted cultural norms that perpetuate trans-related stigma. If considering a Fundamental Cause Theory as a lens to guide public health interventions, it is important to consider trans-related stigma resulting from the gender binary as a fundamental cause of health that needs to be addressed. The gender binary exists within cis-normative, heteronormative, patriarchal, and White supremacist systems, which need to be challenged and dismantled. A gender binary produces an assumption that all individuals fit into a male or female identity, and it attaches specific characteristics and values to each of those identities and requires individuals to perform that identity (Butler, 1988, 2004). Assumptions about gender roles and characteristics can hurt all people, but these are especially problematic for TGGD who do not fit into these restrictive categories. The gender binary erases the experiences of individuals who do not fit into these boxes. Changing deeply-rooted societal norms is difficult and takes time. However, there are many ways that the gender binary can be challenged throughout society. In this dissertation, I am providing just a few examples of how to challenge the gender binary focusing specifically on ways that cisgender people can challenge the gender binary, including changing early gendered assumptions, regularly presenting gender pronouns, and dismantling gendered spaces. The responsibility of challenging the gender binary should not be exclusively left to TGGD individuals and, the participation of cisgender people in challenging the gender binary is important in order to attain sustainable change. It is important that cisgender people also challenge these harmful cultural systems that perpetuate multiple forms of stigma, especially trans-related stigma. While the examples provided here will not completely dismantle the gender binary, they contribute to slowly making the improvements necessary to eventually dismantle the system.

Changing early gendered assumptions. The gender binary often functions to create assumptions about gender as early as when a fetus is still in utero. In some cases, sex is assigned at birth; however, in the United States, many parents learn about their child's sex before a baby is even born (Pasche Guignard, 2015). Values are placed on this assignment and assumptions are immediately made about gender. Babies assigned a male or a female sex at birth (or in utero) are automatically associated with blue or pink items, and are expected to perform their masculine or feminine identity (e.g., perform masculine/feminine behaviors, express masculine/feminine emotions, play with more masculine/feminine toys, enjoy masculine/feminine clothing) (West & Zimmerman, 1987).

Few cultural rituals perpetuate these gendered values more than gender reveal parties, during which a parent (or parents) cut a cake to reveal a pink or blue color, signifying whether their child (who is still a gestating fetus) has been assigned a female or male sex (Pasche Guignard, 2015). One example of a step that can be taken toward dismantling the gender binary is to put an end to the cultural ritual of gender reveal parties and challenge the gendered assumptions attached to sex assigned at birth or in utero. When babies are born and grow and develop across their lifetime, instead of developing within these gendered assumptions that require specific types of gender performances, all people should be given the opportunities to form and experience their gender outside of the limitations of the strict classifications that are created by the gender binary. This requires families and social networks (and especially parents/guardians) to challenge cultural assumptions that often dictate how they treat their children. In order to dismantle the gender binary, these challenges of gendered assumptions and the perceived importance of sex assigned at birth need to begin early, before a baby is even born.

Use of pronouns. Changes to the standard use of pronouns is another way to challenge the gender binary. Typically, gender pronouns are assumed based on perceptions of someone's gender presentation. However, instead of making these assumptions, one possibility for challenging the gender binary is for all individuals (cisgender and TGGD) to present their pronouns upon introducing themselves to someone. Furthermore, pronouns beyond she/hers and he/his should be understood as a norm, and pronouns should be understood as not always being the same for an individual over time. Some of these changes have been slowly advancing. For example, some formal writing styles (e.g., Chicago Manual of Style and Associated Press) have recognized they/them as a gender neutral personal pronoun (and not just a plural pronoun) (The University of Chicago Press Editorial Staff, 2017). However, despite these advances, larger societal changes need to be made, starting with individuals challenging their assumptions about the gender of others and introducing their own gender pronouns in order to help others to not make assumptions about their own gender too. If cisgender people (in addition to TGGD people) engage in this practice as a norm, it can become more commonplace, resulting in an increased comfort with presenting pronouns; ultimately, this can help to reduce the assumptions about pronouns and gender, and allow for a more accurate use of personal pronouns.

Gendered spaces and items. One important step towards dismantling the gender binary involves dismantling gendered spaces and items. Gendered spaces are pervasive in U.S. society, including, for example, bathrooms, locker rooms, clothing and shoe stores, toy stores, sporting teams, schools (e.g., all-girls and all-boys schools), college dorms, homeless shelters, and jails/prisons. These spaces should be considered gender neutral, or, if that is an unattainable goal, at the very least, these institutions should allow for individuals to participate or reside in spaces that align with their gender.

In some cases, dismantling gendered spaces also means challenging the ways in which gender is associated with specific items, such as toys or clothing. While toy stores and clothing stores do not have specific rules around gender segregation, these items are marketed for specific genders in a way that strongly perpetuates the gender binary. The expectation that young girls will play with toys such as dolls, while young boys will play with toys such as cars and trucks (Auster & Mansbach, 2012), is problematic because it reinforces socially-constructed gendered stereotypes. In addition, social norms around clothing and gender presentation limit the ways in which individuals can express themselves; individuals who step outside of those norms may be subject to harassment and violence when in public (Lombardi et al., 2002; Wirtz, Poteat, Malik, & Glass, 2018).

In order to move beyond the gender binary, societal spaces and items that are attached to specific constructs of identity need to be challenges and reconsidered. Instead of simply tolerating gender diversity, gender diversity should be celebrated. In order to do this, societal spaces (and the people who exist within them) need to question their gendered assumptions and consider how to deconstruct these spaces in ways that allow individuals to explore and express their gender without the restrictions of the gender binary.

Research Implications

Expanding Minority Stress Theory. Much of the extant literature exploring experiences of stigma among TGGD populations uses Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015). This dissertation demonstrates multiple important ways that research can expand on Minority Stress Theory to apply it to experiences of TGGD people. Minority Stress Theory has typically been applied to experiences of mental and physical health for sexual and gender minorities (Meyer, 1995, 2003; Testa et al., 2015); however, as Figure 1 in Chapter I demonstrates, this dissertation uses the theory to explore relationships between stigma, resilience, and health care access and use. This dissertation, and especially the results from Chapter III, highlight that stigma and resilience function similarly with health care use as it would with mental or physical health (Meyer, 1995, 2003; Testa et al., 2015). Though reciprocally related to health (Seelman et al., 2017; U.S. Department of Health and Human Services, 2014b), use of health care is not a health condition, but instead more directly addresses a health behavior and access to resources. The ability to expand Minority Stress Theory demonstrates that the conceptualization of minority stressors may expand beyond mental and physical health; it is possible that this theory may also apply to other health behaviors or other access to resources. Further research exploring the relationships between distal and proximal minority stressors, resilience factors, and access to other resources is warranted.

Understanding structural stigma. Even though Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) can apply to health care use, it is important to note that Minority Stress

Theory does not involve an exhaustive understanding of the factors related to health care, or even the factors related to mental and physical health. While understanding how distal and minority stressors and resilience factors play an important role in the health of TGGD people, Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) does not include an in-depth understanding of structural stigma. Though the original description of the theory highlights the importance of structural stigma (Meyer, 1995), the application of this theory typically involves the measurement of stigma only at interpersonal and intrapersonal levels (Hendricks & Testa, 2012; Testa et al., 2015).

While the measurement of stigma at intrapersonal and interpersonal levels is important, stigma should be understood at the macro level of the Socio-Ecological Model as well (Bronfenbrenner, 1979, 1994). Failing to acknowledge stigma at a structural level ignores the ways in which trans-related stigma is embedded within society through the gender binary (Butler, 2004; Goffman, 1963). It is important to understand stigma as a fundamental cause of health (Hatzenbuehler et al., 2013). This means that over time, stigma will continue to persist as a social determinant of health, even if the ways in which this occurs changes (Hatzenbuehler et al., 2013; Link & Phelan, 1995; Phelan, Link, & Tehranifar, 2010). In order to better understand the role of structural stigma, research with TGGD populations would benefit from exploring new and innovative ways to measure stigma at a structural level. In this dissertation, Chapter II explores structural stigma in the IDIs and Chapters IV and V explore structural stigma through state-level policies. However, additional research is needed to further consider how to best understand, conceptualize, and measure structural forms of stigma. This understanding of structural stigma does not need to replace the use of Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015); instead, as presented in Figure 1 (in Chapter I), structural stigma can be further examined as occurring in conjunction with other aspects of stigma across other levels of the Socio-Ecological Model (Bronfenbrenner, 1979, 1994).

Understanding systematic vulnerability. For TGGD populations, another important factor that is missing from Minority Stress Theory (Meyer, 1995, 2003; Testa et al., 2015) is a deeper understanding of how experiences of systematic vulnerability (e.g., poverty, homelessness) are related to health. Experiences of stigma across all levels of the Socio-Ecological Model (Bronfenbrenner, 1979, 1994) are related to experiences of systematic vulnerability, and experiences of systematic vulnerability exacerbate stigma (Decker et al., 2015; Deering et al., 2014; Reutter et al., 2009; Schnittker & John, 2007), and are also associated with adverse health outcomes (Bradford et al., 2013; Brennan et al., 2012; Keuroghlian, Shtasel, & Bassuk, 2014; Mizock & Mueser, 2014; Reisner et al., 2014). Since TGGD populations, and especially TGGD people of color, disproportionately experience systematic vulnerability in the United States (James et al., 2016), having a deeper understanding of the interplay between systematic vulnerability and stigma is important. Additional research building on what we know about stigma and Minority Stress Theory (Meyer, 1995, 2003) is needed to better understand how to reduce stigma and systematic vulnerability simultaneously, as a way to improve mental and physical health outcomes for TGGD populations.

Measuring stigma and resilience. In addition to missing measures of structural stigma and systematic vulnerability, current measures of minority stress factors, including both stigma and resilience, are limited to experiences among general populations of TGGD people. Experiences of minority stressors and resilience may vary across gender identity and race/ethnicity and may be age-specific. However, measures of minority stress and resilience (including the minority stress theory scales included in Chapter III of this dissertation) typically do not consider the specific experiences of sub-populations of TGGD people (e.g., TGGD youth; TGGD people of color; trans-masculine vs. trans-feminine vs. other gender diverse people). While these general measures are useful, more specific measures are needed to ensure that research is focusing on the specific needs of these populations.

Scales used in Chapter II were specifically developed for TGGD youth, and were developed with the collaboration of a youth advisory board comprised of racially and ethnically diverse TGGD youth across multiple U.S. cities. It is important to not assume that a general experience of stigma or resilience will apply to all TGGD people. Therefore, additional scale development work, such as that conducted by the AVA Project, is needed, especially when researchers work with specific communities of TGGD people.

Using a Resilience Lens. This dissertation acknowledges the importance of using a resilience lens when trying to understand the experiences of TGGD populations. Much research has focused on negative experiences that TGGD people in the United States face (MacCarthy et al., 2015). However, it is important to also understand the role of resilience on health. A deeper focus on resilience allows us to understand how to foster resilience among TGGD people. In order to develop more appropriate interventions for improving the health of TGGD people, additional research should explore not only how stigma influences health for TGGD people, but also the ways in which environments can promote resilience and better health.

Research aiming to further understand resilience experienced by TGGD populations should consider resilience across the Socio-Ecological Model (Bronfenbrenner, 1979, 1994). Both resilience assets (internal factors, such as pride and self-affirmation) and resilience resources (external factors, such as community connectedness and LGBTQ community resources) should be considered (Fergus & Zimmerman, 2005). In this dissertation, multiple aspects of resilience (including both resources and assets) were found to play a role in experiences of health care. In Chapter II, gender affirmation was explored as a resilience resource, highlighting the role of gender-affirming environments and experiences across the entire health care experience. In Chapter III, both assets and resources were examined, including measures for community connectedness, social support, and self-affirmation. Finally, in Chapters IV and V, protective policies that promote increased acceptance and access to resources were included as resilience resources. Across all papers, these resilience factors were all found to play a role in health care access and use. This dissertation demonstrates that resilience can play an important role in access to and use of health care services, and future research should consider the role of resilience across socio-ecological levels (Bronfenbrenner, 1979, 1994).

Understanding the Role of Place in the United States. When conducting research with TGGD populations across the United States, it is important to consider the role of place. All four dissertation papers recognize that location within the United States matters for health. All analyses include national samples of TGGD populations, with two of the three data sources (Moxie and USTS) including national online samples of TGGD people and one of the studies (AVA) including a community sample of TGGD youth living across 14 U.S. cities.

Though not discussed at length in Chapter II, location played an important role in participants' experiences with and perceptions of health care. Many participants described receiving health care across multiple cities and multiple regions of the United States. Rural areas and regions in the South and Midwest were generally perceived as being less accepting of TGGD identities. Participants described very different (more positive) experiences in urban areas, especially urban areas in the Western United States. These comparisons made across regions and settings highlights the importance of considering the mobility of TGGD populations when considering the role of stigma and resilience on health and health care.

Chapters IV and V identify that state-level policies matter for health care use, that experiences of health care use vary across states, and that the relationship between race/ethnicity and health care use also vary across state. One limitation of this study is that it is not able to capture the mobility and migration of TGGD populations when considering the role of U.S. states on health care. First, this is important because, as Chapter II demonstrates, where someone previously lived may influence their health behaviors and perceptions of health care. However, this is also important because location of residency is not always random; many TGGD individuals may choose to migrate to more accepting urban environments (e.g., San Francisco, Atlanta), where the social and political context is more accepting of who they are (Black et al., 2000; P. L. Doan & Higgins, 2011). However, it is also important to note that migration also requires privilege and that moving to a new city may be impossible or at least more difficult for TGGD people of color and TGGD people of a lower socio-economic status; this becomes especially problematic as gentrification occurs within LGBTQ enclaves of many U.S. cities (P. L. Doan & Higgins, 2011). Very little research has explored these migration patterns; however, more work on this is needed in order to better understand the role of place on the health of TGGD people in the United States. In addition, having a better understanding of migration patterns of TGGD people, and especially the challenges and benefits associated with these experiences of migration, may help to further develop interventions for TGGD people moving to different areas of the country.

Addressing Limitations

Some limitations existed across multiple studies. These limitations are not unique to these studies, but rather are consistent issues in research aiming to understand the experiences of TGGD populations.

Convenience Samples. All three research studies (AVA, Moxie, and USTS) used convenience samples of TGGD people. Since the AVA study is a mixed methods study and used purposive sampling, a convenience sample is the best practice for this research project; however, across all three studies, having a convenience sample means that the data is less generalizable to the general population of TGGD people.

The use of convenience samples is common and often necessary among hard-to-reach populations (Muhib et al., 2001). TGGD people only comprise approximately 0.6% of the population (0.7% among youth) (Flores, Herman, et al., 2016), making it challenging to use probability samples when trying to understand experiences of TGGD people. However, probability samples are still needed. Ideally, questions on gender identity would be included in more national surveys with probability samples of the U.S. population (like the U.S. Census). While gender identity is still not included in the U.S. Census, there are some studies aiming to collect data using probability samples of TGGD people. For example, BRFSS is a survey run by the CDC to better understand health behaviors, health conditions, and use of health care among the U.S. adult population across all 50 U.S. states, the District of Columbia, and U.S. territories (Centers for Disease Control and Prevention, 2019). In 2013, the CDC created a BRFSS module asking questions about sexual orientation and gender identity (Centers for Disease Control and Prevention, 2019). In 2014, this became an optional module available for states to use (Meyer, Brown, Herman, Reisner, & Bockting, 2017), and by 2017 27 U.S. states (and Guam) were implementing this optional module of the survey (Centers for Disease Control and Prevention, 2019). While it is incredibly useful to include gender identity in the BRFSS, the module on sexual orientation and gender identity is still not being used across all states. Though the optional module is still available, under the current administration, there have been concerns about suspending the module and no longer including questions on sexual and gender identity (Williams Institute UCLA School of Law, 2018). Population-level data collection of experiences with health and health behaviors among gender minorities is important for understanding and improving experiences with health (Institute of Medicine, 2011; U.S. Department of Health and Human Services, 2014a). Instead of threats to suspend the use of the module asking about sexual orientation and gender identity, the CDC should be working on increasing the use of this module so that these questions are asked across all U.S. states.

In addition to BRFSS data being collected, *TransPop* is a research study aimed at collecting demographic and health data on a probability sample of TGGD people across the United States. This study is occurring as a collaboration between researchers at the University of California Los Angeles, The Williams Institute, Columbia University, Harvard University, and Fenway Health, and is a supplemental survey to the Generations study (Meyer et al., 2016). This study is using a Gallup survey to collect a probability sample. When these data become available, this will be the first national survey with a probability sample of TGGD people in the United States. Ideally, questions on gender identity would be included across additional surveys collecting data on the U.S. population; however, until that occurs, work is being done to help fill this gap in research.

Challenges with Online Samples of TGGD People. Two of the three studies (Project Moxie and USTS) used online samples of TGGD people. Even though the USTS included some in-person events, the majority of data were collected online. Unlike the in-person community sample recruited in the AVA study, both Moxie and the USTS were disproportionately comprised of TGGD people who identify as non-Hispanic White. Recruitment of more racially and ethnically diverse samples is important for better understanding the experiences of TGGD people of color. However, one of the challenges with online recruitment is increased difficulty recruiting a more diverse sample (Bauermeister et al., 2012; Du Bois et al., 2012; Sullivan et al., 2011). When recruiting convenience samples online, innovative online data collection methods, such as respondent-driven sampling may help to purposively recruit more diverse national samples of TGGD people (Bauermeister et al., 2012). Alternatively, recruitment of community samples (as was done in the AVA study) can also ensure data collection with a more diverse group of TGGD people; however, this type of recruitment requires additional resources and is very challenging to conduct across the entire United States (though, as AVA demonstrated, is possible across multiple cities throughout the United States).

Cross-Sectional Data. All four papers analyze cross-sectional data. Cross-sectional data is limiting because findings are not able to make causal inferences. As a result, the exact directions of the relationships between stigma, resilience, and health care is still unknown. It is possible that while in some cases, stigma may cause certain experiences related to health care access, health care access and use may also contribute to perceptions of stigma and resilience. Very little longitudinal data exists on the experiences of TGGD populations, especially across national samples of TGGD people. Additional longitudinal research is needed to fill this large gap in the literature focusing on TGGD health.

Conclusions: Moving Forward and Improving Experiences of Health for TGGD People

Findings from this dissertation highlight the importance of creating multi-level public health interventions that address trans-related stigma and resilience among TGGD people. Since trans-related stigma is a fundamental cause of health among TGGD people (Hatzenbuehler et al., 2013), ultimately, the gender binary needs to be dismantled, with the recognition that, in the United States and throughout the world, people experience gender beyond simply male/female. This would involve changing cultural ideologies to allow for individuals to live in and express their genders in whatever way is right for them (Butler, 2004). Completely changing these cultural ideologies would remove stigmatized "othering" labels and would remove power structures created based on gender identity (Link & Phelan, 2001). Unfortunately, this goal is lofty, and therefore more realistic immediate changes also need to be made in order to address health inequities experienced by TGGD populations.

When considering the role that health care plays in health equity, it is important for interventions to address stigma and resilience occurring both inside and outside of health care settings, as a way to improve access to health care for TGGD populations. These interventions should exist across multiple levels of the Socio-Ecological Model (Bronfenbrenner, 1979, 1994), including structural and policy interventions, institutional and community interventions, as well as interpersonal and intrapersonal interventions. As research with TGGD populations continues to grow, more work should explore the ways in which stigma and resilience influence health. This work needs to occur through research studies that are community engaged and center the needs of TGGD communities (Reisner, Keatley, et al., 2016), with special considerations being made to improve research with TGGD youth and TGGD people of color. Though the United States is still far from dismantling the gender binary, interventions could be implemented now to help increase the use of health care, reduce adverse health outcomes, and make advances towards achieving health equity for TGGD populations.

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