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Beliefs And Intentions Of Anesthesia Physicians Toward Providing Culturally Competent Care To Transgender Patients

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BELIEFS AND INTENTIONS OF ANESTHESIA PHYSICIANS TOWARD PROVIDING CULTURALLY COMPETENT CARE TO TRANSGENDER PATIENTS

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ABSTRACT

Purpose: Transgender patients face healthcare discrimination, resulting in a delay or avoidance in seeking care and increased negative health outcomes. The presence of cultural competence in patient-provider interactions has been shown to increase trust and satisfaction, resulting in better health outcomes. However, physicians receive little to no training on how to interact with transgender patients in a culturally competent manner. Anesthesia physicians often have no prior relationship with their patients and have very limited time for patient interaction before delivering care. This is why it is essential that anesthesia physicians possess the knowledge and skills to treat all types of patients in a confident, culturally competent manner, including those identifying as transgender. The purpose of this study is to determine the behavioral factors that influence the provision of culturally competent care by anesthesia physicians to transgender patients.

Methods: A two-phase design was utilized to explore the attitudes, subjective norms, and perceived behavioral control of anesthesia physicians, both in training and practicing independently. The first study phase allowed exploration of themes related to the facilitators and barriers of the provision of culturally competent care to transgender patients. The second phase involved the creation of a survey informed by findings in the first phase.

Analysis/Results: Thematic analysis was performed on results from an elicitation survey utilized in the first phase of research. In the second phase, the 51-question survey was

distributed to 100 anesthesia physicians at a single academic medical center within the southeastern U.S. Seventy surveys were returned, resulting in a 70% response rate. Analyses were conducted to determine the largest influence of intent to interact with transgender patients in a culturally competent manner, as well as to establish the reliability of the tool.

Conclusions: Attitude toward the target behavior was shown to be the largest influencer of intent to interact with transgender patients in a culturally competent manner. Subjective norms were also shown to be significantly influential. Determining the significant influencers of intent can inform future research and interventions aimed at increasing the target behavior.

Keywords: transgender, theory of planned behavior, anesthesia, physician, cultural competence

DEDICATION

I dedicate this work to two people: my father and my husband. My father, Phillip Williams, gave up much in life to ensure my sister and I had a safe, supportive home. More importantly, he always pushed us to be independent and self-motivated, traits that I will forever attribute to my success in life. He was a quiet cheerleader, always supporting my decisions, regardless of what they were. Words cannot express how much I owe him for everything he did and was.. Tragically, he succumbed to cancer before I finished the program and my research. I wrote so much of this while beside him in his last days. Always the jokester, he would ask if I'd like to include some of his "expert" opinions and research within my dissertation. While his thoughts may not have made it into the paper, much to his comical dismay, his spirit of perseverance certainly did. I know he still cheers me on today, as he will continue to do every day for the rest of my life.

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Finally, the unending support from my friends, family, and colleagues helped me to stay motivated and push through to the finish line. From the bottom of my heart, thank you.

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LIST OF ABBREVIATIONS

AAMC	Association of American Medical Colleges
ACCME	Accreditation Council for Continuing Medical Education
ACGME	Accreditation Council for Graduate Medical Education
AMA	American Medical Association
ASA	American Society of Anesthesiologists
CC	cultural competence
CLAS	Culturally and Linguistically Appropriate Service
CME	continuing medical education
EFA	exploratory factor analysis
FtM	female-to-male
GLBT	gay, lesbian, bisexual, transgender
IOM	Institute of Medicine
IRB	Institutional Review Board
LCME	Liaison Committee on Medical Education
LGB	lesbian, gay, bisexual
LGBT	lesbian, gay, bisexual, transgender
LGBTQ	lesbian, gay, bisexual, transgender, queer/questioning
LGBTQIA	lesbian, gay, bisexual, transgender, queer/questioning, intersex, asexual/allies

MtF	male-to-female
PCA	principal components analysis
SAGE	Service and Advocacy for GLBT Elders
TGD	transgender and gender diverse
TPB	Theory of Planned Behavior
U.S.	United States

CHAPTER 1

INTRODUCTION

Physicians specializing in anesthesiology practice medicine, primarily caring for patients before, during, and after procedures. A detailed history and physical of the patient is one of the requirements of anesthesiologists to ensure the safe administration of medications and delivery of optimized care (American Society of Anesthesiologists [ASA], 2019). Unlike a patient's surgeon or primary care physician, anesthesia physicians may not meet their patients until just prior to their procedure. Likewise, anesthesia physicians sometimes interact with and care for patients with little advance notice or time for preparation. This is why it is essential that anesthesia physicians possess the knowledge and skills to treat all types of patients in a confident, culturally competent manner, including those identifying as transgender (Tollinche et al., 2018).

Transgender Persons

Approximately 1.4 million people in the United States identify as transgender (Flores et al., 2016). This number is not exact, given that many official data sources, such as the U.S. census, do not collect information on gender identity (Meerwijk & Sevelius, 2017). However, the number has doubled when compared with a report utilizing similar data a decade ago (Flores et al., 2016), and increasing numbers of adolescents and young adults are coming out (Margolies & Brown, 2019). The term transgender refers to

persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex (Association of American Medical Colleges [AAMC], 2014). Conversely, cisgender individuals identify with the same sex each was born. In transgender people, sex and gender identity, a person's perception of being a certain gender do not match. This has no bearing on a person's sexual identity or actions and is not the same as being gender nonconforming. This label is also not reliant on an individual's physical appearance, medication intake, or intent for surgical intervention. Female-to-male (FtM) refers to a person whose sex is female and whose gender identity is male. Male-to-female (MtF) refers to a person whose sex is male and whose gender identity is female. Transgender persons may choose to transition, the process of adopting a gender identity other than the one genetically assigned at birth, through name, pronoun use, appearance, medications, surgical interventions, modification of identification documents, or any combination of these. These behaviors and interventions are collectively referred to as gender-affirming.

Transgender patients often receive substandard healthcare for reasons spanning from unconscious biases to intentional discrimination (Kitts, 2010). Many in this population of patients have undergone traumatic events in their lives. They may perceive medically necessary questioning, such as questions related to their reproductive organs, as another form of trauma, leading them to avoid seeking healthcare (Grant et al., 2011; Roberts & Fantz, 2014). Although anesthesia providers cannot avoid asking sensitive questions as part of their assessments, the conversation should be as atraumatic as possible. Further, anesthesia providers must not avoid parts of their necessary assessments out of fear of awkwardness or causing offense (Tollinche et al., 2018).

Transgender patients represent a unique patient population for which additional training and time are required when giving care (AAMC, 2014). However, minimal education and training are given to physicians regarding the care of transgender patients, resulting in providers who are not prepared for this patient population (Tollinche et al., 2018).

Medical Education Related to Transgender Patient Care

In 1999, the Institute of Medicine (IOM) released a report focusing on lesbian health, asserting that most physicians were not knowledgeable of or sensitive to the health risks or needs of lesbian, gay, bisexual, transgender (LGBT) people (IOM, 1999). In 2007, the AAMC made the formal recommendation that LGBT healthcare concerns be incorporated into medical school curriculums (Darrell et al., 2007). In 2010, the IOM began systematically assessing knowledge and gaps related to people who identify as LGBT (IOM, 2011), emphasizing that understanding provider attitudes and education related to LGBT persons would be vital to improving that population's health. The Healthy People 2020 goals, also released in 2010, called for a push to increase understanding of health in the LGBT community (Healthypeople.gov, 2010). This was followed by a report from The Joint Commission that called for improved communication and cultural competence (CC) with the LGBT community (2010). Finally, in 2012 the AAMC created the Advisory Committee on Sexual Orientation, Gender Identity, and Sex Development to develop an instructional framework and materials for use in graduate medical education (AAMC, 2014). Even after the release of these recommendations and reports, provider education and proficiency related to LGBT persons fall drastically short.

Today in the United States, physicians do not receive appropriate education related to LGBT patients. A 2011 survey of undergraduate medical education showed 33% of medical schools have no LGBT clinical training, and the median curricular time devoted to care of LGBT patients was only 5 hours, with one-third of schools offering no content and nearly half of those that did rating their content as merely mediocre (Obedin-Maliver et al., 2011). The most recently published national curriculum survey found a combined total of 32 hours, classroom and clinical, devoted to LGBT health (Obedin-Maliver et al., 2011). Although there is no gold standard for time spent on this content, the current amount of time is much less than is spent on many other specialty populations. Further, education on LGBT patient topics does not improve during training after medical school or once practicing independently. Further elaboration on and evidence of this lack of training will follow in the subsequent chapter. This paucity of LGBT-specific training results in a population of patients who do not feel comfortable with their healthcare providers.

In addition to patient discomfort, knowledge deficits are cited as the primary reason for provider discomfort in caring for transgender patients (Snelgrove et al., 2012). These knowledge deficits span from lack of information on preventive screening recommendations, such as prostate and Pap smear exams on transgender patients, to general deficits in cultural competence (CC) considerations (Céile, 2015; Diaz et al., 2017). The lack of continuing medical education on LGBT topics does not assist in improving this issue once physicians are finished with their training (AAMC, 2014). This decreased knowledge, coupled with the ethical considerations sometimes faced by

physicians who are compelled to care for this patient population, leads to many challenges physicians are unprepared to tackle (Snelgrove et al., 2012).

Cultural Competence

The IOM (1999) defines cultural competence as a "set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own." The Joint Commission requires demonstration of CC from hospitals and providers they accredit, including adapting to any individuals or communities those providers serve (The Joint Commission, 2010). However, research suggests that healthcare providers often lack the necessary CC needed to effectively interact with their transgender patients (Baker & Beagan, 2014). Provider CC promotes equitable healthcare access across diverse groups, ensuring that patients receive the care that matches their needs (Sorensen et al., 2017). Patient satisfaction and trust between patients and healthcare workers have been shown to increase after provider CC training (Kim & Lee, 2016; Tang et al., 2019). Further, minority patients in one study who perceived their providers to be culturally competent had decreased shame, embarrassment, and avoidance of care (Flynn et al., 2019). This is critically important since a long history of discrimination and bias in healthcare has led transgender individuals to delay or avoid seeking care, contributing to this population's chronic stress and potentially aiding in their poor health outcomes (Dean et al., 2000; Gonzales et al., 2016; Grant et al., 2011; Margolies & Brown, 2019; Vermeir et al., 2018).

Statement of the Problem

In a 2015 survey of transgender patients, 23% of respondents chose not to see a healthcare provider when needed because of fear of mistreatment as a transgender person. Additionally, of those who did see a healthcare provider in the last year, 33% reported having at least one negative experience that included "being refused treatment, verbally harassed, physically or sexually assaulted, or having to teach the provider about transgender people in order to get appropriate care" (James et al., 2016, p. 10). However, the largest barrier to receiving transgender care, according to the patients themselves, is the lack of provider knowledge (Gardner & Safer, 2013; Lerner & Robles, 2017; Safer et al., 2016).

Very few institutions in the United States have physicians specifically trained to give comprehensive, culturally competent care to transgender patients (Unger, 2015). As many as 74% of medical students reported receiving less than 2 hours of content related to transgender clinical needs, and consequently reported less comfort and knowledge when dealing with this patient population than with lesbian, gay, or bisexual patients (Dubin et al., 2018). Information related to gender-affirming surgeries was the worst understood of all topics. Regarding caring for transgender patients while in training, 93% of physicians reported caring for fewer than five transgender patients and 40% cared for none at all (Dubin et al., 2018). In a national survey taken by hundreds of transgender individuals, 50% of respondents reported having to educate their medical providers about transgender care (Grant et al., 2011). Thus, there is an entire patient population that physicians are not comfortable nor prepared to treat. This does not just include

specialized treatment but also preventive treatment guidelines or basic CC (Céile, 2015; Diaz et al., 2017).

In a culture where new residents learn from interaction with more senior residents and attending physicians, newer physicians may not see those other physicians modeling positive behavior. In fact, one study found that attending physicians rarely asked patients about sexual orientation, gender identities, and sex development histories (Wimberly et al., 2006). This can lead to interactions perceived as unfavorable by both the patient and physician, insufficient care, and loss of rapport (Tollinche et al., 2018). Providers need to understand how to interact with their transgender patients in a culturally competent way. Making assumptions about a patient's gender identity or preferred pronoun use based on his or her appearance is not appropriate. It leads to discrimination and stigma, ostracizing transgender patients and causing them to delay care.

The Accreditation Council for Graduate Medical Education (ACGME), the accrediting body for residency and fellowship programs, does mandate that residents display "sensitivity to cultural, age, gender and disability issues of patients…[and] sensitivity and responsiveness to a diverse patient population, including, but not limited to, diversity in gender…and sexual orientation" (ACGME, n.d.). However, the ACGME does not specify how different residency or fellowship programs employ these directives. Some specialties have made specific learning requirements related to this group of patients. For example, the American Academy of Family Physicians has published recommended curriculum guidelines for family medicine residents and LGBT health that include not only education and treatment specifics related to the population, but also a recommendation for residents to reflect on their own potential bias when treating this

population (American Academy of Family Physicians, 2016). There are no such recommended curriculum guidelines for anesthesiology residency programs. Although anesthesia physicians have historically been perceived favorably by the patients they treat (Leite et al., 2011), LGBT patients who have interactions with these physicians will be interacting with providers who may not have received formal training in medical school on caring for, or communicating with, LGBT patients and who are not mandated to receive specialized training on transgender patient interactions in residency.

Theoretical Framework for the Study

The Theory of Planned Behavior examines how a person's motivators influence the likelihood that he or she will perform a specific behavior, with the best predictor of behavior being intent (Glanz et al., 2015). The theoretical constructs that determine one's intentions are (a) attitudes toward a behavior, (b) social normative perceptions related to that behavior, and (c) perceived behavioral control over performing the behavior. Specific aspects of the theory will be discussed in more detail in the subsequent chapter.

The Theory of Planned Behavior has been used widely in healthcare to determine motivators driving intent. This includes physicians' intent to provide comprehensive care (Grierson et al., 2015), medical students' intent to seek specific types of training (Myran et al., 2015), intent to allow family member presence during resuscitation efforts (Lai et al., 2017), intent to report medication errors and patient safety concerns (Natan et al., 2017; Rich et al., 2019), intent to promote physical activity among patients (Hardcastle et al., 2018; Lynn & Huang, 2019), and intent to utilize certain communication techniques (Omura et al., 2018). With LGBT populations, the Theory of Planned Behavior has been

utilized to predict gay affirmative practice among an interprofessional group of healthcare workers (Warren et al., 2015), to examine behavioral intent of education trainees to advocate for LGBT youth (McCabe & Rubinson, 2008), and to describe intent to stop smoking (Burkhalter et al., 2009). Specific to transgender individuals, the theory has been used to assess intent to use hormones to overcome gender dysphoria (Miden et al., 2018) and to seek HIV-related healthcare (Prabawanti et al., 2015). In almost all of these instances, surveys were developed and utilized to assess the constructs of the Theory of Planned Behavior as a means of predicting intent. Likewise, that is the plan with this research and will be discussed in detail later.

Purpose of the Study

The purpose of the present study was to examine the beliefs and intentions of anesthesia physicians toward providing culturally competent care to transgender patients. The Theory of Planned Behavior asserts that intent is the best predictor of a person's behavior (Glanz et al., 2015). When using the Theory of Planned Behavior, intent is measured through the assessment of constructs consisting of attitude, subjective norm, and perceived behavioral control (Francis et al., 2004). Survey questions designed to measure these constructs have been shown to predict intent to perform specific behaviors. Anesthesia physicians' intention to provide culturally competent care was measured by assessing their attitudes regarding providing culturally competent care for transgender patients; the pressure, or subjective norms, they feel related to caring for these patients; and the degree of control they believe they have over giving this care. The

questionnaire's psychometric properties were tested during a pilot process to ensure the tool's validity and reliability.

Study Objectives

The objectives of the present study were:

1. Create a valid, reliable survey using constructs of the Theory of Planned Behavior to assess intent to provide culturally competent care to transgender patients by anesthesia physicians at an academic medical center in the southeastern United States;
2. Pilot the created survey via email with a simple random sample of 100 of the academic medical center's anesthesia physicians to determine psychometric properties and response rates, to determine whether the study's independent variables could predict intention scores, and to determine the best predictor of intent to provide culturally competent care to transgender patients.

Research Questions

The research questions developed for this study were:

1. Using a survey measuring anesthesia physicians' behavioral intent to provide culturally competent care to transgender patients, how does intent vary among anesthesia physicians?
2. What is the best predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients?

Null Hypothesis

The following null hypothesis was developed for this study:

1. There is no difference between anesthesia physicians' intention scores to provide culturally competent care to transgender patients based on (a) attitude score, evaluation; (b) subjective norm score, evaluation; (c) perceived behavioral control score, evaluation; (d) number of years in practice; (e) gender; (f) age; (g) hours of transgender education; (h) number of personal relationships with transgender persons; (i) perception of own knowledge related to transgender cultural considerations; (j) level of support for acknowledging the difference in gender and sex.

Significance of the Study

One might ask why it matters that physicians are receiving little or no education on a specific population of patients who are not grouped by any single medical condition. Indeed, some physicians believe that a patient's sexual orientation or gender identity should have no bearing whatsoever on his or her treatment plan (Beagan et al., 2015). This is of serious concern given that transgender patients experience inadequate care (Kitts, 2010). Furthermore, transgender persons experience "unique health disparities" such as being subjected to "chronic stress" because of the stigmas they endure (IOM US Committee on LGBT Health Issues and Research Gaps and Opportunities, 2011, pp. 1-2). Although health disparities and discrimination are faced by all in the LGBT population, the transgender subpopulation is arguably the most ostracized patient group in all of medicine, with the largest number of health concerns (Roberts & Fantz, 2014). In

addition, this patient population is faced with physicians who feel neither comfortable nor prepared in these patient/provider interactions, resulting in a loss of confidence on both sides (Tollinche et al., 2018). This is particularly troubling since individuals identifying as transgender are already more likely to delay seeking care from healthcare providers (Macapagal et al., 2016).

Procedures

A valid and reliable survey instrument was created to measure the beliefs and behavioral intentions of anesthesia physicians toward providing culturally competent care to transgender patients. The Theory of Planned Behavior (TPB) and the guide to survey development by Francis and colleagues (2004) were utilized throughout the process and are described in detail throughout Chapter 3. A multiple regression procedure was utilized with a sample of anesthesia physicians randomized into the following two phases of research: elicitation and pilot. Item analysis was conducted to establish internal consistency (Francis et al., 2004), and the final tool was developed based on pilot data analysis.

Delimitations

The scope of this research was limited to the broad constructs of the Theory of Planned Behavior, which include intentions and behavioral, normative, and control beliefs. However, specific beliefs within these constructs will not be explored.

Limitations

This study was limited to physicians specializing in anesthesiology who practice at a single academic medical center in the southeastern United States.

Assumptions

For the purpose of this study, the following assumptions were made: (a) the researcher had access to the correct contact information for physicians within the anesthesiology department; (b) participants accurately completed and submitted the electronic questionnaire; (c) the content jury was made up of experts who had timely fulfillment of study requests.

Operational Definitions

Anesthesia Physician

A physician who provides anesthesia for patients undergoing a range of procedures while closely monitoring the patient's condition and ensuring vital organ functions. Additionally, these physicians diagnose and treat acute and chronic pain and medically manage patients with critical illnesses and injuries (American Medical Association, 2020).

Bisexual

A person attracted to more than one sex, gender, or gender identity in an emotional, romantic, and/or sexual way (Klein & Nakhai, 2016)

Cisgender

A person whose gender identity aligns with their biological sex (Margolies & Brown, 2019)

Cultural Competency

A skillset allowing providers to deliver care that is both high-quality and culturally appropriate to persons coming from cultures different than their own (IOM, 1999)

Lesbian

A woman who is attracted to other women in an emotional, romantic, and/or sexual way (Klein & Nakhai, 2016)

LGBT/LGBTQ

An acronym encompassing both sexual orientation and gender identity, standing for lesbian, gay, bisexual, and transgender, sometimes including queer or questioning individuals (Klein & Nakhai, 2016)

Gay

A person who is attracted to someone of the same gender in an emotional, romantic, and/or sexual way, sometimes referring specifically to men attracted to men (Klein & Nakhai, 2016)

Gender Identity

The sex with which a person identifies. May differ from sex assigned biologically at birth (Margolies & Brown, 2019).

Intent

Component of the Theory of Planned Behavior that is measured through the constructs of attitude, subjective norm, and perceived behavioral control and is considered the best

predictor of a person's behavior (Francis et al., 2004; Glanz et al., 2015)

Queer

A term often used to describe oneself as not conforming to societal definitions of sexuality or gender identity/expression (Klein & Nakhai, 2016)

Questioning

A person who is exploring their own sexual orientation and/or gender identity/expression (Klein & Nakhai, 2016)

Sexual Orientation

The group of people, same-sex, opposite-sex, or all sexes, to whom a person is typically attracted in an emotional, romantic, and/or sexual way (Margolies & Brown, 2019). How one identifies their sexual orientation does not have to correspond to that person's sexual behavior.

Theory of Planned Behavior

Health behavior theory that examines how a person's individual motivators influence the likelihood that they will perform a specific behavior, with the best predictor of behavior being intention (Glanz et al., 2015)

Transgender

A term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex (AAMC, 2014). It does not describe sexual orientation (Klein & Nakhai, 2016) and does not necessitate a person distinctly identifying as either male or female (Margolies & Brown, 2019).

Summary

Physicians' care of transgender patients is hindered by their lack of training and experience with this patient population, particularly among anesthesia physicians who are not mandated to have any transgender-specific instruction or exposure during residency. This results in awkward or inadequate interactions between these patients and providers, who often meet only moments before beginning treatment interventions, thereby decreasing the likelihood that transgender patients will seek care in the future. Providing culturally competent care to these patients can assist in establishing trust and strengthening the provider-patient relationship.

Because providing care to transgender patients can be a complex process for which anesthesia physicians may or may not be prepared, this researcher sought to establish beliefs and behavioral intentions held by anesthesia physicians regarding the provision of culturally competent care to transgender patients by conducting survey research with a sample of anesthesia physicians at a single academic medical center in the southeastern U.S. A valid, reliable survey instrument was developed to explore the beliefs and behavioral intentions of anesthesia physicians to provide culturally competent care to transgender patients. This survey was based on the Theory of Planned Behavior and pilot tested for psychometric properties before the construction of the final tool took place.

CHAPTER 2

LITERATURE REVIEW

Transgender Persons

The term transgender refers to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex (AAMC, 2014). Conversely, cisgender individuals identify as the same sex each was born. In transgender people, sex and gender identity, a person's perception of being a certain gender, do not match. This has no bearing on a person's sexual identity or actions and is not the same as being gender nonconforming. This label is also not reliant on an individual's physical appearance, medication intake, or intent for surgical intervention. Female-to-male (FtM) refers to a person whose sex is female and whose gender identity is male. Male-to-female (MtF) refers to a person whose sex is male and whose gender identity is female. Transgender persons may choose to transition, the process of adopting a gender identity other than the one genetically assigned at birth, through name, pronoun use, appearance, medications, surgical interventions, modification of identification documents, or any combination of these. These behaviors and interventions are collectively referred to as gender-affirming.

The total number of transgender persons in the U.S. is difficult to estimate, both because many official records, such as the U.S. Census, do not collect data on a respondent's gender identity and because many may not feel comfortable disclosing such

information (Meerwijk & Sevelius, 2017). A meta-regression model conducted on surveys spanning from 2007 to 2015 suggested that, as of 2016, the U.S. transgender population neared 1 million persons (Meerwijk & Sevelius, 2017). However, estimates based on more recent studies suggest that the number is closer to 1.4 million (Flores et al., 2016; Reisner et al., 2016; Zucker, 2017). Regardless of the exact number, it does appear that the number of individuals identifying as transgender is on the rise.

Transgender Health Disparities

Disease Prevalence

One of the Healthy People 2020 goals is to "[i]mprove the health, safety, and well-being of [LGBT] individuals" (Healthypeople.gov, 2020). However, this group continues to have numerous health disparities compared with their non-LGBT peers. These disparities can be attributed to a combination of healthcare access barriers and minority stress. The minority stress model posits that those identifying as LGBT have poorer health and lead shorter lives than their non-LGBT peers due to "stress of concealment, discrimination, and stigma, as well as institutional stigma such as noninclusive practices" (Cochran & Mays, 2015; Gonzales et al., 2016; Grant et al., 2011; Lehavot et al., 2016; Margolies & Brown, 2019, p. 36; Meyer, 2003; Shipherd et al., 2011). Minority stress is such an issue that, in 2016, the National Academy of Medicine and National Institutes of Health designated both sexual minorities and gender minorities, the research terms for people who are LGBT, as health disparity populations for the purpose of further research (IOM US Committee on LGBT Health Issues and Research Gaps and Opportunities, 2011). The IOM report highlights that, although health

disparities and discrimination are faced by all in the LGBT population, there are subpopulations within the larger population that face more substantial struggles. For example, MtF and gay and bisexual men face "one of the most critical health issues" in the HIV/AIDS crisis (IOM US Committee on LGBT Health Issues and Research Gaps and Opportunities, 2011, p. 2).

Specific to persons identifying as transgender, marginalization in both social and economic arenas has led to numerous poor health outcomes. Transgender individuals often experience issues with employment discrimination, income disparities, and lack of health insurance (James et al., 2016). Mental health is a more serious concern for transgender individuals than for the general population, with MtF being 6 times more likely than cisgender women to experience depression (Díaz et al., 2001; Gonzales et al., 2012). Specific to suicide, the second leading cause of death in individuals ages 10-34, transgender persons have higher rates of suicidal ideation and attempts than cisgender individuals, with respondents in one survey indicating a suicide attempt rate 26 times greater than that of the general population (CDC, 2019; Grant et al., 2011; Kenagy, 2005; King et al., 2008). Transgender youth are particularly at risk, with suicide attempts requiring medical attention at 4 times the rate of heterosexual youth (Lewis, 2009; Marshal et al., 2011). Although the mental health disparities among transgender persons are well documented, there is a paucity of literature exploring this population's physical health disparities. This is crucial to note because, if physicians continue to be uncomfortable when treating transgender patients, or avoid treating them altogether, a collective understanding of their unique physical health concerns will not be reached.

Regarding high-risk behaviors, 12% of respondents to the 2015 Transgender Survey reported having exchanged sex for income at some point, 9% within the last year (James et al., 2016). Transgender persons, particularly MtF, have increased prevalence and incidence of HIV infection, with an infection rate up to 50 times higher than all other non-MtF adults of reproductive age (Baral et al., 2013; Herbst et al., 2008). Smoking, another high-risk behavior, was reported by 30% of transgender respondents in one survey, which is 1.5 times higher than the rate of smoking in non-transgender individuals and can increase complication rates for those on hormone therapies (Chan et al., 2017; Cheng et al., 2013; Grant et al., 2011).

Healthcare Barriers

The increased stress and mental health issues from which transgender individuals suffer have been shown to impact their health through their avoidance of healthcare (Frost et al., 2015). Many in this population of patients have undergone traumatic events and may perceive medically necessary questioning, such as questions related to their reproductive organs, as another form of trauma, leading them to avoid seeking healthcare (Grant et al., 2011; Roberts et al., 2010). An average of 50% of those who identify as transgender delay seeking medical care (Cruz, 2014; Macapagal et al., 2016). This delay is of serious concern because, once care is sought, this population of patients experiences inadequate care, whether because of purposeful discrimination or unconscious bias (Kitts, 2010). In healthcare, 33% of those responding to the 2015 Transgender Survey reported having at least one negative healthcare experience in the last year that included "being refused treatment, verbally harassed, or physically or sexually assaulted, or having to teach the provider about transgender people in order to get appropriate care" (James et

al., 2016). This discrimination has been directly linked to avoidance of care in transgender individuals, especially among FtM (Jaffee et al., 2016; Lombardi, 2001).

The American Medical Association (AMA) has policies that speak to equal treatment and the elimination of healthcare disparities for transgender individuals (AMA, 2017). However, even when willing to seek out healthcare, transgender patients sometimes are unable to have their health needs met. Besides, providers are not formally allowed to discriminate or refuse care based on one's sexual identity. However, it does, in fact, happen. Nineteen percent of transgender patients who responded to the previously mentioned national transgender survey cited being refused care due to their transgender status (Grant et al., 2011). For transgender persons of color, the denial rates are even higher. Racial discrimination, coupled with the stigma associated with identifying as LGBT, has been strongly correlated with the mental illness and suicide risks discussed previously (Haas et al., 2011). Many transgender persons reported not disclosing their transgender status to their healthcare providers out of fear their care would be substandard or denied altogether (Service and Advocacy for GLBT Elders [SAGE], 2014). Monetary concerns can sometimes impede healthcare access, with 25% of transgender survey respondents reporting experiencing, within the last year, an insurance-related issue that they would associate with being transgender, such as being denied regular care (James et al., 2016). This lack of insurance, coupled with the discrimination those in this population often face, causes patients to delay or avoid seeking healthcare interventions (IOM, 2011). However, updated healthcare laws have removed some of the insurance barriers previously preventing some transgender patients from taking part in gender-affirming therapies (Gage, 2015).

Many physicians lack the knowledge or skills to provide educated, culturally competent care to transgender individuals, leading to further alienation of this population. In order to avoid any perceived discrimination, many physicians avoid acknowledging any differences in trans- and cisgender individuals' labels and identities (Baker & Beagan, 2014). However, this approach causes many transgender persons to feel that the heterosexual assumption made throughout much of healthcare is being reinforced. Further, Healthy People 2020 recommends that providers routinely inquire about and support "a patient's sexual orientation and gender identity to enhance the patient's interaction and regular use of care" (Healthypeople.gov, 2010). When a patient cannot be open about sexual orientation and gender identity during medical encounters, both physical and mental health suffer (Community Foundation of Greater Birmingham, 2015). Other negatively perceived physician behaviors reported by transgender patients have been an avoidance of physical touch and inaccurate assumptions about sexually transmitted infection and HIV status (Alpert et al., 2017). In both cases, these behaviors were reported by transgender patients as creating a distrustful relationship between patient and physician.

Transgender Healthcare in Alabama

Approximately 22,500 or 0.61% of Alabama residents identify as transgender (Flores et al., 2016). Of those identifying as LGBT in the state, 46% did not consider their physician to be LGBT friendly, although it is unclear what portion of that percentage were specifically transgender individuals (Human Rights Campaign-Alabama, 2015). In one survey, 94% of transgender persons in Alabama reported having symptoms of mental illness in the previous two years (Community Foundation of Greater

Birmingham, 2015). However, a significant portion of that same group reported delaying medical care due to physician distrust. Fewer than 50% of transgender respondents reported disclosing their gender identity to their physicians and were more likely than LGB respondents to have negative experiences in healthcare settings. These negative experiences included having physicians who were not knowledgeable about transgender care and/or who did not use the patient's preferred pronoun. While many responding physicians in Alabama considered themselves to be open and accepting to transgender patients, they feared that publicizing their support could alienate their non-transgender patients. Additionally, more than half of physician respondents reported having a colleague who is or potentially would be uncomfortable caring for LGBT patients.

Physician Education and Transgender Care

Medical Education

One way Healthy People 2020 recommends improving LGBT health is through "[p]roviding medical students with training to increase provision of culturally competent care" (Healthypeople.gov, 2010). However, the health disparities transgender people face can be blamed, at least in part, on the lack of transgender-specific education included during medical school (Dubin et al., 2018). Classification of transgender patients as a small group that requires specialized training has resulted in limited inclusion of content in medical education. Many educators believe that physicians should either get this training indirectly, hoping that they encounter transgender patients during regular clinical time, or seek specific training in the care of this population (AAMC, 2014; Snelgrove et al., 2012). Sadly, this is not routinely happening. Physicians should not be expected to

learn about an entire population of patients through hope and happenstance. This education must be done with intention.

In 1980, the AAMC published the first set of standards to establish guidelines directing healthcare providers to help transgender patients improve their health (AAMC, 2014). Later, in 1991 and 1998, surveys were conducted nationally to assess the amount of educational content devoted to homosexual patients (Wallick et al., 1992). Neither of these surveys addressed transgender patient education, nor did any before them. In 1998 the first full-time staff person devoted to LGBT health was hired at the University of California, San Francisco. It took 14 years before a similar position was created in another academic center (AAMC, 2014). In 2007, the AAMC released a set of recommendations for medical schools suggesting that "students master the knowledge, skills, and attitudes necessary to provide excellent, comprehensive care for [LGBT] patients" (AAMC, 2014, p. 27). Their recommendation went further to recommend training in the communication skills needed for inquiring about topics surrounding sexual orientation and gender identity. However, a nationwide survey conducted shortly after the AAMC recommendation release found that, while the majority of schools had some content on LGBT issues, it largely focused on sexually transmitted infections, mental illness, and taking a sexual history. Experts deemed this to be inadequate to meet the needs of this population and potentially harmful by way of reinforcing negative stereotypes (Snowdon, 2010). In 2012, the Advisory Committee on Sexual Orientation, Gender Identity, and Sex Development was created to offer resources and a framework for use in medical education (AAMC, 2014). In 2014, this group published the first set of medical education competencies for LGBT healthcare, presenting them as a guide for

curricular change. Even after the release of recommendations, frameworks, and curricular guides, medical education continues to deliver limited, ineffective experiences regarding transgender patients and their needs.

There has long been a dearth of instruction in medical education related to the care of LGBT patients. In 1991, the national average of curriculum hours in medical schools devoted to homosexuality was less than 3.5 hours (Wallick et al., 1992). By 1998, that number decreased to 2.5 hours, with half of the schools reporting zero content related to homosexual patients (Tesar & Rovi, 1998). A decade later, the median curricular time devoted to care of LGBT patients was only 5 hours, with one-third of schools offering no content and nearly half of those that did rating their content as merely mediocre (Obedin-Maliver et al., 2011). Regarding those that did teach LGBT topics, 62.9% addressed only 8 of the 16 suggested LGBT-specific topic areas, and only 8.3% addressed 11 of the 16, with a combined total of 32 hours, classroom and clinical, devoted to LGBT health. However, it is not clear what portion of that time was spent specifically on transgender health (Obedin-Maliver et al., 2011). Seventy-nine percent of physicians in one 2015 study reported having minimal or no LGBT instruction in medical school, particularly concerning transgender health, and those who reported learning about this group said they did so because they deliberately sought out related content (Beagan et al., 2015). A 2018 survey found that almost three-quarters of all medical students received fewer than 2 hours of content specific to transgender patient needs (Dubin et al., 2018). Although there is no gold standard for time spent on this content, the reported amount of time is much less than is spent on many other specialty populations (AAMC, 2014). Thus, it is no surprise that medical students reported much lower knowledge and

comfort levels with transgender care than they did with lesbian, gay, or bisexual patient care (Dubin et al., 2018; Liang et al., 2017).

The lack of familiarity with caring for transgender patients causes a self-perpetuating cycle, with faculty unable or unwilling to teach applicable content due to a lack of preparedness in the subject matter (AAMC, 2014). Two of the primary reasons that transgender content is not widely taught in medical education are the lack of evidence-based content and the classification of the group as a subspecialty. Regarding content, although many institutions have adopted some form of transgender course or clinical work, none has been highlighted as best practice. As such, medical educators are unsure exactly what to include in curricula and the timeline in which to include it (AAMC, 2014). In a world motivated by standardized testing, the lack of transgender content on national exams offers little incentive for coverage of such material during training. This is unfortunate given that increased exposure to transgender content in medical education has been shown to reduce providers' perceived barriers to caring for these patients (Tamas et al., 2010).

Graduate Medical Education

Training after medical school does not become more inclusive of transgender patient needs. Classification of LGBT patients as a small group that requires specialized training has resulted in limited inclusion of content in training. Many educators believe that physicians should either get this training indirectly, hoping that they encounter LGBT patients during their regular clinical time, or seek specific training in the care of this population (AAMC, 2014; Snelgrove et al., 2012). Ninety-three percent of one group of physicians reported caring for fewer than five transgender patients during training,

with 40% caring for none (Dubin et al., 2018). This may contribute to the poor example many physicians set for their trainees by not routinely including questions in their patient's sexual history discussion regarding sexual orientation or attraction and gender identity (AAMC, 2014; Wimberly et al., 2006). This lack of modeling on the part of the faculty results in trainees who do not know how to appropriately have those crucial conversations with their transgender patients.

The ACGME, the accrediting body for residency and fellowship programs, mandates that residents display "sensitivity to cultural, age, gender and disability issues of patients…[and] sensitivity and responsiveness to a diverse patient population, including, but not limited to, diversity in gender…and sexual orientation" (ACGME, n.d., ACGME competencies section). However, the ACGME does not specify how different residency or fellowship programs employ these directives.

In recent years, there has been a push to include transgender education in the graduate medicine curriculum for many specialties (Dubin et al., 2018). For example, the American Academy of Family Physicians has published recommended curriculum guidelines for family medicine residents and LGBT health that include not only education and treatment specifics related to the population, but also a recommendation for residents to reflect on their own potential bias when treating this population (American Academy of Family Physicians, 2016). There are no such recommended curriculum guidelines for many specialties, including anesthesiology residency programs. A recent review of graduate medical education literature regarding transgender health revealed no publications examining anesthesiology and transgender medical education (Dubin et al., 2018; Nguyen, 2020). Therefore, transgender patients who have interactions with

anesthesiology residents will be interacting with physicians who may not have received formal training on this population in medical school and who are not mandated to receive training on this population, or their specific needs, in residency.

Even for those specialties that have incorporated transgender education into their graduate medical education curricula, there is a general understanding that improvements are still needed (Dubin et al., 2018). A survey of urology residents found that exposure, training, and attitudes related to transgender patients varied considerably by region, with residents in the Western and North Central sections of the U.S. reporting the most exposure and more positive attitudes (Dy et al., 2016). At one academic institution, almost all internal medicine trainees agreed that training on transgender health issues was important for their specialty. However, fewer than half of those same residents reported having received education on transgender care (Johnston & Shearer, 2017). In separate studies, 80% of gynecologists and obstetricians (Unger, 2015) and 70% of otolaryngology residents (Massenberg et al., 2018) reported not receiving education on transgender persons during residency. In an investigation of emergency medicine residency programs, almost three-fourths of the programs reported having never presented an LGBT lecture, and two-thirds did not incorporate LGBT-specific topics into their curricula (Moll et al., 2014). Plastic surgery trainees did fare a bit better, with 64% reporting exposure to either transgender education or patients during residency, and 72% affirming the importance of additional training options for those wishing to specialize in gender-affirming surgical procedures (Morrison et al., 2016). However, residency program directors of various specialties, including plastic surgery, in the southern U.S.

were more likely to indicate that inclusion of transgender education within training was unimportant or not necessary (Mehta et al., 2018).

Continuing Education for Practicing Providers

After completing residency, physicians are required to take part in continuing medical education (CME) to ensure they "deliver safe, effective, cost-effective, compassionate care, based on best practice and evidence" (Accreditation Council for Continuing Medical Education [ACCME], 2019, final paragraph). According to the ACCME, an organization devoted to the constant enhancement of CME offerings to physicians, CME is vitally important in recognizing and addressing health disparities, as well as the provision of education on cultural competency and humility to physicians. However, very little training on LGBT patient care has been disseminated to physicians who are no longer in training, and almost no data have been collected on transgender-specific continuing education offerings (Bonvicini, 2017). In the clinical environment, physician education on LGBT persons has remained stagnant throughout the decades, with newly practicing physicians having the same amount of clinical exposure as those with much more experience (Céile, 2015). In a survey of academic medical centers in the U.S., only 16% reported offering comprehensive LGBT competency training, and more than 50% had no LGBT training whatsoever. However, 80% expressed a desire to increase the amount of education from their current state (Khalili et al., 2015). Offering CME to physicians aimed at providing "comprehensive, compassionate and culturally-competent patient-centered care is fundamental," but it is largely overlooked, particularly as it relates to transgender patients (Bonvicini, 2017, p. 2359).

Knowledge Gaps

The most significant barrier to care for transgender persons is the paucity of transgender-knowledgeable physicians (Gardner & Safer, 2013; Korpaisarn & Safer, 2018). As a consequence of the lack of LGBT-focused medical education, providers have large knowledge deficits related to this patient population. In fact, these knowledge deficits are cited as the primary reason for provider discomfort in caring for transgender patients (Diaz et al., 2017). These knowledge deficits span from lack of information on preventive screening recommendations, such as prostate and Pap smear exams for transgender patients, to general deficits in cultural competency considerations (Céile, 2015; Diaz et al., 2017; Unger, 2015). The paucity of CME on LGBT topics does not assist in improving this issue (AAMC, 2014). The lack of familiarity with caring for LGBT patients causes a self-perpetuating cycle, with faculty unable or unwilling to teach applicable content due to a lack of preparedness in the subject matter (AAMC, 2014). This decreased knowledge, coupled with the ethical considerations sometimes faced by physicians asked to care for this patient population, leads to many challenges physicians are unprepared to tackle (Snelgrove et al., 2012).

In a national survey taken by hundreds of transgender individuals, 50% of respondents reported having to educate providers about transgender care (Grant et al., 2011). It is not surprising that many providers do not ask transgender patients about preferred pronoun use if they have never been taught to do so. Some physicians do not feel that a person's gender identity or sexual orientation should be considered as part of the treatment plan (Beagan et al., 2015). However, a recent study showed evidence that transgender patients want to be asked by their healthcare providers about their sexual

orientation and gender identity and feel, in many cases, that being asked is relevant to their chief complaint (Maragh-Bass et al., 2017). In that same study, the transgender patients cited that they would have been more likely to disclose their sexual orientation and gender identity had the environment been more LGBT friendly, such as having signage featuring same-sex couples, gender-neutral bathrooms, posted statements about inclusivity, or any combination of these. Consequently, this patient population is more likely than not to be receptive and appreciative when encountering a transgender-friendly provider.

In a study involving multiple hospitals, clinicians were much more likely to indicate they were familiar with health issues affecting LGB patients than to indicate the same for transgender patients. The same was true regarding their perceived preparation to medically treat both groups (Goldhammer et al., 2018). Thus, transgender persons' concerns that their physicians are uncomfortable in providing them care is well founded (Alpert et al., 2017). Physicians must increase their knowledge of transgender health and provision of culturally competent care in order to provide competent medical care to their transgender patients (Lerner & Robles, 2017).

Successes in Transgender Education and Care

Several advances in quality transgender care have been made in recent years. The University of Louisville's medical school offers an elective certificate program on LGBT Health, significantly increasing the students' knowledge of and positive attitudes toward LGBT patients (Sawning et al., 2017). The nursing specialty has also made progress in this area, with nursing students exposed to curricula targeting specific subsets of the LGBT population and subsequently demonstrating increased knowledge (García-Acosta

et al., 2019; Hardacker et al., 2014). The University of California, San Francisco developed a Transgender Health Course for multidisciplinary groups of students, including those in medicine, to attend during their lunch hours. After the course, students exhibited increased knowledge related to transgender medical care and decreased transphobia (Braun et al., 2017; Nagoshi et al., 2008).

Advances have been made in clinical areas as well. A study conducted by the Fenway Institute developed and successfully tested a two-step gender identity question that contained seven choices for gender and three choices for sex assigned at birth according to the birth certificate (Cahill et al., 2014). This question can be utilized on intake forms to increase patient comfort, along with having gender-neutral bathrooms and reading materials (Coren et al., 2011). Even though this question was approved by 80% of those who tested it, only 11.5% of physicians reported utilizing a similar question in their practices, and 20% did not know whether or not they utilized one at all (Cahill et al., 2014; Unger, 2015). Related to training during residency, the University of Pittsburgh Health System created an LGBTQIA primary care track for their internal medicine residents, with participants showing an increase in knowledge of LGBTQIA health and increased confidence in their abilities to implement gender-neutral practices in the future, such as asking all patients about both gender and sex and implementing gender-neutral bathrooms (Ufomata et al., 2018). Within the Providence Oregon Family Medicine Residency Program, a curriculum was developed for both residents and faculty about LGBTQ patient considerations. This curriculum included information from bias to appropriate terminology, to the creation of patient-centered care planning for the LGBTQ population. Peers in the same field who reviewed the curriculum agreed that it would be

beneficial if implemented at their institutions (Klein & Nakhai, 2016). In 2017, Mount Sinai Hospital, New York, created the first transgender-specific surgical fellowship program for those who wished to continue their surgical training with a focus on transgender patients (Korpaisarn & Safer, 2018). While these advances have been progressive, more institutions need to follow suit.

Cultural Competence

The term culture can encompass many aspects of a person or group, including religion, ethnicity, gender, socioeconomic status, sexual orientation, education level, occupation, age, and disability (Noble & Shaham, 2020). Cultural competence is a "set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own" (IOM, 1999, p. 42). It includes elements such as "cultural awareness, linguistic competence, and health literacy as well as avoiding bias and stereotyping" (Noble & Shaham, 2020, p. 73). Another explanation of CC is the "ability to understand, communicate with, and effectively interact with diverse populations…measured by awareness, attitude, knowledge, skills, behaviors, policies, procedures, and organizational systems" (Wilkinson, 2014, p. 68). An integrative review of the literature conducted in 2016 determined that most of the study authors considered CC to include "elements of knowledge, awareness/attitudes, and skills/behaviors" (Watt et al., 2016, p. 1). Physician CC helps to guarantee equitable healthcare access across diverse groups, ensuring that patients receive the care that matches their needs while communicating in a way that avoids exacerbation of certain stigmas that have the potential to become barriers to care (McGregor et al., 2019; Sorensen et al., 2017).

In 2000, the U.S. Department of Health and Human Services, Office of Minority Health, released the national Culturally and Linguistically Appropriate Service (CLAS) standards (Office of Minority Health, 2001). These standards focused primarily on racial and ethnic diversity and provided guidelines and recommendations to assist healthcare organizations in providing more culturally competent care. In 2013, the same organization released Enhanced CLAS Standards that included gender identity and sexual orientation and targeted a wider audience than just healthcare organizations (Office of Minority Health, 2013). The Joint Commission requires demonstration of cultural competence from hospitals and providers they accredit, including adapting to any individuals or communities those providers serve (The Joint Commission, 2010). Both the ACGME and the Liaison Committee on Medical Education (LCME) have included training on cultural competency as part of medical student and resident standards (ACGME, 2018; LCME, 2020). In fact, the integration of cultural competency education into healthcare curricula is viewed as a key strategy to reduce health disparities (McGregor et al., 2019). However, research suggests that healthcare providers often lack the necessary CC needed to effectively interact with their transgender patients (Baker & Beagan, 2014).

LGBT Cultural Competency

Although little is known about the extent of cultural competency training for physicians across the U.S., there is a shortage of healthcare providers who can provide culturally competent care to their LGBT patients, thereby negatively affecting the equity of healthcare this population receives (Healthypeople.gov, 2010; Khalili et al., 2015). While many physicians are well intentioned in their care of LGBT patients, pervasive

gaps in their education and exposure leave them struggling to accept and execute culturally competent care (Baker & Beagan, 2014). Oftentimes, in an attempt to eliminate perceived bias or discrimination, physicians attempt to eliminate all differences between caring for LGBT and non-LGBT patients. This can be perceived by patients as an assumption of heterosexuality and/or gender identity, decreasing the likelihood those patients will be fully open with their physicians. Because subsets of the LGBT population have different healthcare needs and risks, disclosure of sexual and gender identity to physicians is paramount to developing an effective healthcare plan. The presence or absence of this disclosure can be heavily impacted by cultural competency cues received through interactions with their physicians (Baker & Beagan, 2014).

Specific to transgender patients, cultural competency involves "an understanding of terms, identities, and concepts associated with transgender and gender-nonconforming communities, including utilizing culturally appropriate language and behavior" in addition to understanding the health and social disparities this population faces (Wilkinson, 2014, p. 69). Delivering culturally competent transgender care has been shown to positively impact health outcomes. Transgender patients whose providers utilized culturally competent language and pronouns during the encounter perceived that they received more dignity and respect from their physician during the interaction (Hussey, 2008). However, culturally competent physicians are not always easy to find, with one study noting that 30% of participating MtF in New York City reported a lack of access (Sanchez et al., 2009). Given that exposure and attitudes can vary by region, it is easy to theorize that access might be even more limited in some regions of the U.S., including the south.

Importance of Cultural Competence

Developing and employing CC throughout healthcare is an essential part of providing high-quality care (McGregor et al., 2019). Satisfaction and trust between patients and healthcare workers have been shown to increase after provider cultural competency training, which in turn positively impacts patient outcomes (Beach et al., 2005; Kim & Lee, 2016; Maramba & Nagayama Hall, 2002; Stewart et al., 2000; Tang et al., 2019). Further, minority patients in one study who perceived their providers to be culturally competent had decreased shame, embarrassment, and avoidance of care (Flynn et al., 2019; Truong et al., 2014). This is critically important since a long history of discrimination and bias in healthcare has led transgender individuals to delay or avoid seeking care, contributing to this population's chronic stress and poorer health outcomes (Dean et al., 2000; Gonzales et al., 2016; Grant et al., 2011; Margolies & Brown, 2019; Vermeir et al., 2018). Cultural competency training has increased in the last decade as a way of addressing transgender health disparities (Hanssmann et al., 2008). Healthcare workers who received education on cultural competency had increases in positive attitudes, better awareness, and improved communication skills (Joos et al., 1996; Roter et al., 1995; Truong et al., 2014; U.S. Department of Health and Human Services, Office of Minority Health, n.d.).

Lack of CC when caring for transgender patients can result in healthcare interactions that are perceived as negative, potentially causing psychological distress and loss of trust with their physicians (Bockting et al., 2004; Lombardi, 2001; Tollinche et al., 2018). This is especially troubling given that physician trust is considered a crucial aspect of transgender healthcare (Mollborn et al., 2005). In one study, transgender patients

reported having an increased focus on any perceived awkwardness in interactions with their physicians, leading them to attribute potentially benign activities, such as fidgeting, to physician stigmatization, bias, and discomfort in providing transgender care (Kosenko et al., 2013). The subsequent chronic stress from this real or perceived bias and discrimination results in poorer health and earlier deaths in transgender persons (Cochran & Mays, 2015; Gonzales et al., 2016; Grant et al., 2011; Lehavot et al., 2016; Margolies & Brown, 2019; Shipherd et al., 2011). Correct pronoun use is another crucial aspect of providing culturally competent care with transgender patients, without which patients have been shown to avoid or prolong return visits (Tollinche et al., 2020). Providers need to understand how to interact with their transgender patients in a culturally competent way. Making assumptions about a patient's gender identity or preferred pronoun use based on his or her appearance is not appropriate. It leads to discrimination and stigma, ostracizing transgender patients and causing them to delay care.

Transgender Patient Surgical Considerations

An increasing number of transgender persons are having surgical procedures, particularly gender-affirming surgeries (Tollinche et al., 2020). Gender-affirming surgical procedures are supported by the World Professional Association for Transgender Health and have been shown to decrease rates of gender dysphoria to the point of saving lives (Hage & Karim, 2000; Murad et al., 2010; Smith et al., 2005; World Professional Association for Transgender Health, 2012). A 2008 survey conducted by the National Center for Transgender Equality and the National Gay and Lesbian Task Force revealed that 75% of FtM and 90% of MtF either desired or already had a gender-affirming

surgical treatment (Grant et al., 2011). A report from the National Inpatient Sample showed a 12% increase in gender-affirming surgeries, particularly genital surgeries, in 2006-2011 when compared with 2000-2005 (Canner et al., 2018). In 2016, the American Society of Plastic Surgery showed a 27% increase in FtM and a 10% increase in MtF having gender-affirming procedures when compared with 2015 (American Society of Plastic Surgeons, 2017). However, even with these reports, there is a general lack of information regarding the number of transgender patients who present for surgical procedures, making it difficult to fully assess their surgical disparities and the need for staff education (Shields et al., 2017). Further, knowledge gaps related to transgender surgical procedures continue to exist, with medical students reporting much lower knowledge and comfort levels with transgender care than they did with lesbian, gay, or bisexual patient care, particularly in relation to gender-affirming surgeries (Dubin et al., 2018; Liang et al., 2017).

Anesthesia Physicians

After graduating from medical school, physicians choose an area in which they wish to specialize. One such area is anesthesiology. This specialty involves training in "anesthesia care, pain management, and critical care medicine…12 to 14 years of education, including medical school, and 12,000 to 16,000 hours of clinical training" (ASA, n.d., "What Is a Physician Anesthesiologist?" section). The ASA defines anesthesiology as "[t]he practice of medicine dedicated to the relief of pain and total care of the surgical patient before, during and after surgery" (MacGill, 2017, fourth paragraph). Part of the role of an anesthesiologist, and those in training within this

specialty, is to evaluate a patient before administering anesthetic agents, which is why this evaluation is typically done before surgical procedures. The anesthesiologist determines whether or not a patient is healthy or optimized enough to receive anesthesia and determines the safest management plan. This requires them to have detailed knowledge of any potentially harmful interactions between the patient's medical conditions, medications, laboratory results, physical exam, and the surgical procedure itself (Texas Society of Anesthesiologists, 2014).

In 2013, 40,758 physicians, or just over 20% of the physicians in the United States, were anesthesiologists (AAMC, 2015). At the institution used for this research, the anesthesia residency program, a training program required for a medical doctor to become an anesthesiologist, is one of the largest in the country. With 21 anesthesia residents per residency class, it was ranked 17th out of 140 anesthesia residency programs in the U.S. by size in 2017 (Doximity, 2017). More than 400,000 patients are seen annually in ambulatory and inpatient settings, many drawn there due to the medical center's vast number of specialties and nationally recognized experts (UAB Medicine, 2017). Even given the number and variety of patients seen, the anesthesiology residents at this institution do not receive formal training regarding transgender patients during their residency, probably because neither the ACGME nor the American Board of Anesthesiologists requires it. Thus, the residents must rely on the skills they may have learned during clinical rotations, medical school, or in settings completely unrelated to their medical training to guide them in these encounters. As previously detailed, this exposure can be limited or nonexistent.

With the visibility and acceptance of transgender persons increasing nationally, it is likely that an increased number of transgender individuals will appear within general surgery settings. Consequently, "There is a need for anesthesia providers to develop cultural competence and acquire the knowledge and skills necessary for safely managing transgender patients during the perioperative period" (Tollinche et al., 2020, p. 312). Anesthesiologists ask for the utmost faith from their patients, who are allowing themselves to be put to sleep, relinquishing all control, and trusting in the skillset of a stranger to wake them up again. In order to ensure this trust, it is essential that these physicians have the necessary training to address the physical and psychological needs of patients from all backgrounds.

Preoperative Considerations for Transgender Care

The ASA describes the preoperative evaluation done by anesthesiologists as "the process of clinical assessment that precedes the delivery of anesthesia care for surgery and for nonsurgical procedures" (American Society of Anesthesiologists Task Force on Preanesthesia Evaluation, 2012, p. 522). Part of this process is soliciting information from patients to ensure anesthetic risks are minimized and correct care plans are made (Cheng et al., 2013). This visit also serves to create trust between patients and their anesthesia team, ensuring the patient feels comfortable with both the team members and the plan (Tollinche et al., 2020). Establishing this trust is paramount in caring for transgender patients, who are more likely to experience disparities and avoid care from healthcare providers with whom they do not have established relationships (Bauer et al., 2014). Anesthesia physicians usually spend fewer than 20 minutes interacting with their patients before providing care (James & Thampi, 2018), so it is crucial that they conduct

the encounter in a culturally competent, knowledgeable way to build rapport with each patient in a short time frame and take steps to prevent any perceived or real discrimination (Fallin-Bennett, 2015; Walia et al., 2019). In a surgical setting, this discrimination can involve incorrect use of pronouns, assumptions about sexuality or gender, and unconscious bias (Shields et al., 2017).

As part of the preoperative assessment, anesthesia physicians need to ask questions, conduct specific exams, and/or order tests that the transgender patient may not understand. This can be traumatizing to transgender patients since many of them have had negative healthcare experiences in the past (Tollinche et al., 2020). A focused physical exam must be conducted during the preoperative assessment, with the anesthesia physician being aware of what anatomy is present, as opposed to what anatomy would be associated with the person's gender identity. An organ inventory, including any transition history and hormone use, should be recorded (Deutsch & Buchholz, 2015). Additionally, anesthesia physicians should ask transgender patients about any injections or fillers the patient may have received from unlicensed providers, as sequelae from this could lead to infections, respiratory distress, pneumonia, and more (Hage et al., 2001; Visnyei et al., 2014). Finally, the ASA recommends that a pregnancy test be conducted on all biologically female patients of childbearing age, including FtM who still possess female reproductive organs (Committee on Standards and Practice Parameters et al., 2012). Understandably, these conversations between anesthesia physicians and their transgender patients can be difficult, further reinforcing the need for a culturally competent approach to these interactions and relationships.

Medication Considerations

Anesthesia physicians must approach their preoperative transgender patient interactions in a culturally competent way so they can solicit a comprehensive medication history that includes all the medications the patient is taking. Certain medications commonly taken by transgender persons can impact laboratory results and interact negatively with other medications (Tollinche et al., 2020). Many transgender persons choose to take part in the gender-affirming practice of cross-sex hormone therapy (CSHT), which has been associated with positive psychological impacts and reduction of gender dysphoria (Streed et al., 2017; Ware & Sherbourne, 1992). However, these hormones can put their users at increased risk for several serious conditions that may impact their care in the perioperative setting. Testosterone, a hormone often used in CSHT, can increase the risk of high blood pressure, insulin resistance, lipid alterations, venous thromboembolism, high hemoglobin and hematocrit, and sleep apnea (Coleman et al., 2012; Meriggiola & Berra, 2013; Streed et al., 2017; Wierckx et al., 2012). Estrogen, another hormone commonly used in CSHT, can increase the risk of venous thromboembolism by up to 20 times. Besides, estrogen can prolong muscle paralysis with the common anesthetic drug, succinylcholine, and have a drug interaction with the anesthetic reversal, sugammadex (Streed et al., 2017; Tsai et al., 2018; Van Kesteren et al., 1997).

Having a thorough understanding of what medications each patient is taking, along with any potential interactions, is imperative for anesthesia physicians to make informed decisions regarding which medications may need to be stopped prior to surgery. In addition to the medications themselves, smoking further enhances transgender

patients' risks of many adverse outcomes (Chan et al., 2017; Cheng et al., 2013; Coleman et al., 2012; LGBT Health Program, 2015). Thus, it is equally important to solicit any smoking history.

Postoperative Considerations

All patients are vulnerable in the period immediately after receiving anesthesia, known as the postoperative period. Reasons for this include intermittent consciousness, pain, and anxiety. For transgender patients, this vulnerability can be amplified due to their potentially limited ability to instruct staff on the proper pronoun and name use (Tollinche et al., 2020). This is why it is particularly vital for anesthesia physicians to collect adequate information from the patient preoperatively pertaining to treating them in a culturally competent manner so that this information can be passed along to the postoperative team. Finally, transgender patients are at risk for increased pain postoperatively due to potential increased anxiety about the healthcare experience, hormone-induced osteoporosis, and any previous surgeries (Tollinche et al., 2020). This must also be taken into consideration by the anesthesia physician preoperatively when developing a treatment plan for use in the postoperative period.

Survey Use with Healthcare Providers and Transgender Patient Care

Numerous studies have utilized surveys to examine the relationship between different members of the healthcare team and the care of transgender patients, of which a few are discussed in detail below. In 2015, Unger published findings from a national survey of obstetrician and gynecologist physicians to "assess provider experience and practice environment, education about transgender health practices, personal experience

with transgender patients, and knowledge base regarding current recommendations for the care of gender minority patients" (Unger, 2015, p. 114). Of the 141 respondents, 80% reported no training on transgender care during their residencies. Interestingly, there was not a correlation between time in practice and exposure to transgender education. In essence, those who graduated more recently were not more likely to have been educated on how to care for transgender patients. While the majority of respondents reported being willing to provide care for transgender patients, only 35.3% and 29% reported feeling comfortable in providing this care to MtF and FtM transgender patients, respectively.

Furthermore, in 2015, Shires and colleagues surveyed attending and resident physicians, specializing in internal medicine and family medicine in a single health system in the midwestern United States to assess their willingness to provide care for transgender patients (Shires et al., 2018). Of the 140 respondents, the majority were willing to provide care, with positive correlates being younger age, having met a transgender person and/or cared for one in the last five years, empathy, and a low indication of transphobia. Several barriers were identified as affecting willingness to give care, including lack of transgender health training, lack of exposure to transgender persons, unfamiliarity with transgender healthcare guidelines, and perception of being incapable of providing care.

In 2019, Walia and colleagues designed and executed an educational intervention with pediatric perioperative staff members at a single institution. The study's goal was to "understand the impact of providing education and cultural competency training regarding caring for patients who identify as LGBTQ" (Walia et al., 2019, p. 1097). One hundred sixty-nine surveys were analyzed. Interestingly, anesthesia providers in the study

reported high levels of knowledge and comfort regarding LGBTQ patient care, even before the training. However, only 6 of the respondents were physicians, and it is unclear the proportion of those physician respondents who specialized in anesthesiology. Post-intervention findings included an increase in objective knowledge of LGBTQ issues after cultural competency training, while the subjective measures of knowledge and comfort did not increase.

Finally, in 2019 Stroumsa and colleagues published results from their study utilizing the Transgender and Gender Diverse (TGD) Healthcare Knowledge Scale with primary care physicians at a single institution in the midwestern U.S. (Stroumsa et al., 2019). The purpose of the study was to predict knowledge of TGD healthcare areas while controlling for potential confounders, such as transphobia. Findings from 223 participants included almost half having no formal education in TGD healthcare and the amount of formal or informal TGD education did not correlate with having transphobia. The authors concluded that TGD education alone might not improve physician competence in providing care because it may not address underlying transphobia.

Theory of Planned Behavior

The Theory of Planned Behavior evolved from Fishbein's Theory of Reasoned Action (1967) and examines how a person's individual motivators influence the likelihood that he or she will perform a specific behavior, with the best predictor of behavior being intention (Glanz et al., 2015). The Theory of Reasoned Action maintains that behavioral intent is most likely to predict behavior, and attitudes and subjective norms make up one's intention. When the Theory of Planned Behavior evolved,

perceived control over a behavior was added as a construct. Thus, the theoretical constructs that determine one's intent are (a) attitudes toward a behavior, (b) social normative perceptions related to that behavior, and (c) perceived behavioral control over performing the behavior. A person's attitude is determined by how positively or negatively they perceive the outcome of the behavior. Social normative perceptions, sometimes called subjective norms, refer to whether or not a person believes the majority of people would be in favor of the behavior, particularly that person's peers and influencers. Finally, perceived behavioral control involves how easy or difficult the person believes performing the task to be, and this varies in differing circumstances (Boston University School of Public Health, 2019). The intention is "based on attitude toward the behavior and subjective norm, each weighted for its importance in relation to the behavior and population of interest, and their influence is moderated by perceived behavioral control" (Ajzen, 2019, "Intention" section).

Use of Theory of Planned Behavior in Healthcare Decision-Making

The Theory of Planned Behavior has been used widely in healthcare to determine the motivators driving intent, largely through survey development and/or deployment. Below, several recently published studies are discussed in detail.

Warren and colleagues (2015) utilized the Theory of Planned Behavior to determine individual intent to utilize gay affirmative practice among elderly LGB persons. Eighty-three individuals from the midwestern U.S. participated in the study, with disciplines including psychology, medicine, business administration, and social work, the latter comprising the vast majority of respondents. An electronic survey was deployed, collecting information on "age, gender, sexual orientation, religious affiliation,

income, and education level" in addition to measuring the Theory of Planned Behavior theoretical constructs (Warren et al., 2015, p. 674). The individual attitude of respondents was determined to be the strongest predictor of a person's intent to utilize gay affirmative practice with elderly LGB persons.

Grierson and team used the Theory of Planned Behavior to examine the intent of 135 family medicine resident physicians at a single institution to utilize a comprehensive practice scope after graduation (Grierson et al., 2015). Authors determined that "factors modeled by the theory of planned behaviour survey account[ed] for 60% of the variance in residents' intentions…present[ing] an effective approach to assessing curricular effects on resident practice intentions" (Grierson et al., 2015, p. e524).

A study conducted in Ontario, Canada, with years 1-3 medical students utilized the Theory of Planned Behavior to predict the intention of students to receive training in and provide services for abortion procedures. Three hundred thirty-seven medical students participated in the study, with the intent to provide abortions being "correlated with positive attitudes toward abortion in general and greater perceived social support for abortion provision" (Myran et al., 2015, p. 236).

Talbot and colleagues (2015) employed the Theory of Planned Behavior to determine the intent of nursing students to care for patients suffering from alcohol dependence. The study utilized 86 participants and found that both subjective norms and attitudes were positively correlated with intention to care for this patient population, with subjective norms being the stronger predictor. Other factors found to indirectly influence intent were age, knowledge, and training related to alcohol dependence.

A study also published in 2015 and focused on Quebec, Canada, utilized the Theory of Planned Behavior with 288 family medicine physicians to determine their intent to support their female patients in conducting breast cancer screenings using mammography (Kiyang et al., 2015). It was determined that perceived behavioral control was the strongest predictor of intent, followed by attitude, and then by social norms.

A 2016 study used the Theory of Planned Behavior with 142 pharmacists in the community to predict intent to provide medication disposal information to patients (Tai et al., 2016). Attitudes, subjective norms, and perceived behavioral control all had a significant, positive correlation with intent to provide this education, with these constructs being responsible for 40.8% in intent variance.

In 2017, Lai and colleagues published their work with 714 physicians and nurses in Taiwan. For their research, the study authors designed and deployed a survey using the Theory of Planned Behavior to predict intent to allow family members to remain present during cardiopulmonary resuscitation. Researchers concluded that intent was positively correlated with subjective norms, positive attitudes, and length of time in practice.

Ben Natan and colleagues (2017) adapted a previously designed questionnaire (Lapkin et al., 2015) using the Theory of Planned Behavior to determine the intent of nursing students to report medication errors. Study authors found that, while the students had an overall high intent to report, the most significant predictor of intention was each student's behavioral beliefs.

A study published in 2018 by Hardcastle and colleagues utilized the Theory of Planned Behavior to determine the intent of oncology physicians to promote physical activity with their patients who had survived cancer. One hundred twenty-three

oncologists participated in the study, and social norm was determined to be the largest influencer of intent.

In a large study conducted by Lynn and Huang (2019), researchers utilized the Theory of Planned Behavior to examine the intent of physicians to provide exercise counseling to their patients. Using a sample of 1,006 physicians, researchers developed and deployed a survey. Findings included the strongest positive relationship between favorable attitude toward the benefits of exercise counseling and the intent to provide this service. Other influencers of intent were found to be subjective norms and a high level of perceived control.

Manual Use for Designing a Theory of Planned Behavior Questionnaire

Health service researcher Francis and her colleagues (2004) created a manual for designing a questionnaire based on the Theory of Planned Behavior. They offered the manual as a guidance tool to assist fellow health researchers who desired to continue to build upon the previous Theory of Planned Behavior research using questionnaires. The manual asserts that all measures within the questionnaire should obey the principle of compatibility (Fishbein, 1967), meaning that all measures, including the measure of intent, should target specific behavior. Francis and colleagues (2004) suggest a two-step approach to survey development. In the first phase, an elicitation questionnaire involving open-ended questions is distributed to a small subgroup within the sample. Themes from these responses are then used to create the pilot survey questions, which are comprised of Likert scales. Through items gauging both direct and indirect measures of the TPB constructs, drivers of intent can be established. In a similar method as the previously discussed studies, numerous researchers have used the Theory of Planned Behavior to

determine intent through survey development using the Francis manual as a guide. Several recently published studies are discussed in detail below.

In 2015, Lapkin and colleagues published a questionnaire they designed using the Theory of Planned Behavior to examine pharmacy, nursing, and medical students' intent to engage in safe medication practices and collaborative practice. The Francis manual (Francis et al., 2004) was used to aid in the construction of questionnaire items. The authors found that the most significant predictor of intent was each student's attitude.

A 2016 study using the Theory of Planned Behavior with general practitioners assessed their intent to utilize electronic CME to at least partially fulfill their CME requirement (Hadadgar et al., 2016). A survey was designed using the Francis manual (Francis et al., 2004) as a guide and completed by 148 general practitioners. Researchers found that, although subjective norms had no influence on intent, perceived behavioral control and positive attitude were shown to positively affect intent to utilize electronic CME, with the latter being the primary predictor.

Another study published in 2016 examined cognitive aid use by pediatric intensive care unit physicians (Weiss et al., 2016). Researchers conducted semi-structured interviews with 14 physicians, with questions being guided by the Francis manual (Francis et al., 2004). The authors discovered factors that affected all three Theory of Planned Behavior constructs leading to intention. Because the study design was qualitative in nature, no primary influencer of intent was deduced. However, researchers did conclude that physicians were generally open to the idea of cognitive aid use, as long as clinical judgment was still a factor in ultimate decision-making.

In 2018, Swarna Nantha and colleagues published the work they conducted to study the influencers of the intent of primary care physicians to prescribe sick leave. Researchers utilized the Francis manual (Francis et al., 2004) to design the questionnaire, guide its deployment, determine reliability, and determine analysis practices. With a sample of 271 primary care physicians, it was determined that attitudes and subjective norms were the primary influencers of intent to prescribe sick leave to patients.

Via-Clavero and colleagues (2019) designed and validated a questionnaire using the Francis manual (Francis et al., 2004) to measure the intent of nurses to utilize physical restraints with intubated patients. The tool was deployed with 354 nurses and showed that they had positive attitudes, low perceived social pressure, and moderate behavioral control over the use of these restraints. Behavioral control and attitude were revealed to have a moderate, positive relationship with the intent to use restraints. The model explained roughly one-third of the variance in intention.

In an Israeli study, researchers utilized the Theory of Planned Behavior to examine the intent of physicians from various specialties to recommend medical cannabis to their patients (Zolotov et al., 2019). Using a survey designed according to the instructions outlined in the Francis manual (Francis et al., 2004), study authors utilized a sample of 247 physicians specializing in family medicine, oncology, or pain medicine. Data analysis revealed more positive attitudes and higher levels of intent to prescribe medical cannabis to patients suffering from cancer than to those suffering from chronic pain.

To determine the factors that contributed to antibiotic prescribing among primary care physicians, Liu and colleagues (2019) also utilized the Theory of Planned Behavior,

with the Francis manual (Francis et al., 2004) being heavily referenced for survey construction. After surveying 503 primary care physicians, researchers determined there was an inverse relationship between perceived behavioral control and the number of antibiotics prescribed. Further, physicians who did not perceive much social pressure but did perceive themselves as having a high level of control reported higher levels of intent regarding the reduction of antibiotic prescribing.

A small but important study by Rich and colleagues (2019) examined factors influencing physicians' intent to report patient safety concerns. Researchers utilized the Theory of Planned Behavior for their study, with the Francis manual (Francis et al., 2004) aiding in the design of the interview question scripting. The authors determined that the 17 study participants perceived the presence of multiple barriers to voicing patient safety concerns. Conclusions were that results from the study could be utilized to provide focused interventions aimed at barrier reduction, thereby increasing reporting of patient safety concerns.

Summary

Chapter 2 addressed terminology surrounding transgender persons, as well as health disparities they face and why they are less likely than cisgender persons to visit a healthcare provider. Also addressed at length were the various amounts of education and exposure, or lack thereof, that physicians receive throughout their training and how these correlate to their current comfort and knowledge levels regarding transgender care. While some small successes have been made in relation to the promotion of transgender curricula and exposure during medical training, there is still much to be desired.

Next, cultural competency was discussed, including how it applies to the care of transgender patients. Multiple studies concluded that cultural competency is of the utmost importance in transgender care and can influence care outcomes. The role of physicians specializing in anesthesiology was discussed, including the factors they must consider before deeming a patient safe to receive anesthesia. These factors include numerous medical and physiological concerns that must be discussed with patients, whom they have likely met only moments before the interaction. The need to quickly build rapport and trust with patients is paramount to soliciting all necessary information and forming a safe treatment plan, especially with transgender patients. The best way to approach this is through culturally competent care.

Finally, numerous studies were reviewed that have successfully utilized the Theory of Planned Behavior with healthcare providers to predict intent. Many of these leaned heavily on the manual by Francis and colleagues to guide their survey development, deployment, and validation (Francis et al., 2004). By discovering what factors most heavily influenced intent, researchers were able to make educated recommendations on where to spend time and resources to impact change in behavior.

CHAPTER 3

METHODOLOGY

This chapter addresses the plan for procedures to address the study's research questions. Theoretical framework, research design, study population and sample, instrument design, independent and dependent variables, study phases, and data collection and analysis are all discussed.

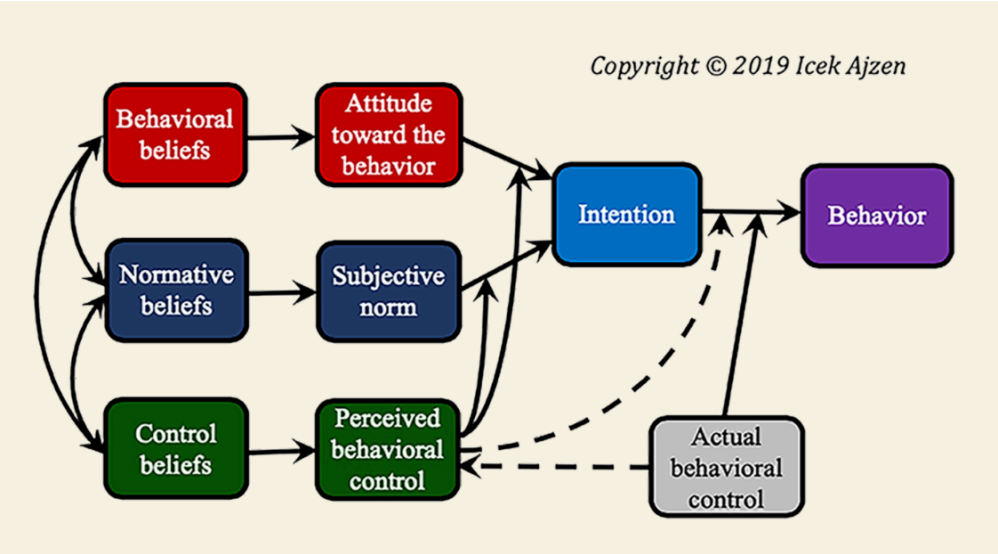
Theoretical Framework

This study is largely based on the Theory of Planned Behavior. The Theory of Planned Behavior evolved from Fishbein's Theory of Reasoned Action (1967). This initial theory was derived from attitude measurement theory, which posits that attitudes are determined by "expectations or beliefs concerning attributes of the object or action and evaluations of those attributes" (Glanz et al., 2015, p. 96). Similar to the Theory of Planned Behavior, the Theory of Reasoned Action maintains that behavioral intent is most likely to predict behavior, and attitudes and subjective norms make up one's intention. When the Theory of Planned Behavior evolved, perceived control over a behavior was added as a construct. The relationships among these variables are illustrated in Figure 1, with the intention being "based on attitude toward the behavior and subjective norm, each weighted for its importance in relation to the behavior and

population of interest, and their influence is moderated by perceived behavioral control" (Ajzen, 2019, "Intention" section).

Figure 1

Relationship of Constructs of the Theory of Planned Behavior



Note. From the "Theory of Planned Behavior Diagram" by I. Ajzen, 2020, Icek Ajzen website: http://people.umass.edu/aizen/tpb.diag.html. Copyright 2019 by Icek Ajzen. Used with permission of the author.

Health service researcher Francis and her colleagues (2004) created a manual for designing a questionnaire based on the Theory of Planned Behavior. They offered the manual as a guidance tool to assist fellow health researchers who desired to continue to build upon the previous Theory of Planned Behavior research using questionnaires. The manual asserts that all measures within the questionnaire should obey the principle of compatibility (Fishbein, 1967), meaning that all measures, including the measure of

intent, should target a specific behavior. In this study, that behavior is providing culturally competent care to transgender patients.

Research Design

Surveys are an essential part of health education (O'Rourke, 1999) and are arguably part of the most frequently used research design in health sciences research (Neutens & Rubinson, 2010). Per Cottrell & McKenzie (2011), "Survey research involves the administration of a questionnaire to a sample or an entire population of people in order to determine the attitudes, opinions, beliefs, values, behaviors, or characteristics of the group being studied" ("Survey Research" section). The present study used a non-experimental, cross-sectional predictive correlational survey methodology to develop a valid and reliable survey instrument based on the Theory of Planned Behavior, piloting the survey with a random sample of anesthesia physicians at a single academic medical center in the southeastern United States before the formation of the final tool. The pilot examined anesthesia physicians' attitudes, subjective norms, perceived behavioral control, and behavioral intentions regarding the provision of culturally competent care to transgender patients.

Study Population

The study population consisted of a random sample of physicians specializing in anesthesiology at a single level-one trauma and academic medical center located in the southeastern United States. This included physicians still in their clinical anesthesia residency training, as well as anesthesiologists who are practicing independently. All

physicians specializing in anesthesiology have completed medical school. After graduating with a medical degree, anesthesiologists are required to complete four years of residency. Once this residency training is complete, they can either elect to enter into practice or receive additional specialized training in the form of a fellowship. After completing training, anesthesia physicians at this institution are required to become board certified by the American Board of Anesthesiology.

Study Sample

The study sample was influenced by the objectives, research questions, and size of the population of anesthesia physicians at the study institution. The goal numbers of completed, usable surveys for each phase of the study were as follows: (a) elicitation questionnaire (n = 15), and (b) pilot study (n = 60). This pilot study allowed for the creation of the final questionnaire.

The Instrument

A survey for this research was designed using, as a guide, the manual entitled *Constructing Questionnaires Based on the Theory of Planned Behavior: A Manual for Health Services Researchers* by Francis and colleagues (2004). Throughout the development process, a content jury reviewed plans for the development and deployment of the survey to assess appropriateness. The content jury was made up of five members of the research team, including an attending anesthesiologist, an endocrinologist specializing in the treatment of transgender patients, an expert in health behavior theory,

an expert in methodology and survey design, and an expert in health education and promotion.

Psychometric Factors of the Instrument

Validity in a survey ensures that inferences can be made from scores produced (Creswell & Creswell, 2018). Reliability is the extent to which a survey will produce the same or very similar results when used repeatedly (Cottrell & McKenzie, 2011; Creswell & Creswell, 2018). Establishing survey validity ensures the scores are measuring what the researchers intend, and establishing survey reliability ensures the survey can be utilized again with the same population to yield the same result.

There are numerous types of validity. Face validity means that, on the surface level, the survey seems to measure what the designers intended (Cottrell & McKenzie, 2011; Fowler, 2014). This is established by having those familiar with the survey topic read over it. In this research, face validity was conducted by the previously described content jury. Although face validity is the weakest form of validity, it is a good initial step in establishing instrument validity and is useful when used in conjunction with other validity types (Cottrell & McKenzie, 2011). Content validity refers to the survey items measuring what they were intended to measure, using language and norms embodied by the population and topic of interest, which in this research would be the constructs of the Theory of Planned Behavior (Creswell & Creswell, 2018). Content validity is assessed and established while an instrument is being developed, as opposed to after it is deployed (Cottrell & McKenzie, 2011). Like face validity, the content jury established content validity using the methods established by McKenzie and colleagues (1999) as a guide. Construct validity involves the theoretical framework on which the survey is based and

entails whether or not the survey items truly measure the theoretical concepts (Cottrell & McKenzie, 2011; Creswell & Creswell, 2018). In the case of this research, the construct validity involves whether or not the survey items can establish the intent of anesthesia physicians to provide culturally competent care to transgender patients. Finally, criterion-related validity involves "the extent to which data generated from the measurement instrument are correlated with data generated from a measure (criterion) of the phenomenon being studied, usually an individual's behavior or performance" (Cottrell & McKenzie, 2011, "Criterion-Related Validity" section). Although criterion-related validity can be very useful, it is difficult or impossible to establish when there are no existing criteria to which the survey results can be compared. In those instances, "validity can be established via construct validity," which was the case in this research (Cottrell & McKenzie, 2011, "Criterion-Related Validity" section).

Like validity, there are multiple types of reliability. These include test-retest, inter-rater, and internal consistency reliability (Creswell & Creswell, 2018). The type of reliability that was utilized in this research is internal consistency reliability because this is the most commonly utilized and most important type of reliability in establishing internal consistency for multi-item instruments (Cottrell & McKenzie, 2011; Creswell & Creswell, 2018). Internal consistency is "the degree to which a set of items on an instrument behave in the same way. This is important because your instrument scale items should be assessing the same underlying construct" (Creswell & Creswell, 2018, p. 154). A scale's internal consistency is derived by calculating the "statistical relationship between the individual instrument items and the total score. The greater the consistency, the higher the reliability" (Cottrell & McKenzie, 2011, "Internal Consistency Reliability"

section). One of the most common ways to quantify this internal consistency is by determining the Cronbach's alpha value, which ranges between 0 and 1, with 0 having no internal consistency and 1 having perfect internal consistency (Creswell & Creswell, 2018). An optimal Cronbach's alpha range is from .7 to .9, which was the range desired in this study.

Data analysis is an important component of establishing validity and reliability of an instrument. Although components of previous scales may be incorporated into a new survey, any modifications potentially nullify previously proven validity and reliability measures. Thus, new instruments must have their own validity and reliability calculations performed (Creswell & Creswell, 2018).

Principal components analysis (PCA) is the most commonly used type of exploratory factor analysis (EFA) and has the goal of reducing data by looking for components that are very similar to one another and grouping them together (Field, 2018; Garson, 2013). This analysis is often used in questionnaire construction and validation "by demonstrating that its constituent items load on the same dimension, and to drop proposed scale items which cross-load on more than one dimension" (Garson, 2013, "Factor Analysis Overview" section). Thus, PCA was utilized in this research.

Factor loading, which is called component loading when using PCA, is "the correlation coefficients between variables (rows) and factors (columns).[…T]he squared factor loading is the percent of variance in that indicator variable explained by the factor" (Garson, 2013, "Factor Loadings" section). When plotted, "coordinates of variables along each axis represent the strength of the relationship between the variable in each factor" (Field, 2018). Loadings of at least .7 are ideal because they explain roughly half of the

variance in the indicator by that factor. However, it can often be difficult to reach this number. Many researchers will use .4 for the primary factor and .25 for other factors (Raubenheimer, 2004). Regardless of the cutoff point used, Garson (2013) warns that factor loadings should be interpreted with the theory in mind, as opposed to a predetermined or recommended value.

Multiple regression analysis "can establish whether a set of independent variables explains a proportion of the variance in a dependent variable…and can establish the relative predictive importance of the independent variables" (Garson, 2014, p. 15). Phrased another way, multiple regression calculations can determine "the percent of variance in the dependent variable explained collectively by all the independent variables in the model" (Garson, 2014, p. 16). Multiple regressions and correlations share the same assumptions, including linear relationships, interval measurement levels, homoscedasticity, and the absence of outliers. Although Likert scales are commonly used in survey research and regression calculations, they produce ordinal data. These scale outputs become closer to interval items the more levels offered, so 7-point Likert scales are preferred to 5-point scales. Because of the way multiple regressions are run, it is vitally important that the data be as narrowed as possible, which is why PCA is necessary. If unnecessary variables are included in model testing, interpretation can be skewed (Garson, 2014).

Research Questions

The research questions developed for this study were:

1. Using a survey measuring anesthesia physicians' behavioral intent to provide culturally competent care to transgender patients, how does intent vary among anesthesia physicians?
2. What is the best predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients?

Null Hypothesis

The following null hypothesis was developed for this study:

1. There is no difference between anesthesia physicians' intention scores to provide culturally competent care to transgender patients based on (a) attitude score, evaluation; (b) subjective norm score, evaluation; (c) perceived behavioral control score, evaluation; (d) number of years in practice; (e) gender; (f) age; (g) hours of transgender education; (h) number of personal relationships with transgender persons; (i) perception of own knowledge related to transgender cultural considerations; (j) level of support for acknowledging the difference in gender and sex.

Independent and Dependent Variables

The practice behavior under investigation in the current study is the delivery of culturally competent care to transgender patients by anesthesia physicians.

The dependent variable for the research questions and the null hypothesis is the composite score of intention to provide culturally competent care to transgender patients. The independent variables were chosen based on the study's theoretical framework and

previous research. Independent variables for the research questions and the null hypothesis are:

1. Composite score of intention to provide culturally competent care to transgender patients (interval level)
2. Attitude score, evaluation (composite score; interval)
3. Subjective norm score, evaluation (composite score; interval)
4. Perceived behavioral control score, evaluation (composite score; interval)
5. Number of years of anesthesia practice in the United States, including training (< 5, 6-10, 11-15, 16-20, > 20; interval)
6. Age (< 30, 31-35, 36-40, 41-45, 46-50, 51-55, > 60; interval)
7. Gender identity (male, female, non-binary; categorical)
8. Hours of education specific to transgender considerations (0-5, 6-10, 11-15, 16-20, 21-30, 31-35, > 35; categorical)
9. Number of personal relationships with transgender persons (0, 1, 2, 3, 4, 5, > 5; categorical)
10. Perception of own knowledge related to transgender cultural considerations (1-7; categorical)
11. Level of support for acknowledging the difference in gender and sex (1-7; categorical)

The variables of attitude, subjective norms, and perceived behavioral control all originated from the Theory of Planned Behavior (Glanz et al., 2015) and have been utilized in previously discussed studies that measure intent among healthcare

professionals. The number of years in practice has previously been examined in a study involving physicians' interactions with transgender patients (Unger, 2015). Likewise, physician age and gender have both been studied as they relate to attitudes toward transgender education (Dy et al., 2016). Hours of education have been examined regarding the quantity and content of LGBT education in psychiatry residency programs (Hirschtritt et al., 2019). Finally, personal contact with transgender persons has been shown to influence attitudes and perceptions toward transgender individuals (Frankovic, 2019).

Study Phases

The phases of the study were as follows:

1. Phase 1: An elicitation questionnaire was constructed and, after review by a content jury, was be administered to a random sample of 20 members of the population not used in the final survey. The content jury was made up of five members of the research team, including an attending anesthesiologist, an endocrinologist specializing in the treatment of transgender patients, an expert in health behavior theory, an expert in methodology and survey design, and an expert in health education and promotion. The purpose of this elicitation questionnaire included determining any perceptions of positive outcomes when delivering culturally competent care to transgender patients, identifying those who are either approving or disapproving of delivering this care, and identifying any barriers or promotors that can impact the delivery of this care.

2. Phase 2: From the elicitation questionnaire, the study survey was designed, approved by the content jury, and piloted via an electronic survey with a random sample of 100 participants taken from the population of anesthesia physicians at a single academic medical center in the southeastern U.S. The research questions and null hypothesis were addressed through analyses of the data. Analyses of the data gathered during the pilot allowed for the construction of the final tool.

Data Collection

Data were collected via the Qualtrics website and downloaded into an Excel worksheet. Since soliciting data in different ways can sometimes lead to differences in findings based on mode, only electronic survey collection was used (Fowler, 2014). In addition, access to the internet and regular review of email is a professional expectation for all members of the study population. Information and email addresses of the complete list of anesthesia physicians at a single academic medical center in the southeastern U.S. were obtained through the department's integrated scheduling platform. From this group, the sample used for the elicitation survey and the pilot were randomly selected. A combination of personalized, individual emails and group emails were sent to the sample members. Personalized emails were used for the initial contact because this approach has been shown to increase response rates in some studies (Dillman et al., 2014). The survey was configured in such a way as to make respondents anonymous, preventing the researcher from identifying any person. Thus, targeted communication with non-responders was not possible.

To increase the likelihood of a favorable response rate, a combination of email contacts was utilized. The first contact included the survey invitation itself, with the survey web-address embedded within the email. Although the perfect combination and amount of follow-up contact via email is under debate, one study had success with four follow-up contacts (Dillman et al., 2014). Thus, that was the approach utilized in this study. The verbiage in follow-up emails was personalized and varied to promote increased response rates (Dillman et al., 2014). Per experts' recommendations (Dillman et al., 2014), the initial email stated the purpose of the survey, including what was being asked of potential respondents, explained who was conducting the research, how questions could be answered, and that all responses were anonymous. The first follow-up email reminded those in the sample that a survey was previously sent to them, thanked those who had already participated, and requested that those who had not yet done so participate as well. The last three follow-ups included information on response rates and continued to convey the importance of participation. The initial email and the follow-up emails were sent one week apart on Monday mornings. The timing of web-based survey completion is much faster than by mail, and studies have suggested surveys sent in the morning have higher response rates (Dillman et al., 2014).

Because survey participation was anonymous, all members of the randomly selected subsample, either elicitation or pilot, were sent all communication for their corresponding group unless a participant asked to be removed from future emails. Although it was impossible to tell which members of the elicitation subsample participated in the survey, none of the members of that group were included in the pilot subsample. All data were reviewed and corrected for any potential outliers and

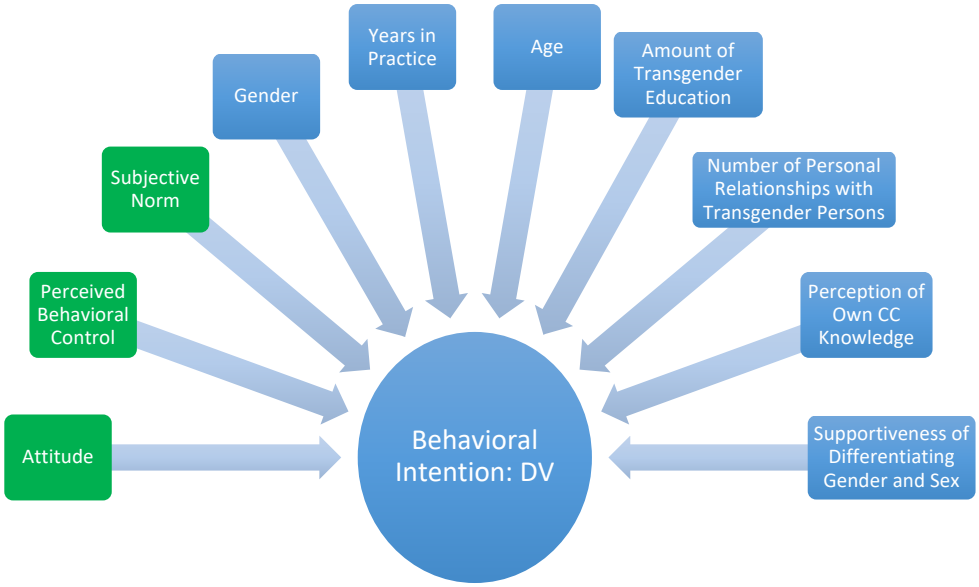
incomplete entries. Once this correction was complete, the data were imported into the RStudio software and analyzed.

Data Analyses

Data analyses were performed using SPSS (version 26) and R (version 4.0.3) to answer the two research questions and test the null hypothesis. A multiple linear regression for prediction analysis was used to answer the research questions. Prior to performing this test, a principal components analysis with internal consistency reliability of questionnaire items was performed on the subscales to determine item retention. Composite scores were created for each of the following: (a) attitude, (b) subjective norm, (c) perceived behavioral control, and (d) intention. The composite scores for these subscales were utilized in the linear regression. Other independent variables previously described in this chapter were used in the regression analysis. A multiple linear regression prediction equation was generated to answer both Research Question 1: "Using a survey measuring anesthesia physicians' behavioral intent to provide culturally competent care to transgender patients, how does intent vary among anesthesia physicians?" and Research Question 2: "What is the best predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients?" The regression equation was used to predict intention scores from the independent variables and to test the study's null hypothesis.

Figure 2

Proposed Relationship Between Independent and Dependent Variables



Note. Study independent variables used in relation to the dependent variable of behavioral intention to provide culturally competent care to transgender patients.

Institutional Review Board

Approval to conduct the study was granted from the University of Alabama at Birmingham Institutional Review Board (IRB) on August 21, 2020, and amended on October 30, 2020 (Appendix A). The time frame for data collection and analysis lasted from August to December 2020.

Summary

This study used the Theory of Planned Behavior to design a questionnaire aimed at measuring behavioral intentions, subjective norms, attitudes, and perceived behavioral

control regarding providing culturally competent care to transgender patients by a random sample of anesthesia physicians at a single academic medical center located in the southeastern United States.

Variables for the study were as follows:

1. Composite score of intention to provide culturally competent care to transgender patients (interval level)
2. Attitude score, evaluation (composite score; interval level)
3. Subjective norm score, evaluation (composite score; interval)
4. Perceived behavioral control score, evaluation (composite score; interval)
5. Number of years of anesthesia practice in the United States, including training (< 5, 6-10, 11-15, 16-20, > 20; interval)
6. Age (< 30, 31-35, 36-40, 41-45, 46-50, 51-55, > 60; interval)
7. Gender identity (male, female, non-binary; categorical)
8. Hours of education specific to transgender considerations (0-5, 6-10, 11-15, 16-20, 21-30, 31-35, > 35; categorical)
9. Number of personal relationships with transgender persons (0, 1, 2, 3, 4, 5, > 5; categorical)
10. Perception of own knowledge related to transgender cultural considerations (1-7; categorical)
11. Level of support for acknowledging the difference in gender and sex (1-7; categorical)

Using multiple linear regression analysis, this study developed a practice equation to test the null hypothesis that there is no difference between anesthesia physicians'

intention scores to provide culturally competent care to transgender patients based on (a) attitude score, evaluation; (b) subjective norm score, evaluation; (c) perceived behavioral control score, evaluation; (d) number of years in practice; (e) gender; (f) age; (g) hours of education specific to transgender considerations; (h) number of personal relationships with transgender persons; (i) perception of own knowledge related to transgender cultural considerations; (j) level of support for acknowledging the difference in gender and sex. The prediction equation was also used to answer the research questions and determine the best predictor of intent to provide culturally competent care to transgender patients.

CHAPTER 4

FINDINGS

This chapter reports findings for the two phases of the study, which are as follows: (a) to develop a valid and reliable questionnaire to measure anesthesia physicians' beliefs and intentions toward the provision of culturally competent care to transgender patients and (b) to pilot test this instrument. Each study phase's findings are reported below.

In the first phase, an elicitation questionnaire was constructed using the manual by Francis and colleagues (2004) as a guide. After review and approval by a content jury, this questionnaire was sent via email to a random sample (n = 20) of physicians specializing in anesthesiology at an academic medical center in the southeastern United States. The purpose of this first phase of research was to develop a qualitative survey to explore and add both content and construct validity to the quantitative instrument that was developed and piloted in Phase 2 of this research.

During the second phase of research, the pilot survey was developed with the assistance of the content jury and tested with four members from the sample pool not used in the pilot survey. Upon agreement by those four members and the content jury that the survey was easy to complete and understand, the pilot survey was distributed to 100 members of the target population who were not included in Phase 1 of the research. After collecting the Phase 2 data, principal components analyses, along with analyses of the

internal consistency reliability of the tool, were performed to evaluate the survey's psychometrics. The purpose of this second phase of research was to deploy and analyze the quantitative instrument's results in order to add reliability to the instrument, as well as to collect initial pilot study results.

Data Verification

All Phase 2 data collected by the Qualtrics website were exported to an Excel spreadsheet. Data from the pilot study were analyzed using SPSS (version 26) and R (version 4.0.3). It was determined that five respondents did not fully complete the survey, with four respondents completing approximately 20% of questions and the fifth respondent completing approximately 40%. Because of the anonymous nature of the survey distribution, it was impossible to distinguish if a person who did not complete the survey the first time finished it by starting over at a subsequent session. Given the potential for counting a respondent's selections more than once and that all five respondents abandoned the survey before reaching the halfway point, data from all five incomplete surveys were excluded, resulting in a total of 70 usable responses.

Findings of Analyses for Phase 1: Elicitation Questionnaire

The responding sample for the elicitation survey (Appendix B) was small (n = 14). However, this represented a 70% response rate. The results from this questionnaire allowed for valuable insights regarding the beliefs that physicians specializing in anesthesiology at a single academic medical center in the southeastern U.S. hold toward the provision of culturally competent care (CC) toward their transgender patients,

particularly regarding their own attitudes, subjective norms, and perceived behavioral control. As directed by the manual by Francis and colleagues (2004), two researchers independently analyzed the elicitation survey data for themes. They then compared and discussed until consensus was reached; following Francis guidelines (2004), a minimum of 75% of emerging themes for each construct were included in the pilot survey. These insights were utilized in the construction of the pilot survey in Phase 2 of the research. Demographic data were not collected during the elicitation questionnaire.

Attitudes

Regarding the respondents' attitudes toward the provision of culturally competent care to transgender patients, many advantages were noted. The most prominent theme that emerged was one of building trust between physician and patient. Some specific trust-related advantages of the provision of CC care to a transgender patient noted by respondents were "they would feel understood and well cared for and I would feel that I am serving them well as a physician" and CC care "allows the patient to feel safe and able to trust their physician which can make them feel safer in sharing relevant health information." Another advantage was that care would be effective and compassionate, with examples being "effective communication is paramount in medicine and especially important for patients from diverse backgrounds (incl. transgender patients)" and "better communication; more engagement." The final theme that emerged related to the advantage of the provision of CC care to transgender patients was physicians who provide this type of care will be able to better care for their transgender patients medically. An example of this is that the physician would have "a better understanding of the patient's expectation of care, health goals, and any barriers to healthcare."

Several attitudes were also identified as being potential barriers to or consequences from the provision of culturally competent care to transgender patients. A large barrier identified was lack of awareness of a patient's transgender status, with one respondent noting a "major barrier I see is [the electronic medical record] is often poorly set up to identify patients who are transgender…if practitioners are in a hurry or not paying attention it can be easy to miss." Another barrier that emerged was limited understanding of transgender culture, with respondents citing "limited experience caring for transgender patients leading to some ignorance on how to properly treat and interact with the[m]" and "lack of skill in culturally competent communication." Finally, the respondent's own personal beliefs and biases emerged as a potential barrier, with one respondent noting "barriers could be concerns that perceived ideas by the patient or the care team members exist. This could be related to biases or stereotypes that are real or imagined." See Table 1 for a detailed account of themes related to attitudes.

Table 1

Attitude Themes

Advantages of providing culturally competent care	Select illustrative quotes
Building trust	"Allows the patient to feel safe and able to trust their physician which can make them feel safer in sharing relevant health information."
	"they would feel understood and well cared for and I would feel that I am serving them well as a physician"
	"it is important for any patient to feel safe and confident that they are receiving the best care possible."

		"I think it is always important to build trust with patients. I am not afraid to admit my ignorance when facing a new cultural experience. I try to demonstrate my willingness to learn and grow from the interaction."
	Effective communication	"Effective communication is paramount in medicine and especially important for patients from different and diverse backgrounds (incl. transgender patients)."
		"the ability to communicate effectively and to maintain trust and respect within the interaction."
	Meeting unique needs of the patient	"Understanding the barriers that patient has to healthcare and better identifying their unique medical needs"
		"having a better understanding of the patient's expectation of care, health goals, and any barriers to healthcare."
Barriers/consequences of providing culturally competent care		Select illustrative quotes
	Lack of awareness of transgender status	"Major barrier I see is [electronic medical record] is often poorly set up to identify patients who are transgender. Eg. A MTF patient with a male name still on their chart. If practitioners are in a hurry or not paying attention it can be easy to miss."
	Bias/judgment	"Barriers could be concerns that preconceived ideas by the patient or the care team members exist. This could be related to biases or stereotypes that are real or imagined."
		"Inherent biases that one is/is not aware of are an additional barrier"
	Lack of cultural understanding	"negligence to learning of other cultures and denying that different cultures than one's own exist."
		"Unsure what is culturally competent care for the individual patient"
		"barriers would include limited experience caring for transgender patients leading to some ignorance on how to properly treat and interact with the [patient] (ie preferred pronouns, etc)"

Subjective Norms

The subjective norms portion of the elicitation survey focused on those who would or would not approve of the physician providing CC care to transgender patients. Themes that emerged related to those who approve involved other physicians and those within the LGBTQ community. Comments related to these themes included "I think most people would want their physician to be 'culturally competent'" and "the LGBTQ community would approve." Regarding those who would not approve of the provision of CC care to transgender patients, major themes focused on those who do not acknowledge the difference between gender and sex and those who do not understand transgender healthcare needs. Respondent feedback regarding these barriers included "I know many doctors who will either not take care of transgender patients or will intentionally not recognize them by their preferred gender for mostly ideological reasons" and "[p]ersons who lack knowledge or don't understand what you are trying to do." See Table 2 for a detailed account of themes related to subjective norms.

Table 2

Subjective Norms Themes

Those who approve of providing culturally competent care	Select illustrative quotes
Those in the LGBTQ community	"transgender patients"
	"the LGBTQ community would approve"
Everyone approves	"I would hope many individuals/groups would approve of me delivering culturally competent care."
	"I think most people would want their physician to be 'culturally competent'"
Those who disapprove of providing culturally competent care	**Select illustrative quotes**
Those who disagree with the transgender "lifestyle"	"Probably a lot outside my own social/work group considering I live in the deep south. I know many doctors who will either not take care of transgender patients or will intentionally not recognize them by their preferred gender for mostly ideological reasons"
	"someone who did not 'believe' in being transgender or had religious hesitations/objections to acknowledging someone as transgender"
People lacking understanding	"Person[s] who lack knowledge or don't understand what you are trying to do"

Perceived Behavioral Control

The perceived behavioral control portion of the elicitation survey centered on what factors or circumstances could enable or inhibit the provision of CC care to transgender patients. The most prominent themes that emerged related to enabling the

provision of CC care were education, exposure to transgender individuals, and awareness of a person's transgender status. Respondents felt that "previous education" and "learn[ing] the culture" of transgender individuals would enable them to provide CC care. Related to exposure, comments were not just in relation to transgender patients but also to those close to them. One respondent noted, "I have family members that are transgender and my relationship with them strengthens my understanding and interactions with others." Finally, one respondent summarized the theme of awareness of transgender status, writing they would be enabled by "having documentation in the medical record that they are transgender, what the biological sex is and what the patient would prefer to be viewed as (he/she)."

Factors that respondents felt would make it difficult or impossible for them to provide CC care to their transgender patients included fear, ignorance, and workplace culture. Related to fear, one person noted that provision of CC care was made more difficult because of "fear of offending or mistakenly saying something that they would take offense to." Related to ignorance, lack of awareness of transgender status again emerged as a theme, with one respondent identifying as a barrier "being unaware prior to walking in the room" that a person was transgender. Another way the theme of ignorance was expressed was through the continued lack of knowledge related to transgender cultural considerations. One respondent wrote, "[m]y overall ignorance of certain cultures may be a partial barrier," and another noted, "it would be impossible to be culturally competent if I do not know anything about the patient's culture to begin with." Finally, related to workplace culture, respondents noted that knowing how to interact with transgender patients in the workplace was not prioritized because they do not see those

patients often. One respondent wrote, “this is a very uncommon and infrequent scenario at [my institution],” while another wrote that provision of CC care could be made more difficult by colleagues who “won’t accept and participate” in this type of care. See Table 3 for a detailed account of themes related to perceived behavioral control.

Table 3

Perceived Behavioral Control Themes

Factors that enable providing culturally competent care	Select illustrative quotes
Education	“Education and practice”
	“Learn the culture”
Exposure to transgender individuals	“I have family members that are transgender and my relationship with them strengthens my understanding and interaction with others.”
	“Experience. Putting them first as humans and second as male/female/orientation/transgender/etc.”
Awareness of patient’s transgender status	“Knowing they are transgender”
	“Having documentation in the medical record that they are transgender, what the biological sex is and what the patient would prefer to be viewed as (he/she)”
	“the patient being upfront about their preferences, birth gender, chosen gender (or non-gender)”
Factors making it difficult to provide culturally competent care	Select illustrative quotes
Ignorance	“Lack of prior education about how to best give emotional support to this group of patients”

	"It would be impossible to be culturally competent if I do not know anything about the patient's culture to begin with"
	"not understanding the patient's culture and beliefs"
Fear/uncertainty	"fear of offending or mistakenly saying something that they would take offense to"
	"I feel everyone has some baseline feel or uncertainty when interacting with others that are not similar to themselves…"
Workplace culture	"If other providers won't accept and participate."
	"Difficult in that this is a very uncommon and infrequent scenario at [this institution]"

Findings of Analyses for Phase 2: Pilot Study

Findings of Content Juror Ratings

The previously described procedure for instrument development was followed in creating the Phase 2 pilot survey. As directed by Francis et al. (2004), members of the target population were recruited to review the instrument for clarity and comprehension. A total of eight people reviewed the pilot survey. Three were members of the target population who were not selected to take part in Phase 2 of the research, four were members of the previously described content jury, and one was a member of both the content jury and the target population. Members of the target population agreed that all questions were easy to understand. They did express concern that the length of the survey might affect response rates. However, after a discussion about the necessity of the entirety of each of the questions, it was suggested by the reviewers, and accepted by the

researchers, that the risk of dropout be mitigated by including information in the recruitment emails regarding the similar nature and necessity of some questions.

Members of the content jury agreed that the survey was clear and recommended the addition of the two following questions: 1) "How supportive are you of acknowledging the difference between gender and sex?" and 2) "Regarding transgender cultural considerations, how knowledgeable would you consider yourself?" The addition of the question regarding supportiveness was deemed necessary after altering the verbiage of the question inquiring about personal beliefs to include "support or unsupportive," to ensure respondents did not make assumptions about whether the question stem implied they were or were not supportive. Thus, an additional measure of supportiveness was added. The addition of the question regarding knowledge of transgender cultural considerations was deemed important because many of the questionnaire items inquired as to whether or not the person's knowledge of transgender cultural considerations made it easier or more difficult to perform certain actions. However, there was not previously an item measuring the respondent's perceived knowledge itself. All other items were retained (Appendix C).

Description of the Sample

The number of questionnaires returned for Phase 2 of this research was 75 out of a possible 100 responses. As previously discussed, five surveys were excluded, bringing the total number of usable surveys to 70. Demographics for this phase of data collection can be found in Table 4. The majority of respondents were less than 30 years old (n = 30, 30%). While this is much younger than the national average age of anesthesia physicians, which is 50 years of age (Katz, 2017), the reported national age includes only anesthesia

physicians who have completed their training. Given that trainees are typically several years younger than practicing anesthesiologists and that they constitute a considerable portion of anesthesia physicians nationally, it can be surmised that the average age of anesthesia physicians when including trainees is considerably lower than the national average. The majority of respondents were male (n = 46; 66%), with almost half practicing medicine fewer than five years (n = 34; 49%). A higher proportion of females completed the survey than are anesthesia physicians in the U.S., with the average number of women anesthesia physicians ranging from 24-28% nationally (Baird et al., 2015). No data exist regarding the average number of years practicing medicine that includes time in training. However, at the study institution, roughly half of the clinical anesthesia physicians are still in training, which typically would involve practicing medicine for fewer than five years.

Table 4

*Demographics of the Phase 2 Study Population (*n = *70 at Time of Record)*

Variable		*f*	% of sample
Age			
	< 30 years	21	30
	31-35 years	19	27.14
	36-40 years	9	12.86
	41-45 years	8	11.43
	46-50 years	3	4.29
	50-55 years	4	5.71
	> 60 years	6	8.57
Gender			
	Male	46	65.71
	Female	22	31.43
	Non-binary	2	2.86
Number of years practicing medicine (including residency)			
	< 5	34	48.6
	6-10	15	21.4
	11-15	8	11.4
	16-20	3	4.3
	> 20	10	14.3
Hours of transgender education			
	0-5	37	52.9
	6-10	21	30
	11-15	5	7.1
	16-20	2	2.9
	21-30	2	2.9
	31-35	1	1.4
	> 35	2	2.9
Number of close relationships with transgender persons			
	0	54	77.1
	1	8	11.4
	2	2	2.9
	3	3	4.3
	4	1	1.4
	5	0	0
	> 5	2	2.9

The majority of respondents did not have a personal relationship with a transgender person (*n* = 54; 77%) and had between 0 and 5 hours of transgender

education during their training (n = 37; 53%). Additionally, respondents were asked on a 7-point Likert scale how supportive they were of acknowledging the difference in gender and sex (M = 5.47; SD = 1.734), along with how knowledgeable each person would consider him/herself regarding transgender cultural considerations (M = 4.44; SD = 1.529). Higher scores were associated with increased supportiveness and increased perceived knowledge, respectively. Data from these questions are presented in Table 5.

Table 5

*Supportiveness and Knowledge (*n *= 70 at Time of Record)*

Variable	*f*	% of sample
Supportiveness of acknowledging gender vs sex		
1 (Very unsupportive)	3	4.3
2	4	5.7
3	2	2.9
4	8	11.4
5	11	15.7
6	15	21.4
7 (Very supportive)	27	38.6
Perceived knowledge of transgender cultural considerations		
1 (Not very knowledgeable)	4	5.7
2	5	7.1
3	7	10.0
4	16	22.9
5	20	28.6
6	14	20.0
7 (Very knowledgeable)	4	5.7

Findings of PCA and Internal Consistency Reliability

All 100 surveys were administered electronically via the Qualtrics platform, with recruitment materials being sent through email. Of the returned surveys (n = 70), 42%

were returned after the initial contact, an additional 7% after the first reminder, 5% after the second reminder, 3% after the third reminder, and 13% after the final reminder, for a total response rate of 70%. All reminders were sent one week apart.

Prior to performing data analyses, items Q11.1, Q11.2, Q11.4, Q13, and Q24 were reverse coded to align their Likert scales with the format of other questions, which had a more positive response associated with a higher number on the Likert scale. Additionally, because of negatively worded verbiage in the question stem, the following 11 items were reverse coded where answering with a higher number would convey an overall more positive response toward the behavior in question: Q14, Q16, Q22, Q25, Q26, Q27, Q30, Q33, Q34, Q36, and Q37. Computations were done for direct behavioral intention scores, as well as direct and indirect measures of attitude, subjective norm, and perceived behavioral control. Direct scores were computed by finding the mean of other direct scores related to that construct, with the exception of the two removed questions, Q17 and Q40, discussed in detail in a subsequent section within this chapter. Indirect scores were determined by first multiplying relevant, indirect items within a given construct, then summing those multiplied scores. For additional information on this computation, please reference the text by Francis et al. (2004).

Principal components analysis (PCA) of the data was conducted, with the goal of looking for variables that are similar to one another and group themselves accordingly. Because PCA is sensitive to outliers, and because of the multivariate nature of the data, Mahalanobis distance was calculated. The total number of variables to be considered in the PCA was 15, 4 each for direct measures of attitude, subjective norm, and perceived behavioral control, plus 3 for behavioral intention. According to a chi-squared table, the

degrees of freedom at 15 items at a *p* of .001 is 37.69. After comparing this to the calculated Mahalanobis distances within the data, 3 outliers were identified. PCA was run with and without the outliers, resulting in little difference, as is detailed within the chapter. Thus, the outliers were retained in order to keep the data set intact. Unless otherwise noted, analyses were calculated with an intact data set.

Data were first examined with PCA with an oblique rotation. However, upon discovering after extraction that the data were not heavily correlated based on the component correlation matrix, the data were reexamined using an orthogonal, varimax rotation. Retention of components was based in theory. Both with and without outliers included, the correlation matrix was discovered to be factorable, with several significant correlations greater than .3. Both the Kaiser-Meyer-Olkin test of sampling adequacy and the anti-image correlation matrix showed the sample size to be adequate, with the exception of Q17 (.302). When excluding outliers, the sampling adequacy measures showed that both Q17 (.500) and Q40 (.444) had inadequate sample sizes. After rotation, 4 components were retained with Eigenvalues greater than 1, accounting for 72.8% of the total variance in the model. Component 1 accounted for 47.9% of the variance, Component 2 for 11.1% of the variance, Component 3 for 7.7% of the variance, and Component 4 for 6.0% of the variance (Table 6).

Table 6

Phase 2 PCA Extraction: Total Variance

	Initial Eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.186	47.905	47.905	7.186	47.905	47.905	6.120	40.802	40.802
2	1.668	11.123	59.027	1.668	11.123	59.027	2.133	14.221	55.023
3	1.168	7.785	66.812	1.168	7.785	66.812	1.1552	10.350	65.373
4	0.901	6.009	72.821	0.901	6.009	72.821	1.117	7.448	72.821
5	0.828	5.523	78.344						
6	0.705	4.700	83.044						
7	0.583	3.887	86.932						
8	0.429	2.859	89.790						
9	0.358	2.389	92.179						
10	0.286	1.908	94.087						
11	0.262	1.746	95.834						
12	0.236	1.573	97.406						
13	0.152	1.016	98.423						
14	0.133	0.889	99.312						
15	0.103	0.688	100.000						

In the rotated component matrix (Table 7), many complex variables were noted, with the majority of variables loading on a single component. Additionally, variables that would have been expected to load onto the same component, such as Q3, Q17, Q24, and Q30, which were all designed to measure perceived behavioral control, loaded onto different components. Because of the sample size, it is difficult to determine if items genuinely do not fall onto the components or if a larger sample size is needed to show definitive results. Thus, output from the PCA analyses alone was not utilized by researchers to make decisions about item retention.

Table 7

Phase 2 PCA Extraction: Rotated Component Matrix

		Component			
TPB variable	Item	1	2	3	4
Intention	Q1	.888	.040	-.024	-.198
	Q10	.759	.197	.306	-.093
	Q12	.668	.356	-.080	-.289
Subjective norm	Q2	.862	-.103	.125	-.160
	Q5	.787	.284	.273	.024
	Q13	.681	.148	-.023	.142
	Q40	-.084	-.138	-.015	.940
Attitude	Q11.1	.838	.315	-.110	-.126
	Q11.2	.498	.715	-.098	-.087
	Q11.3	.823	.304	-.007	-.009
	Q11.4	.780	.278	-.007	.085
Perceived behavioral control	Q3	.034	.498	.619	-.046
	Q17	-.069	-.088	.819	-.009
	Q24	.198	.844	.221	-.132
	Q30	.442	.293	.486	.072

Internal consistency of all direct measurement questionnaire items was determined with Cronbach's alpha (n = 70, n = 15 items). The internal consistency of behavioral intention items was α = .817 (n = 3 items). The internal consistency of the subjective norm items was α = .417 (n = 4 items); however, when Q40 is removed from the analysis, the Cronbach's alpha coefficient increases to .782. Given the change in the alpha coefficient and that Q40's corrected item-total correlation was -.126, the decision was made to remove the question from further analysis. The internal consistency of the attitude items was α = .890 (n = 4 items). The internal consistency of the perceived behavioral control items was α = .591 (n = 4 items); however, when Q17 is removed, the alpha coefficient increases to .658. Given the change in the alpha coefficient and the previously discussed measure of sampling inadequacy with this item, the question was removed from further analysis. Because the estimates of internal consistency for items in

3 out of 4 groups were high, and hypothesizing that the internal consistency within the fourth group may increase with a larger sample size, the decision was made to retain all items analyzed, excluding Q17 and Q40, when generating the final questionnaire.

Because it is important that construct items have high internal consistency, Pearson's product correlations were evaluated for both direct and indirect measures of constructs, excluding Q17 and Q40. Per Cohen's taxonomy (Cohen, 1988), the correlation coefficient between direct and indirect attitude was positive and large (.75) while being highly statistically significant ($p < .001$). Similarly, the correlation between direct and indirect subjective norm items was again significant ($p = .03$) but small (.25). The correlation between items measuring direct and indirect perceived behavioral control was also significant ($p = .003$) and was moderate in size (.34). Behavioral intention was shown to have a strong correlation with both direct (.79) and indirect (.68) measures of attitude that were highly statistically significant in both instances ($p < .001$). Regarding subjective norm, intent had a large, statistically significant correlation with direct subjective norm measures (.75, $p < .001$) and a moderate, statistically significant correlation with indirect measures (.34, $p = .003$). Finally, intent had a moderate, statistically significant correlation with both direct (.48, $p < .001$) and indirect (.33, $p = .004$) perceived behavioral control. See Table 8 for full correlation outputs.

Table 8

*Correlations of All Variables Considered for Analysis in Pilot Survey (*n = *70)*

Variable	Correlation /Sig.	Intent	Direct Att	Indirect Att	Direct PBC	Indirect PBC	Direct Sub Norm	Indirect Sub Norm
Intent	Pearson Correlation Sig. (2-tailed)	1.00	.79†	.68†	.48†	.33†	.75†	.34†
Direct Att	Pearson Correlation Sig. (2-tailed)	.79†	1.00	.75†	.50†	.35†	.72†	.29*
Indirect Att	Pearson Correlation Sig. (2-tailed)	.68†	.75†	1.00	.42†	.40†	.69†	.45†
Direct PBC	Pearson Correlation Sig. (2-tailed)	.48†	.50†	.42†	1.00	.34†	.49†	.17
Indirect PBC	Pearson Correlation Sig. (2-tailed)	.33†	.35†	.40†	.34†	1.00	.47†	.25*
Direct Sub Norm	Pearson Correlation Sig. (2-tailed)	.75†	.72†	.69†	.49†	.47†	1.00	.25*
Indirect Sub Norm	Pearson Correlation Sig. (2-tailed)	.34†	.29*	.45†	.17	.25*	.25*	1.00

* Correlation is significant at the .05 level (2-tailed)
† Correlation is significant at the .01 level (2-tailed)

Regression Statistics

A multiple regression equation was run with the direct measures of attitude, subjective norm, and perceived behavioral control as independent variables and behavioral intent as the dependent variable. Based on this model, 68% of the variability in behavioral intent was accounted for by the combination of direct measures of attitude, subjective norm, and perceived behavioral control, and the overall model was highly statistically significant ($p < .01$, adjusted $r^2 = .68$). When looking at each construct's influence individually, the proportion of variability of intent accounted for by each construct (as measured by the adjusted r^2) was approximately 62% for the direct measure of attitude ($\beta = .77$, *S.E.* = .07, $t = 10.653$, $p < .001$), 56% for subjective norm ($\beta = .74$, *S.E.* = .07, $t = 9.51$, $p < .001$), and 22% for perceived behavioral control ($\beta = .47$, *S.E.* = .10, $t = 4.62$, $p < .001$), making attitude the best predictor of behavioral intent within these data. Complete regression statistics for a fully adjusted model containing the prediction involving all constructs and respondent characteristics can be found in Table 9.

Table 9

Regression Statistics for Prediction Equation

Model		Unstandardized coefficients		Standardized coefficients			VIF
		b	Std. error	Beta	*t*	*P*	
1	(Constant)	1.45	0.55	.02	2.63	.01	
	Direct Att	0.43	0.12	.44	3.48	<.001	3.64
	Direct PBC	0.10	0.09	.11	1.11	.26	2.27
	Direct SN	0.23	0.11	.24	1.98	.05	3.28
	Age	0.12	0.10	.23	1.21	.23	8.08
	Women	-0.01	0.16	-.01	-0.10	.91	2.62
	Nonbinary-gender	-0.66	0.60	-.64	-1.10	.27	2.62
	Years practicing	-0.16	0.13	-.23	-1.25	.21	7.8
	Transgender education	0.03	0.07	.12	0.04	.66	2.04
	Transgender relationships	-0.03	0.07	-.04	0.006	.66	1.85
	Supportiveness	0.005	0.07	.19	0.17	.94	1.72
	Perceived CC	-0.11	0.05	-.19	-0.17	.05	1.64

The prediction equation for intention to provide culturally competent care to transgender patients was established using all independent variables in the model and was as follows: Intention = 1.45 + 0.43*Attitude + 0.1*PBC + 0.23*SN + 0.12*Age - 0.01*women – 0.66*non-binary - 0.16*YearsPracticing +0.03*TransgenderEducation - 0.03*TransgenderRelationships + 0.005*Supportiveness - 0.11*PerceivedCC. The following three independent variables contributed significantly to predicting intention:

attitude ($p < .001$), subjective norm ($p = .05$), and perception of own transgender cultural competence ($p = .05$).

Variables involving Likert scale questions were also examined in regression models as categorical, resulting in similar findings as those presented above. Additionally, Variance Inflation Factor (VIF) was examined for each variable. Two variables, age and years in practice, had large VIFs, suggesting the potential for multicollinearity. However, the standard error for each variable was reasonable, and the coefficients were small, so it is likely that neither variable is important to the model, particularly given neither is statistically significant.

Findings of Statistical Analyses for Null Hypothesis 1

The null hypothesis was as follows: There is no difference between anesthesia physicians' intention scores to provide culturally competent care to transgender patients based on (a) attitude score, evaluation; (b) subjective norm score, evaluation; (c) perceived behavioral control score, evaluation; (d) number of years in practice; (e) gender; (f) age; (g) hours of transgender education; (h) number of personal relationships with transgender persons; (i) perception of own knowledge related to transgender cultural considerations; (j) level of support for acknowledging the difference in gender and sex. In order to test this null hypothesis, a multiple regression analysis was utilized with all variables listed above as the independent variables and intent as the dependent variable. The dependent variable for the prediction equation was the intention to interact with transgender patients in a culturally competent manner ($n = 70$, $M = 6.42$, $SD = 1.02$), which was generated through the mean of responses to the three behavioral intention questions. Variable correlations can be found in Table 8.

Based on these results from the individual models, researchers rejected the null hypothesis pertaining to (a) attitude score, evaluation; (b) subjective norm, evaluation; and (c) perception of own knowledge related to transgender cultural considerations.

Findings of Statistical Analyses for Research Question 1

Multiple regression was utilized to answer the following first research question: Using a survey measuring anesthesia physicians' behavioral intent to provide culturally competent care to transgender patients, how does intent vary among anesthesia physicians? Several predictors of intent were statistically significant. These included a respondent's attitude ($p < .001$), subjective norms ($p = .05$), and his or her own reported knowledge of transgender cultural considerations ($p = .05$).

Findings of Statistical Analyses for Research Question 2

Multiple regression was also used to answer the second research question: What is the best predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients? The biggest predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients was attitude (ß = .43, $p < .001$), followed by subjective norms (ß = .23, $p = .05$) and perception of own transgender cultural competence (ß = -.11, $p = .05$).

Summary of Pilot Data Analyses

Data were analyzed from 70 respondents. Three outliers were identified and retained due to limited effects on data output. Findings from the PCA resulted in inconclusive data potentially due to the small sample size. Internal consistency reliability analysis resulted in the removal of two questions, Q17 and Q40, from the survey, resulting in three components with high Cronbach alpha levels and another component

with a marginal score that has the potential to improve with a larger sample size. After removing the two previously mentioned questions, composite scores were calculated for direct measures of intention, attitude, subjective norm, and perceived behavioral control. These scores were then utilized in multiple regression analyses to answer the two research questions and test the null hypothesis. The null hypothesis was rejected by the researcher because three variables, attitude score, evaluation; subjective norm, evaluation; and perception of own knowledge related to transgender cultural considerations, were shown to significantly impact predicted intention scores within this sample. Both research questions were answered. Attitude, subjective norm, and the perception of one's own knowledge related to transgender cultural considerations all significantly impacted anesthesia physicians' intent to provide culturally competent care to transgender patients, with attitude proving to be the best predictor.

CHAPTER 5

DISCUSSION

Summary

Physicians specializing in anesthesiology are required to conduct a detailed history and physical on each of their patients, many of whom they may not meet until just prior to their procedures. This includes transgender patients, who may perceive medically necessary questioning, such as questions related to their reproductive organs, as a form of trauma, leading them to avoid seeking healthcare (Grant et al., 2011; Roberts & Fantz, 2014). This is why it is essential that anesthesia physicians possess the knowledge and skills to treat all types of patients in a confident, culturally competent manner, including those identifying as transgender (Tollinche et al., 2018).

Literature related to transgender persons was reviewed for this study. It was revealed that transgender persons have numerous health disparities compared to non-LGBT persons, including those related to healthcare access barriers and minority stress, resulting in shorter lifespans (Cochran & Mays, 2015; Gonzales et al., 2016; Grant et al., 2011; Lehavot et al., 2016; Meyer, 2003; Shipherd et al., 2011). Regarding mental health, research showed that transgender individuals have higher depression rates and a suicide attempt rate 26 times greater than that of the general population (CDC, 2019; Díaz et al., 2001; Gonzales et al., 2012; Grant et al., 2011; Kenagy, 2005; King et al., 2008).

Research has demonstrated that the increased stress and mental health issues suffered by transgender individuals often lead to delay or avoidance of seeking healthcare (Cruz, 2014; Frost et al., 2015; Grant et al., 2011; Macapagal et al., 2016; Roberts et al., 2010). This delay is of serious concern because, once care is sought, this population of patients often experiences inadequate care, whether because of purposeful discrimination or unconscious bias (Kitts, 2010). Even when willing to seek out healthcare, transgender patients sometimes are unable to have their health needs met, with nearly one in five transgender individuals being denied care due to their transgender status, and denial rates for transgender persons of color being even higher, resulting in higher rates of mental illness and suicide risks (Grant et al., 2011; Haas, 2011).

As previously discussed, the presence of cultural competence in healthcare is an integral part of ensuring equitable care across diverse groups (McGregor et al., 2019; Sorensen et al., 2017). Healthy People 2020 recommends expanded physician training to increase the provision of culturally competent care, though research has shown that this training is often inadequate (Sanchez et al., 2006). Previous discussion demonstrated there is a shortage of healthcare workers who can provide culturally competent care to their LGBT patients, thereby negatively affecting the equity of healthcare this population receives (Healthypeople.gov, 2010; Khalili et al., 2015). Trust and satisfaction between patients and healthcare workers have been shown to increase after provider cultural competency training, which in turn positively impacts patient outcomes (Beach et al., 2005; Kim & Lee, 2016; Maramba & Nagayama Hall, 2002; Stewart et al., 2000; Tang et al., 2019). No studies currently exist examining the cultural competence of anesthesia physicians in interactions with transgender patients.

The purpose of the present study was to examine the beliefs and intentions of anesthesia physicians toward providing culturally competent care to transgender patients. Methodology and findings from similar research involving the Theory of Planned Behavior and influencing this study's design were reviewed. The primary limitation of the presented literature was that it did not include anesthesia physicians. This study was designed to help fill that gap in the literature.

In Chapter 3, the methodology of this study was detailed. The present study used a non-experimental, cross-sectional predictive correlational survey methodology to first obtain data from an elicitation questionnaire with a random sample of 14 anesthesia physicians at a single academic medical center in the southeastern United States. Using those data, a pilot survey based on the Theory of Planned Behavior was developed and utilized with a random sample of 70 anesthesia physicians from the same institution. The pilot examined anesthesia physicians' attitudes, subjective norms, perceived behavioral control, and behavioral intentions regarding the provision of culturally competent care to transgender patients. The piloting of the survey allowed the determination of psychometric properties, including validity and reliability, before the development of the final tool.

Variables used in the study were:

1. Composite score of intention to provide culturally competent care to transgender patients (interval level)
2. Attitude score, evaluation (composite score; interval)
3. Subjective norm score, evaluation (composite score; interval)
4. Perceived behavioral control score, evaluation (composite score; interval)

5. Number of years of anesthesia practice in the United States, including training (< 5, 6-10, 11-15, 16-20, > 20; interval)
6. Age (< 30, 31-35, 36-40, 41-45, 46-50, 51-55, > 60; interval)
7. Gender identity (male, female, non-binary; categorical)
8. Hours of education specific to transgender considerations (0-5, 6-10, 11-15, 16-20, 21-30, 31-35, > 35; categorical)
9. Number of personal relationships with transgender persons (0, 1, 2, 3, 4, 5, > 5; categorical)
10. Perception of own knowledge related to transgender cultural considerations (1-7; categorical)
11. Level of support for acknowledging the difference in gender and sex (1-7; categorical)

The study used multiple linear regression for prediction analyses to answer the following research questions: 1) Using a survey measuring anesthesia physicians' behavioral intent to provide culturally competent care to transgender patients, how does intent vary among anesthesia physicians? and 2) What is the best predictor of anesthesia physicians' intent to provide culturally competent care to transgender patients? The regression equation was used to predict intention scores from the independent variables and to test the study's null hypothesis that there is no difference between anesthesia physicians' intention scores to provide culturally competent care to transgender patients based on the previously discussed independent variables.

In Chapter 4, the researcher presented this study's findings. The principal components analysis (PCA) resulted in inconclusive data, potentially due to the small

sample size. Internal consistency reliability analysis resulted in the removal of two questions, resulting in three components with high Cronbach alpha levels and another component with a marginal score that has the potential to improve with a larger sample size. Composite scores were calculated for direct measures of intention, attitude, subjective norm, and perceived behavioral control and were then utilized in multiple regression analyses to answer the two research questions and test the null hypothesis. The null hypothesis was rejected by the researcher because three variables, attitude score, evaluation; subjective norm, evaluation; and perception of own knowledge related to transgender cultural competence considerations, were shown to significantly impact predicted intention scores within this sample. Both research questions were answered. Attitude, subjective norm, and the perception of one's own knowledge related to transgender cultural competence considerations all significantly impacted anesthesia physicians' intent to provide culturally competent care to transgender patients, with attitude proving to be the best predictor.

Discussion

Treating transgender patients in a culturally competent manner is an essential part of delivering high-quality care and has been shown to positively impact health outcomes (Hussey, 2008; McGregor et al., 2019). However, no research has been conducted on the degree of cultural competence anesthesia physicians utilize in their care delivery and what influences that care. Findings from this study demonstrate that the statistically significant predictors of an anesthesia physician's intention to provide care to their transgender patients in a culturally competent manner are (a) attitude, (b) subjective

norm, and (c) perception of own knowledge related to transgender cultural competence. Although attitude and subjective norms make up two of the three constructs in the Theory of Planned Behavior, there are antecedent beliefs that make up each construct that, if explored, could lead to increasingly targeted interventions, particularly within the largest predictor, attitude.

A positive attitude toward the provision of culturally competent care to transgender patients was shown to be the strongest predictor of intent to perform the behavior. While the reported intent to provide culturally competent care to this population was extremely strong, it is important to note what specific beliefs were identified within the elicitation questionnaire that could, when targeted, increase the population's positive attitude, thereby increasing their intent to provide culturally competent care. Overwhelming themes that emerged involved effective communication and trust between physicians and their transgender patients. Further, respondents indicated that, although they want to interact with transgender patients in a culturally competent manner, their lack of cultural understanding and their uncertainty in these interactions can sometimes prevent that behavior from happening. If the institutional promotion of trust building and effective communication with transgender patients is accomplished, coupled with the necessary education regarding how to effectively interact with transgender patients in a culturally competent manner, this study suggests that anesthesia physicians' attitudes toward the behavior will become more positive, thereby increasing intent.

Subjective norm was also shown to be a predictor of intent toward the behavior in question. Results from the elicitation questionnaire suggest that members of the target

population feel that most people around them, including other employees at the same institution, support the provision of culturally competent care toward transgender patients. There were some concerns noted regarding peers' personal or religious convictions that could cause them to oppose interactions with transgender persons in general, including any alteration in communication or care that acknowledges a person is transgender. Additionally, several respondents noted that, because the institution examined in this research is in the southern United States, these convictions may be more prevalent than elsewhere in the country. One way to address these influences is with instruction and resources from influential members of the institution's anesthesiology department regarding the importance of identifying and acknowledging personal bias and the effect it can have on patient interactions. Another approach would be to provide instruction on how the provision of culturally competent care to transgender patients equates to better, more comprehensive care, as opposed to an acknowledgment or acceptance of a patient's transgender status by the physician. By addressing these subjective norm factors directly, there is an increased likelihood that negative factors would decrease, thereby increasing the intent toward the target behavior.

Regarding respondents' perceptions of their own knowledge related to transgender cultural competence, the negative relationship suggests that respondents who rated themselves as less knowledgeable were more likely to a high intent to treat transgender patients in a culturally competent manner. While this finding may be surprising to some, the Dunning-Kruger Effect suggests otherwise. Researchers Kruger and Dunning (1999) discovered that those who perform a skill poorly often rate their skills and expertise related to that skill as above average. It is possible the Dunning-

Kruger Effect had an influence in the present study with those who had less of an intention of providing culturally competent care to transgender patients declaring high levels of transgender CC knowledge. Conversely, those who had higher intention levels of interacting with their patients in a culturally competent way may have recognized they still had much to learn in terms of transgender culturally competent care, thereby rating their own knowledge of the subject lower than their peers.

Overall, results from the study were promising, with more than half of respondents answering with a 6 or 7 on a Likert scale (7 being strongly agree) that they supported acknowledging the difference in gender and sex. Additionally, the average score for the questions directly measuring intention to provide culturally competent care to transgender patients was 6.42, with a score of 7 being strongly agree. This indicates that respondents, as a whole, regarded the provision of culturally competent care to transgender patients favorably.

Conclusions

Anesthesia physicians at a single academic medical institution in the southeastern U.S. showed an overall high intent to provide culturally competent care to transgender patients, with attitude toward the provision of this care being the strongest predictor of intent. Subjective norms and perception of one's own knowledge were also shown to significantly influence one's intent toward this behavior. This researcher believes that, as societal acceptance of transgender persons rises, the number of transgender patients seen by anesthesia physicians will continue to increase. Thus, the provision of culturally competent care with this population will be all the more important.

As previously discussed, interventions aimed at significant influencers of intent to perform the target behavior have an increased likelihood of influencing the behavior itself. Based on this research, it is reasonable to believe that, while most anesthesia physicians within the target population have a strong intent to provide culturally competent care to transgender patients, their behavior may be inhibited by lack of knowledge and practice, whether they are aware of this or not. This points to a larger issue previously discussed related to a lack of transgender education and exposure during medical education. Until this gap in education is addressed at all training levels, and within individual institutions, variation in the presence and effectiveness of the target behavior will likely persist.

Recommendations

Recommendations for Improving the Dissertation Study

This dissertation study could be improved in several ways. First, a larger population for the pilot study could have been secured. This would have meant either expanding to include Certified Registered Nurse Anesthetists at the same institution or increasing the number of institutions involved. To ensure themes included in the pilot study were applicable to all within the target population, this expansion would have taken place from the beginning of this project to include all subjects in both the elicitation and pilot survey process. Additionally, minimizing the length of the survey by including fewer themes and indirect measures of constructs may have resulted in higher response rates.

Recommendations for Anesthesia Physicians

As was previously stated, study findings indicated that anesthesia physicians' attitudes, subjective norms, and perception of their own knowledge related to transgender cultural competence are significant predictors of the intention to interact with transgender patients in a culturally competent manner. Digging deeper, while many within the target population would like to practice the behavior in question, there is concern over lack of skill and preparedness to do so. Anesthesia physicians should be taught as early as medical school how to effectively communication in a culturally competent manner to many populations, with specific focus given to interactions with transgender patients. Special emphasis should be given to the link between culturally competent interaction and health outcomes, and training with this emphasis should persist throughout medical training. Additionally, given that exposure to and interactions with transgender patients can vary throughout training, steps should be taken to ensure trainees have the opportunity to practice interactions with transgender patients in a simulated setting. Finally, training and emphasis on culturally competent care of transgender patients should expand to reach practicing providers, especially those who may not have had exposure to related content during their medical training experiences. With focused continuing education and training, anesthesia physicians will gain confidence in their abilities to successfully perform the target behavior while understanding that doing so is supported on the highest level professionally.

Recommendations for Future Research

Based on study findings, recommendations for future research include investigating the antecedents of the constructs deemed to significantly influence intent.

By doing this, more targeted interventions can be developed to ultimately improve the performance of the behavior itself. Additionally, including a larger sample group from multiple institutions across the United States will show how the pilot study findings differ based on factors such as geographic location, patient population, and presence of education on transgender cultural competence within an institution. Finally, examining how individuals rate their intent to interact with transgender patients in a culturally competent manner and their perceived skill level in doing so, compared with their actual interactions with transgender individuals in either a clinical or simulated setting could lead to important discoveries that potentially influence any disconnect between one's intent to perform a behavior and physically performing the behavior itself.

Dissemination of Findings

Findings from this research will be disseminated to publications focusing on anesthesiology education, as well as those concentrating on the interactions between healthcare providers and LGBT patients. Further, the principal investigator and members of the research team will present research findings at conferences, both locally and nationally. Finally, findings will be discussed with leadership from the target population to determine in what ways anesthesia physicians can be best educated on and supported in the provision of culturally competent care for transgender patients.

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APPENDIX A

IRB DOCUMENTS

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM
Office of the Institutional Review Board for Human Use

470 Administration Building
701 20th Street South
Birmingham, AL 35294-0104
205.934.3789 | Fax 205.934.1301 |
irb@uab.edu

APPROVAL LETTER

TO: Blanchard, Erin E.

FROM: University of Alabama at Birmingham Institutional Review Board
Federalwide Assurance # FWA00005960
IORG Registration # IRB00000196 (IRB 01)
IORG Registration # IRB00000726 (IRB 02)

IORG Registration # IRB00012550 (IRB 03)

DATE: 21-Aug-2020

RE: IRB-300005754
Beliefs and Intentions of Anesthesia Physicians Toward Providing Culturally Competent Care to Transgender Patients

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The IRB reviewed and approved the Initial Application submitted on 12-Aug-2020 for the above referenced project. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services.

Type of Review: Exempt
Exempt Categories: 2
Determination: Exempt
Approval Date: 21-Aug-2020
Approval Period: No Continuing Review

Documents Included in Review:

- infosheet.clean.200811.docx
- surveyquest(Elicitation).200721
- exempt.clean.200811
- IRB PERSONNEL FORM

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM
Office of the Institutional Review Board for Human Use

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APPROVAL LETTER

TO: Blanchard, Erin E.

FROM: University of Alabama at Birmingham Institutional Review Board
Federalwide Assurance # FWA00005960
IORG Registration # IRB00000196 (IRB 01)
IORG Registration # IRB00000726 (IRB 02)
IORG Registration # IRB00012550 (IRB 03)

DATE: 30-Oct-2020

RE: IRB-300005754-003
Beliefs and Intentions of Anesthesia Physicians Toward Providing Culturally Competent Care to Transgender Patients

---

The IRB reviewed and approved the Revision/Amendment submitted on 27-Oct-2020 for the above referenced project. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services.

Type of Review: Exempt
Exempt Categories: 2
Determination: Exempt
Approval Date: 30-Oct-2020

Documents Included in Review:

- REVISION/AMENDMENT EFORM

To access stamped consent/assent forms (full and expedited protocols only) and/or other approved documents:
1. Open your protocol in IRAP.
2. On the Submissions page, open the submission corresponding to this approval letter. NOTE: The Determination for the submission will be "Approved."
3. In the list of documents, select and download the desired approved documents. The stamped consent/assent form(s) will be listed with a category of Consent/Assent Document (CF, AF, Info Sheet, Phone Script, etc.)

Investigating the Beliefs and Intentions of Anesthesia Physicians Toward Providing Culturally Competent Care to Transgender Patients

Participant Information Sheet

We are asking you to take part in a research study being conducted by Erin Blanchard through the University of Alabama at Birmingham.

If you choose to participate in the study, you will complete the survey using the link contained below within this email. This survey will help us learn more about anesthesia providers' care of transgender patients. The survey will take 5-10 minutes to complete. The purpose of the study is to investigate the beliefs and intentions of anesthesia physicians toward providing culturally competent care to transgender patients.

Information obtained for this study will be submitted anonymously. However, the anonymous data may be shared with people or organizations for quality assurance or data analysis, or with those responsible for ensuring compliance with laws and regulation related to research, including the UAB Institutional Review Board (IRB). The information from the research may be published for scientific purposes; however, because data from the survey were submitted anonymously, your identify will not be known or revealed in those publications.

Participating in this study is voluntary. Your alternative is to not participate in the research study. If you are a UAB student or employee, taking part in this research is not a part of your UAB class work or duties. You can refuse to enroll in the study or withdraw from the study at any point by exiting the survey before submission, with no effect on your class standing, grades, or job at UAB. You will not be offered or receive any special considerations if you take part in this research.

You have been provided a link to your electronic survey. By clicking the survey link and completing the survey you are consenting to allow your responses to be used in this research study.

If you have any questions, please contact Erin Blanchard at 205-996-0604 or ErinBlanchard@uab.edu. If you have questions or concerns about your rights as a research participant, or concerns or complaints about the research, you may contact the UAB Office of the IRB (OIRB) at (205) 934-3789 or toll free at 1-855-860-3789. Regular hours for the OIRB are 8:00 a.m. to 5:00 p.m. CT, Monday through Friday.

SURVEY LINK:

https://uab.co1.qualtrics.com/jfe/form/SV_5jOxvfPgoWCQfWJ

APPENDIX B

ELICITATION QUESTIONNAIRE

We are conducting a study of physicians specializing in anesthesiology at UAB, exploring the care of transgender. We would appreciate your responses to some questions about this topic. Responses are completely anonymous. There are no right or wrong answers. Please tell us what you really think.

Question 1: In your own words/opinion, what does the term "transgender" mean?

Question 2: In your own words/opinion, what does the term "cultural competency" mean?

For the following questions, please utilize the following definitions for cultural competency and transgender persons:

Cultural Competency: A skillset allowing providers to deliver care that is both high-quality and culturally appropriate to persons coming from cultures different than their own (IOM, 1999).

Transgender: Term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex (AAMC, 2014). Does not describe sexual orientation (Klein & Nakhai, 2016) and does not necessitate a person distinctly identifying as either male or female (Margolies & Brown, 2019).

When you think of real or potential interactions with transgender patients,

Question 3: What do you believe are the **advantages** of providing culturally competent care during the interaction?

Question 4: What do you believe are the **barriers or negative consequences** of providing culturally competent care during the interaction?

Question 5: Is there anything else you associate with your own views about providing culturally competent care during the interaction?

For the following questions, please utilize the following definitions for cultural competency and transgender persons:

Cultural Competency: A skillset allowing providers to deliver care that is both high-quality and culturally appropriate to persons coming from cultures different than their own (IOM, 1999).

Transgender: Term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex (AAMC, 2014). Does not describe sexual orientation (Klein & Nakhai, 2016) and does not necessitate a person distinctly identifying as either male or female (Margolies & Brown, 2019).

Question 6: Are there individuals or groups who would **approve** of you providing culturally competent care during the interaction? If yes, please describe.

Question 7: Are there individuals or groups who would **disapprove** of your providing culturally competent care during the interaction? If yes, please describe.

Question 8: Is there anything else you associate with other people's views about providing culturally competent care during the interaction?

For the following questions, please utilize the following definitions for cultural competency and transgender persons:

Cultural Competency: A skillset allowing providers to deliver care that is both high-quality and culturally appropriate to persons coming from cultures different than their own (IOM, 1999).

Transgender: Term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex (AAMC, 2014). Does not describe sexual orientation (Klein & Nakhai, 2016) and does not necessitate a person distinctly identifying as either male or female (Margolies & Brown, 2019).

Question 9: What factors or circumstances would **enable you** to provide culturally competent care during interactions with transgender patients?

Question 10: What factors or circumstances would **make it difficult or impossible for you** to provide culturally competent care during interactions with transgender patients?

Question 11: Are there any other issues that come to mind when you think about providing culturally competent care to transgender patients?

APPENDIX C

PILOT QUESTIONNAIRE

For the following questions, please keep these definitions in mind:

Transgender: A term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex. It does not describe sexual orientation and does not necessitate a person distinctly identifying as either male or female.

Cultural Competence: A set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own. This includes not making assumptions about a patient's gender identity or preferred pronoun based on his or her appearance.

When answering the following questions, please keep in mind your real or potential experiences in the operative and perioperative environments at UAB Hospital in Birmingham, AL.

1. I **intend** to interact with transgender patients in a culturally competent manner.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

2. It is **expected of me** that I interact with transgender patients in a culturally competent manner.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

3. I am **confident** that I could interact with a transgender patient in a culturally competent way if I wanted to.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

4. By interacting with transgender patients in a culturally competent manner, I will be able to **better meet their unique medical needs**.

Unlikely 1 2 3 4 5 6 7 Likely

5. **People who are important to me** want me to interact with transgender patients in a culturally competent manner.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

6. **Lack of education** on transgender topics makes it **difficult** to interact with those patients in a culturally competent way.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

7. If I interact with a transgender patient in a culturally competent manner, I feel I will **increase trust** with that patient.

Unlikely 1 2 3 4 5 6 7 Likely

8. The **approval of my practice by LGBTQ patients** is important to me.

Not at all 1 2 3 4 5 6 7 Very Much

9. **I fear I will say something wrong** if I attempt to interact with a transgender patient in a culturally competent way.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

10. I **expect** to interact with transgender patients in a culturally competent manner.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

For the following questions, please keep these definitions in mind:

Transgender: A term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex. It does not describe sexual orientation and does not necessitate a person distinctly identifying as either male or female.

Cultural Competence: A set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own. This includes not making assumptions about a patient's gender identity or preferred pronoun based on his or her appearance.

When answering the following questions, please keep in mind your real or potential experiences in the operative and perioperative environments at UAB Hospital in Birmingham, AL.

11. Interacting with a transgender patient in a culturally competent manner is…

Good	1	2	3	4	5	6	7 Bad
Pleasant (for me)	1	2	3	4	5	6	7 Unpleasant (for me)
Worthless	1	2	3	4	5	6	7 Useful
Appropriate	1	2	3	4	5	6	7 Inappropriate

For the following questions, please keep these definitions in mind:

Transgender: A term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex. It does not describe sexual orientation and does not necessitate a person distinctly identifying as either male or female.

Cultural Competence: A set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own. This includes not making assumptions about a patient's gender identity or preferred pronoun based on his or her appearance.

When answering the following questions, please keep in mind your real or potential experiences in the operative and perioperative environments at UAB Hospital in Birmingham, AL.

12. I **want** to interact with transgender patients in a culturally competent manner.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

13. Most people who are **important to me** think that___ interact with transgender patients in a culturally competent manner.

I should 1 2 3 4 5 6 7 I should not

14. My **workplace culture** makes it **difficul**t for me to interact with transgender patients in a culturally competent way.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

15. **Meeting the unique medical needs** of transgender patients is…

Extremely Undesirable -3 -2 -1 0 +1 +2 +3 Extremely Desirable

16. Regarding my interactions with transgender patients, I **value the input** of those **lacking understanding** of transgender persons.

Not at all 1 2 3 4 5 6 7 Very Much

17. Whether I interact with transgender patients in a culturally competent way is **entirely up to me**.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

18. If I am **aware** a patient is transgender, I am___ to interact with that person in a culturally competent way.

Unlikely 1 2 3 4 5 6 7 Likely

19. **Other healthcare providers_** interact with transgender patients in a culturally competent manner.

Do Not -3 -2 -1 0 +1 +2 +3 Do

20. **<u>Lack</u> of exposure** to transgender persons makes it **difficult** to interact with transgender patients in a culturally competent way.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

21. If I interact with a transgender patient in a culturally competent manner, **communication between us will be more effective**.

Unlikely 1 2 3 4 5 6 7 Likely

For the following questions, please keep these definitions in mind:

<u>Transgender</u>: A term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex. It does not describe sexual orientation and does not necessitate a person distinctly identifying as either male or female.

Cultural Competence: A set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own. This includes not making assumptions about a patient's gender identity or preferred pronoun based on his or her appearance.

When answering the following questions, please keep in mind your real or potential experiences in the operative and perioperative environments at UAB Hospital in Birmingham, AL.

22. **Lack of education on transgender topics** makes it___ to interact with transgender patients in a culturally competent manner.

Much More Difficult -3 -2 -1 0 +1 +2 +3 Much Easier

23. Those within the **LGBTQ community** think I___ interact with transgender patients in a culturally competent manner.

Should Not -3 -2 -1 0 +1 +2 +3 Should

24. For me to interact with transgender patients in a culturally competent way is…

Very Easy 1 2 3 4 5 6 7 Very Difficult

25. My personal beliefs (supportive or unsupportive) related to transgender persons are___ to impact my provision of culturally competent care with transgender patients.

Unlikely 1 2 3 4 5 6 7 Likely

26. **Those who do NOT acknowledge the difference between gender and sex** would___ of my interacting with transgender patients in a culturally competent manner.

Disapprove -3 -2 -1 0 +1 +2 +3 Approve

27. **Lack of awareness of a person's transgender status** makes it___ that I will interact with transgender patients in a culturally competent manner.

Less Likely -3 -2 -1 0 +1 +2 +3 More Likely

28. My **understanding of transgender cultural needs** impacts my ability to provide culturally competent care to transgender patients.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

29. **Doing what other healthcare providers do** is important to me.

Not at all 1 2 3 4 5 6 7 Very Much

30. The decision to interact with transgender patients in a culturally competent way is **beyond my control**.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

31. **Increasing trust** with my transgender patients is…

Extremely Undesirable -3 -2 -1 0 +1 +2 +3 Extremely Desirable

For the following questions, please keep these definitions in mind:

Transgender: A term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex. It does not describe sexual orientation and does not necessitate a person distinctly identifying as either male or female.

Cultural Competence: A set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own. This includes not making assumptions about a patient's gender identity or preferred pronoun based on his or her appearance.

When answering the following questions, please keep in mind your real or potential experiences in the operative and perioperative environments at UAB Hospital in Birmingham, AL.

32. **Lack of awareness of a person's transgender status** makes it **difficult** to interact with transgender patients in a culturally competent way.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

33. Regarding my interactions with transgender patients, I **value the input** of those who **do NOT acknowledge** the difference between gender and sex

Not at all 1 2 3 4 5 6 7 Very Much

34. **Lack of exposure to transgender persons** makes it__ that I will interact with transgender patients in a culturally competent manner.

Less Likely -3 -2 -1 0 +1 +2 +3 More Likely

35. Having **effective communication** with transgender patients is…

Extremely Undesirable -3 -2 -1 0 +1 +2 +3 Extremely Desirable

36. People **without an understanding of transgender persons** think I__ interact with transgender patients in a culturally competent manner.

Should Not -3 -2 -1 0 +1 +2 +3 Should

37. I am **not aware** of how to interact with a transgender patient in a culturally competent way.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

38. Understanding the **cultural needs** of transgender patients is…

Extremely Undesirable -3 -2 -1 0 +1 +2 +3 Extremely Desirable

39. The **fear of saying something wrong** makes it__ that I will interact with a transgender person in a culturally competent manner.

Less Likely -3 -2 -1 0 +1 +2 +3 More Likely

40. I feel under **social pressure** to interact with transgender patients in a culturally competent manner.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

41. Being aware of **my personal beliefs (supportive or unsupportive)** toward transgender persons is…

Extremely Unimportant -3 -2 -1 0 +1 +2 +3 Extremely Important

For the following questions, please keep these definitions in mind:

Transgender: A term referring to persons who identify as a gender differing from the gender genetically assigned at birth, also known as a person's sex. It does not describe sexual orientation and does not necessitate a person distinctly identifying as either male or female.

Cultural Competence: A set of skills that allows providers to give culturally appropriate high-quality care to individuals of cultures different from their own. This includes not making assumptions about a patient's gender identity or preferred pronoun based on his or her appearance.

When answering the following questions, please keep in mind your real or potential experiences in the operative and perioperative environments at UAB Hospital in Birmingham, AL.

42. The **culture at my workplace** makes it __ I will interact with transgender patients in a culturally competent way.

Less Likely -3 -2 -1 0 +1 +2 +3 More Likely

43. **Being aware** a patient is transgender is…

Extremely Undesirable -3 -2 -1 0 +1 +2 +3 Extremely Desirable

44. My **knowledge related to transgender cultural competence** makes it__ to interact with these patients in a culturally competent manner.

Much More Difficult -3 -2 -1 0 +1 +2 +3 Much Easier

45. How supportive are you of acknowledging the difference between gender and sex?

Very Unsupportive 1 2 3 4 5 6 7 Very Supportive

46. Regarding transgender cultural considerations, how knowledgeable would you consider yourself?

Not Very Knowledgeable 1 2 3 4 5 6 7 Very Knowledgeable

47. What is your age?

<30 31-35 36-40 41-45 46-50 50-55 > 60

48. With what gender do you identify?

Male Female Non-binary

49. Approximately, how many hours of education **specific to transgender individuals** have you received during your **training and career**?

0-5 6-10 11-15 16-20 21-30 31-35 more than 35

50. With how many transgender persons do you have a close relationship (friend, relative, etc.)?

0 1 2 3 4 5 more than 5

51. **Including residency**, how many years have you practiced medicine?

less than 5 6-10 11-15 16-20 more than 20