THE EFFECT OF ORGANIZATIONAL CHARACTERISTICS UPON WOMEN'S LABOR AND BIRTH EXPERIENCES IN THE UNITED STATES

A Dissertation

by

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ABSTRACT

In recent years, women's reproductive healthcare has gained much attention. This is in part due to the work of the reproductive justice movement, which has exposed the ways in which reproductive health is stratified by race and socioeconomic status in the United States and how this stratification is upheld by public policies and social institutions (Ross & Solinger 2017). One factor that affects women's labor and birth experiences that is often overlooked, is organizational characteristics. To better understand women's labor experiences and outcomes and how it can be stratified by race and class, this research combines the reproductive justice framework with an organizational hospital-based analysis of labor and birth experiences and outcomes. The dissertation utilizes a mixed-methods approach to analyze how organizational characteristics (i.e. ownership status, size, and financial measures) at a meso level affect patient experiences at the micro level (mode of delivery, patient care, etc.). The data comes from Childbirth Connection's Listening to Mothers III survey, a nationally representative online survey that sampled 2,400 women aged 18-45, and asked women about their birth experiences. This research examines the intersection between organizational and reproduction studies by illuminating how organizational behavior, driven by concerns for efficiency and liability, affects patient experiences. In addition, I aim to examine if organizational characteristics also influence how women of color and lower SES experience labor and birth. Ultimately, I situate this reproductive justice topic within an organizational theory context, and utilize organizational theory to examine how organizational characteristics and behavior affect patient experiences and

procedures from an intersectional perspective by examining if and how women's labor and birth experiences vary according to race and socioeconomic status. This research explains 1) how organizational characteristics affect the likelihood of a respondent having a cesarean delivery, 2) how procedures such as labor induction and EFM happen frequently and are affected by individual characteristics, and 3) how women of color and low SES are more likely to report experiencing discrimination during labor and birth.

DEDICATION

"If you think you're too small to make an impact, try going to sleep with a mosquito in the room."

- Anita Roddick

I dedicate this dissertation to all of the "mosquitos" trying to make a positive difference in the world. And to Emily McNamara, Michael McNamara, and Stephen Vinson, for always believing in me and giving an extra push when I needed it most.

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CHAPTER I

INTRODUCTION

> To be clear, reproductive justice is not a label —it's a mission. It describes our collective vision: a world where all people have the social, political, and economic power and resources to make healthy decisions about gender, bodies, sexuality, reproduction, and families for themselves and their communities.
> Jessica Gonzalez-Rojas and Kierra Johnson (Rewire News)

In recent years, public attention has turned towards issues of women's reproductive healthcare. One reason for this rising attention to women's reproductive healthcare is the increasing maternal mortality rate in the U.S. The maternal mortality rate is defined as "the death of a woman while pregnant or within 42 days of the end of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes" (MacDorman, Declercq, and Thoma 2017). This rate *increased* in the United States by over 50 percent between 1990 and 2015, from 17 deaths per 100,000 live births in 1990 to 26 in 2015 ("Maternal Health in the United States" 2018). The rising rate of maternal mortality in the U.S. stands in stark contrast to other countries. In fact, the maternal mortality rate *decreased* globally by 44% in the same period ("Maternal Health in the United States" 2018). Some developing nations have lower maternal mortality rates than the United States, and those rates are continuing to decrease (MacDorman et. al. 2017).

The maternal mortality rate in the United States is only one of a number of concerning issues around women's reproductive care in the United States; others include

the high cesarean rate (Morris and Schulman 2014, Kozhimannil, Law, and Virnig 2013), a disturbingly high rate of medical interventions during labor and birth (Keyhani and Sui 2008, Korenstein, Falk, Howell, Bishop and Keyhani 2012, and Green and Baston 2007), and trends of unequal access to care and discriminatory treatment for women of color and low socioeconomic status (SES) (Roth and Henley 2012, Howell and Zeitlin 2017, Milcent and Zbiri 2018, and Ross and Solinger 2017).

Intersectional research highlights that racist and classist experiences and outcomes persist (Roth et al. 2012). Studies examining birth procedures, such as cesarean delivery, conclude that racial and socioeconomic biases influence caregivers' decision making (Morris et al. 2014). Further, despite half of all births in the United States being to minority women, it is disproportionately minority women who suffer from maternal deaths (Howell et al. 2017, Martin and Montagne 2017a). In particular,

> The most notable disparity in mortality rates in the U.S. is defined by race: Black women die at a rate that ranges from three to four times the rate of their White counterparts—42 deaths per 100,000 live births among Black women versus 12 deaths per 100,000 live births among White women as of 2010; this difference in risk has remained unchanged for the past six decades ("Maternal Health in the United States" 2018).

Women of color are more likely to experience discrimination, have poorer access to information about reproduction, and are more likely to receive medical care in lower-quality hospitals than White women (Attanasio and Kozhimannil 2015, "Maternal Health in the United States" 2018, Howell et al. 2017). Women of low socioeconomic status also experience reproductive inequalities, and are more likely to have cesarean deliveries and less likely to attend prenatal classes than women of higher SES (Milcent and Zbiri 2018). Socioeconomic disparities in reproductive care also tend to mirror

socioeconomic trends in healthcare disparities, and women with greater socioeconomic status use that status to circumvent unnecessary medical interventions (Roth et al. 2012). The inequalities among labor and birth experiences for women of color and lower socioeconomic status is an issue situated in the Reproductive Justice framework and was examined in this study.

As a unique contribution to this literature, this dissertation aimed to study how hospital organizational characteristics affected the likelihood of procedures such as cesarean delivery, induction, and electronic fetal heart rate monitoring and the likelihood of respondents' reporting racial or class-based discrimination. What I bring to this study is how *where* a woman gives birth is also important in understanding women's experiences. For example, maternal mortality may be more likely at some facilities than at others because of a "a hodgepodge of hospital protocols for dealing with potentially fatal complications, allowing for treatable complications to become lethal" (Martin and Montagne 2017b). This finding reinforces previous research on multiple fronts, showing that where women give birth matters (Kozhimannil et al. 2013). For instance, cesarean sections vary by hospital, by a degree of tenfold (Kozhimannil et al. 2013) and for-profit hospitals have been linked to increased likelihood of cesarean delivery compared to non-profit hospitals (Morris, McNamara, and Morton 2017). Additionally, research on other health outcomes indicated that hospital characteristics influence patient outcomes. Many studies tied positive patient outcomes to strong hospital financial performance (Bazzoli, Chen, Zhao, and Lindrooth 2008; Barnes, Oner, Ray, and Zengul 2017; Beauvais and Wells 2006; Encinosa and Bernard 2005).

This dissertation fills a gap in the literature by considering hospital organizational characteristics as variables that effect women's labor and birth experiences. Thus, hospital characteristics must be considered as a factor when conducting intersectional reproductive health research. Many scholars who study the intersection of race, class, and gender have shown the inequalities and discrimination within reproductive care based on individual characteristics. However, hospital characteristics such as ownership status, size, and financial health may also affect patient experiences and outcomes. As such, organizational characteristics may also contribute to an intersectional understanding of reproductive health care. Without an examination of the relationship between organizational characteristics and patient experiences, patterns of discrimination and poor patient outcomes that are exacerbated by organizational characteristics will persist. Only by identifying these relationships can hospitals become aware of them and make appropriate changes to improve women's care and outcomes during labor and birth.

The aim of this research was to combine the Reproductive Justice framework with an organizational hospital-based analysis of labor and birth experiences and outcomes. In short, I examined intersectional issues brought to the forefront by the Reproductive Justice framework through an organizational theory lens. SisterSong, a founding organization of the Reproductive Justice movement, defines Reproductive Justice as "the human right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities" (SisterSong, Ross et al. 2017). This movement and framework have exposed the ways in

which reproductive health is stratified by race and socioeconomic status in the United States and how this stratification is upheld by public policies and social institutions (Ross & Solinger 2017). Thus, my dissertation analyzed how organizational characteristics at a meso level affected patient experiences at the micro level. Therefore, I situated this reproductive justice topic within an organizational context. I utilized organizational theory to examine how organizational characteristics and behavior affected patient experiences and procedures from an intersectional perspective, and examined if and how women's labor and birth experiences varied according to race and socioeconomic status.

Literature Review

The following section includes a review of literature discussing the effect of hospital characteristics upon patient experiences and a review of the *Listening To Mothers* literature. *Listening to Mothers* was a three-wave survey that interviewed women about their pregnancy and birth experiences. Very little research has addressed how organizational characteristics at the meso-level affected patient experiences during labor and birth at the micro level. Therefore, this section also reviewed literature that examined patient outcomes in general, in addition to reproductive outcomes.

Hospital Characteristics

Literature examining how hospital characteristics affect women's labor and birth experiences remains scant. However, current literature on the effect of hospital

characteristics on other health outcomes presents a promising area in need of continued exploration. According to Morris (2016:4), "organizations determine the choices of women and maternity providers, and these constraints lead to an exceedingly high c-section rate…". In accordance with this argument, research specific to labor and birth also showed that hospital characteristics influence labor and birth outcomes. Kozhimannil et al. (2013) found 10-fold variation among hospital cesarean rates (7.1 percent to 69.9 percent), and a 15-fold variation among cesarean rates for lower-risk pregnancies (2013). These findings indicated that the varying hospital practice patterns are likely to explain the variation in cesarean rates among U.S. hospitals (Kozhimannil et al. 2013). Additionally, a study using *LTM III* data found that the likelihood of cesarean delivery is greater in for-profit hospitals than not-for-profit hospitals (Morris et al. 2017). This dissertation will build on this nascent literature to analyze how organizational characteristics (including financial health and size in addition to ownership status) also affect patient experiences in labor and birth.

The literature examining the effect of hospital characteristics affect other health outcomes is flush. A review by Barnes et al. (2017) found that one common financial variable, operating margin, had a strong effect on health outcomes. Operating margin, an indicator of profitability, is understood by the American Hospital Association as "the difference between operating revenue and total expenses divided by operating revenue" (Healthcare Financial Management Association 2012, AHA 2018). For instance, increased fiscal margins were associated with positive healthcare outcomes because "…fiscal margins appear to provide healthcare organizations with the means to invest in

structural quality and thus improve the infrastructure and environment by which care is delivered" (Beauvais et al. 2010: 25). Additionally, decreasing operating margins was shown to increase a patient's odds of experiencing adverse patient safety events, and low margins were associated with poor process of care (Barnes et al. 2017, Encinosa et al. 2005, Ly, Jha, and Epstein 2011). Research that assessed the association between quality of care and hospital financial condition finds that deep financial problems are associated with poor patient care (Bazzoli et al. 2008). Previous literature about hospitals and patient outcomes indicates that characteristics such as "ownership status, system affiliation, hospital bed size, patient characteristics, can influence the costs of producing a high-quality product" [in a hospital] (Bazzoli et al. 2008: 979). Additionally, research documents negative associations between system membership and patient care (Caudill, Mixon, and Richards 2018).

Listening to Mothers Survey Literature

The current research study utilizes the *Listening to Mothers III* (LTMIII) dataset to analyze patient labor and birth experiences. *Listening to Mothers* had three waves of surveys. The first survey was conducted in 2002 and surveyed women who had given birth within the preceding 24-month period. The second wave was conducted from 2005-2006 with a new cohort of women who gave birth in 2005. The third wave was conducted from 2011-2013 with a final cohort of women who gave birth from July 1, 2011 through June 30, 2012. Previous literature that analyzed the first and second wave of *Listening to Mothers* data focused on postpartum care (including postpartum

depression, pain, and PTSD conditions) (Zauderer 2009, Declercq, Cunningham, Johnson, and Sakala 2008, and Beck, Gable, Sakala, and Declercq 2011), childbirth education classes (Lothian 2007, Romano 2007), maternity leave paid benefits (Shepherd-Banigan and Bell 2014), breast feeding hospital practices (Declercq, Labbok, Sakala, and O'Hara 2009), women's experiences with neuraxial labor analgesia (Attanasio et al. 2015), partner status (Young and Declercq 2010) and the quality, source, and perceived amount of support during labor as predictors of birth outcomes (Simon, Johnson, and Liddell 2016). The literature from the second LTM wave highlighted topics such as employment, pain medication, childbirth class information, and postpartum depression.

It is important to note that the LTMI and LTMII surveys failed to collect hospital information from respondents. Thus, all of these studies used only women's individual characteristics as independent variables, which presents an opportunity for this dissertation to present new findings regarding the relationship between hospitals and labor and birth outcomes. Notably, the LTMIII collected hospital information, and therefore provided the organizational characteristic hospital data needed for this study. Two studies have used hospital data to analyze the likelihood of cesarean delivery associated with hospital ownership status (Morris et al. 2017) and compound disadvantage on the U.S.-Mexico border (Morris et al. 2018).

Additional literature analyzing the *Listening to Mothers III* studied breastfeeding, employment and maternity leave, induction among primiparous women, midwifery, and postpartum care (Sipsma, Jones, and Nickel 2017, Kozhimannil et al. 2015, Jou,

Kozhimannil, Abraham, Blewett, and McGovern 2018, Salahuddin, Davidson, Lakey, and Patel 2018, Weisband, Gallo, Klebanoff, Shoben, and Norris 2018, Attanasio and Kozhimannil 2016). Similar to studies from LTMI and LTMII, researchers concentrated on individual characteristics, such as age, as a predictor of hospital breastfeeding practices (Sipsma et al. 2017), and socioeconomic status and health history as predictors of if women use midwives or physicians (Weisband et al. 2018). Previous research also examined employment status as a barrier to breastfeeding (Kozhimannil et al. 2015), and maternity leave as an indicator of maternal and infant health outcomes (Jou et al. 2018). Salahuddin et al. (2018) studied both individual and labor characteristics to identify why induction is common among primiparous women, but ultimately found that further research needed to be conducted. Lastly, *LTM III* research studied patient experiences, such as discrimination (Attanasio et al. 2017), and how the patient-provider relationship influences the overuse of medical procedures (Attanasio 2016).

In contrast to most of the previous LTM literature, this dissertation utilizes the *Listening to Mothers III* data set to analyze hospital organizational characteristics as predictors of patient outcomes and experiences in labor and birth. My research forges the intersection of organizational and reproduction studies by identifying that organizational characteristics are an indicator of poor outcomes for women of color and low SES and the perceived discrimination they report. I build on the literature by examining how organizational characteristics, such as financial health, affect cesarean deliveries and other labor and birth procedures. The findings from the current research will not only inform communities of how women experience labor and birth in the U.S., but it will

identify the existing relationships between organizational characteristics and birth outcomes. These findings can be utilized to change or implement new policies to ensure positive and safe labor and birth experiences for all women.

Theoretical Framework

Reproductive Justice Framework

The racist and classist patterns inherent in today's reproductive healthcare system is an issue situated in the Reproductive Justice framework—a contemporary approach to understanding and advocating for women's reproductive health. This framework holds "that access to comprehensive health care, including reproductive health care, is a human right, and second that neither this nor any other human right can achieve the status of a right if it doesn't apply to all people" (Ross et. al. 2017: 117). The Reproductive Justice framework demonstrates the ways women with varying individual characteristics (i.e. Race and ethnicity, socioeconomic status, education) experience labor and birth differently, and exemplifies how policies, practices, and laws have racist, classist, and gendered undertones (Ross et. al. 2017). In other words, it "identifies how reproductive oppression is the result of the intersection of multiple oppressions and is inherently connected to the struggle for social justice and human rights. " (Ross et. al. 2017:69). Above all, the Reproductive Justice framework underlines why it is important to analyze patient experiences in labor and birth.

The Reproductive Justice framework demonstrates that practices and policies associated with labor and birth tend to be stratified by race and socioeconomic status

(Howell et. al. 2017, Roth et. al. 2012, Ross et. al. 2017). Reproductive Justice advocates have highlighted the persistence of reproductive oppression, "the control and exploitation of women, girls and individuals through our bodies, sexuality, [labor,] and reproduction" (Ross et. al. 2017). As a means to restrain communities of women, women have been controlled and exploited based upon their gender, sexuality, race, ethnicity, age and ability.

The Reproductive Justice framework discusses the exploitation of women and emphasizes how women have different experiences in labor and birth due to their individual characteristics: these differences are often because of the gendered, racist, and classist patterns inherent in reproductive healthcare. Previous research showed that the lack of access to medical care and information about labor and birth women of color and lower SES have negatively impacted their labor and birth experience (Roth et. al. 2012, Howell and Zeitlin 2017, Milcent and Zbiri 2018), and that systems of oppression based upon gender, ability, and age exploit and control women in their labor and birth experiences (Ross and Solinger 2017).

In accordance with prior studies and the Reproductive Justice framework, I anticipated that women of color were more likely to undergo labor and birth processes than White women, and that women of lower socioeconomic status were more likely to undergo labor and birth procedures than women of high socioeconomic status. Additionally, I expected that obese women, women with diabetes, and older women were more likely to endure labor and birth procedures to reduce risk and liability associated with their birth. Finally, I assumed that it was more likely that women of

color and women of lower SES would report experiencing discrimination and poor patient care than White women and women of high SES.

Organizational Theory

Though much reproduction research has focused on individual patient characteristics (such as age, race, obesity, etc.) and the patient-doctor relationship to understand the intersectional issues situated in labor and birth in the U.S., I argued that organizational theory could help contextualize the Reproductive Justice framework within hospitals (Attanasio et. al. 2015, Howell et. al. 2017, Nyman, Prebensen, and Flesner 2010, Sipsma et. al 2017, Salahuddin et. al. 2018, Attanasio et. al. 2017). An advantage of the Reproductive Justice framework is that it provides a frame in which structural conditions and constraints can be understood (Fixmer-Oraiz 2013). When organizational theory is introduced to this framework, it elucidates why structural and organizational conditions, constraints, and behaviors occur. Organizational theory can explain how the environment, economics, social institutions, organizations and culture make an impact upon women's reproduction. Specifically, at the meso level I used organizational characteristics (i.e. hospital ownership status, hospital size, and hospital financial health) to analyze how they affected patient labor and birth processes and patient experiences on the micro level. In this regard, the intersection of the Reproductive Justice framework and organizational theory can demonstrate how hospital characteristics impact issues in reproductive care.

I contend that organizational theory explains how hospital characteristics and decision-making influenced patient experiences and processes during labor and birth. I used a resource dependency framework to describe how hospital organizational characteristics may impact a woman's likelihood of having medical procedures during labor and birth. This open-system organizational theory holds that an organization's main priority is their survival, and their survival is in direct response to how they treat uncertainties. When considering hospital organizations, uncertainties may include liabilities, lawsuits, and patient outcomes. An additional tenant of resource dependency theory is that is situated within an environment, and there are resources and organizations within their external environment that they are dependent upon (Wry, Cobb & Aldrich 2013). Central to this theoretical perspective is that the external environment confines and pressures organizations, shapes organizational behavior (i.e. decisions about employees, board managers, or mergers, among other activities), and determines an organization's survival (Wry et. al. 2013, Pfeffer & Salancik 1978).

The conjuncture of organizational sociology and the Reproductive Justice framework to explain how hospital characteristics influences patient care follows in the footsteps of Goodrick and Salancik (1996). By applying organizational theory, Goodrick and Salancik (1996) examined how hospital ownership type and teaching status influenced decisions about mode of delivery. The scholars argued that "organizations choose or develop practices within the institutional framework guiding them and that their interests affect their choices within the bounded discretion arising from the

uncertainty in these institutions" (Goodrick et. al. 1996:23). According to Goodrick & Salancik (1996), uncertainty guides organizational behavior.

Goodrick & Salancik held that there were three conditions for institutional standard uncertainty: first, when the means to institutions' goals are undetermined, second, when the knowledge regarding practices are unclear or varying, and finally, when institutional values may be conflicting, unclear, or inconsistent. In regards to the last condition for uncertainty, Goodrick & Salancik held that "Complex societies typically hold conflicting goals and beliefs, any of which can be used to rationalize and justify particular practices. And the practice that might be seen as illegitimate by one standard could appear quite legitimate by another." (2018:5). This condition for uncertainty is what this dissertation will address. It is anticipated that the research findings will demonstrate how the hospital's organizational goals such as survival and reducing risk, will contradict with patient-oriented goals, such as positive patient-centered experiences and outcomes. Goodrick & Salancik contended that during periods of uncertainty the influence of organizations upon their policies and practices is greater than when uncertainty is not an issue (Goodrick et. al. 1996). Therefore, organizational characteristics guided hospital behavior and decisions, which ultimately affected which hospitals were influenced to conduct cesarean deliveries (Goodrick et. al. 1996). Thus, it showed how hospital characteristics affected patient care on the micro-level.

According to Pfeffer and Salancik (1978), "since many of the uncertainties and contingencies faced by organizations are a product of the environment, the environmental context partially determines the distribution of power with the

organization" (230). Resource dependence theory holds that organizations reduce liability by adopting information, policies, and technologies from other organizations in their external environment (Pfeffer and Salancik 2003). To reduce uncertainties and liabilities in labor and birth, sometimes certain medical procedures are completed. For example, procedures such as cesarean delivery, labor induction, and EFM are done to avoid risks associated with labor and birth. Additionally, medical professionals may utilize these procedures as a way to reduce anxiety associated with lawsuits and liability (Nahed, Babu, Smith, and Heary 2012). In some instances, these procedures and tests may be conducted as a form of defensive medicine, meaning that doctors "perform procedures and tests not to protect the health of the patient but rather to prevent malpractice liability" (Morris 2016: 43). Due to the increasing risk of medical liability and malpractice, "the medical-legal environment has contributed to the practice of defensive medicine as practitioners attempt to mitigate liability risk" (Nahed et. al. 2012, Morris 2016). One way to reduce risks associated with negative birth outcomes and liability is for hospital actors to conduct labor and birth procedures such as cesarean delivery, induction, and EFM.

Often, these labor and birth procedures are a way for hospitals to deal with uncertainties associated with birth outcomes or lawsuits and liabilities. Deciding how to handle uncertainties is a common problem that many organizations encounter. In their study about hospitals and cesarean deliveries, Goodrick & Salancik (1996) found that "when the level of cesarean risk was intermediate, when uncertainty was greatest…hospitals' characteristics were influential in determining the cesarean section

rates" (24). Their finding highlighted how hospitals are motivated to act in ways that will reduce uncertainties. For example, "…individual physicians have limited power to resist standard obstetrical training, time pressures, or hospital protocols" (Roth et. al. 2012: 210). I suspected that women's individual characteristics such as age, obesity, and diabetes, would be considered by doctors as traits which could lead to uncertainties in labor and birth. By controlling women's bodies, hospitals can constrain their risk of liability (Ross & Solinger 2017). However, in doing so, they also damage women's labor and birth experiences.

Finally, resource dependency theory holds that the subunit of the organization that is best able to deal with uncertainties will obtain power within the organization. Therefore, power within the organization is determined by the most severe uncertainty the organization encounters (Pfeffer et. al. 1978). This notion of power explains that decisions by the organization reflect those decisions that are preferred by the subunit in power. In line with theory, I argued that doctors are the unit of power in the hospital that address the uncertainty of liability and risks associated with childbirth. Therefore, I anticipated that doctors would pressure patients and make final decisions about cesarean delivery and induction.

Theories Applied

In line with organizational theory, it is expected that hospital organizational characteristics will affect patient experiences during labor and birth. One characteristic in particular, hospital ownership status, has already been found to have a significant

relationship to cesarean delivery likelihood. The organizational characteristics of a not-for-profit hospital differ from a for-profit hospital in that not-for-profit hospitals do not have to pay dividends to shareholders, and instead, tend to spend profit earnings on hospital programs, facilities, and capital reserves (Mizruchi and Kimeldorf 2005, Rafferty, Schweitzer, Ruchlin, Pointer, and Cannedy 1974). Previous literature held that not-for-profit hospitals "provide a great deal of charity care, in part based on their missions," and "tend to care less about profitability and more about serving patients than for-profit hospitals" (Kazley and Ozcan 2007: 384, Horowitz 2005). They are often considered a "profit deviator," trustworthy, and typically emphasize patient care (Eggleston, Shen, Lau, Schmid, and Chan 2008, Potter 2001). Prior research (Morris et. al. 2017) has also stated that the tendency for for-profit hospitals to focus on profits means that they are likely to cut organizational costs. These costs may include decreasing the amount of staff they have, specifically the number of nursing staff. This organizational behavior can have an impact upon patients and their care. For example, when the number of nurses is reduced, they have less time and interaction with each woman giving birth in that hospital (Morris et. al. 2017). I expected that as found in previous research, women who give birth in for-profit hospitals would be more likely to have a cesarean delivery than women who gave birth in not-for-profit hospitals.

Hospital size is an additional hospital characteristic that is expected to influence patient experiences and outcomes in labor and birth. According to population ecology theory, another organizational theoretical perspective, as organizational age and size increases the organization's mortality rates and concerns with uncertainty decreases

(Hannan & Freeman 1984). Additionally, the literature indicated a positive correlation between capital and hospital size, that compared to small hospitals, large hospitals tended to have greater control over resources (Yeager, Zhang, and Diana 2015). Therefore, it was expected that large hospitals were less concerned with uncertainty, had more capital, and thus, had more resources and power. In line with Goodrick and Salancik (1996), I argued that this hospital characteristic would affect organizational behavior and the likelihood of medical procedures. I argued that guided by the desire to reduce uncertainty and liability, small hospitals are more focused on reducing risks and potential liability. Specifically, I anticipated that there is greater likelihood of women having a cesarean delivery in a small hospital than in a large hospital.

In addition to hospital size and ownership type, hospital system-membership likely influenced patient experience and outcomes in labor and birth. Prior research has concluded that hospitals that are part of a system have greater ability to increase the prices of medical procedures than non-system hospitals (Melnick and Keeler 2007). In addition, there was documentation of a negative relationship between system hospitals and patient experiences (Caudill et. al. 2018). In accordance with organizational theory and the Reproductive Justice framework, I argued that because system hospitals have greater capability to increase costs and because hospitals are concerned with reducing organizational uncertainties and labor and birth liabilities, that cesarean deliveries were more likely to occur in system hospitals than in non-system hospitals. I expected this outcome because these processes will increase the hospital earnings, and money can help

combat organizational uncertainties. Therefore, women were more likely to have a cesarean delivery in system hospitals than in non-system hospitals.

Finally, I expected that the hospital's financial health affected the occurrence of medical procedures and women's labor experiences. As argued by Goodrick and Salancik (1996), hospital characteristics affect the decisions made to reduce uncertainty. Although their research findings have not been tested at length, I anticipated that hospital financial health will shape the choices hospital actors make regarding uncertainties in labor and birth. In addition, resource dependency theory holds that organizations strategize in order to obtain their interests, power, and autonomy (Davis and Cobb 2010). An organization's behavior is influenced by their access to their interests, resources, and power. When hospitals have strong financial health, they hold power and resources, and therefore do not need to compromise with the external environment or change organizational behaviors to acquire power and resources. However, weak financial health may encourage providers to induce labor and deliver via cesarean so that they can control when women give birth, and subsequentially, increase hospital earnings. Based upon organizational theory and the Reproductive Justice framework, I expected that women who give birth at hospitals with strong financial health are more likely to have a cesarean delivery than women who give birth at hospitals with strong financial health.

Data and Methods

I conducted a quantitative and qualitative analysis of Childbirth Connection's Listening to Mothers III (LTMIII) survey. This data set was coupled with American Hospital Association (AHA) data to link hospital information and patient responses. This unique data set allowed for an analysis about the relationship between women's labor and birth experiences and the hospital they give birth in. I explored two themes in the analysis: labor and birth procedures and patient discrimination. The dependent variables in the labor and birth procedure models were if the respondent had a cesarean delivery, a labor induction, or EFM. The dependent variables in the patient discrimination models were racial discrimination and insurance discrimination: if a patient reported experiencing racial or insurance discrimination.

Data

I used qualitative and quantitative data from Childbirth Connection's Listening to Mothers III survey (LTMIII), an online survey that sampled 2,400 women aged 18-45. This nationally representative study asked women that had given birth between July 1, 2011 and June 30, 2012 in U.S. hospitals about their birth experiences. Survey participants took the survey between October and December 2012. Upon completion they were asked to complete a follow- up survey between January 29, 2013 and April 15, 2013 after they had given birth. The post-partum Listening to Mothers III survey was different from previous versions because it asked women questions about the hospital they gave birth in, including the hospital name, city and state. My sample was reduced to

903 women, as hospital information was available for those respondents. Hospital ownership status was identified based upon the fiscal year the respondent gave birth with data from the American Hospital Association's (AHA) Hospital Database (Morris et. al. 2017). The hospital financial health measures, catholic affiliation, system membership, and size were also provided by the AHA Hospital database.

Measures

Dependent Variables

Labor and Birth Procedures: Cesarean Delivery, Induction, EFM

Cesarean delivery was measured by the quantitative question: When you gave birth following your recent pregnancy, was your baby born cesarean? From this question, I measured the likelihood of cesarean delivery with a dichotomous variable Cesarean (Cesarean=1, Vaginal delivery=0). Cesarean choice was measured by the following question: Who made the final decision whether or not to schedule a cesarean? I created a variable CesareanChoice to measure who had power to make the decision to have a cesarean delivery (Respondent decision=1, Medical provider decision =2, or Both Doctor and Respondent Decided Together =3). To conduct a logistic regression analysis, I recoded CesareanChoice into four different dichotomous variables: 1) cesareanchoiceDR, in which the respondent made the decision to have the cesarean delivery (Respondent Decision =1, Doctor Decision =0, Both Doctor and Respondent Decided Together =0), 2) cesareanchoiceDD, in which the doctor made the decision to have the cesarean delivery (Doctor Decision =1, Respondent Decision =0, Both Doctor

and Respondent Decided Together =0), 3) cesareanchoiceDA, in which the respondent had agency making the decision to have the cesarean delivery (Respondent Decision =1, Both Doctor and Respondent Decided Together =1, Doctor Decision =0), and 4) cesareanchoiceDDA, in which the doctor had agency making the decision to have the cesarean delivery (Doctor Decision =1, Both Doctor and Respondent Decided Together =1, Respondent Decision =0). Pressure for cesarean delivery was measured by the following quantitative question: Did you feel pressure from any health professional to have a cesarean? From this survey question, I created a dichotomous variable CesareanPressure (Yes=1, No=0) to measure if the respondent was pressured into having a cesarean delivery.

The labor induction procedure variable was measured by the quantitative question: 1) Did your maternity care provider try to induce your labor? From this survey question, I measured the labor induction dichotomous variable Induce (Induced=1, Not Induced=0). Induction choice was measured by the following question: Who made the final decision whether or not to have labor Induction? I created a variable InduceChoice to measure who had power to make the decision to be induced (Respondent Decision =1, Doctor Decision =2, or Both Doctor and Respondent Decided Together =3). To conduct a logistic regression analysis, I recoded InduceChoice into four different dichotomous variables: 1) inducechoiceDR, in which the respondent made the decision to be induced (Respondent Decision =1, Doctor Decision =0, Both Doctor and Respondent Decided Together =0), 2) inducechoiceDD, in which the doctor made the decision to be induced (Doctor Decision =1, Respondent Decision =0, Both Doctor and Respondent Decided

Together =0), 3) inducechoiceDA, in which the respondent had agency making the decision to be induced (Respondent Decision =1, Both Doctor and Respondent Decided Together =1, Doctor Decision =0), and 4) inducechoiceDDA, in which the doctor had agency making the decision for the respondent to be induced (Doctor Decision =1, Both Doctor and Respondent Decided Together =1, Respondent Decision =0). Pressure for induction was measured by the following quantitative question: Did you feel pressure from any health professional to have labor induction? From this survey question, I created a dichotomous variable InducePressure (Yes=1, No=0) to measure pressure for labor induction.

The EFM procedure was assessed through the quantitative question: 1) During labor, how did your caregivers keep track of your baby's heartbeat?(They use an electronic fetal monitor (or "EFM"), a machine that records signals from sensors attached to you, A person use a handheld device such as a "Doppler" or stethoscope, They use both an electronic fetal monitor and a "Doppler" or stethoscope, Not sure). From this survey question, I created a dichotomous EFM variable (Yes EFM=1, No EFM=0), that measured if EFM was used during the respondent's labor and birth experience.

Patient Discrimination

The patient discrimination dimension was measured by two quantitative questions. The first question identified if the respondent was discriminated because of their race and ethnicity or their socioeconomic status: During your recent hospital stay

when you had your baby, how often were you treated poorly because of… (race, ethnicity, cultural background or language; health insurance situation; or a difference of opinion with your caregivers about the right care for yourself or your baby?). Respondents selected one of the following responses: Never, sometimes, usually, or always. This question was recoded into two dichotomous variables: racetreat and insurancetreat. These variables documented (Yes=1) if a respondent was treated poorly because of their race (racetreat) or insurance status (insurancetreat) (a combination of always, sometimes, and usually) or (No=0) if they were not treated poorly (never).

I used a mixed-methods approach by analyzing both quantitative and qualitative data from the survey. The first qualitative question asked: If you could go back in time and give yourself any advice or information as you were going into your birth…what would it be? The second qualitative question asked: If you have a baby in the future, would you want to give birth again at the same hospital…Why or why not? I analyzed qualitative questions to identify (1) what advice respondents would give their previous selves about labor, and (2) if they would give birth at the same hospital again, in order to understand why respondents rated their hospital experience in the way they did.

Independent and Control Variables

The independent variables in this study were race and ethnicity, socioeconomic status, and hospital characteristics. I created two measures of race and ethnicity. The first measure is a categorical variable that identified the respondent's reported race (non-Hispanic White =1, non-Hispanic Black =2, Hispanic =3, or Other Race =4). The second

measure was a dichotomous variable indicating if a respondent identified as White or not White (White =1, Not White =0). Socioeconomic status was measured by insurance status (Private insurance=1, Medicaid/CHIP=2, other government=3, out of pocket=4, not sure=5). The hospital characteristics included ownership status (For-Profit=1, Not For-Profit=0), size (measured by the total number of hospital beds), hospital financial health (operating margin, days in net patient accounts receivable), hospital system membership (System Member=1, Non-System Member=0), and Catholic affiliation (Catholic Affiliation=1, No Catholic Affiliation=0).

Hospital financial health is a measure that assessed the financial weakness or strength of the hospital a respondent gave birth at. In accordance with S&P recommendations, I used the variables operating margin, and days in net patient accounts receivable to measure financial health. There were two independent variables that measure the financial weakness or strength of the hospital. The first, Days in Net Patient Accounts Receivable Median (DnparMed), is a dichotomous variable, which measured the days in net patient accounts receivable (dnpar) value above or below the median (median = 47.19224629). This variable measured if a hospital a respondent gave birth at averaged a higher or lower amount of days in net patient accounts receivable. The second financial health measure is a dichotomous variable, Operating Margin Above/Below Five (OpmarFive). This variable measured if the hospital a respondent gave birth at is above or below the value of five; essentially measuring if a hospital has a low or high operating margin, a measure of profitability.

I also controlled for sociodemographic and individual characteristics. These controls included education (High School Degree or Less=1, More than a High School Degree=0), age (the given year as a continuous variable), previous cesarean (Previous Cesarean=1, No Previous Cesarean=0), preterm birth (Preterm Birth=1, No Preterm Birth=0), parity (the number of pregnancies in which a respondent has reached 20 weeks or more gestation), obesity (BMI 30+) (Obese=1, Not Obese=0), and Type 1 or 2 diabetes (ACOG 2014) (Diabetes=1, No Diabetes=0). These individual characteristics were included as they are often cited as increasing likelihood of medical interventions during birth.

Analysis

The qualitative analysis entailed coding of the open-ended response questions. I coded the data once to compile a list of codes, then selected the final codes for analysis, and re-coded using the final list of response codes. Then, I used codes to identify trends and patterns in the qualitative responses. I utilized Dedoose Version 8.1.8, a web application used for analyzing qualitative or mixed-methods data, to analyze and code the qualitative responses.

For the quantitative analysis, I determined the descriptive statistics for all of the variables. Then I used logistic regression to analyze models measuring the effect of 1) individual and sociodemographic characteristics, and 2) hospital characteristics (ownership, size, financial health) upon labor and birth procedures (cesarean deliveries, induction, continuous electronic fetal heart rate monitoring). Then I used logistic

regression to analyze models measuring the effect of sociodemographic and individual characteristics and hospital characteristics upon patient labor experience (racial and insurance discrimination). I used IBM SPSS Version 26 to analyze this data.

The analysis included three sets of quantitative models. The first set of models examined the likelihood of labor and birth procedures; cesarean delivery, labor induction, and EFM as dependent variables and examined the effect of individual and sociodemographic variables (a respondent's race, socioeconomic status (education, poverty, insurance status), age, parity, if they had preterm birth, if they have ever had a cesarean delivery, if they were obese, and if they had diabetes) upon the likelihood of a respondent having a labor and birth procedure. The next model measured the effect of hospital organizational characteristics (ownership status, system membership, catholic affiliation, size, and financial measures) upon the likelihood of a respondent experiencing a labor and birth procedure. The following set of models measured an interaction effect of race or insurance status upon organizational characteristics' effect upon respondent's experiencing a labor and birth procedure. In addition to the induction and cesarean delivery variables, I measured if a respondent chose or was pressured into having a cesarean delivery or a labor induction, and effect of individual characteristics and organizational characteristics upon induction and cesarean delivery choice and pressure.

The second set of models examined respondents reports of discrimination. The first model measured the effects of sociodemographic and individual characteristics (race, primary insurance, education level, age, parity, preterm birth, previous cesarean,

obesity, and diabetes) upon patient discrimination (racial or socioeconomic based discrimination). Model 2 looked at the effects of hospital characteristics upon patient discrimination. This model tested and examined how hospital characteristics influenced the likelihood of a respondent reporting racial or socioeconomic status-based discrimination.

Plan for the Dissertation

In the first section of the dissertation I addressed the first theme, labor and birth experiences. In chapter 2 I analyzed cesarean deliveries. I highlighted arguments made in the existing literature, derived my hypothesis from the main theoretical claims, and reported the results from the cesarean delivery analysis. I overviewed the effects of individual characteristics but more importantly showcase that organizational characteristics also affect the likelihood of cesarean deliveries and respondents report of being pressured to have a cesarean delivery.

In chapter 3 I analyzed the induction and EFM findings. I summarized the main arguments from existing literature about induction and EFM, developed my hypotheses from organizational theory and Reproductive Justice framework arguments, and conveyed the results from the induction and EFM logistic regression analysis. I discussed how the findings supported the hypotheses that individual and sociodemographic characteristics affect the likelihood of labor induction and pressure to be induced, and maintained that organizational theory explained why the analysis generated these findings. I also explained that part of the explanation for why the EFM

analysis findings did not support the hypotheses was because the majority of respondents experienced EFM during their labor and birth experience.

In chapter 4 I addressed the existing literature and arguments regarding race and SES-based discrimination in reproductive care, and then discussed the findings that respondent race and socioeconomic status affected the likelihood of reporting racial or insurance-based discrimination. The second half of the chapter details the qualitative analysis which demonstrated trends of discriminatory care that respondents faced during their labor and birth experience. The dissertation concludes with a discussion of the finding that hospital characteristics affect women's labor and birth experiences, and the findings supporting what researchers have already highlighted, that there are racist and classist patterns inherent in reproductive health.

CHAPTER II

CESAREAN DELIVERY

A cesarean is a mode of delivery in which the baby is surgically removed through the mother's abdomen and uterus. According to the American College of Obstetricians and Gynecologists (ACOG), cesarean deliveries may be necessary: when labor fails to progress; if there is fear about the baby (i.e. fetal heart monitoring indicates an abnormal heart rate, or if the umbilical cord is crushed or pinched); in cases of multiple pregnancies; if there are issues with the placenta; if the baby is large in size; if the baby is presenting breech; and if the mother has infections or other medical conditions (i.e. high blood pressure, diabetes) (ACOGa 2018). According to the World Health Organization, "When medically justified, a caesarean section can effectively prevent maternal and perinatal mortality and morbidity" ("WHO Statement on Cesarean Section Rates" 2015).

Due to risks associated with cesarean delivery there is no benefit for women and babies who do not have medical reasons for cesarean. In fact, there are both short term and long-term risks associated with the surgery. The risks associated with cesarean delivery are even higher for women with limited access to information and care, and women of color and women of lower SES ("WHO Statement on Cesarean Section Rates" 2015). Although maternal and newborn death rates decrease when caesarean delivery rates rise towards 10 percent, there is no proof that these rates improve when the cesarean delivery rate goes beyond 10 percent ("Cesarean Sections Should Only Be

Performed When Medically Necessary Says WHO" 2018). Thus, the increasing cesarean rate and the increasing rate of medically unnecessary cesarean deliveries are very concerning trends in women's reproductive healthcare.

Much of the previous research about cesarean deliveries has focused on its overuse and health consequences. Overuse of cesarean deliveries increases costs of care for patients and increases the chances of complications, including infection, hemorrhage, blood clots, surgical injuries (Milcent et al. 2018, Morris, Meredith, Schulman, and Morton 2016). Due to these negative impacts and the possibility of death, disability, or other complications, the *World Health Organization* (WHO) suggests that country-level cesarean delivery rates should remain between 10 and 15 percent ("WHO Statement on Cesarean Section Rates" 2015). However, following a 4-year period in which the cesarean rate was decreasing, the CDC documented that 32 percent of registered births in the United States in 2017 were cesarean deliveries. This rate was more than double the suggestion by WHO.

Previous studies have documented characteristics of women who have a greater likelihood of having a cesarean delivery. Non-Hispanic Black, Hispanic/Latina, and Native American women were more likely to have cesareans when compared to non-Hispanic White or Asian women; women with lower education were more likely to have a cesarean because as education increases, cesarean likelihood decreased; and women with lower SES were more likely to have a cesarean because women who have SES privileges tended to use them to avoid cesarean deliveries (Milcent et al. 2018, Roth et al. 2012).

These findings were consistent with the Reproductive Justice theoretical framework, which suggested that practices and policies associated with labor and birth were stratified by race and socioeconomic status (Howell et. al. 2017, Roth et. al. 2012, Ross et. al. 2017). Reproductive Justice advocates have highlighted the persistence of reproductive oppression, "the control and exploitation of women, girls and individuals through our bodies, sexuality, [labor,] and reproduction" (Ross et. al. 2017). As a means to restrain communities of women, women have been controlled and exploited based upon their gender, sexuality, race, ethnicity, age and ability. This history of reproductive oppression lends to the assumption that the study respondents would likely report: 1) they had to undergo labor and birth procedures (cesarean delivery, induction, EFM); 2) they felt pressured by their doctors to undergo these procedures; and 3) their doctor, not the individual respondent, chose for them to have these procedures.

Listening to Mothers III Data

Of the 903 respondents, 29.1% (263 of 903 respondents) had a cesarean delivery. Considering sociodemographic characteristics, of the respondents that delivered via cesarean, 67.5% were White, 69.2% had private insurance, 22.4% had Medicaid, 5.7% had other government insurance, 1.9% paid out of pocket, and 0.8% did not know what type of insurance they had. In terms of individual characteristics, for those who had a cesarean delivery 29.7% of respondents were obese (78 out of 263), 5.3% had diabetes prior to pregnancy (14 of 263), and 59.3% had a previous cesarean (156 of 263). In addition, 40.7% of respondents had one full term pregnancy prior to the study, 36.5%

had two full term pregnancies prior to the study, and 14.8% had three full term pregnancies prior to the study[1]. In terms of organizational characteristics, of the respondents that had a cesarean delivery, 19.4% gave birth at a for-profit hospital (51 of 263), 11.8% gave birth at a Catholic Affiliated hospital (31 of 263), and 71.5% gave birth in a system member hospital (188 of 263).[2]

[1] Only 12.9% of respondents that had a cesarean that had preterm birth (34 of 263). Of the respondents that had a cesarean, 14.1% had a high school degree or less (37 of 263 respondents). In terms of insurance status, of the respondents that had a cesarean delivery, 69.2% had private insurance, 22.4% had Medicaid, 5.7% had other government insurance, 1.9% paid out of pocket, and 0.8% of respondents did not know what their primary insurance status was. For respondents who delivered via cesarean, 72.1% were White, 6.9% were Black, 15.3% were Hispanic, and 5.7% were classified as "other race" (Asian, American Indian, Alaskan Native, Native Hawaiian or Pacific Islander).

[2] For the scale variable age, the mean was 31 years old (SD=5.7), and for parity the mean was 2 (SD=1.1).

Table 1: Characteristics of Women by Cesarean Delivery

Sociodemographic Characteristics of Cesarean Delivery	*Number of Cases*	*Percentage of Cesarean Delivery Sample*
Cesarean Delivery	263	
Race/Ethnicity		
White	189	72.1
Black	18	6.9
Hispanic	40	15.3
Other Race	15	5.7
Insurance Status		
Private	182	69.2
Medicaid	59	22.4
Other Government	15	5.7
Out of Pocket	5	1.9
Don't Know Insurance	2	0.8
Education		
HS or Less	226	85.9
Greater than HS	37	14.1
Individual Characteristics		
Obesity	78	29.7
Not Obese	185	70.3
Type 1 or 2 Diabetes	14	5.3
No Diabetes	249	94.7
Preterm Birth	34	12.9
No Preterm Birth	229	87.1
Previous Cesarean	156	59.3
No Previous Cesarean	107	40.7
Ownership Status		
For Profit	51	19.4
Not for Profit	212	80.6
Catholic Affiliation		
Catholic Affiliation	31	11.8
No Catholic Affiliation	232	88.2
System Membership		
System Member	188	71.5
No System Member	75	28.5
Financial Health Variables		
OpmarFive (above Five)	115	43.7
OpmarFive (belowFive)	148	56.3
DnparMed (above median)	85	32.3
DnparMed (below median)	178	67.7

A Focus on The Individual: Do Individual & Sociodemographic Characteristics Affect Cesarean Likelihood?

In line with organizational theory, I suspected that women's individual characteristics such as age, obesity, and diabetes, may be considered by doctors as traits which could lead to complications in labor and birth. According to resource dependency theory, because organizations prioritize their survival and survival is based upon how they treat uncertainties, organizations adopt policies, information, and technologies to deal with uncertainties. When considering hospitals, uncertainties can include lawsuits and negative patient outcomes. Therefore, it is likely that certain procedures, like cesarean delivery, occur as a way to avoid uncertainties like lawsuits and poor patient outcomes. Therefore, I expected that obese respondents, respondents with diabetes, and older respondents were more likely to have a cesarean delivery because it was considered a procedure that would reduce risk and uncertainties associated with these individual characteristics. By controlling women's bodies hospitals can limit (or lower) their risk of liability (Ross & Solinger 2017). As discussed by Morris (2016), cesarean deliveries have become a way to reduce liability in labor and birth. The decision for a cesarean delivery represents a doctor's choice to conduct a medical procedure, showing an attempt to have a safe delivery and avoid potential problems with birth. This action is explained by organizational theory; organizations and organizational actors adopt policies and practices as a means to reduce liability and uncertainty. It protects the doctor from lawsuits by demonstrating they acted in ways to reduce the likelihood of poor patient outcomes. Therefore, I anticipated that women with certain individual

characteristics were more likely to have cesarean deliveries because of the hospital's concern with uncertainty.

The Reproductive Justice framework also stressed how trends of discrimination in reproductive care have led to negative outcomes and limited access to information and medical care for women of lower SES and women of color. Thus, I anticipated that women of color were more likely to undergo cesarean delivery than White women, and that women of lower socioeconomic status were more likely to have a cesarean delivery than women of high socioeconomic status.

> H1a: Women of color are more likely to have a cesarean delivery than White women.
>
> H1b: Women of lower SES are more likely to have a cesarean delivery than women of high SES.
>
> H1c: Obese women are more likely to have a cesarean delivery than women who are not obese.
>
> H1d: Women with diabetes are more likely to have a cesarean delivery than women without diabetes.
>
> H1e: As women's age increases, the likelihood of having a cesarean delivery increases.

The first cesarean delivery model examined the relationships between cesarean delivery and respondents' individual and sociodemographic characteristics. The logistic regression model analyzing cesarean delivery was significant (p=0.000, Chi-Square=489.381, N=903)[3]. As predicted, obese respondents were more likely to have a

[3] Prior to the logistic regression analysis, I checked for multicollinearity and found only one instance where the Pearson's correlation value was greater than 0.400. This was between cesarean delivery and previous cesarean (Pearson's Correlation = 0.644**, sig at 0.01 level). This finding did not give me cause

cesarean delivery than non-obese respondents. As demonstrated in Figure 1, for this sample, there was a 25% predicted probability[4] that obese respondents would have a cesarean delivery, and a predicted probability of 14% for non-obese respondents (log odds= 2.186 p=0.002). There also was a significant relationship between age and cesarean delivery. As a respondent's age increased, the likelihood of cesarean delivery increased. The results indicated that for each one-year increase in age, respondents were 1.067 times more likely to have a cesarean delivery (p=0.001). These findings supported the hypothesis that individual characteristics affect cesarean delivery likelihood.

In addition, there were significant findings among the control variables. Although vaginal deliveries after a cesarean delivery are possible is some cases, there is a greater likelihood that a woman would have a cesarean delivery than a vaginal delivery after a previous cesarean delivery. The results indicated that respondents who had a previous cesarean were more likely to have a cesarean delivery than respondents who had not had a previous cesarean. For this sample, the predicted probability of cesarean delivery for those who previously had a cesarean delivery was 99%, compared to a 14% probability for respondents who had not had a previous cesarean (log odds=562.120 p=0.000). These predicted probabilities can be seen in Figure 2. Finally, there was a significant relationship between parity and the likelihood of cesarean delivery.

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for concern, as the literature addresses that it is very uncommon for women to have a vaginal delivery following a cesarean delivery. Besides this relationship there were no other indications of multicollinearity. The correlation matrix can be found in the appendix 1.1.

[4] This the predicted probability for our "average" respondent. A woman that is White, has private insurance, has more than a high school degree education, is not obese, is not diabetic, has not had a previous cesarean delivery, has carried two pregnancies to a viable gestation age (parity), and is approximately is 31 years old.

Controlling for individual characteristics such as age and previous cesarean delivery, for each one unit increase in parity, the likelihood of having a cesarean delivery was 0.220 times less.

Although it was predicted that respondents with Type 1 or 2 diabetes were more likely to have a cesarean, this was not a significant relationship. Additionally, there was no significant relationship between cesarean delivery and race, insurance status, preterm birth, or education level. However, the significant relationships with individual characteristics supports what has previously been found in cesarean research[5].

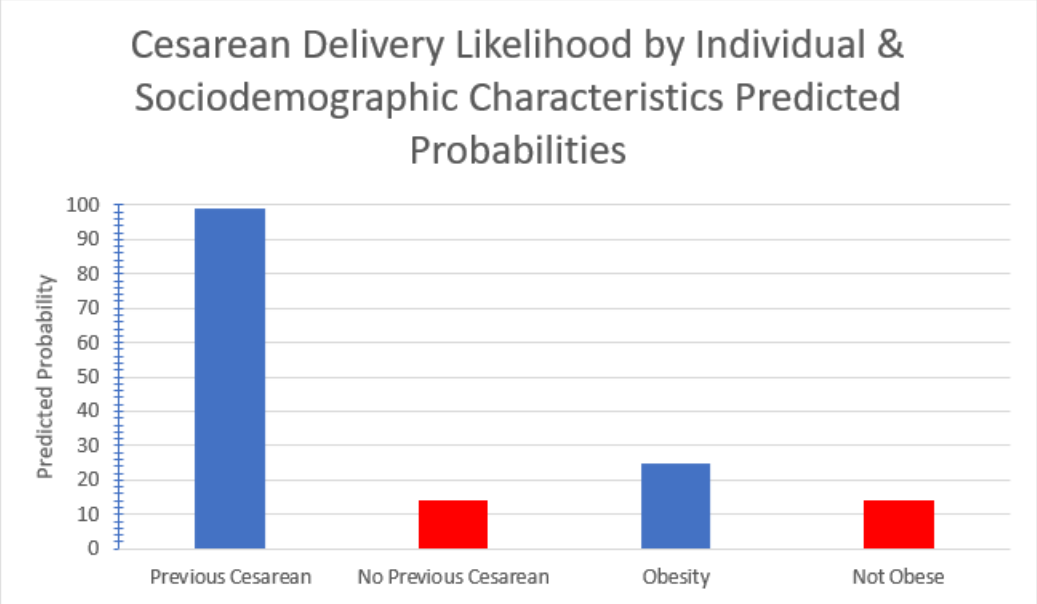
Figure 1: Cesarean Delivery Likelihood by Individual & Sociodemographic Characteristics

Model 1: Cesarean Delivery Likelihood by Individual & Sociodemographic Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
White1	0.135	1.144	0.585
Private Insurance			0.307
Medicaid	-0.294	0.745	0.319
Other Government Insurance	-0.215	0.807	0.673
Out of Pocket	0.424	1.529	0.435
Don't Know Insurance	-2.001	0.135	0.077
High School or Less	-0.281	1.325	0.403
Obesity	0.782***	2.186	0.002
Diabetes	-0.132	0.876	0.775
Previous Cesarean	6.332***	562.120	0.000
Parity	-1.514***	0.220	0.000
Preterm Birth	0.467	1.595	0.202
Age	0.065***	1.067	0.001
Constant	-1.846	0.158	0.004
	P<0.005***	P<0.010**	P<0.050*

[5] Logistic Regression models introducing interactions between race and insurance status were run in the analysis. However, there were no significant interaction relationships. Therefore, the hypotheses expecting outcomes to be affected by race or insurance status were not proven.

Figure 2: Cesarean Delivery Likelihood by Individual & Sociodemographic Characteristics Predicted Probabilities



Reducing Risk: Uncertainties, Profitability, & Cesarean Deliveries

Few studies have applied organizational theory to reproductive care issues. However, I contended that organizational actors, organizational policies, and organizational characteristics affect patient care on the micro level. I argue that hospital characteristics such as ownership, size, system membership, Catholic affiliation, and financial health affect a respondent's likelihood of cesarean delivery. Resource dependency theory explains that organizations are largely concerned with their survival, and that survival depends upon how organizations react to uncertainties. For hospitals, uncertainties can include patient outcomes and lawsuits. To reduce risk of liability organizations adopt information, policies, and practices from other organizations, and

hospitals are no different. In women's reproductive care hospitals may adopt and conduct procedures like cesarean deliveries to reduce risk of adverse patient outcomes, reduce concerns about lawsuits, and as a form of defensive medicine.

Guided by these organizational theory arguments, I maintained that a hospital's organizational characteristics dictate how likely a mother is to deliver via cesarean. First, I expected that ownership would affect cesarean delivery likelihood because the decisions hospitals make about profits and services are guided by the ownership status. For example, for-profit hospitals tend to be focused more on generating profits, while not-for-profit hospitals are often more patient-focused. Due to their ownership orientation, these hospitals have different concerns and uncertainties they must respond to for survival. Therefore, I anticipated that as in previous research, women who gave birth in for-profit hospitals were more likely to have a cesarean delivery than women who gave birth in not-for-profit hospitals (Morris et. al 2016).

In accordance with organizational theory and the Reproductive Justice framework, I argued that cesarean deliveries were more likely to occur in system hospitals than in non-system hospitals. I expected this outcome because system hospitals have greater capability to increase costs (Melnick and Keeler 2007). Because cesarean deliveries are more costly procedures and system hospitals have greater ability to increase prices than non-system hospitals, they likely would increase the hospital earnings which can help combat organizational uncertainties. Second, because literature has linked system hospitals to poor care, I also predicted that women were more likely to receive poor care and are more likely to have a cesarean delivery. Thus, it is likely that

women are more likely to have a cesarean delivery in system hospitals than in non-system hospitals.

Hospital financial health was also expected to affect the occurrence of medical procedures and women's labor experiences. Specifically, I anticipated that women who gave birth at hospitals with weak financial health were more likely to have a cesarean delivery than women who gave birth at hospitals with strong financial health. This is because hospitals with weak financial health are most likely to need to increase profits, and cesarean deliveries not only increase profitability, but also allow doctors greater control over scheduling. Therefore, as a means to reduce uncertainties associated with financial insecurities, I argued that hospitals with low measures of profitability were more likely to have respondents deliver via cesarean. The two independent variables that measured the financial weakness or strength of the hospital were Days in Net Patient Accounts Receivable Median (*DnparMed*), and Operating Margin Above/Below Five (*OpmarFive*).

Finally, hospital size was also predicted to have an effect on cesarean delivery likelihood. Specifically, I anticipated that there was greater likelihood of women having a cesarean delivery in a small hospital than in a large hospital. I argued that this was because smaller hospitals have fewer resources and less likely to generate as high of profits as larger hospitals. Guided by the desire to reduce uncertainty and liability, I expected that small hospitals were more focused on increasing profits, and therefore motivated to conduct cesarean deliveries more frequently.

> H2a: There is greater likelihood that a woman has a cesarean in a small hospital than in a large hospital.

H2b: Women are more likely to have a cesarean delivery at a system hospital, than at a non-system hospital.

H2c: Women that give birth at hospitals with low profitability (Operating Margin Above/Below Five) are more likely to have a cesarean delivery than women who give birth at hospitals with strong financial health.

H2d: Women that give birth at hospitals high Days in Net Patient Accounts Receivable Median (Days in Net Patient Accounts Receivable above median) are more likely to have a cesarean delivery than women who give birth at hospitals with strong financial health.

I introduced organizational characteristics in the next logistic regression model with cesarean delivery[6]. The model was significant (p=0.001, Chi-Square=22.602, N=903) and there were multiple significant relationships with the organizational characteristic variables. Ownership status was the first variable that had a significant relationship with cesarean delivery. For respondents who gave birth at a for-profit hospital, the predicted probability of having a cesarean delivery is 44%, compared to a 33% predicted probability for respondents who gave birth at a not-for-profit hospital (Exp(B)=1.570 p=0.034). This finding supported what has been shown in previous literature, and supported the hypothesis that organizational characteristics affect the likelihood of cesarean delivery (Morris et al 2016).

Results also found that respondents who gave birth at Catholic affiliated hospitals were less likely to have a cesarean delivery than those who gave birth at non-Catholic

[6] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables that had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.2.

affiliated hospitals. The predicted probability of a respondent who gave birth at a Catholic affiliated hospital having a cesarean delivery was 22%, compared to a 33% predicted probability of a respondent having a cesarean delivery at a non-Catholic Affiliated hospital (Exp(B)=0.570 (neg b) p=0.013). This finding was likely because 98.1% of all Catholic affiliated hospitals in this study are not for-profit hospitals. Since the likelihood of cesarean delivery was less for respondents who gave birth at a not-for-profit, this finding makes sense, and therefore, we found the effect of ownership status in this relationship.

The analysis also indicated significant relationships with two financial health variables. The first financial health variable was a Days in Net Patient Accounts Receivable Median (*DnparMed*) with a value below the sample median (47.19224629). Respondents who gave birth at a hospital with a lower Days in Net Patient Accounts Receivable Median, below the sample mean, were more likely to have a cesarean delivery than those who gave birth at a hospital with a *dnpar* above the mean. For this sample, there was a 26% probability that respondents who gave birth at hospitals with a *dnpar* above the median have a cesarean delivery compared to a 33% probability of cesarean delivery for those who gave birth at a hospital with a *dnpar* below the mean (predicted probability 19.75% (Exp(B)= 1.427 p=0.017). This finding demonstrated that respondents who gave birth at a hospital that takes fewer days to receive money for services were more likely to have a cesarean delivery. This relationship did not support the original hypothesis that a cesarean delivery was more likely at hospitals that average more days to receive payments and therefore were not as financially strong. However, it

is important to consider how ownership status may affect this relationship. For instance, payments from Medicaid and other government insurance companies could take longer to be processed and received by hospitals than payments from private insurance companies. This relationship could again be picking up the effect of ownership status since not-for-profit hospitals may not receive payments quickly because they were more likely to have patients who have Medicaid or other government insurance, and respondents were less likely to have a cesarean delivery at not for-profit hospitals. This finding also suggested that further research on the influence of organizational characteristics upon women's labor and birth experiences is necessary.

The second financial health variable that had a significant relationship to cesarean delivery supported the hypothesis that poor financial health leads to greater likelihood in cesarean delivery. As seen in Figure 3, the analysis specified that the likelihood of cesarean delivery was greater for respondents who gave birth at a hospital with an operating margin below five, than for those who gave birth at a hospital with an operating margin above five. As demonstrated in Figure 4, the predicted probability of having a cesarean delivery for respondents who gave birth at a hospital with a low operating margin was 33%, compared to a predicted probability of 16% for respondents who give birth at a hospital with a high operating margin (Exp(B)= 1.402 p=0.045). Since operating margin is a measure of hospital profitability, this finding indicated that poor financial health increased the likelihood of cesarean delivery and supported the hypothesis that cesarean deliveries were more likely at hospitals with poor financial health. In conclusion, two important findings tell us that there was a greater likelihood of

cesarean delivery at for-profit hospitals and financially weak hospitals. These outcomes supported our hypotheses, but also back organizational theory arguments that organizational concerns for survival and reducing uncertainties shape organizational behavior.[7]

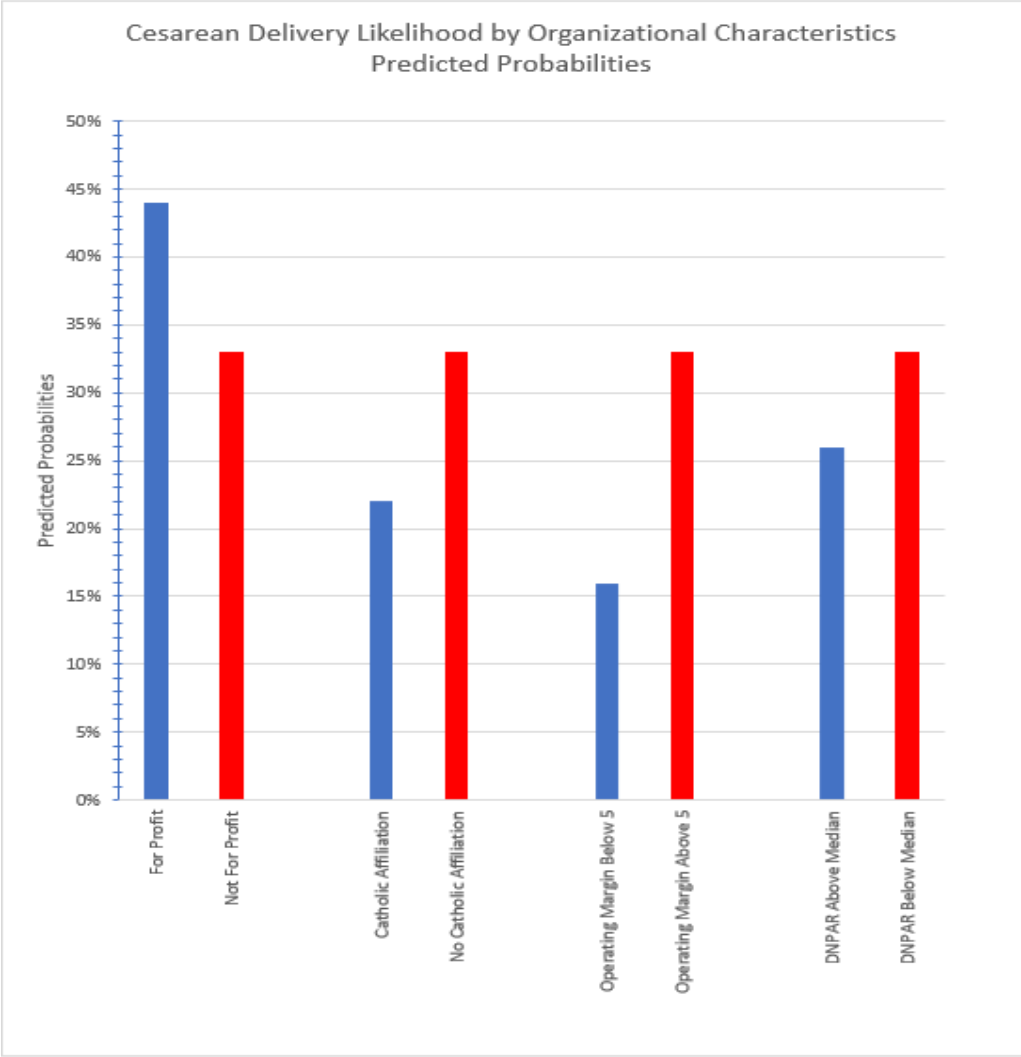
Figure 3: Cesarean Delivery Likelihood by Hospital Organizational Characteristics

Model 2: Cesarean Delivery Likelihood by Hospital Organizational Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Ownership Status	0.451*	1.570	0.034
Catholic Affiliation	-0.562*	0.570	0.013
System Membership	-0.087	0.917	0.630
Total Hospital Beds	0.000	1.000	0.246
OpmarFive	0.338*	1.402	0.045
DnparMED	-0.356*	0.702	0.017
Constant	-0.987	0.373	0.000
	P<0.005***	P<0.010**	P<0.050*

[7] Logistic Regression models introducing interactions between race and insurance status were run in the analysis. However, there were no significant interaction relationships. Therefore, the hypotheses expecting outcomes to be affected by race or insurance status were not proven.

Figure 4: Cesarean Delivery Likelihood by Organizational Characteristics Predicted Probabilities



Following Model 2, I ran a logistic regression model that examined the relationship between cesarean delivery and hospital organizational characteristics, while controlling for respondent's individual and sociodemographic characteristics. The logistic regression model was significant (p=0.000, Chi-Square 495.818) and there were

no indications of multicollinearity[8]. When this model (Figure 5) controlled for patient individual and sociodemographic characteristics, there were no significant relationships between cesarean delivery and the organizational characteristics.

Figure 5: Cesarean Delivery Likelihood by Organizational Characteristics & Controlling for Individual & Sociodemographic Characteristics

Model 2a: Cesarean Delivery Likelihood by Organizational Characteristics, Controlling for Individual & Sociodemographic Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Ownership Status	0.345	1.412	0.276
Catholic Affiliation	-0.383	0.681	0.230
System Membership	-0.255	0.775	0.323
Total Hospital Beds	0.000	1.000	0.338
OpmarFive	0.171	1.187	0.467
DnparMED	-0.221	0.802	0.302
White1	0.175	1.192	0.492
Private Insurance			0.287
Medicaid	-0.327	0.721	0.276
Other Government Insurance	-0.205	0.814	0.690
Out of Pocket	0.420	1.522	0.449
Don't Know Insurance	-2.032	0.131	0.072
High School or Less	0.276	1.318	0.416
Diabetes	-0.160	0.852	0.731
Obesity	0.740	2.097	0.004***
Parity	-1.498	0.224	0.000***
Previous Cesarean	6.265	525.998	0.000***
Preterm Birth	0.480	1.615	0.191
Age	0.067	1.069	0.001***
Constant	-1.891	0.151	0.006
	P<0.005***	P<0.010**	P<0.050*

[8] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables that had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in the appendix 1.3.

Although this model did not demonstrate any significant relationships with organizational characteristics, relationships between cesarean delivery and the following individual characteristics were significant: obesity, parity, previous cesarean, and age. These were the same variables which had significant relationships with cesarean delivery likelihood in Model 1. Based upon organizational theory, the Reproductive Justice framework, and previous literature, it was to be expected that these individual characteristics had a greater effect upon cesarean delivery likelihood.

First, organizational theory explains how organizations act in ways to reduce risk. Therefore, it is common for hospitals to have policies and practices in which women who are obese, have had a previous cesarean delivery, and are older in age, undergo cesarean deliveries as a way to reduce the chance of poor outcomes and lessen the risk of lawsuit and liability. This is an example of the uncertainty Goodrick and Salancik (1996) discussed, how organizational values can be contradictory. Though hospitals aim to ensure women have safe and positive birth experiences with unnecessary medical interventions, these individual characteristics are viewed as possibly leading to negative outcomes. Therefore, because doctors and hospitals prioritize reducing risk, they implement policies to protect the hospital from negative outcomes, and therefore women with these individual characteristics are more likely to have a cesarean delivery Second, the Reproductive Justice framework explains the persistence of reproductive oppression, and the control of women's bodies during reproduction. Therefore, it is not unprecedented that the birth experience of women who are obese and older in age is controlled through cesarean delivery. Finally, previous

literature has documented how as age increases and for women who have a previous cesarean, the likelihood of having a cesarean delivery increase.

Organizational theory and the Reproductive Justice framework offer explanations for why the effect of the select individual characteristics upon cesarean delivery is stronger than the effect of organizational characteristics. Individual characteristics such as obesity, previous cesarean, and age so powerfully shape and influence the experiences women encounter during labor and birth. Still, I ran a logistic regression model to examine the effect of organizational characteristics upon cesarean delivery, while controlling for sociodemographic characteristics and the remaining individual characteristics (preterm birth and diabetes). This logistic regression model was significant (p=0.000, Chi-Square=44.250) and there were no indications of multicollinearity[9]. When controlling for sociodemographic characteristics, diabetes, and preterm birth, there were four significant relationships between cesarean delivery and organizational characteristics.

For this sample, women who gave birth at a for-profit hospital were more likely than women who gave birth at a not-for-profit hospital to have a cesarean delivery (Figure 6). The predicted probability for respondents who gave birth at a for-profit hospital of having a cesarean delivery is 52%, compared to a 38% for respondents who gave birth at a not-for-profit hospital (Exp(B)=1.746 p=0.012). Next, respondents who gave birth at Catholic affiliated hospitals were less likely to have a cesarean delivery

[9] See the correlation matrix in appendix 1.3.

than those who gave birth at non-Catholic affiliated hospitals. The predicted probability of a respondent who gave birth at a Catholic affiliated hospital having a cesarean delivery was 26%, compared to a 38% predicted probability of a respondent having a cesarean delivery at a non-Catholic Affiliated hospital (Exp(B)=0.578 (neg b) p=0.016). Again, this finding was likely because the vast majority (98.1%) of all Catholic affiliated hospitals in this study are not for-profit hospitals. For respondents who gave birth at a hospital with a lower Days in Net Patient Accounts Receivable Median (*DnparMED*), there was a 38% probability that respondents have a cesarean delivery compared to a 30% probability of cesarean delivery for those who gave birth at a hospital with a *dnparMED* above the mean (Exp(B)= 0.690 (neg b)p=0.015). Finally, the predicted probability (Figure 7) of having a cesarean delivery for respondents who gave birth at a hospital with a low operating margin was 38%, compared to a predicted probability of 30% for respondents who give birth at a hospital with a high operating margin (Exp(B)= 1.455 p=0.030)[10].

This logistic regression model controlling for sociodemographic variables and some individual characteristics demonstrate that there are strong effects of ownership status, catholic affiliation, and financial health variables (*DnparMED* and *OpmarFive*) upon cesarean delivery likelihood. Although individual respondent variables such as previous cesarean, parity, age, and obesity have a greater effect upon cesarean

[10] Additionally, the predicted probability of a respondent who did not know their insurance type having a cesarean delivery was 11% compared to a predicted probability of 38% for those with private insurance. The predicted probability of a respondent that had a preterm birth having a cesarean delivery was 58% compared to 38% for respondents who had not had a preterm birth.

likelihood, this model indicates that organizational characteristics also strongly impact women's labor and birth experiences. Therefore, this model supports the argument that where a woman gives birth matters[11].

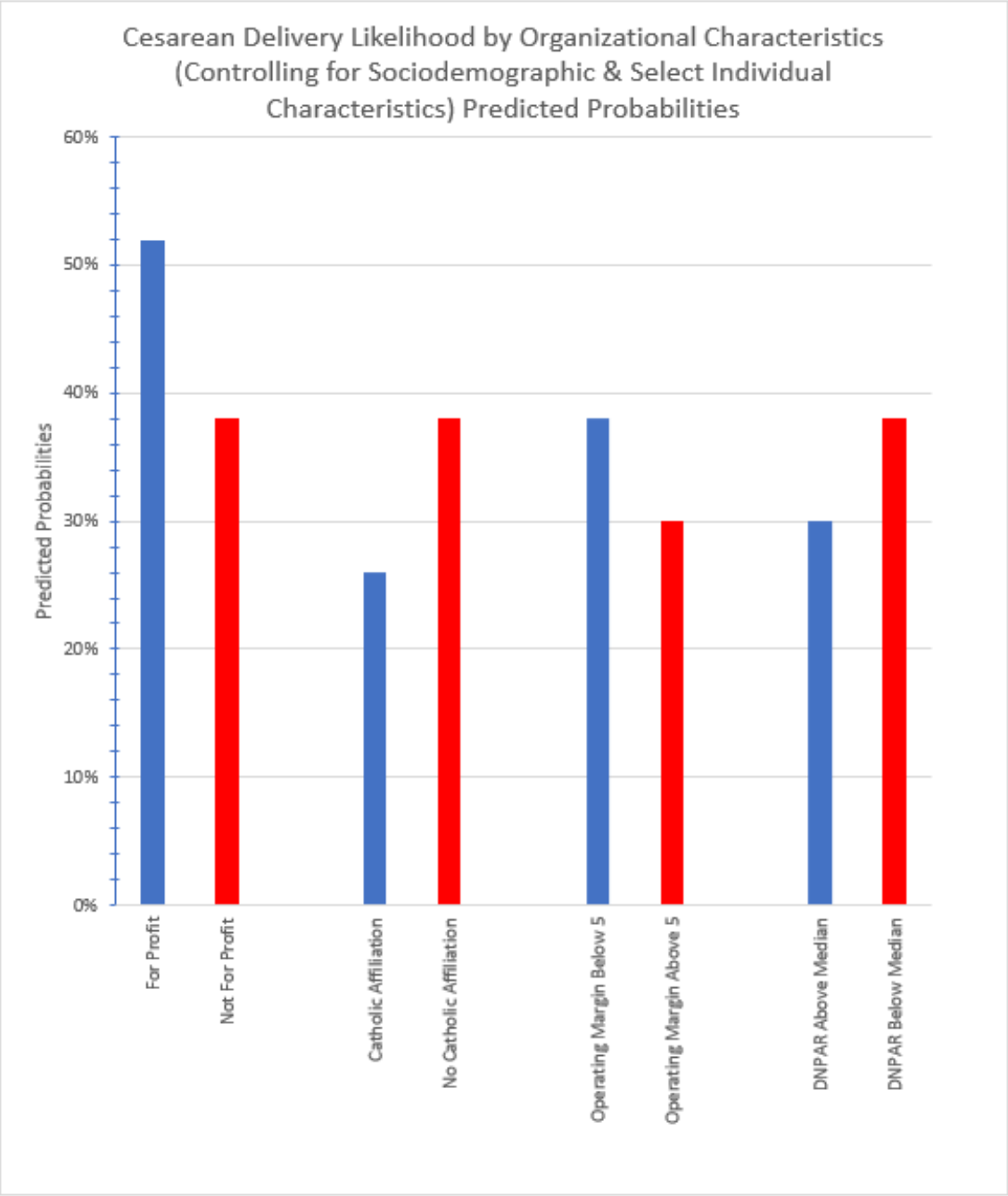
Figure 6: Cesarean Delivery Likelihood by Organizational Characteristics & Controlling for select Individual & Sociodemographic Characteristics

Model 2b: Cesarean Delivery Likelihood by Organizational Characteristics, Controlling for (select) Individual & Sociodemographic Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Ownership Status	0.557	1.746	0.012*
Catholic Affiliation	-0.549	0.578	0.016*
System Membership	-0.125	0.882	0.497
Total Hospital Beds	0.000	1.000	0.198
OpmarFive	0.375	1.455	0.030*
DnparMED	-0.371	0.690	0.015*
White1	0.209	1.233	0.239
Private Insurance			0.151
Medicaid	-0.235	0.790	0.227
Other Government Insurance	0.017	1.017	0.959
Out of Pocket	-0.608	0.545	0.236
Don't Know Insurance	-1.641	0.194	0.032*
High School or Less	0.225	1.253	0.323
Diabetes	-0.161	0.851	0.633
Preterm Birth	0.779	2.180	0.002***
Constant	-1.158	0.314	0.000
	P<0.005***	P<0.010**	P<0.050*

[11] In addition to this model, I ran another logistic regression model examining the effect of organizational characteristics upon cesarean delivery, controlling for sociodemographic characteristics only. This model was significant (p=0.000, Chi-Square=34.892), and there were significant relationships between cesarean delivery and the organizational characteristics. (Ownership (p=0.016, Exp(B)=1.695), Catholic Affiliation (p=0.012, Exp(B)=(negb)0.563), OpmarFive (p=0.038, Exp(B)=1.427), & dnparMED (p=0.016, Exp(B)=(negb)0.694). This model can be found in the appendix 1.4.

Figure 7: Cesarean Delivery Likelihood by Organizational Characteristics Predicted Probabilities



Do Concerns About the Patient and Hospital Lead to Pressure for Cesareans?

The next models examined the likelihood of a woman reporting feeling pressure to have a cesarean delivery. As demonstrated in Table 2, Only 10.4% of all respondents (94 of 903) reported feeling pressure to have a *cesarean*, and 23.6% of the respondents who had a cesarean delivery reported feeling pressure to have a cesarean delivery. This means that almost a quarter of the women who had a cesarean delivery reported feeling pressure to do so. Of the respondents who reported feeling pressure to have a cesarean, 64.9% (61 of 94) were White, 60.6% (57 of 94) had private insurance, 18.1% (17 of 94) had a high school degree or less, 24.5% (23 of 94) were obese, 12.8% (12 of 94) had diabetes, 42.6% (40 of 94) had a previous cesarean, and 5.3% (5 of 94) had a preterm birth. In terms of organizational characteristics 24.5% (23 of 94) gave birth at a for profit hospital, 11.7% (11 of 94) gave birth at a catholic affiliated hospital, 69.1% (65 of 94) gave birth at a system-member hospital, 69.1% (65 of 94) gave birth at a hospital with an operating margin below five, and 45.7% (443 of 94) gave birth at a hospital with a days in net patient accounts receivable above the median.

Table 2: Characteristics of Women by Cesarean Delivery Pressure

Sociodemographic Characteristics of Cesarean Delivery Pressure	*Number of Cases*	*Percentage of Cesarean Delivery Sample*
Cesarean Delivery	94	
Race/Ethnicity		
White	61	64.9
Black	11	11.7
Hispanic	17	18.1
Other Race	5	5.3
Insurance Status		
Private	57	60.6
Medicaid	24	25.5
Other Government	3	3.2
Out of Pocket	5	5.3
Don't Know Insurance	5	5.3
Education		
HS or Less	17	18.1
Greater than HS	77	81.9
Individual Characteristics		
Obesity	23	24.5
Not Obese	71	75.5
Type 1 or 2 Diabetes	12	12.8
No Diabetes	82	87.2
Preterm Birth	5	5.3
No Preterm Birth	89	94.7
Previous Cesarean	40	42.6
No Previous Cesarean	54	57.4
Ownership Status		
For Profit	23	24.5
Not for Profit	71	75.5
Catholic Affiliation		
Catholic Affiliation	11	11.7
No Catholic Affiliation	83	88.3
System Membership		
System Member	65	69.1
No System Member	29	30.9
Financial Health Variables		
OpmarFive (above Five)	29	30.9
OpmarFive (belowFive)	65	69.1
DnparMed (above median)	43	45.7
DnparMed (below median)	51	54.3

A logistic regression model[12] measuring the effect of individual and sociodemographic variables upon the likelihood of all respondents reporting feeling pressure to have a cesarean was significant (p=0.000, Chi-Square=65.540, N=903). Figure 8 shows three individual-level variables had statistically significant effects on odds of feeling pressure to have a cesarean delivery. First, the results indicated that respondents with diabetes were more likely to report pressure to have a cesarean delivery. For this sample, those with diabetes had a 59% probability of feeling pressure to have a cesarean delivery, compared to a 32% probability for respondents without diabetes (Exp(B)=3.068 p=0.003) (Figure 9). Second, for women with a previous cesarean delivery, the probability of reporting pressure to have a cesarean delivery was 76%, while the probability for respondents who had no previous cesarean was 32% (Exp(B) 6.672 p=0.000). Third, for every one-year increase in age, women were 0.952 times less likely to report feeling pressure to be have a cesarean delivery (p=0.037). These significant relationships supported the expectation that certain individual characteristics increase likelihood of cesarean delivery and therefore likelihood of reporting pressure to have a cesarean delivery.

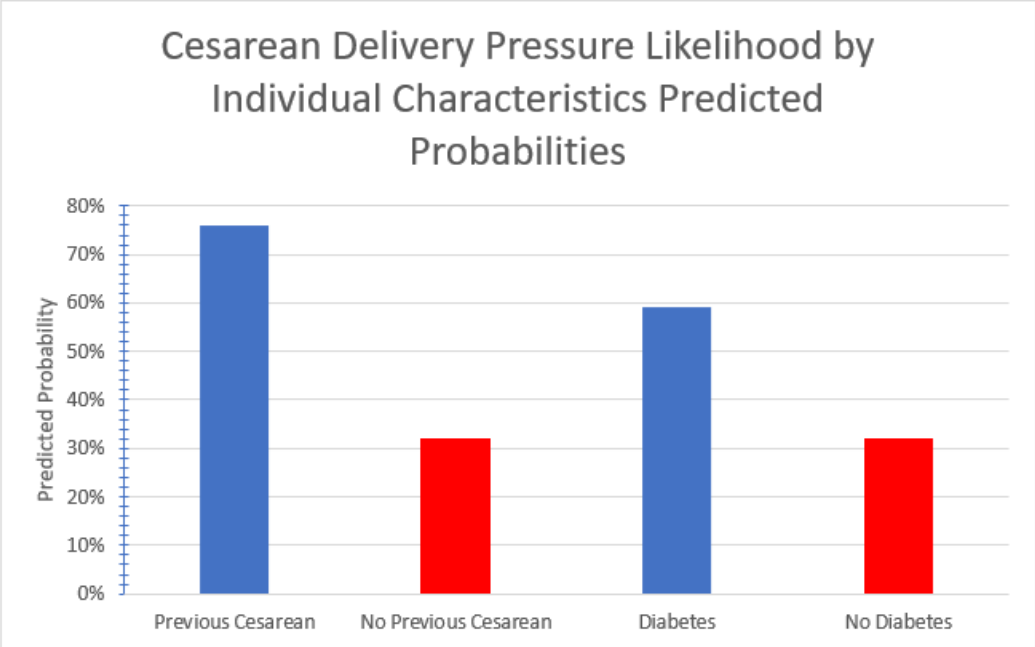
[12] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.5.

Figure 8: Cesarean Delivery Pressure Likelihood by Individual & Sociodemographic Characteristics

Model 3: Cesarean Delivery Pressure Likelihood by Individual & Sociodemographic Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
White1	0.017	1.018	0.946
Private Insurance			0.105
Medicaid	-0.198	0.820	0.512
Other Government Insurance	-0.872	0.418	0.170
Out of Pocket	0.941	2.562	0.089
Don't Know Insurance	0.761	2.140	0.194
High School or Less	0.255	1.290	0.430
Obesity	0.217	1.243	0.439
Diabetes	1.121**	3.068	0.003
Previous Cesarean	1.898***	6.672	0.000
Parity	-0.303	0.739	0.056
Preterm Birth	-0.933	0.393	0.065
Age	-0.049*	0.952	0.037
Constant	-0.774	0.461	0.004
	P<0.005***	P<0.010**	P<0.050*

Figure 9: Cesarean Delivery Pressure Likelihood by Individual & Sociodemographic Characteristics Predicted Probabilities



The next model for analysis introduced organizational characteristics to consider how the organization may affect if a respondent was pressured to have a cesarean delivery. A logistic regression model measuring the effect of organizational characteristics upon cesarean pressure was also significant (p=0.008, Chi-Square=17.444, N=903)[13]. The results indicated a significant relationship between cesarean pressure and ownership status and hospital size. Respondents were not only more likely to have a cesarean delivery in a for-profit hospital, but they were also more likely to report pressure to have a cesarean delivery. For this sample, respondents who gave birth in a for-profit hospital had a 22% probability of reporting feeling pressure to have a cesarean delivery and those who gave birth at a not-for-profit hospital had a 10% probability of reporting pressure to have a cesarean delivery (Exp(B)= 2.525 p=0.002). Second, the results indicated for each one bed increase in the total number of beds in a hospital, respondents were 1.001 times more likely to have a cesarean delivery (p=0.016). This illustrated that as hospital size increases, there was a greater likelihood of respondents to experience pressure for cesarean delivery.

These findings (Figure 10 & 11) showcased the effect of hospital ownership status and size upon labor and birth experiences. Again, the significant findings about hospital ownership status indicated that concerns about profitability affect patient care and experiences. Ultimately, a woman should never feel pressured to have a medical

[13] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.6.

procedure. A woman should especially not be more likely to feel pressure to have a cesarean delivery because she gave birth in a for-profit hospital. However, this analysis highlighted how organizations were motivated by survival and reducing uncertainties, and consequently, hospitals that are more focused on profit motives and smaller hospitals were therefore more likely to have patients deliver via cesarean delivery.

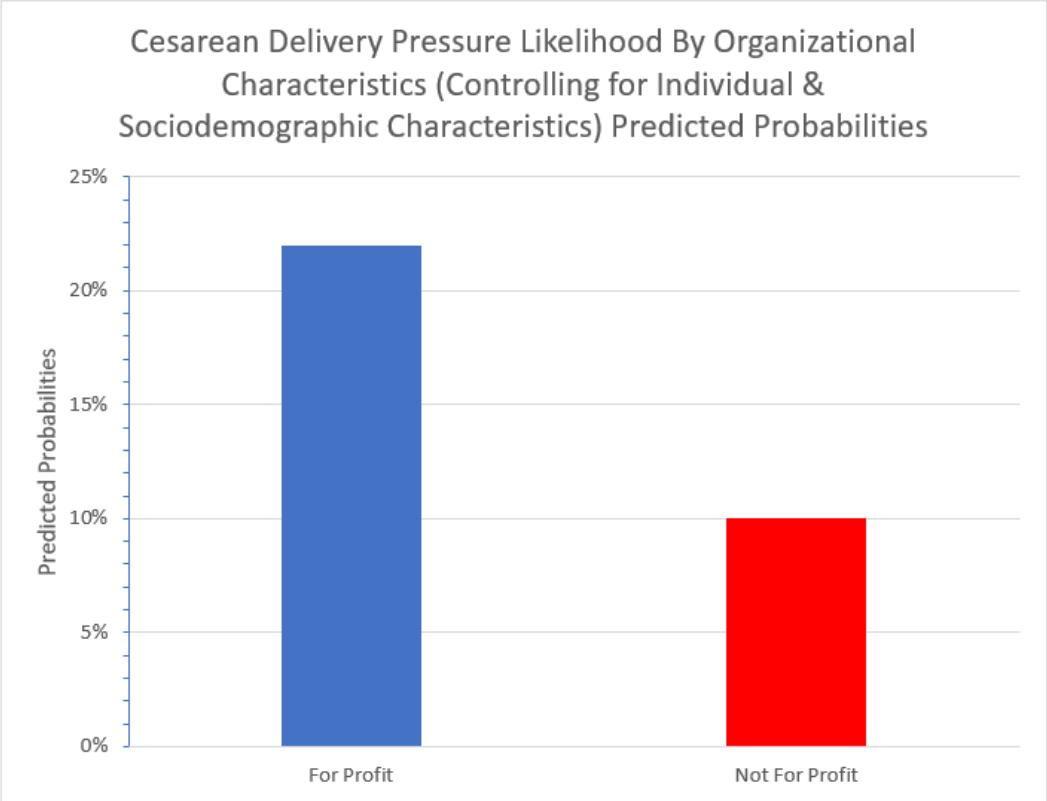
Additionally, hospital size affected the likelihood of pressure for a cesarean delivery. A cesarean delivery is a costly procedure that generates profits for the hospital, but it also allows doctors to control the time it takes for a woman to deliver and when she delivers. When doctors can control the duration of a woman's delivery, they can effectively admit and discharge patients in a profitable manner. Thus, cesarean deliveries not only reduce risk of liability from poor birth outcomes, but are also a mechanism that controls time and increases profitability. Therefore, it is no surprise that we see this increase in likelihood for cesarean pressure as hospital size increases. As such, organizational theory explains why hospital characteristics affect the likelihood of respondents reporting pressure to have a cesarean delivery.

Figure 10: Cesarean Delivery Pressure Likelihood by Hospital Organizational Characteristics

Model 4: Cesarean Delivery Pressure Likelihood by Hospital Organizational Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Ownership Status	0.926**	2.525	0.002
Catholic Affiliation	-0.308	0.735	0.382
System Membership	-0.371	0.690	0.165
Total Hospital Beds	0.001*	1.001	0.016
OpmarFive	0.358	1.430	0.326
DnparMED	-0.218	0.804	0.163
Constant	-2.509	0.373	0.000
	P<0.005***	P<0.010**	P<0.050*

Figure 11: Cesarean Delivery Pressure Likelihood by Organizational Characteristics Predicted Probabilities



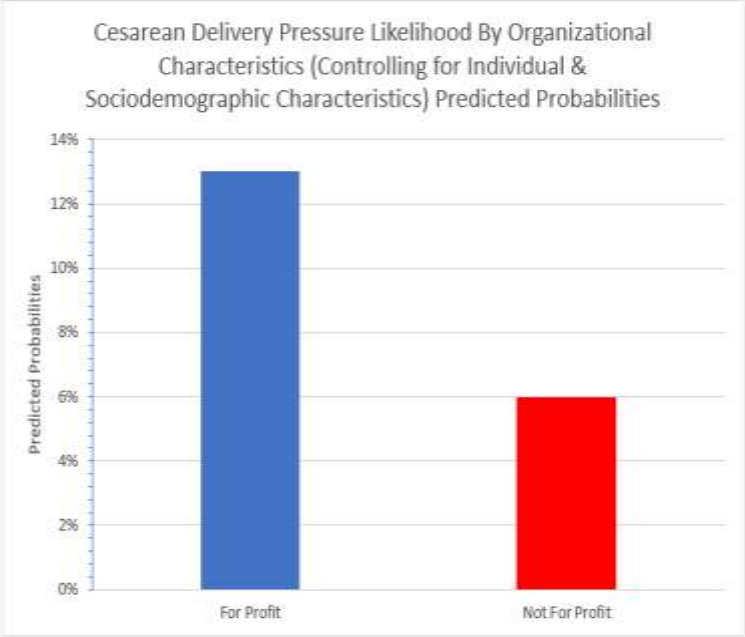
Following the analysis of Model 4, I also ran a logistic regression that controlled for individual and sociodemographic characteristics. This model was significant (p=0.000, Chi-Square=76.248). As with model 4, the logistic regression in Figure 12 demonstrated significant relationships between cesarean pressure and hospital ownership status and hospital size (total hospital beds). For this sample, respondents who gave birth in a for-profit hospital had a 13% probability of reporting feeling pressure to have a cesarean delivery and those who gave birth at a not-for-profit hospital had a 6% probability of reporting pressure to have a cesarean delivery (Exp(B)= 2.127 p=0.020) (Figure 13). Second, the results indicated that for each one bed increase in the total number of beds in a hospital, respondents were 1.001 times more likely to have a cesarean delivery (p=0.017). These results support the previous arguments, that hospital organizational characteristics affect the likelihood of a respondent reporting being pressured to have a cesarean delivery.

Figure 12: Cesarean Delivery Pressure Likelihood by Organizational Characteristics & Controlling for Individual & Sociodemographic Characteristics

Model 4a: Cesarean Delivery Pressure Likelihood by Organizational Characteristics, Controlling for Individual & Sociodemographic Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Ownership Status	0.557	2.127	0.020*
Catholic Affiliation	-0.549	0.922	0.826
System Membership	-0.125	0.682	0.179
Total Hospital Beds	0.000	1.001	0.017*
OpmarFive	0.375	1.250	0.412
DnparMED	-0.371	0.854	0.502
White1	0.196	1.216	0.466
Private Insurance			0.081
Medicaid	-0.230	0.794	0.458
Other Government Insurance	-0.894	0.428	0.182
Out of Pocket	1.089	2.971	0.053
Don't Know Insurance	0.700	2.014	0.246
High School or Less	0.275	1.316	0.404
Diabetes	1.060	2.885	0.006**
Obesity	0.162	1.176	0.570
Parity	-0.287	0.750	0.072
Previous Cesarean	1.819	6.166	0.000***
Preterm Birth	-0.843	0.430	0.430
Age	-0.052	0.949	0.030*
Constant	-1.116	0.328	0.152
	P<0.005***	P<0.010**	P<0.050*

Figure 13: Cesarean Delivery Pressure Likelihood by Organizational Characteristics & Controlling for Individual & Sociodemographic Characteristics Predicted Probabilities



Cesarean Choice: Who Makes the Final Decision?

The final model examined who made the final decision that a respondent would have a cesarean delivery (mainly respondent, mainly doctor, both). The sample size of respondents was quite small, N=95, since it included only the participants who had a cesarean delivery. The findings were different from what was hypothesized, as more often the respondent stated that they made the decision to have a cesarean delivery (52.6%), only 28.4% reported that their medical provider decided, and 18.9% reported that both they and their medical provided decided for the respondent to have a cesarean

delivery[14]. Logistic regression models examining the relationship between cesarean choice and individual characteristics and hospital characteristics were not significant and not reported.

Discussion

A cesarean delivery, though a mode of delivery, is still a serious medical procedure. This surgery should transpire if there are medical reasons that make a cesarean necessary, or because a woman chooses to have a cesarean delivery. If a cesarean delivery occurs for only these reasons, then there would not be significant relationships between individual and organizational characteristics. However, this analysis highlighted how organizations were motivated by the need for survival and reducing uncertainties. Consequently, small hospitals and hospitals that were more focused on profit motives were more likely to have patients deliver via cesarean delivery.

The analysis findings regarding how individual characteristics affects the likelihood of cesarean delivery and pressure for cesarean delivery supported what has been previously showcased in the literature. It is important to keep in mind that these

[14] Cesarean Choice was recoded into four different variables (cesareanchoiceDR (respondent only choice dichotomized variable (1= Respondent Decision, 0=Doctor, Both, Don't Know)), cesareanchoiceDD (doctor only choice dichotomized variable (1=Medical Professional decision, 0= Respondent, Both, Don't Know)), cesareanchoiceDA (respondent agency dichotomized variable (1= Respondent or Both (Respondent Agency), 0= Medical professional, Don't know)), and cesareanchoiceDDA (doctor dichotomized variable (1= Medical Professional or Both (Respondent Agency), 0= Respondent, Don't know)). When these variables were introduced to a logistic regression model with sociodemographic & individual characteristics no models were significant.

findings were controlling for individual characteristics. However, we might consider a new explanation for these findings, rather than putting blame solely on the mother's individual characteristics for particular outcomes. Instead, by applying organizational theory, we can recognize the pattern of doctors viewing specific individual characteristics as alarming (obesity, age, previous cesarean, act.) and resorting to defensive medicine as a way to protect themselves from.

Perhaps the most interesting findings from this analysis were the significant relationships between cesarean delivery and cesarean delivery pressure and organizational characteristics. The analysis outcomes ultimately supported the overall research argument, that when considering women's labor and birth experiences, a hospital's characteristics mattered. This finding is important because no factors should increase the likelihood of cesarean delivery, other than a medical condition or motive. However, organizational theory explains why this relationship with organizational characteristics persists; because organizations put their survival at the forefront! Organizations are motivated to act in ways that increase their chances of survival. Therefore, it is important to consider the variables that were significant in the cesarean delivery model, ownership status and financial health. These variables indicated how important money and profitability is to hospitals, how it guides organizational actor behavior, and ultimately the hospital's technologies, policies, and practices.

Through our data analysis results we see the trickle down of organizational needs and actions at the meso level, to the patient experience and outcome at the micro level. These findings suggested the need to shift focus in reproductive research to the effect of

hospital characteristics. It also suggests that hospitals must reevaluate their birth practices and policies, and question if these practices are in the interest of their patients, or if they primarily ensure the hospital's survival. Finally, as previous research has highlighted, I suggest that changes be made surrounding doctor's liability insurance (Morris 2016). This issue is not only a concern for patients, but for the doctors as well. While these changes may occur at an organizational level, I also encourage future mothers to be in control of their labor and birth experience and consider these findings as they determine the best institution to deliver.

CHAPTER III

PATIENT DISCRIMINATION

Research findings from this dissertation have indicated that individual patient characteristics and organizational characteristics can affect the likelihood of a woman having a labor and birth procedure. However, literature also demonstrates that inequalities persist in reproductive healthcare and affect women's experience in the hospital setting. Therefore, in the next area of the dissertation I examine women's experience in the hospital setting. In particular, I study how women experience discrimination during labor and birth.

According to previous research, we know that inequalities in reproductive healthcare have consequences for women of color and low socioeconomic status. Researchers that have studied patient experiences in obstetrics have typically focused on the effect of individual characteristics (Attanasio et al. 2015, Howell et al. 2017, Nyman et al. 2010). They found that women with hypertension, diabetes, or obesity are more likely to perceive discrimination, and that this effect is strongest for Black women (Attanasio et al. 2015, Nyman et al. 2010). Additionally, they found differences in perceived discrimination due to race and ethnicity, indicating that Hispanic and Black women have greater odds of perceiving discrimination than White women (Attanasio et al. 2015). Studies also indicate trends of racial and ethnic disparities in healthcare outcomes for mothers. An increased likelihood of poor birth outcomes, pregnancy-related mortality, and poor healthcare exist for women of low SES and women of color

(Roth et. al. 2012). According to Howell and Zeitlin (2017), compared to White women, the maternal mortality rate for Black women is 3 to 4 times greater.

Beyond the obvious consequences of these inequalities, discriminatory care also increases the likelihood that women will disengage with health care. This means that women are less likely to voice concerns and ask questions, follow treatment recommendations, and attend appointments. The patterns in these findings elucidate the need for further research about patient discrimination in labor and birth. Although this literature suggests the importance of considering a woman's race when examining discrimination, it is also important also to examine the effect of contextual variables related to place of birth.

To provide a fuller understanding of women's labor and birth experience in the hospital setting, I examine patient's report of discriminatory experiences. To do so, I conduct a quantitative and qualitative analysis of the *LTM III* data. First, I conduct a quantitative analysis to examine how individual and organizational characteristics affect the likelihood of a patient to report experiencing racial or insurance-based discrimination. This is important not only to document trends in reproductive care, but also because the literature examining the relationship between discrimination and organizational characteristics is scant. Next, I conduct a qualitative analysis or respondents report as to if they would return to the hospital at which they gave birth, and what advice they would have given themselves. This analysis sheds light to some of the ways in which respondents experienced discrimination during their labor and birth experience.

Listening to Mothers III Discrimination Data

The percentages of respondents that reported racial and socioeconomic-based discrimination was quite low. Of the 903 respondents, only 72, or 8%, reported experiencing racial discrimination. Similarly, only 94 of 903 respondents, or 10.4% reported experiencing insurance-based discrimination. Of all the respondents 61, or 6.8% reported both race and insurance-based discrimination.

As demonstrated in Table 6, the respondents who reported experiencing racial discrimination included 4.5% (28 of 621) of White respondents, 17% (15 of 87) of Black respondents, 16% (23 of 141) of Hispanic respondents, and 12% (6 of 49) of respondents identified as "other race." In terms of insurance status, the respondents that reported racial discrimination included 5% (29 of 588) of respondents with Private insurance, 11% (24 of 215) of respondents with Medicaid, 14% (7 of 50) of respondents with other government insurance, 25% (7 of 28)of respondents that paid out of pocket, and 23% (5 of 22) of respondents that did not know their type of insurance. In addition, 29.2% (21 of 72) of respondents had a high school degree or less, 27.8% (20 of 72) had diabetes, 15.3% (11 of 72) were obese, 12.5% (9 of 72) had a previous cesarean, and 6.9% (5 of 72) had a preterm birth. In terms of organizational characteristics, of the respondents who reported racial discrimination, 69.4% (50 of 72) gave birth at a system hospital, 15.3% (11 of 72) gave birth at a catholic affiliated hospital, 18.1% (13 of 72) gave birth at a For-Profit hospital, 50% (36 of 72) gave birth at a hospital with a days in net patient accounts receivable above the median, and 68% (49 of 72) gave birth at a hospital with an operating margin below five.

Table 3: Characteristics of Women by Racial Discrimination

Sociodemographic Characteristics of Racial Discrimination	*Number of Cases*
Racial Discrimination	72
Race/Ethnicity	
White	28
Black	15
Hispanic	23
Other Race	6
Insurance Status	
Private	29
Medicaid	24
Other Government	7
Out of Pocket	7
Don't Know Insurance	5
Education	
HS or Less	21
Greater than HS	51
Individual Characteristics	
Obesity	11
Not Obese	61
Type 1 or 2 Diabetes	20
No Diabetes	52
Preterm Birth	5
No Preterm Birth	67
Previous Cesarean	9
No Previous Cesarean	63
Ownership Status	
For Profit	13
Not for Profit	59
Catholic Affiliation	
Catholic Affiliation	11
No Catholic Affiliation	61
System Membership	
System Member	50
No System Member	22
Financial Health Variables	
OpmarFive (above Five)	23
OpmarFive (below Five)	49
DnparMed (above median)	36
DnparMed (below median)	36

Demonstrated in Table 7, the respondents who reported insurance discrimination included 5% (31 of 588) of respondents with Private insurance, 17% (36 of 215) of respondents with Medicaid, 22% (11 of 50) of respondents with other government insurance, 36% (10 of 28) of respondents that paid out of pocket, and 27% (6 of 22) of respondents that did not know their type of insurance. In terms of race, the respondents who indicated experiencing insurance discrimination included 7% (46 of 621) of White respondents, 16% (14 of 87) of Black respondents, 18% (26 of 141) of Hispanic respondents, and 16% (8 of 49) of respondents that identified as "other race." Furthermore, 27.7% (26 of 94) had a high school degree or less, 21.3% (20 of 94) had diabetes, 16% (15 of 94) were obese, 11.7% (11 of 94) had a previous cesarean, and 8.5% (8 of 94) had a preterm birth. Furthermore, for the respondents who reported insurance discrimination, 67% (63 of 94) gave birth at a system hospital, 16% (15 of 94) gave birth at a catholic affiliated hospital, 16% (15 of 94) gave birth at a for-profit hospital, 47.9% (45 of 94) gave birth at a hospital with a days in net patient accounts receivable above the median, and 72.3% (68 of 94) gave birth at a hospital with an operating margin below five.

Table 4: Characteristics of Women by Insurance Discrimination

Sociodemographic Characteristics of Insurance Discrimination	*Number of Cases*
Insurance Discrimination	94
Race/Ethnicity	
White	46
Black	14
Hispanic	26
Other Race	8
Insurance Status	
Private	31
Medicaid	36
Other Government	11
Out of Pocket	10
Don't Know Insurance	6
Education	
HS or Less	26
Greater than HS	68
Individual Characteristics	
Obesity	15
Not Obese	79
Type 1 or 2 Diabetes	20
No Diabetes	74
Preterm Birth	8
No Preterm Birth	86
Previous Cesarean	11
No Previous Cesarean	83
Ownership Status	
For Profit	15
Not for Profit	79
Catholic Affiliation	
Catholic Affiliation	15
No Catholic Affiliation	79
System Membership	
System Member	63
No System Member	31
Financial Health Variables	
OpmarFive (above Five)	26
OpmarFive (below Five)	68
DnparMed (above median)	45
DnparMed (below median)	49

Does Racial Discrimination Occur During Labor and Birth?

To examine women's experiences of discrimination in the hospital setting, I first conduct a quantitative analysis. I begin with an examination of the effect of individual characteristics upon respondents report of experiencing racial discrimination. For the first set of patient discrimination models, the dependent variables are racial discrimination and insurance discrimination. These dichotomous variables, racetreat and insurancetreat, were derived from the survey question: *During your recent hospital stay when you had your baby, how often were you treated poorly because of… (race, ethnicity, health insurance situation?).* These measured if respondents did or did not experience discrimination based upon their race or insurance status. The independent variables are the respondent sociodemographic and control variables (insurance status, race, education, age, previous cesarean, preterm birth, parity, obesity, and diabetes).

In line with previous research on patient experience in obstetrics and Reproductive Justice arguments, it is expected that individual characteristics will affect patient's report of discrimination. I anticipate that women of color are more likely to experience racial discrimination than White women, and women with low socioeconomic status (SES) have a greater likelihood of experiencing socioeconomic-based discrimination than women with high SES.

H1: Black respondents are more likely to report racial discrimination than White respondents

H2: Hispanic respondents are more likely to report racial discrimination than White respondents

H3: "Other Race" respondents are more likely to report racial discrimination than White respondents

H4: Respondents with Medicaid are more likely to report insurance-based discrimination than respondents with private insurance.

H5: Respondents with other government insurance are more likely to report insurance-based discrimination than respondents with private insurance.

H6: Respondents that paid out of pocket are more likely to report insurance-based discrimination than respondents with private insurance.

H7: Respondents who did not know what type of insurance they had are more likely to report insurance-based discrimination than respondents with private insurance.

H8: Respondents with a high school degree or less are more likely to report insurance-based discrimination than respondents with more than a high school degree.

The first logistic regression model examining the relationship between racial discrimination and respondent race was significant (p=0.000, Chi-Square= 93.139, N=903) and there was no indication of multicollinearity[15]. The model indicated five significant relationships with racial discrimination. First, the odds of Black respondents reporting racial discrimination was greater than White respondents (Exp(B)= 3.565, p=0.001). The predicted probability of a Black respondent reporting racial discrimination was 9.6% compared to 2.9% probability for non-Black respondents[16]. Hispanic respondents also had greater odds of reporting racial discrimination than White

[15] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.13.

[16] Predicted probability chart shown below.

women (Exp(B)=2.648, p=0.004)[17]. The predicted probability of a Hispanic respondent reporting racial discrimination was 7.3%, compared to a 2.9% probability of a non-Hispanic respondent reporting racial discrimination. The results revealed that the hypotheses predicting that Black and Hispanic respondents were more likely to report racial discrimination was supported, as discussed previous research (Attanasio et al. 2015, Nyman et al. 2010).

The model also showed significant relationships with the following individual and sociodemographic variables: diabetes, education, and insurance status. The log odds of reporting racial discrimination for respondents with Type 1 or 2 diabetes was greater than those without diabetes (Exp(B)=8.997, p=0.000) (Figure 20). The predicted probability of a respondent[18] with diabetes to report racial discrimination was 21%, compared to a 3% predicted probability for respondents without diabetes. For respondents with a high school degree or less the odds of reporting racial discrimination were greater in comparison to those with higher than a high school degree (Exp(b)=2.367, p=0.010). The predicted probability of a respondent with a high school degree or less reporting racial discrimination was 6.6% compared to 3% probability for respondents who had more than a high school degree. Finally, respondents who paid out of pocket for their medical care were more likely to report racial discrimination than

[17] There was no significant relationship between the "Other Race" category and racial discrimination (p=0.223).

[18] This the predicted probability for our "average" respondent. A woman that is White, has private insurance, has more than a high school degree education, is not obese, is not diabetic, has not had a previous cesarean delivery, has carried two pregnancies to a viable gestation age (parity), and is approximately is 31 years old.

those with private insurance and Medicaid. The log odds of reporting racial discrimination were 4.224 times more likely for respondents who paid out of pocket, than respondents with private insurance, and 3.550 times greater than those with Medicaid (p=0.009, p=0.024)[19]. The predicted probability of a respondent who paid out of pocket reporting racial discrimination was 11%, compared to a predicted probability of 3.4% for those with Medicaid, and 2.9% for those with private insurance. The predicted probabilities can be seen below in Figure 21.

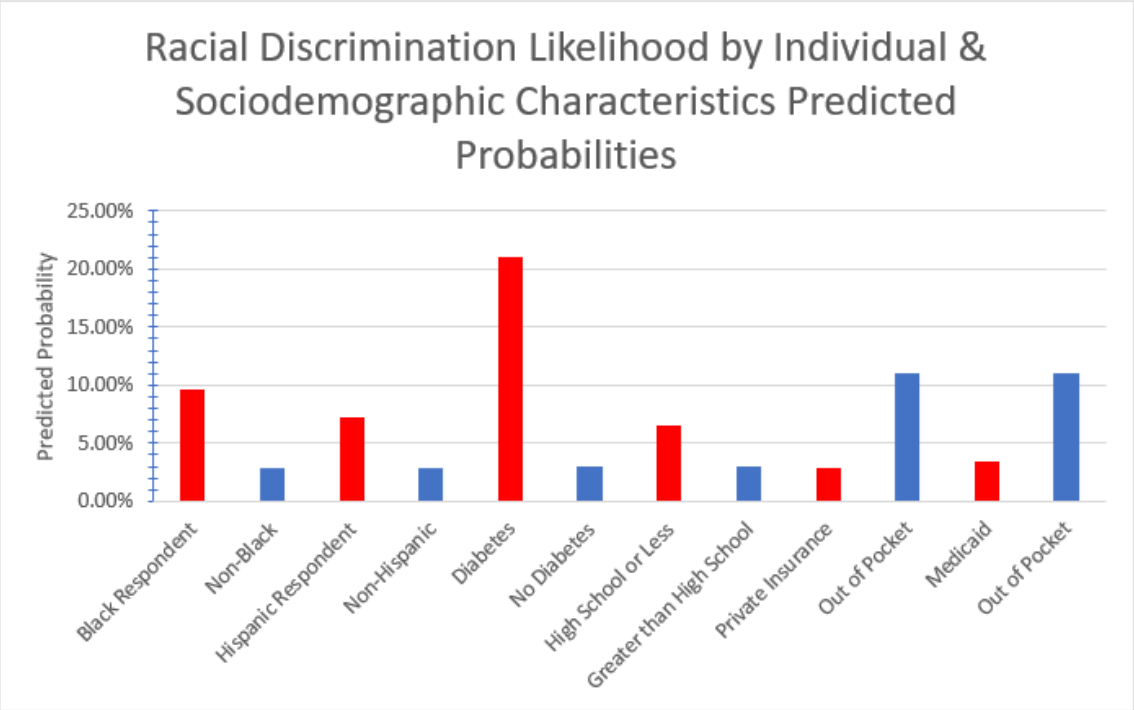
[19] The log odds off a respondent with Medicaid reporting racial discrimination 0.282 times less likely than those who paid out of pocket (Exp(B)=0.282, p=0.024). The predicted probability of a Medicaid respondent reporting racial discrimination was 3%, compared to 10% probability of a respondent that paid out of pocket. There were no significant log odds for Medicaid respondents compared to those with other government insurance, private insurance, or those who did not know what kind of insurance they had.

Figure 14: Racial Discrimination Likelihood by Individual & Sociodemographic Characteristics

Model 9: Racial Discrimination Likelihood by Individual & Sociodemographic Characteristics, (N=898), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
White			
Black	1.271***	3.565	0.001
Hispanic	0.974***	2.648	0.004
Other Race	0.645	2.648	0.223
Private Insurance			0.307
Medicaid	0.174	1.190	0.610
Other Government Insurance	0.760	2.139	0.149
Out of Pocket	1.441**	4.224	0.008
Don't Know Insurance	1.060	2.887	0.084
High School or Less	0.861**	2.367	0.010
Obesity	-0.229	0.795	0.548
Diabetes	2.197***	8.997	0.000
Previous Cesarean	-0.338	0.713	0.437
Parity	-0.147	0.863	0.334
Preterm Birth	-0.183	0.833	0.733
Age	-0.022	0.978	0.385
Constant	-2.539	0.079	0.001
	P<0.005***	P<0.010**	P<0.050*

Figure 15: Racial Discrimination Likelihood by Individual & Sociodemographic Characteristics Predicted Probabilities



CHAPTER IV

LABOR INDUCTION AND ELECTRONIC FETAL HEARTRATE MONITORING

In addition to cesarean deliveries, other procedures many women experience during labor and birth are labor induction and electronic fetal heart rate monitoring. The purpose of these procedures is to ensure a safe and healthy labor and delivery. However, as with cesareans, the overuse and execution of these procedures without medical necessity may lead to negative consequences and outcomes for the mother and fetus. This chapter examines how individual and organizational characteristics affect the likelihood of induction and EFM, and provides an alternative explanation for why many women experience EFM and labor induction. The analysis models detect which factors affect induction and EFM, identify if patients have autonomy in decisions about these procedures, and clarify if respondents report being pressured to be induced.

Labor Induction

Labor induction artificially begins a woman's labor by causing uterine contractions through devices, medication, or other methods to help the cervix dilate and stretch for labor (ACOG 2017). Risks associated with induction include overstimulation, changes in the fetal heart rate, issues with the umbilical cord, infection in the baby or mother, uterine rupture, fetal death, and increase in likelihood of cesarean delivery (ACOG 2017). Further, inductions are not always successful and may increase the chances of women having a cesarean delivery if the induction methods do not work

(ACOG 2017, Kjerulff, attanasio, Edmonds, Kozhimannil, and Repke 2017, Paterno, McElroy, and Regan 2017). The induction rate has been increasing over the last two decades. The induction rate was 20.1% of all births in 2000, 22.7% in 2005, 23.8% in 2010, and 24.5% in 2016 (Osterman and Martin 2014, "National Vital Statistics Reports" 2018).

Research has suggested that elective induction, an induction for non-medical reason such as preference or convenience, increases health risks for women (Moore, Low, Titler, Dalton, and Sampselle 2014, Declercq, Carry, and Herrlich 2013). These risks are especially prevalent for nulliparous women, or those who have not previously given birth before, because women who are induced are more likely to have a cesarean delivery than women who go into labor spontaneously (Kjerulff, Attanasio, Edmonds, Kozhimannil, and Repke 2017). Therefore, when nulliparous women have an elective induction, they have an increased likelihood of cesarean delivery, and therefore increased health risks.

The literature also highlighted differences in induction rates according to race and ethnicity. According to studies about racial differences in labor induction, 44.8 percent of non-Hispanic Black women were induced and had the highest labor induction rate in comparison to all other racial and ethnic groups (Singh, Reddy, Huang, Driggers, Landy, and Grantz 2018). This trend was largely due to medical conditions and complications such as: "antepartum complication, such as diabetes mellitus, chronic hypertension, preeclampsia, or fetal growth restriction" (Singh et al. 2018:5). On the other hand, non-Hispanic White women had the highest odds of induction when

controlling for complications and individual characteristics; the research suggested that this was likely because almost half of the inductions were cited as occurring for a non-medical reason or were missing a reason for induction (Singh et al. 2018).

Listening to Mothers III Induction Data

Three hundred eight respondents in the sample were induced—had their labor artificially started. As shown in Table 3, of those induced, 71.8% were White[20]. In terms of socioeconomic status measures, 64% of induced respondents had private insurance (197 of 308), 25% had Medicaid (77 of 308), and 13% of induced respondents had a high school degree or less (40 of 308). When considering individual characteristics, 22.1% (68 of 308) of those induced were obese, 9.4% (29 of 308) had type 1 or 2 diabetes prior to pregnancy, 9.1% (29 of 308) had a previous cesarean, and 5.8% (18 of 308) had a preterm birth[21]. For respondents that were induced 12.3% gave birth at a for-profit hospital, 20.8% gave birth at a catholic affiliated hospital, 75.3% gave birth at a system member hospital, 47.4% (146 of 308) gave birth at a hospital with an operating margin below Five, and 34.4% (106 of 308) gave birth at a hospital with a days in net patient accounts receivable greater than the median.. Finally, of the respondents induced, 15.9% (49 of 308) ultimately had a cesarean delivery.

[20] For the Non-White respondents, 15.3% were Hispanic, 8.1% were Black, and 4.9% were "Other Race."
[21] The mean for age was 30 (SD=5.8) and the mean for parity was 2 (SD=1.1).

Table 5: Characteristics of Women by Labor Induction

Sociodemographic Characteristics of Labor Induction	*Number of Cases*	*Percentage of Labor Induction Sample*
Labor Induction	308	
Race/Ethnicity		
White	221	71.8
Non-White	87	8.1
Insurance Status		
Private	197	64
Medicaid	77	25
Other Government	21	6.8
Out of Pocket	5	1.6
Don't Know Insurance	8	2.6
Education		
HS or Less	40	13
Greater than HS	268	87
Individual Characteristics		
Obesity	68	22.1
Not Obese	240	77.9
Type 1 or 2 Diabetes	29	9.4
No Diabetes	279	90.6
Previous Cesarean	29	9.1
No Previous Cesarean	279	90.9
Preterm Birth	18	5.8
No Preterm Birth	290	94.2
Ownership Status		
For Profit	51	12.3
Not for Profit	212	87.7
Catholic Affiliation		
Catholic Affiliation	64	20.8
No Catholic Affiliation	244	79.2
System Membership		
System Member	76	75.3
No System Member	232	24.7
Financial Health Variables		
OpmarFive (above Five)	162	52.6
OpmarFive (below Five)	146	47.4
DnparMed (above median)	106	34.4
DnparMed (below median)	202	65.6

The Individual: Is Induction Likelihood Drive by Individual Characteristics?

The analysis first examined if and how individual characteristics affected the likelihood that a respondent was induced. In line with the literature and reproductive justice arguments, I anticipated that women of color were more likely to undergo labor induction, and that women of lower socioeconomic status were also more likely to undergo labor induction. According to organizational theory, organizational actors act in ways that reduce uncertainties and liabilities. In terms of reproductive health, certain women's individual characteristics, such as age and obesity, may be considered as traits which could lead to uncertainties in birth, and therefore a risk for liability. Consequently, to reduce that risk of liability and uncertainty in labor and birth, women's bodies are controlled (Ross & Solinger 2017). Thus, I expected that obese women, women with diabetes, and older women were more likely to endure labor induction to reduce risk and liability associated with their birth.

H1a: Women of color are more likely to be induced than White women.

H1b: Women of lower SES are more likely to be induced than women of high SES.

H1c: Obese women are more likely to be induced than women who are not obese.

H1d: Women with diabetes are more likely to be induced than women without diabetes.

H1e: As women's age increases, the likelihood of being induced increases.

The first model for the labor induction analysis examined the relationship between induction and respondents' individual and sociodemographic characteristics.

The sample was reduced to 741 respondents to only include respondents who gave birth vaginally or respondents that labored prior to cesarean delivery, as these are the respondents who could have been induced. For the regression analysis, the model was significant and there were three significant relationships (p=0.000, Chi-Square=39.742)[22].

There was a significant relationship between respondent race and induction. Demonstrated in Figure 14, White respondents were more likely to be induced than non-White women (Black, Hispanic, and "other race" respondents) (Exp(B)= 1.471, p=0.030). In particular, the predicted probability[23] of a White respondent being induced was 41%, compared to 32% probability for non-White respondents (Figure 15). This was different than what has been cited in literature, but supported Reproductive Justice framework arguments. Ideally, the likelihood of a procedure like labor induction should not vary by respondent race. Since the procedure should be conducted for medical reasons, that should be the only factor affecting a respondent's likelihood of induction.

Next, there were significant relationships with individual variables. Women who had Type 1 or 2 diabetes prior to pregnancy were more likely to be induced than those who did not. Results indicated that the predicted probability of respondents with diabetes being induced was 70%, compared to 41% for those without diabetes (p=0.000).

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[22] Prior to the logistic regression analysis, I checked for multicollinearity and did not find any values of Pearson's correlation greater than 0.400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.7.

[23]This the predicted probability for our "average" respondent. A woman that is White, has private insurance, has more than a high school degree education, is not obese, is not diabetic, has not had a previous cesarean delivery, has carried two pregnancies to a viable gestation age (parity), and is approximately is 31 years old.

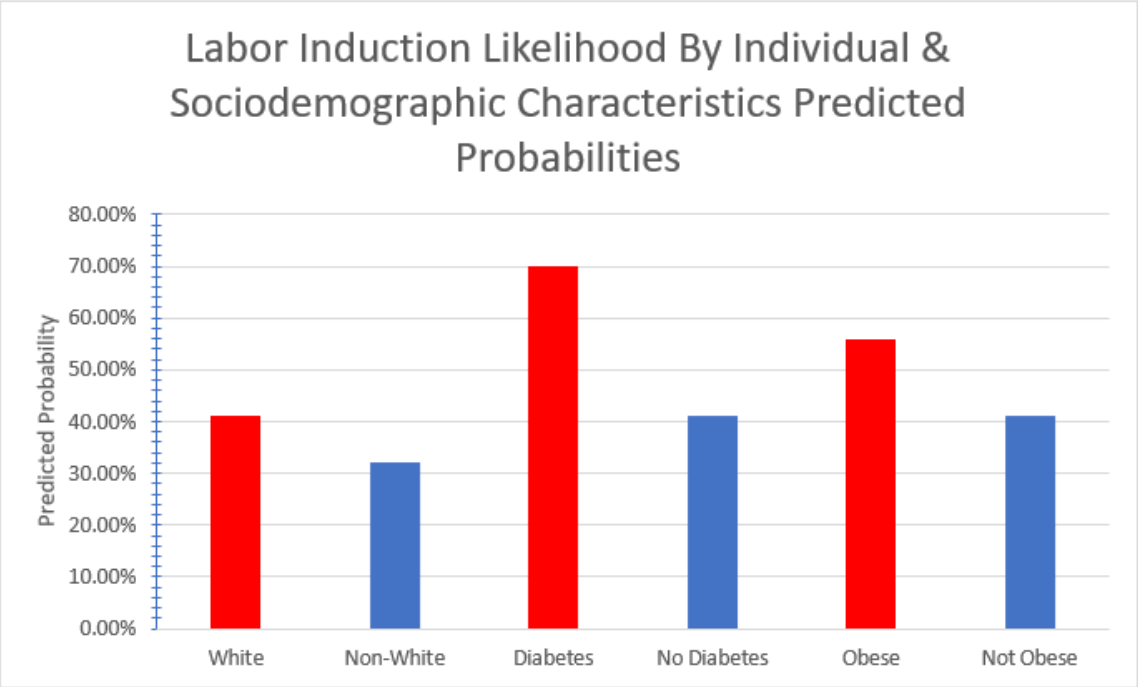
Finally, respondents considered obese (those with BMI 30+) were more likely than those who were not obese to be induced (p=0.003, Exp(B)= 1.827). For this sample, the predicted probability of being induced for women who were obese was 56%, compared to 41% probability of being induced for those respondents who were not obese. These findings supported the hypothesis that individual characteristics, and in particular, obesity and diabetes, affected the likelihood of labor induction.

Figure 16: Labor Induction Likelihood by Individual & Sociodemographic Characteristics

Model 5: Labor Induction Likelihood by Individual & Sociodemographic Characteristics, (N=741), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
White1	0.386	1.471	0.030
Private Insurance			0.307
Medicaid	0.123	1.131	0.545
Other Government Insurance	0.517	1.676	0.140
Out of Pocket	-0.974	0.377	0.060
Don't Know Insurance	0.132	1.141	0.789
High School or Less	-0.174	1.827	0.470
Obesity	0.603***	1.827	0.003
Diabetes	1.216***	3.375	0.000
Previous Cesarean	0.178	1.195	0.552
Parity	0.118	1.125	0.133
Preterm Birth	-0.463	0.629	0.143
Age	-0.002	0.998	0.890
Constant	-0.928	0.396	0.043
	P<0.005***	P<0.010**	P<0.050*

Figure 17: Labor Induction Likelihood by Individual & Sociodemographic Characteristics Predicted Probabilities



Is Induction Affected by the Hospital Women Labor At?

Labor induction is a birth procedure that aims to help begin labor when the child or mother is at risk, or to ensure a vaginal delivery. This procedure often speeds up the delivery process, reducing the uncertainty of when the delivery will occur. Previous literature has underscored how induction is a tool doctors use to speed up the labor process and guarantee a delivery will occur on their schedule. With these trends and organizational theory arguments in mind, it was expected that hospital organizational characteristics would affect the likelihood of labor induction.

It was projected that inductions would occur more often in for-profit hospitals than not-for-profit hospitals because for-profit hospitals are motivated by profits and therefore focused on increasing earnings. Therefore, as a means to speed up labor and shorten the period of time a woman remains in the hospital, it is expected that for-profits would induce women. Hospitals may be motivated to do this so they can treat more patients and as a result earn greater profits. Similarly, I expected that respondents were more likely to be induced at small hospitals than large hospitals. According to resource dependency theory, small hospitals have fewer resources and therefore need to be concerned with increasing profits as a mean to obtain more resources. Next, in line with literature stating that patient care at system-member hospitals is not as highly rated as non-system hospitals, I anticipated that women were more likely to have an induction at a system-member hospital than non-system. When hospitals prioritize care, they are less likely to rush a delivery and induce labor. Finally, I predicted that women who give birth at financially weak hospitals were more likely to be induced. Again, this was because induction is a way that the hospital can reduce uncertainty, control patient care, and ensure that they are earning the greatest profits possible. When hospitals are financially insecure, they are more likely focused on increasing profits.

> H2a: There is greater likelihood of a woman experiencing labor induction in for-profit hospitals than not-for-profit hospitals.
>
> H2b: There is greater likelihood that a woman experiencing labor induction in a small hospital than in a large hospital.
>
> H2c: Women are more likely to experience labor induction at a system hospital, than at a non-system hospital.

H2d: Women that give birth at hospitals with weak financial health are more likely to experience labor induction than women who give birth at hospitals with strong financial health.

In the second model for analysis, I introduced organizational characteristics (ownership status, system membership, hospital size (total hospital beds), and Catholic affiliation) to measure the effect upon induction likelihood. This logistic regression model was not significant (p=0.403, Chi-Square=4.020, N=741)[24]. I next ran a logistic regression model that added financial variables (*DnparMED*, *OpmarFive*), but this model was also not significant (p=0.470, Chi-Square=5.592, N=741). Therefore, there were no significant results to report from this analysis.

Reducing Risk: Are Women Pressured to be Induced?

As discussed, the Reproductive Justice framework highlighted how the historical oppression in reproductive care offers the assumption that doctors have all control and power over a women's labor and birth. To be more specific, the historic control of women's bodies lends to the expectation that respondents would report not having control in their labor and birth experience. In addition, organizational theory demonstrated how organizational actors behave in ways that ensure organizational survival. Therefore, in line with these theories, I anticipated that respondents would be

[24] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.8.

pressured to be induced, because doctors apply practices and technologies, such as labor induction, to reduce risk of liability and uncertainties.

> H3: There is greater likelihood that a woman will be pressured to be induced, than not a doctor not pressure her to be induced.

The variable measured in this model estimated the likelihood of a woman reporting feeling pressure to be induced. As seen in Table 4, of the respondents who gave birth vaginally or labored prior to cesarean delivery, only 12.7% of all respondents (94 of 741) reported feeling pressure to be induced, and 21.8% (67 of 308) of the respondents who were induced reported feeling pressure to be induced. This means that almost a quarter of the women who were induced reported feeling pressure to do so. Of the respondents who reported feeling pressure to be induced, 67% (63 of 94) were White, 60.6% (57 of 94) had private insurance, 13.8% (13 of 94) had a high school degree or less, 20.2% (19 of 94) were obese, 14.9% (14 of 94) had diabetes, 12.8% (12 of 94) had a previous cesarean, and 10.6% (10 of 94) had a preterm birth. In terms of organizational characteristics 12.8% (12 of 94) gave birth at a for profit hospital, 13.8% (13 of 94) gave birth at a catholic affiliated hospital, 75.5% (71 of 94) gave birth at a system-member hospital, 63.8% (60 of 94) gave birth at a hospital with an operating margin below five, and 46.8% (44 of 94) gave birth at a hospital with a days in net patient accounts receivable above the median.

Table 6: Characteristics of Women by Labor Induction Pressure

Sociodemographic Characteristics of Labor Induction Pressure	*Number of Cases*	*Percentage of Labor Induction Sample*
Labor Induction	94	
Race/Ethnicity		
White	63	67
Non-White	31	33
Insurance Status		
Private	57	60.6
Medicaid	25	26.6
Other Government	7	7.4
Out of Pocket	3	3.2
Don't Know Insurance	2	2.1
Education		
HS or Less	13	13.8
Greater than HS	81	86.2
Individual Characteristics		
Obesity	19	20.2
Not Obese	75	79.8
Type 1 or 2 Diabetes	14	14.9
No Diabetes	80	85.1
Previous Cesarean	12	12.8
No Previous Cesarean	82	87.2
Preterm Birth	10	10.6
No Preterm Birth	84	89.4
Ownership Status		
For Profit	12	12.8
Not for Profit	82	87.2
Catholic Affiliation		
Catholic Affiliation	13	13.8
No Catholic Affiliation	81	86.2
System Membership		
System Member	71	75.5
No System Member	23	24.5
Financial Health Variables		
OpmarFive (above Five)	34	36.2
OpmarFive (below Five)	60	63.8
DnparMed (above median)	44	46.8
DnparMed (below median)	50	53.2

First, a logistic regression model measuring the effect of sociodemographic (Race[25], insurance status, high school education or less) and individual characteristics (preterm birth, obesity, diabetes, parity, previous cesarean, and age) upon likelihood to report induction pressure was run, but not significant (p=0.077). Since this model was not significant, a second logistic regression model[26] measuring the effect of only individual characteristics (preterm birth, obesity, diabetes, parity, previous cesarean, and age)[27] upon the likelihood of feeling pressure to be induced was run and was significant (p=0.005, Chi-Square=18.342, N=741). According to the model shown in Figure 16, respondents with diabetes were more likely to report feeling pressured to be induced than women without diabetes (Exp(B)=3.346 p=0.001). Results indicated that the predicted probability of a respondent with diabetes to report pressure to be induced was 27%, compared to 9.8% probability for respondents without diabetes (Figure 17). Secondly, the results indicated that women who had a previous cesarean delivery were more likely to report feeling pressure to be induced, than women who had not had a previous cesarean delivery (Exp(B)=2.099, p=0.050). The predicted probability for a respondent that had a previous cesarean delivery to report pressure to be induced was 19%, while the probability for a respondent who had not previously had a cesarean delivery was 9.8%.

---

[25] White1 Dichotomous variable

[26] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.9.

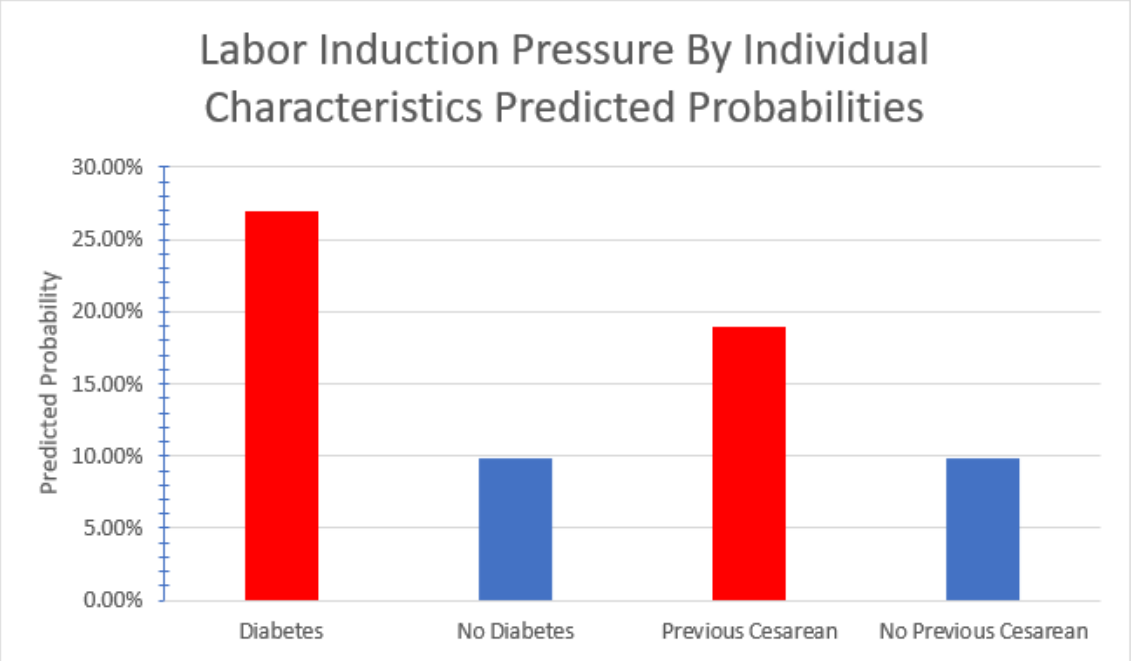
[27] A logistic regression model that also included sociodemographic variables was not significant (p=0.077).

Figure 18: Labor Induction Pressure Likelihood by Individual Characteristics

Model 6: Labor Induction Pressure Likelihood by Individual Characteristics, (N=741), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Obesity	0.248	1.282	0.381
Diabetes	1.208***	3.346	0.001
Previous Cesarean	0.741*	2.099	0.050
Parity	-0.133	0.876	0.292
Preterm Birth	0.439	1.535	0.264
Age	-0.005	0.995	0.797
Constant	-1.794	0.166	0.002
	P<0.005***	P<0.010**	P<0.050*

Figure 19: Labor Induction Pressure Likelihood by Individual Characteristics Predicted Probabilities



Next, a second logistic regression analysis measuring effects of organizational characteristics upon induction pressure was run. The models controlling for all organizational characteristic variables were not significant[28]. However, a logistic regression model, shown in Figure 18, measuring only the effect of hospital size was significant (p=0.047, Chi-Square=3.936, N=741). According to the results, for every one bed increase in number of total hospital beds, respondents were 1.001 times more likely to report feeling pressure to be induced (p=0.040).

Figure 20: Labor Induction Pressure Likelihood by Hospital Size

Model 7: Labor Induction Pressure Likelihood Hospital Size, (N=741), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Total Hospital Beds	0.001*	1.001	0.040
Constant	-2.248	0.106	0.000
	P < 0.005***	P < 0.010**	P < 0.050*

[28] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.10.

Patient Autonomy: Do Women Choose to be Induced?

The final induction analysis examined who made the choice to have labor induction. Do respondents report having complete agency, or do doctors have all the control? In line with Reproductive Justice framework arguments, it was expected that respondents were more likely to report that the respondent's doctor, not the individual respondent, chose for them to be induced.

> H4: There is greater likelihood a woman will not decide to be induced (a doctor will decide), than a woman will decide to be induced.

The induction choice model examined who made the final decision that a respondent would be induced (mainly respondent, mainly doctor, both). The sample size of respondents was quite small (N=113) since it included only the participants who had an induction. The findings were different from what was hypothesized, as a higher percentage of respondents stated that they made the decision to have an induction. Of the respondents induced, 52.2% reported that it was their decision to be induced (59 of 113), only 17.7% (20 of 113) reported that their medical provider decided, and 30.1% (34 of 113) reported that both the respondent and the medical provided decided for the respondent to have an induction[29]. Logistic regression models examining the relationship

[29] Induction Choice was recoded into four different variables (inducechoiceDR (respondent only choice dichotomized variable (1= Respondent Decision, 0=Doctor, Both, Don't Know)), inducechoiceDD (doctor only choice dichotomized variable (1=Medical Professional decision, 0= Respondent, Both, Don't Know)), inducechoiceDA (respondent agency dichotomized variable (1= Respondent or Both (Respondent Agency), 0= Medical professional, Don't know)), and inducechoiceDDA (doctor dichotomized variable (1= Medical Professional or Both (Respondent Agency), 0= Respondent, Don't know)). None of the models were significant when these variables were introduced to a logistic regression model with sociodemographic & individual characteristics and organizational characteristics.

between induction choice and sociodemographic and individual characteristics and hospital characteristics were not significant and not reported.

Induction Discussion

The induction analysis indicated that there were no organizational characteristics that significantly affected the likelihood of labor induction. When considering the effect of individual characteristics however, there were significant relationships between induction likelihood and race, diabetes, and obesity. These findings supported what has previously been documented in research. Nevertheless, as previously mentioned in the cesarean delivery chapter, the results suggested that there may be a different explanation for these findings. Organizational theory provides an alternative explanation, that doctors may be alarmed by diabetes and obesity as characteristics which could negatively affect labor and birth. Therefore, to avoid adverse outcomes and risk of liability doctors may be motivated to conduct a medical intervention like labor induction. This is yet another example of defensive medicine in opposition or medically necessary procedures. Still, further research through observations and interviews must be done in order to confirm these assumptions.

Electronic Fetal Heart Rate Monitoring

In addition to labor induction, EFM is a labor and birth procedure used to help women have a safe and healthy birth. Before women are induced or have a cesarean delivery, they likely wear an electronic fetal heart rate monitor to observe the fetus and

measure the fetus' condition. This monitoring is a preventative measure to document any changes in the fetus' heart rate during labor. EFM can also prevent unnecessary medical treatments and confirm that labor is progressing safely (ACOGb 2018). However, a risk of continuous EFM is that it could cause an increase in medical interventions (ACOGb 2018). Unsurprisingly, there is an association between cesarean rates and both continuous EFM and labor induction; cesareans are the likely mode of delivery after failed labor induction and continuous EFM because they both increase the probability of medical interventions (Kjerulff et. al. 2017, Paterno et. al. 2017). However, solving uncertainties may rest on women's backs differently, as examined from a Reproductive Justice framework.

Sartwelle, Johnston, and Arda (2016) argued that electronic fetal heart rate monitoring (EFM) became the standard of care in labor and birth despite evidence contesting its effectiveness. Doctors believed EFM was a tool to avoid lawsuits and reduce liability. The fear surrounding liability "inspired the modern obstetrical mantra, 'no one gets sued for doing a C-section. They get sued for not intervening'" (Sartwelle et al. 2016:3). Studies have focused on the negative effects continuous EFM has for women, particularly that its use increases the likelihood of cesarean delivery (Paterno 2017). Additionally, the increased risk of cesarean delivery is likely linked to the time-span of EFM use (Frey, Liu, Lynch, Musindi, Samuels, Rood, Thung, Bakk, Cheng, and Ladon 2018, Paterno et al. 2017). According to Paterno et al. (2017), it is likely that the risk of cesarean increases as the duration of EFM increases. Therefore, though EFM is a

tool doctors use to reduce uncertainty and risk, a consequence is an increased likelihood of cesarean delivery, ultimately increasing health risks for women giving birth.

Listening to Mothers III EFM Data

Of the 903 study respondents, 667 (approximately 74%) reported that they experienced electronic fetal heartrate monitoring during their birth[30]. Of the respondents who had a vaginal delivery or labored prior to having a cesarean delivery (N=780), only 9.9% (77 of 780) did not have EFM, and 4.6% (36 of 780) did not know if they had EFM. Of the respondents who labored prior to cesarean delivery or delivered vaginally, approximately 86% experienced EFM. As shown in Table 5, of those who experienced EFM, 69.6% were White and 30.4% were not White, 65.2% had private insurance, 23.2% had Medicaid, 5.5% had other government insurance, 3.7% paid out of pocket, and 2.2% did not know what type of insurance they had; and 13.1% had less than a high school degree and 85.9% had more than a high school degree. In terms of individual characteristics[31], 18.3% of those who had EFM were obese, 5.7% had diabetes, 7.3% had a preterm birth, and 10.6% had a previous cesarean delivery[32]. In terms of organizational characteristics, 15.1% of respondents who experienced EFM gave birth at a for-profit hospital, 18.7% gave birth at a Catholic affiliated hospital, 74.1% gave birth at system member hospital, 64.5% (430 of 667) gave birth at a hospital with an operating margin

[30] Of the remaining 236 respondents, 123 respondents had a cesarean delivery and did not labor prior to birth and therefore would not have had the possibility of experiencing EFM.
[31] The mean for age was 30.2 (SD=5.8) and a mean of 1.8 for parity (SD= 1.1).
[32] Of those who had a previous cesarean delivery, 83.5% had EFM.

below five, and 51% (340 of 667) of respondents gave birth at a hospital with a days in net patient accounts receivable greater than the median. Last, of the respondents who had EFM 42% were induced and 17.2% had a cesarean delivery.

Table 7: Characteristics of Women by Electronic Fetal Heartrate Monitoring

Sociodemographic Characteristics of Electronic Fetal Heart Rate Monitoring	*Number of Cases*	*Percentage of Electronic Fetal Heart Rate Monitoring Sample*
EFM	667	
Race/Ethnicity		
White	464	69.6
Not White	203	30.4
Insurance Status		
Private	435	65.2
Medicaid	155	23.2
Other Government	37	5.5
Out of Pocket	25	3.7
Don't Know Insurance	15	2.2
Education		
HS or Less	87	2.2
Greater than HS	580	13
Individual Characteristics		
Obesity	122	18.3
Not Obese	545	81.7
Type 1 or 2 Diabetes	38	5.7
No Diabetes	629	94.3
Previous Cesarean	596	89.4
No Previous Cesarean	71	10.6
Preterm Birth	49	7.3
No Preterm Birth	618	92.7
Ownership Status		
For Profit	101	15.1
Not for Profit	566	84.9
Catholic Affiliation		
Catholic Affiliation	125	18.7
No Catholic Affiliation	542	81.3
System Membership		
System Member	494	74.1
No System Member	173	25.9
Financial Health Variables		
OpmarFive (above Five)	237	35.5
OpmarFive (below Five)	430	64.5
DnparMed (above median)	340	51
DnparMed (below median)	327	49

Does Everyone Experience EFM, or Do Individual & Organizational Characteristics Matter?

As predicted with cesarean delivery and labor induction, it was expected that individual and sociodemographic characteristics would influence the likelihood of EFM. This was because hospitals are motivated to reduce uncertainties, and implementation of technology such as EFM is considered a way to reduce risk of liability and unwanted birth outcomes. I anticipated that a respondent's race, insurance status, age, and if they are obese or have diabetes would affect their likelihood of EFM.

H1a: Women of color are more likely to undergo EFM than White women.

H1b: Women of lower SES are more likely to undergo EFM than women of high SES.

H1c: Obese women are more likely to undergo EFM than women who are not obese.

H1d: Women with diabetes are more likely to undergo EFM than women without diabetes.

H1e: As women's age increases, the likelihood of undergoing EFM increases.

I ran a logistic regression model measuring the effect of individual and sociodemographic characteristics upon EFM. Though there were no instances of multicollinearity, the model was not significant ($p=0.053$, Chi-square=20.802, $N=780$). Since this model was not significant, a model with only included individual characteristics (obesity, diabetes, previous cesarean, age, parity, preterm birth) and excluded sociodemographic variables (race, insurance, education) was run and was

significant (p=0.035, Chi-square=13.551)[33]. As shown in Figure 19, there was only one significant relationship in the model. According to the analysis, as parity increased, the likelihood of a woman experiencing EFM increased (p=0.012, Exp(B)=1.422).

Figure 21: EFM Likelihood by Individual & Sociodemographic Characteristics

Model 8: EFM Likelihood by Individual & Sociodemographic Characteristics, (N=780), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Obesity	0.372	1.450	0.212
Diabetes	-0.152	0.859	0.709
Previous Cesarean	-0.527	0.591	0.128
Parity	0.352***	1.422	0.012
Preterm Birth	-0.313	0.731	0.385
Age	0.013	1.013	0.491
Constant	0.820	2.271	0.131
	P<0.005***	P<0.010**	P<0.050*

In the next model organizational characteristics were introduced to measure their effect upon EFM likelihood. Similar to expectations regarding labor induction, it was anticipated that organizational characteristics would increase the likelihood of a respondent experiencing EFM. Again, EFM is a procedure that can be utilized to provide

[33] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.11.

tangible evidence on the behalf of medical professionals. Organizational theory would posit that doctors are likely to employ EFM as a means to reduce risk of lawsuit and liability. Therefore, it suggests that respondents who give birth at for-profit hospitals, small hospitals, system hospitals, and hospitals with weak financial health are more likely to undergo EFM, because doctors will be even more concerned with reducing risk of lawsuit in order to ensure organizational survival.

> H2a: There is greater likelihood of a woman experiencing EFM in for-profit hospitals than not-for-profit hospitals.
>
> H2b: There is greater likelihood that a woman experiencing EFM in a small hospital than in a large hospital.
>
> H2c: Women are more likely to experience EFM at a system hospital, than at a non-system hospital.
>
> H2d: Women that give birth at hospitals with weak financial health are more likely to experience EFM than women who give birth at hospitals with strong financial health.

The logistic regression model measuring the effect of organizational characteristics upon EFM likelihood was not significant (p=0.798, Chi-Square=3.086, N=780)[34] [35]. However, it is important to note that of respondents who gave birth at a for-profit hospital, 87.8% (101 of 115) had EFM compared to 85.1% (566 of 665) at not-for-profit hospitals; for those at a non-Catholic affiliated hospital 85.8% (545 of 632) had

[34] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.12.

[35] When running the logistic regression model with only each individual organizational characteristic variable, there were still not significant models.

EFM, compared to 84.5% (125 of 148) at a Catholic affiliated hospital; and for respondents at a system hospital 85.5% (494 of 578) had EFM, compared to 85.6% (173 of 202) at a non-system member hospital; for respondents at hospitals with a low *DnparMed* 86.7% (327 of 377) had EFM, and for those with a high *DnparMed* 84.4% (340 of 403) had EFM; and finally for those who gave birth at a hospital with an operating margin below five (*OpmarFive*) 85% (430 of 506) had EFM, and for respondents at a hospital with a high *OpmarFive*, 86.5% (237 off 274) had EFM. These statistics illustrated that across the board, regardless of organizational characteristics, around 85-86% of respondents experienced EFM.

EFM Discussion

Although models assessing EFM likelihood were not significant, there were important findings to consider. While these findings and lack of significant regression models contradicted the expected hypotheses, they also demonstrated the incredibly high rate of EFM in United States hospitals. The analysis documented that across all characteristics of hospitals, the percentage of respondents that had EFM was around 84-87%. Thus, it showcased a concern that the majority of women experienced EFM. This is concerning for many reasons. First, EFM likely immobilizes women, locking women to their beds and hospital rooms, making it very difficult to utilize exercises to induce labor or reduce labor pains. The inability to practice these techniques may lend to a greater likelihood for induction, cesarean delivery, and the administration of pain medication. For example, one respondent stated:

> "I would not have been induced. It was the worst decision I made. I feel that was the reason that I had to have a C-section. I should have waited until she wanted to come out!!!"

Women should have agency to decide to have these procedures, they should not have the likelihood of these procedures increased because of EFM.

This lends to the second reason for concern, that EFM is not as reliable as it may be expected. In fact, there is much debate about the accuracy of the EFM readings. What is most concerning about the inaccuracy of EFM, is the false-positive test results. These results may indicate to a doctor that a surgical intervention is necessary, thus resulting in a medically unnecessary cesarean delivery. As discussed in the previous chapter, there are many risks for the mother and fetus associated with medically unnecessary cesarean deliveries, and thus one of the reasons why the high percentage of EFM is a concern.

Finally, the last reason for concern, is that EFM has become a standard of care for medical professionals. As discussed above, EFM can lead to negative outcomes and poor patient experiences in labor and birth. Therefore, one might think that medical professionals should be critical and apprehensive of EFM. However, EFM serves as a tool to protect doctors from lawsuits and liability. Though future observatory research should be conducted to examine this issue further, one might surmise from the data that this high percentage of respondents experiencing EFM could largely be driven by doctor's need to have tangible evidence protecting them from lawsuits. If this is the case the fault need not lie simply in the hands of doctors, but in a flawed medical system, and one that does not put the care of women first.

Does Socioeconomic Status Lead to Discrimination in Labor and Birth?

The next step in analysis was to examine the effect of individual characteristics upon patient's report of experiencing insurance-based discrimination. Previous studies have indicated that socioeconomic disparities in reproductive care mirror the disparities for individuals with low SES in all departments of healthcare. Therefore, it was expected that those with low SES were more likely to report experiencing insurance-based discrimination than those with high SES.

The second SPSS model examined the likelihood of individual and sociodemographic characteristics affecting a respondent reporting insurance discrimination. The model was significant (p=0.000, Chi-Square=95.474, N=903), and there was no indication of multicollinearity[36]. I expected that respondents with low SES (Medicaid insurance, Other Government Insurance, Out of Pocket, and Don't Know Insurance, and High School education or less) would be more likely to report insurance discrimination than respondents with higher SES. This hypothesis was supported by the results of this logistic regression model.

In terms of insurance status, the odds of a respondent with Medicaid to report insurance discrimination was greater than a respondent with private insurance (Exp(B)= 2.413, p=0.003). The predicted probability of a respondent with Medicaid to report insurance discrimination was 9.8% compared to 4.5% for non-Medicaid respondents.

[36] Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. The correlation matrix can be found in Appendix 1.14.

The odds of respondents with government insurance (other than Medicaid) to report insurance discrimination was greater than respondents with private insurance (Exp(B)= 4.445 p=0.000). The predicted probability of a respondent with government insurance to report insurance discrimination was 17% compared to 4.5% for non-government insurance respondents. For those who did not have insurance and paid "out of pocket," the odds of reporting insurance discrimination were greater than individuals with private insurance (Exp(B)=7.327 p=0.000)[37]. The predicted probability of a respondent who "paid out of pocket" to report insurance discrimination was 25% compared to 4.5% for non- "paid out of pocket" respondents. Finally, for respondents who did not know what their primary form of insurance was, their odds were greater than those with private insurance to report insurance discrimination (Exp(B)=3.832 p=0.018). The predicted probability of a respondent that did not know what their primary form of insurance was to report insurance discrimination was 15% compared to 4.5% for respondents that did know their insurance.

The second variable measuring socioeconomic status, education, was also included in the model for analysis. According to the model, the odds of a respondent with a high school degree or less reporting insurance discrimination was greater than respondents with greater than a high school education (Exp(B)=1.995, p=0.020). The predicted probability of a respondent with less than a high school degree reporting insurance discrimination was 8.2% compared to 4.3% for respondents with more than a

[37] Compared to respondents with Medicaid, the log odds of a respondent paying "out of pocket" to report insurance discrimination was 3.036 (p=0.019).

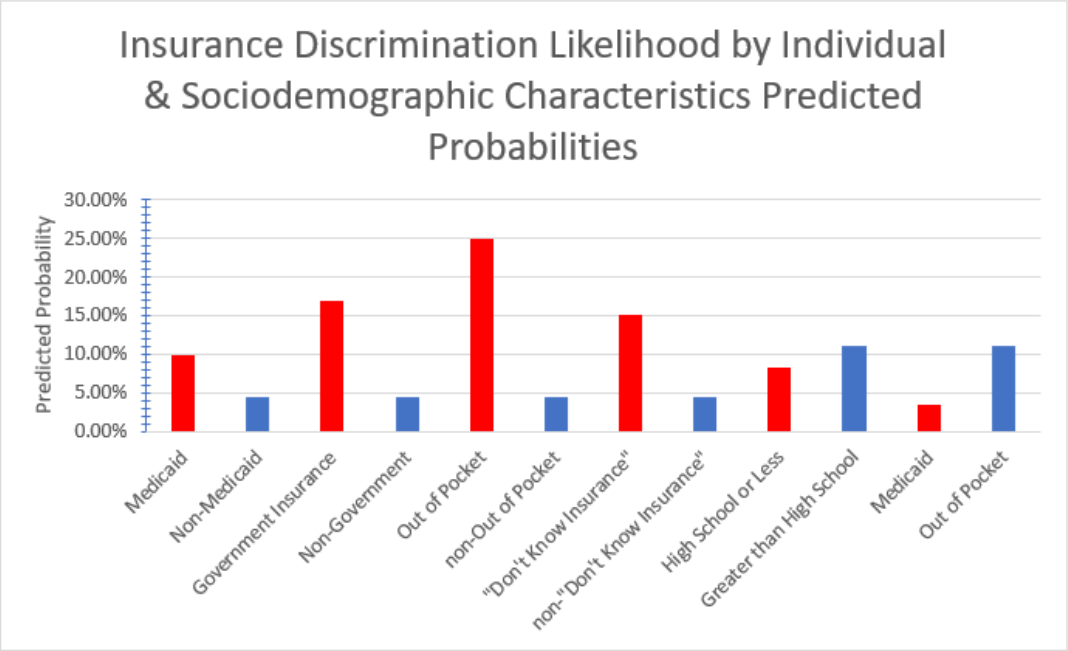
high school degree. Finally, as with the racial discrimination variable, this model also showed a relationship between Type 1 or 2 diabetes and insurance discrimination. The predicted probability of a respondent reporting racial discrimination for a patient with Type 1 or 2 diabetes was 21%, compared to 4.3% for those without diabetes (Exp(B)=5.916, p=0.000). The logistic regression findings can be seen below in Figure 22, and the predicted probabilities can be seen in Figure 23.

Figure 22: Insurance Discrimination by Individual & Sociodemographic Characteristics

Model 10: Insurance Discrimination Likelihood by Individual & Sociodemographic Characteristics, (N=898), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
White			0.448
Black	0.372	1.451	0.320
Hispanic	0.422	1.525	0.166
Other Race	0.441	1.555	0.348
Private Insurance			0.000
Medicaid	0.881***	2.413	0.003
Other Government Insurance	1.492***	4.445	0.000
Out of Pocket	1.992***	7.327	0.000
Don't Know Insurance	1.343*	3.832	0.018
High School or Less	0.691*	1.995	0.020
Obesity	-0.162	0.851	0.619
Diabetes	1.778***	5.916	0.000
Previous Cesarean	-0.680	0.507	0.075
Parity	0.006	1.006	0.958
Preterm Birth	0.176	1.192	0.685
Age	-0.030	0.970	0.186
Constant	-2.185	0.112	0.002
	P<0.005***	P<0.010**	P<0.050*

Figure 23: Insurance Discrimination by Individual & Sociodemographic Characteristics Predicted Probabilities



Do Organizational Characteristics Affect the Likelihood of Patient Discrimination?

In the next set of models, I introduced organizational characteristics to examine the effect of hospital characteristics upon the likelihood of reporting racial or insurance-based discrimination. Though literature demonstrates that classism and racism is inherent in reproductive care, it has not been examined whether characteristics such as ownership status or financial health increases the likelihood of discriminatory care. It was expected that women who gave birth at hospitals which were larger, in weaker financial health, and focused on profits (for-profit hospitals) would have a greater likelihood of reporting race or insurance-based discrimination.

> H9: Respondents who give birth at large hospitals are more likely to report racial and insurance-based discrimination than respondents who give birth at a small hospital.

H10: Respondents who give birth at financially weak hospitals are more likely to report racial and insurance-based discrimination than respondents who give birth at a financially strong hospital.

H11: Respondents who give birth at for-profit hospitals are more likely to report racial and insurance-based discrimination than respondents who give birth at a not-for-profit hospital.

The second set of patient discrimination models testing the likelihood of ownership status, system membership, catholic affiliation, size (total hospital beds) affecting if a patient reported experiencing racial or insurance-based discrimination were not significant. The first model that examined the likelihood of reporting racial discrimination was not significant (p=0.905, Chi-Square=2.153, N=903)[38]. The second model examined the likelihood of reporting insurance-based discrimination was also not significant (p=0.446, Chi-Square=5.801)[39]. Therefore, none of the hypotheses were supported from the logistic regression analysis.

What Does Discrimination Look Like?

The quantitative analysis indicated that individual and sociodemographic characteristics affected the likelihood of a respondent reporting racial and insurance-based discrimination. In particular, it demonstrated that respondents of low SES and Black and Hispanic respondents were more likely to report insurance and racial discrimination. To understand how respondents experience discrimination the study also

[38] I ran a logistic regression without financial health variables and the model was not significant (p=0.790, Chi-Square=1.705). I tested models with individual variables and none were significant.
[39] I ran logistic regression models with individual organizational variables, and none of the models were significant.

included a qualitative analysis of short-answer survey questions. Survey respondents were asked the following questions: *If you have a baby in the future, would you want to give birth again at the same hospital…Why or why not?,* and *If you could go back in time and give yourself any advice or information as you were going into your birth…what would it be?* The responses to these questions provided greater insight into the experience of each individual respondent beyond what could be deduced from the quantitative findings.

The researcher open-coded the two qualitative questions and created a set of codes for each question for analysis that were used to find themes and patterns in the responses. They condensed the list of codes and the recoded and finalized the data in Dedoose. For the question *would you want to give birth again at the same hospital* the following main codes were generated: Yes, No, and N/A. A total of 707 responses were coded as Yes a respondent would return to their same hospital, 77 were coded as No a respondent would not give birth at the same hospital, and 50 responses were coded as N/A because the respondent did not indicate if they would return since they had moved or would not have additional children. Each code had sub codes as follows: Yes Return- Positive Experience (265 Responses), Positive Staff (244 responses), Positive Atmosphere & Facility (82 responses), Location (52 responses), Doctor's Hospital (28 responses), Family Born There (22 responses), Respondent Autonomy (14 responses); and No Return- Negative Staff Experience (35 responses), Negative Experience (29 responses), and Negative Facility (7 responses).

For the second question, *If you could go back in time and give yourself any advice or information as you were going into your birth…what would it be* the three main codes were: Positive Experience, Patient-Focused Advice, and Hospital & Staff-Focused Advice. The Positive Experience code, in which the respondent did not have advice or had a positive experience that they would not change, had two sub codes: No Advice (255 responses) and Positive Experience (41 responses). The Patient-Focused responses, which advised respondents to change their actions or behavior, had the following sub codes: Stay Calm & Relax (148 responses), Prepare (95 responses), Sleep/Rest (40 responses), and Labor Changes (35 responses). The final code, Hospital & Staff-Focused advice, advised respondents to change aspects of their hospital experience or staff, included the following sub-codes: Respondent Autonomy[40] (83 responses) [Autonomy- Ask Questions (25 responses), Speak up (23 responses), Trust your gut (21 responses), and Birth Plan (5)], Procedure Changes (44 responses), and Change Mode of Delivery (20 responses).

Why Respondents Choose Not to Return to the Hospital they Gave Birth At?

Race:

The analysis began by examining why a respondent would not return to the hospital at which they gave birth. Regardless of race or insurance, most respondents (707

[40] The agency subcode was applicable to the Hospital & Staff-Focused Advice code because it included responses that encouraged respondents to have more agency in their labor and birth, such as speaking up against medical care or asking for medication and help.

in total) indicated they would return to the hospital at which they gave birth[41]. According to the quantitative analysis findings, Black and Hispanic respondents were significantly more likely to report experiencing racial discrimination than White respondents. However, quantitative analysis falls short of identifying what racial discrimination looks like during labor and birth. Therefore, the analysis focuses on the responses that indicated they would not return to the hospital at which they gave birth. The analysis demonstrated that common trends and reasons for why respondents would not return to the hospital were linked to negative experiences with during labor and birth.

Of the respondents, 77 indicated that they would not return to the hospital at which they gave birth[42]. The most common reason why respondents would not return was because of a negative experience they had with a medical professional. The negative staff experience theme was coded for 6% of Black respondents, 6% of respondents that were "other race", 4% of Hispanic respondents, and 4% of White respondents[43]. Respondents that identified as non-Hispanic Black provided the following quotes, "No, my experience wasn't great, the staff seemed uncaring and non-empathetic. My doctor seemed very distant. My latex allergy was not respected to the fullest and as a result I was re-catheterized," "No, I didn't like the nurse when I was in labor, she seemed like

[41] White Respondents: Yes (621), No (50), Black: Yes (87), No (10), Hispanic: Yes (141), No (14), Other Race: Yes (49), No (3), Private Insurance: Yes (588), No (45), Medicaid: Yes (215), No (25), Other Government: Yes (50), No (4), Out of Pocket: Yes (28), No (1), Don't Know Insurance: Yes (22), No (2).
[42] Of these respondents, 65% (50) were White, 18% (14) were Hispanic, 13% (10) were Black, and 4% (3) were "other race". This was the theme coded for responses by 11.5% of Black respondents, 10% of Hispanic respondents, 8% of White respondents, and 6% of "other race" respondents.
[43] Of the 38 respondents who would not return because of a negative staff experience, 13% (5) were Hispanic, 13% (5) were Black, 8% (3) were "other race", and 65% (25) were White.

she didn't care" and "No, they [were] rude." Respondents coded as "other race" stated responses such as: "No I have given birth again and switched ob [obstetrician], dr [doctor], hospital, and pediatrician. All due to hospital nurses admitting [my] son to nicu and lying to us about him being admitted," "…the nurse that attended [to] me…hurt me so bad I got traumatized," and "No I would not go back…I wasn't told there would be students in the room and they would be pulling out my organs and showing them off. I didn't even know they were doing it at the time…" For Hispanic respondents some of the responses included: "No. The rooms were not private and I had no idea who to ask for help. I felt rushed," and "NO…I had too many problems…I had to deal with a c-section by myself [because] my husband couldn't stay with me, and I have private insurance. The hospital limits the number of visits. My doctor didn't discharge me or visit me after my c-section."

These responses elucidated that respondents were lied to, physically harmed, and used as a teaching tool without consent by their medical care providers. Perhaps most alarming were the comments stating that patients were "traumatized" and that doctors ignored patient allergies. This kind of patient care not only qualifies as a negative staff experience, but increased respondents' health risks. Ultimately, these qualitative responses illustrated how staff interaction greatly affected patients during their labor and birth, and shed light to the discrimination experienced by respondents of color.

Although this qualitative analysis indicates that Black, Hispanic, and "other race" respondents would not return to their hospital because of negative experiences, it cannot directly equate these experiences to discrimination. However, by considering the

responses from respondents who reported discriminatory treatment because of their race, we can more clearly examine the ways in which women were discriminated against during their labor and birth.

When considering the respondents who reported experiencing racial discrimination, 9 of the 72 respondents said they would not return to their hospital. The most common theme for not returning was because of a negative staff encounter. For example, some responses included: “no, they were not very nice or caring,” and “…[they] seemed to get upset with me when I didn't understand them. They pushed formula and couldn't believe I wouldn't give it. They never brought me information I requested.” The trends in the responses from respondents who experienced racial discrimination again indicate the value of patient care. These respondents reported that negative behavior by staff, including patient profiling, inexperience, and failure to appropriately care for patients caused them to not want to return to the hospital at which they gave birth.

Insurance Status:

As previously discussed, the quantitative analysis indicated that respondents with low SES (Medicaid or other government insurance, respondents who paid out of pocket, and respondents that did not know what type of insurance they had) were significantly more likely to experience insurance-based discrimination than those with Private insurance. However, because this finding does not explain how and in what ways

respondents experience insurance-based discrimination, I conducted a qualitative analysis for further insight.

First, the qualitative analysis began with an examination of the respondents who indicated that they would not return to the hospital at which they gave birth. The 77 respondents who would not return to the hospital at which they gave birth included 11.6% of Medicaid respondents, 8% of "other government insurance" respondents, 9.1% of individuals who did not know what type of insurance they had, 3.6% of respondents that paid out of pocket, and 7.7% of those with private insurance[44]. The most common themes for individuals with low SES not to return to the hospital at which they gave birth, was because of a negative experience and a negative experience with a staff member. For instance, respondents with Medicaid insurance stated that "…I would state that I don't want nurse Jill anywhere near me or my baby or any of my family for that matter she talks out of turn and start drama and worry. She told my family my baby born 7/20/11 might have downs syndrome. (He didn't he's fine.) But really why would some old nurse say that? She's not a doctor shouldn't a doctor break that kind of news? I was still all drugged up from the c-section I hadn't even held my baby and had barely seen him, and & she was all like "he might have downs you should prepare yourself". WTF?? Can't I enjoy my baby before hearing new like that?! [I'm] still mad about that and it's been a year and a half!!" and "Not sure if I would want to use the same dr. There were several incidences that I was not happy with concerning the actual birth of my

[44] Of the 77 respondents, 58.4% (45 respondents) had private insurance, 32.5% (25) had Medicaid, 5.2% (4) had other government insurance, 1.3% (1) paid out of pocket, and 2.6% (2) paid out of pocket.

son." A respondent with other government insurance also stated, "I would prefer to be at another hospital because I don't think the nurses cared very well for me."

The second most common theme was Negative Experiences. For example, respondents on Medicaid indicated negative experiences, "[Hospital Name Redacted] needs to be closed down. They are in [violation of] one safety policy after another and profile parents regarding religion, marital and financial status in order to violate their rights," "My pain management was not dealt with properly and I was treated like I was someone who abused pain medication," "The hospital I gave birth at was very unprofessional and did not care about my wants for my birth of my child. I will not deliver at this hospital again," and "No, they was rude and they got me reaalll guhhh," Additionally, one respondent that did not know their type of insurance stated "…One of the things I wish I could change about my first baby's birth was the amount of control I had. I didn't like being strapped down, forbidden to move around, and not given any food. Going into labor weak from lack of food is a bad idea, if you ask me. I also didn't like that I wasn't listened to when it came to being induced. I decided quickly after my labor that the next time I had a baby, I wanted to do it in the comfort of my own home with a midwife…" These responses demonstrated the negative care received by patients with low SES, which lead to their decision not to return to the hospital. Respondents indicated that 1) their limited agency and control over their labor and birth, 2) the lack of empathy from professional staff, and 3) being treated as an individual with substance abuse problems, all were negative experiences they encountered that derailed them from wanting to return to their hospital.

It is also important to examine the responses from respondents that received discriminatory treatment because of their insurance status. Of the 94 respondents who experienced insurance-based discrimination, 12 stated that they would not return to the hospital at which they gave birth. The most common theme for why they would not return was again due to a negative staff encounter. Respondents stated, "No they had rude nursing staff and the anesthesiologist messed up my epidural, and they kept trying to have students work on me during birth," "No, they did not help me get up and down after the [cesarean delivery], my fiancé did all that. They messed up my iv's to where now I have knots in my hands, when my water broke they did not help change the pads my fiancé did it," "No. It seemed as if they were new trainees," "…they [were] a little rude when this should be a happy occasion," and "No, because the nurse staff is not very understanding and they make you feel stupid…One nurse tried to tell me that I was not having contractions and have me a sleeping pill which delayed my labor since my son was asleep when he should have been up. I was indeed in labor and that nurse gave me a sleeping pill and sent me back home instead of checking me into the hospital." These responses demonstrate how respondents received poor or no care at all, were made to feel "stupid," and even had their epidural and iv's incorrectly managed. Again, alarming responses such as respondents feeling stupid, receiving sleeping pills instead of being admitted to the hospital, and lack of care from staff. These quotes demonstrate the reasons which respondents that were discriminated against not return to the hospital at which they gave birth.

The qualitative analysis examining why a respondent would not return to their hospital yielded three important findings. First, staff interaction with patients was very important to the labor and birth experience, so much so that when respondents felt they were treated poorly by staff, they decided that they would give birth at a different hospital in the future. Second, it illustrated how important it is for hospital leadership to be aware of the value of excellent patient care, so that they can 1) implement and uphold first-rate policies and practices for patient care, and 2) to ensure that the needs of hospital staff are met so that they can focus on providing the best possible patient care.

What Advice Would Respondents Give Themselves?

The analysis continued by examining responses to the question *If you could go back in time and give yourself any advice or information as you were going into your birth?* To better understand discrimination experienced by respondents of color and low SES, the analysis centered on responses coded as Hospital & Staff Advice. A trend in the analysis specified that respondents of color and low SES indicated that they would advise themselves to have greater autonomy and agency. This means that respondents would have advised themselves to speak up more, have greater control, and trust their gut during their labor and birth experience.

Race and Ethnicity:

When considering what advice respondents would give themselves, of the Hospital & Staff-focused coded responses, the most common theme for Black, Hispanic,

and “other race” respondents was patient autonomy. A total of 9.2% of Black respondents, 8.2% of “other race” respondents, 5.7% of Hispanic respondents, and 10% of White respondents provided responses coded as patient autonomy[45][46]. The responses that Black respondents provided included: “I would tell myself to relax more and trust my instinct more than worry about all the technical information given to women during birth. Information is good but you should always listen to your body,” “I would have told the neurologist to wait to do my epidural until he had the right amount of medicine and not a little bag, which he changed and then it made me sick” and “…voice my opinion more and trust my body. Not allow doctors to impose a pace on you that might end up in having to use other medical devices...” Respondents coded as “other race” provided responses that stated: “Trust the resources that are out there and be more proactive and confident in asking about things you don't know,” “Take the pain medication sooner. I wasn't given any because I waited too long in asking,” and “look after myself more…” Finally, responses from Hispanic women that were coded as patient autonomy included: “Fight like the Mama bear you are. Do not let anyone tell you how to parent your child, especially doctors that try to bully you by giving misleading information. You can do it, because you have maternal instincts that will overcome so much in the future,” “… don't pretend like everything is ok when it isn’t.

[45] Of the 83 respondents who advised themselves to have greater patient autonomy, 76% (63 respondents) were White, 9.6% (8) were Black, 9.6% (8) were Hispanic, and 4.8% (4) were “other race”.
[46] Although there are a greater percentage of White respondents reporting this code than the other racial categories, I report these findings, because it was the most common theme for Black, Hispanic, and “other race” respondents.

Speak up, they are there to help," and "Be more vocal about the nursing concerns, it would have saved a lot of stress."

These respondents suggest that women of color more frequently wished to have increased autonomy and a different labor and birth experience. The most interesting responses are those that advise women to speak up to medical professionals in order to avoid certain medical procedures and pain killers. It exemplifies how informed respondents are, but that they have to have autonomy during labor and birth to ensure a positive experience. This trend highlights a need for further observational research, to better understand why the respondent, as opposed to the medical care provider, has to monitor their care and treatment to this extent in order to ensure a positive labor and birth experience.

The qualitative analysis also analyzed the responses from respondents that reported experiencing racial discrimination. When asked what advice they would give, of the Hospital & staff-focused responses, respondents also said that they should have more autonomy. Similar to responses from Black, Hispanic, and "other race" respondents, those who experienced racial discrimination provided responses that advised themselves to speak up more, ask for help when necessary, and trust their instincts[47]. These qualitative findings hold that respondents who reported racial discrimination advised themselves to have more agency and give birth at a different hospital. Paired with the preceding qualitative analysis of experiences according to race,

[47] These quotes were not provided as they have already been referenced elsewhere.

this demonstrates how respondents would combat racial discrimination by having greater autonomy and control during labor and birth.

Insurance Status:

The analysis of the responses regarding the advice a respondent would give themselves also examined responses from women of low SES. Of the Hospital & Staff-Focused coded responses, the theme that was most frequent for low SES respondents was again patient autonomy. For instance, a respondent that paid out of pocket stated: "I would tell myself that back labor is excruciating. And not to listen to the nurse who told me to breathe through the contractions - the way I coped with the pain was to cry towards the end of each contraction and it worked just fine for me. Crying has always been a stress reliever for me." Respondents with Medicaid also provided the following advice, "Take the pill medicine sooner, and not be so nervous about everything," "I would speak my mind if I feel like something is wrong. When I first felt like something was wrong, I didn't speak up and ended up that my son was so small. He wasn't that active in the last 2 weeks of my pregnancy. I think that I was afraid to face the problems that he could have," and "Expect certain services for yourself." Finally, those who had other government insurance said: "speak up more," and "Don't listen to the nurse when she tells you to push…" As with the responses from women of color, women of low SES advised themselves to have greater autonomy and advocate for themselves during labor and birth. These responses are similar and suggested that respondents be more vocal with doctors and more proactive about pain medication in the future.

This qualitative analysis has demonstrated how women of low socioeconomic status would advise themselves to have greater autonomy and control during their labor and birth. Additionally, the analysis examined responses from respondents that received discriminatory treatment because of their insurance status. Of the respondents the endured insurance-based discrimination, 9 indicated that they would give Hospital & Staff-focused advice to themselves. Again, the most common theme in responses dealt with patient agency. For example, responses included the following statements: "Follow your instincts and do not take the sleeping pill that the nurse gave me. Refuse to leave the hospital because I was definitely in labor," "Speak when I am being hurt," and "I would ask nurses when I'm unsure." These responses suggested that respondents felt that they should have asked questions or spoken up when in pain and had more control over what medication they were given from the medical staff.

The qualitative analysis of the advice respondents would have given themselves demonstrated what respondents would have changed in regards to the hospital and or staff they encountered. Across the board, patient autonomy was the most common theme in analysis. Advice coded as patient autonomy included respondents encouraging themselves to trust their own instincts, look after themselves, and speak up when they were hurt or did not agree with what was transpiring. They also told themselves to "fight like the mama bear you are," and urged themselves to succumb to pressure from nurses. Finally, respondents also suggested they have autonomy and control when it came to pain medication. Overall, this trend indicated that these patients were unhappy with their care, that they should have spoken up to make changes, and that they trusted themselves

and their instincts more so than medical staff. This finding is interesting, because it shows that patients more often cited changing their experience to have more patient autonomy rather than changing their mode of delivery, changes to procedures, or any experience that was not mentioned in the responses. This qualitative finding demonstrated where reproductive care providers ought to focus their attention: on ensuring positive patient care and allowing patients to greater autonomy during their labor and birth experience.

Patient Discrimination Discussion

The quantitative analysis findings determined that Black and Hispanic women were more likely to report racial discrimination than White women, and women of lower SES (Medicaid, Other government, Out of Pocket, Don't Know Insurance, and High School Education or Less) were more likely to report insurance-based discrimination than women with private insurance and more than a high school degree education. These results support what has previously been discussed in the literature and reproductive justice arguments (Attanasio et al 2015, Ross et. al. 2017). As demonstrated by the Reproductive Justice framework, respondent sociodemographic characteristics negatively affected women's labor and birth experiences and highlighted how reproductive practices had racist and classist undertones (Ross et. al. 2017).

Despite findings about the effect of sociodemographic characteristics upon patient experiences, the quantitative analysis did not support the hypothesis that organizational characteristics would influence the likelihood of a patient reporting racial

or insurance-based discrimination. This could partly be due to the small sample size of respondents that reported racial (N=72) or insurance discrimination (N=94). However, it also could indicate that this racial and insurance-based discrimination is widespread and not central to a specific type of hospital. This is something that I argue needs for further research through interviews and observation.

Finally, the qualitative analysis in this chapter shed light to specific ways respondents experienced discrimination during their labor and birth. It is important to note that respondents of color and respondents of low SES reported 1) that negative labor and birth experiences and negative treatment by staff were reasons why they would not return to the hospital at which they gave birth, and 2) that they would advise themselves to have greater autonomy and control during their labor and birth experiences. These findings emphasized the effects of negative and discriminatory care.

An examination of responses from respondents that had racial or insurance-based discrimination also demonstrated that first, respondents would not return to their hospital use of negative experiences and encounters with staff, and second, respondents advised themselves to have greater agency and control over their labor and birth experience. These findings are perhaps even more important than the findings from respondents of color and low SES because they specifically document the treatment of those who reported discrimination. Therefore, this information can inform women as to what they might experience and the importance of patient agency, and advise hospital administrators and medical professionals to implement policies and practices that do not uphold classist and racist views.

The findings from the qualitative analysis also provide an interesting consideration for hospitals. Resource dependency theory suggests that organizations are focused organizational efficiency and survival, and earlier quantitative findings suggest that hospitals' concern with profitability affects patient care. However, the qualitative analysis indicates that this focus on profitability could be negatively affecting the hospital, since patient care impacted if respondents would return to the hospital at which they gave birth. Respondents indicated that because of negative experiences and negative encounters with staff would cause them to not to return to the hospital at which they gave birth. Therefore, I encourage hospital administrators to consider this finding, and recognize that not being patient-centered could be harming patient return rates and the hospital's overall profits. Though interesting, I suggest that this trend be studied further through observations of labor and birth experiences, interviews with hospital administrators and staff, and closer examination of hospital financial records.

CHAPTER V

DISCUSSION AND CONCLUSION

This dissertation looks at the intersection of the Reproductive Justice framework—which suggests how individual characteristics, specifically race and socioeconomic status, of women affect their reproductive lives—and resource dependent theory—which contextualizes the potential effect of organizations on women's reproductive lives. The analysis supports the contentions of both frameworks: organizational characteristics do affect women's labor and birth experiences and women experience both racial and socioeconomic-based discrimination in labor and birth. These findings are cutting edge. Although literature has previously shown how women's individual characteristics affect their reproductive process and outcomes, there is a lack of literature on how organizational characteristics, such as ownership status and financial health, affect the likelihood of respondents having a cesarean delivery (see Morris et al. 2017 for an exception). The findings also demonstrated that women of color and lower socioeconomic status were more likely to report discrimination than White women and women of high socioeconomic status. The qualitative analysis showcased how often women cited that this discrimination comes in the form of physical harm, negative treatment, and disregard for the patient's medical conditions.

Summary of Findings

The analysis indicated support for the hypothesis that organizational characteristics affect the likelihood of a respondent having a cesarean delivery. The research demonstrated that respondents that gave birth at hospitals that were for-profit and had poor financial health or low measures of profitability (H2c), were more likely to have a cesarean delivery. However, this was not the case when considering the likelihood of labor induction (H2a, H2d) and electronic fetal heartrate monitoring (H2a, H2d). When testing the relationship between organizational characteristics and Induction (H2a-d) and EFM(H2a-d) the outcomes were not significant.

As expected, the results confirmed that individual characteristics affected the likelihood of cesarean delivery, labor induction, and EFM. Respondents that were obese (H1c), were older in age (H1e), and had a previous cesarean were significantly more likely to have a cesarean delivery. Respondents that were White (H1a), obese (H1c), and had Type 1 or Type 2 diabetes (H1d) prior to pregnancy were more likely to be induced. Finally, as parity increased, the likelihood of a woman experiencing EFM increased. These findings supported what has previously been discussed in the reproductive research. However, I suggest that organizational theory is an alternative way to explain these findings. I argue that, especially when considering obesity and diabetes, these individual and sociodemographic characteristics increase doctor's concern about the labor and birth, and motivate doctors to practice defensive medicine as a means to reduce risk of lawsuit and liability. Thus, organizational theory explained this hospital

organizational behavior and the increase in likelihood of procedures for women with certain individual characteristics.

In terms of discrimination, the research findings confirmed that Black and Hispanic women (H1, H2) were more likely to report racial discrimination than White women, and women of lower SES (Medicaid, Other government, Out of Pocket, Don't Know Insurance, and High School Education or Less) (H4-H8) were more likely to report insurance-based discrimination than women with private insurance and more than a high school degree education. However, the analysis did not indicate that hospital organizational characteristics affected the likelihood of a respondent reporting racial or insurance-based discrimination (H9-H11). This could be because the number of respondents that reported discrimination was quite small (racial discrimination N=72, insurance discrimination N=94).

Finally, the qualitative analysis demonstrated the ways in which respondents experienced discrimination during labor and birth. The respondents of color and low SES reported 1) that negative labor and birth experiences and negative encounters with staff were reasons why they would not return to the hospital at which they gave birth, and 2) that they would advise themselves to have greater autonomy in the future by trusting their own instincts, speaking up when having problems, and having greater control over their pain medication and labor and birth procedures. For the respondents that reported racial or insurance-based discrimination trends in the data indicated that 1) negative experiences and negative encounters with staff were reasons why they would not return to their hospital and 2) they would advise themselves to have greater agency

and control over their labor and birth experience and care. These findings demonstrate, as Reproductive Justice framework explains, how women of color and low SES can be exploited and controlled during labor and birth.

Recommendations

The findings of this dissertation research have important implications for both academia and the medical sphere. First, the findings demonstrate to both reproductive health and organizational sociology scholars that organizational characteristics affect reproductive healthcare. This emphasizes a new finding and the need for further research on the effect of organizations on reproductive health. It will also hopefully encourage additional cross-discipline research in the future. Second, the findings provide support for previous research about the influence of individual characteristics upon labor and birth experiences and the trends of racism and classism in reproductive care.

Next, in the medical sphere, the findings have documented how a focus on profits, organizational survival, and reducing risk of liability has trickled down to affect patients. Based on the research I believe that hospital administrators and medical professionals should consider revising or implementing patient care protocols which center on the patient. Protocols and guidelines ought to be adjusted to focus more on the patient and not on organizational efficiency and profitability. Additionally, administrators and professionals should be more cognizant of the trends of racism in classism in reproductive care, and perhaps attend trainings or seminars which address ways to avoid these patterns of care. Finally, I anticipate that the dissemination of the

findings from this dissertation can help pregnant women have more autonomy during their labor and birth experience. This was often mentioned by respondents as something they would want to change in their future births. In sharing the findings from this study, women can understand the patterns associated with individual, sociodemographic, and hospital characteristics and labor and birth experiences. For example, if a woman does not desire to have a cesarean delivery, with the dissertation findings in mind, she may consider attending a not-for-profit hospital for her birth instead of a for-profit hospital. Ultimately, having more information about these trends in reproductive care can give women more awareness and control in future labor and birth experiences.

Future Work

Though the findings of this study are important, further research on the effect of organizational characteristics upon labor and birth and an examination of how these experiences differ based upon patient's race and socioeconomic status is needed. Foremost, due to the nature of this data set, the data was only collected from pregnant women after their labor and birth experience. Therefore, I have two suggestions for future research. First, I suggest that observations and interviews ought to occur with women during the labor and birth procedure, to document their treatment and experience in real time. Second, this data does not include responses or observations from medical professionals or hospital administrators[48]. I suggest that future research should conduct

[48] I do think it is very important that we have this data set as often women's voices are silenced, especially in terms of their reproductive experience.

interviews and observations to obtain information from medical professionals. Interviews and observations would allow researchers to 1) acquire information and observe the actions and behaviors from medical professionals, 2) ask medical professionals about hospital policies and practices, and observe if and how they affect patient care, and 3) ask further questions or document observations about patient discrimination.

One of the main findings from this dissertation was that organizational characteristics do affect the likelihood of a respondent having or being pressured to have a cesarean delivery. Specifically, respondents that gave birth at a for-profit hospital or at a hospital with low profitability were more likely to have a cesarean delivery. To better understand the implications of these results, future studies could address this effect of profitability on reproductive care. I provide two suggestions. First, organizations such as Childbirth Connections[49] must continue to collect hospital data when surveying women about reproductive care. This will generate data and information necessary to conduct this research and set the precedent that organizational information does matter. Second, I suggest that future research ought to move to the hospital setting, and examine 1) the hospital policies, staff policies, and labor and delivery unit protocols which effect or are affected by concerns with profitability, and 2) dialogue among administrators, doctors, and nurses about profitability.

[49] This was the organization that conducted the *Listening to Mothers III* survey.

Finally, further research is imperative to examine the racist and classist trends in reproductive care. I argue that the quantitative analysis examining the factors that affected the likelihood of racial or SES discrimination failed because of the small sample size of respondents that reported racial or insurance-based discrimination. However, this dissertation has provided support for arguments that women of color and women of low SES are more likely to experience racial and SES discrimination, and documentation of negative experiences and encounters with staff. Therefore, I hold that the implications of these findings should be examined further by conducting observations of women's labor and birth experiences.

Conclusion

This dissertation has both supported previous research and filled a gap in the literature. The findings from the analysis supported arguments that 1) individual characteristics (such as obesity, age, and previous cesarean) impact a respondent's likelihood of having a cesarean delivery, labor induction, and EFM, and 2) that women of color and low SES are more likely to experience discriminatory care in labor and birth. However, the dissertation fills a gap in the literature by identifying how hospital organizational characteristics affect the likelihood of a woman having a cesarean, labor induction, or EFM. Though research has addressed how hospital characteristics could influence patient care, few studies have specifically focused on the effect on reproductive care. Second, this dissertation fills a gap in the literature by utilizing both organizational theory and Reproductive Justice framework arguments to explain trends

in women's labor and birth experiences. Specifically, this dissertation confirms key arguments in the Reproductive Justice framework and organizational theory. First, the findings support reproductive justice arguments that women of color and low SES receive discriminatory care and are often exploited and controlled in their reproductive experiences. Second, organizational theory arguments that organizations are largely concerned with survival and reducing uncertainties, and that these concerns influence organizational behavior were supported. These findings are very important for reproductive and organizational research.

In conclusion, due to increasing concerns with the high maternal mortality rate in the United States, increasing rates of medical interventions, trends of racism and classism in reproductive care, and high cesarean rates in the United States more attention has turned towards reproductive health. The aim of this research was to understand how hospital organization characteristics affect women's labor and birth experiences, and examine how these experiences differ according to race and ethnicity. This research has explained how 1) organizational characteristics do affect the likelihood of a respondent having a cesarean delivery, 2) how procedures such as labor induction and EFM happen frequently and is affected by individual characteristics, and 3) how women of color and low SES are more likely to report experiencing discrimination during labor and birth. With these findings in mind, appropriate changes can be made in reproductive healthcare to provide positive and non-discriminatory labor and birth experiences for all women.

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APPENDIX

1. 1: Correlation Matrix for Model 1: Cesarean Delivery Likelihood by Individual & Sociodemographic Characteristics

Correlations

		Cesarean Delivery	White1	Insurance Status	Preterm Birth	Obesity	Diabetes	HS or Less	Parity	Previous Cesarean	Age
Cesarean Delivery	Pearson Correlation	1	.043	-.084*	.107**	.171**	-.009	.010	.030	.644**	.149**
	Sig. (2-tailed)		.199	.011	.001	.000	.787	.754	.367	.000	.000
	N	903	903	903	903	903	903	903	903	903	903
White1	Pearson Correlation	.043	1	-.182**	.038	-.012	-.104**	-.132**	-.012	-.006	.200**
	Sig. (2-tailed)	.199		.000	.250	.719	.002	.000	.715	.851	.000
	N	903	903	903	903	903	903	903	903	903	903
Insurance Status	Pearson Correlation	-.084*	-.182**	1	-.042	-.059	.038	.216**	-.008	-.038	-.249**
	Sig. (2-tailed)	.011	.000		.212	.079	.260	.000	.809	.259	.000
	N	903	903	903	903	903	903	903	903	903	903
Preterm Birth	Pearson Correlation	.107**	.038	-.042	1	.047	.065*	.010	.048	.105**	.040
	Sig. (2-tailed)	.001	.250	.212		.156	.049	.760	.150	.002	.233
	N	903	903	903	903	903	903	903	903	903	903
Obesity	Pearson Correlation	.171**	-.012	-.059	.047	1	.003	.104**	.061	.137**	.037
	Sig. (2-tailed)	.000	.719	.079	.156		.933	.002	.068	.000	.271
	N	903	903	903	903	903	903	903	903	903	903
Diabetes	Pearson Correlation	-.009	-.104**	.038	.065*	.003	1	.044	-.002	.013	-.068*
	Sig. (2-tailed)	.787	.002	.260	.049	.933		.190	.951	.700	.042
	N	903	903	903	903	903	903	903	903	903	903
HS or Less	Pearson Correlation	.010	-.132**	.216**	.010	.104**	.044	1	.113**	.026	-.093**
	Sig. (2-tailed)	.754	.000	.000	.760	.002	.190		.001	.429	.005
	N	903	903	903	903	903	903	903	903	903	903
Parity	Pearson Correlation	.030	-.012	-.008	.048	.061	-.002	.113**	1	.338**	.338**
	Sig. (2-tailed)	.367	.715	.809	.150	.068	.951	.001		.000	.000
	N	903	903	903	903	903	903	903	903	903	903
Previous Cesarean	Pearson Correlation	.644**	-.006	-.038	.105**	.137**	.013	.026	.338**	1	.154**
	Sig. (2-tailed)	.000	.851	.259	.002	.000	.700	.429	.000		.000
	N	903	903	903	903	903	903	903	903	903	903
Age	Pearson Correlation	.149**	.200**	-.249**	.040	.037	-.068*	-.093**	.338**	.154**	1
	Sig. (2-tailed)	.000	.000	.000	.233	.271	.042	.005	.000	.000	
	N	903	903	903	903	903	903	903	903	903	903

*. Correlation is significant at the 0.05 level (2-tailed).

I ran correlation matrix for the variables in this model. I checked for multicollinearity and found only one instance where the Pearson's correlation value was greater than 0.400. This was between cesarean delivery and previous cesarean (Pearson's Correlation = 0.644**, sig at 0.01 level). This finding did not give me cause for concern, as the literature addresses that it is very uncommon for women to have a vaginal delivery following a cesarean delivery. Besides this relationship there were no other indications of multicollinearity.

1. 2: Correlation Matrix Model 2: Cesarean Delivery Likelihood by Organizational characteristics

Correlations

		Cesarean Delivery	Ownership Status	Catholic Affiliation	System Member	Total hospital beds	OpmarFive	dnparMED
Cesarean Delivery	Pearson Correlation	1	.060	-.100**	-.030	.029	.045	-.080*
	Sig. (2-tailed)		.070	.003	.371	.382	.180	.017
	N	903	903	903	903	903	903	903
Ownership Status	Pearson Correlation	.060	1	-.178**	.234**	-.157**	-.257**	.031
	Sig. (2-tailed)	.070		.000	.000	.000	.000	.356
	N	903	903	903	903	903	903	903
Catholic Affiliation	Pearson Correlation	-.100**	-.178**	1	.173**	.009	.127**	.088**
	Sig. (2-tailed)	.003	.000		.000	.795	.000	.009
	N	903	903	903	903	903	903	903
System Member	Pearson Correlation	-.030	.234**	.173**	1	.084*	-.247**	.017
	Sig. (2-tailed)	.371	.000	.000		.011	.000	.612
	N	903	903	903	903	903	903	903
Total hospital beds	Pearson Correlation	.029	-.157**	.009	.084*	1	.084*	.040
	Sig. (2-tailed)	.382	.000	.795	.011		.011	.234
	N	903	903	903	903	903	903	903
OpmarFive	Pearson Correlation	.045	-.257**	.127**	-.247**	.084*	1	.045
	Sig. (2-tailed)	.180	.000	.000	.000	.011		.173
	N	903	903	903	903	903	903	903
dnparMED	Pearson Correlation	-.080*	.031	.088**	.017	.040	.045	1
	Sig. (2-tailed)	.017	.356	.009	.612	.234	.173	
	N	903	903	903	903	903	903	903

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables that had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 3: Correlation Matrix for Model 2a: Cesarean Delivery Likelihood by Organizational Characteristics Controlling for Individual & Sociodemographic Characteristics

Correlations

		Cesarean	White	Insurance Status	Preterm Birth	Obesity	Diabetes	HS or Less	Parity	Previous Cesarean	Age	Ownership Status	Catholic Affiliation	System Member	Total hospital beds	spread Five	singleBED
Cesarean	Pearson Correlation	1	.043	-.094**	.107**	.171**	-.009	.010	.030	.644**	.149**	.060	-.100**	-.030	.029	.045	-.095**
	Sig. (2-tailed)		.196	.011	.001	.000	.787	.754	.367	.000	.000	.070	.003	.371	.382	.168	.017
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
White	Pearson Correlation	.043	1	-.182**	.038	-.012	-.104**	-.132**	-.012	-.009	.200**	-.098**	-.013	.013	-.109**	-.033	.018
	Sig. (2-tailed)	.196		.000	.250	.718	.002	.000	.715	.951	.000	.003	.703	.701	.001	.328	.591
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Insurance Status	Pearson Correlation	-.094**	-.182**	1	-.042	-.059	.039	.216**	-.008	-.039	-.249**	.004	-.056	-.019	.000	.013	.021
	Sig. (2-tailed)	.011	.000		.212	.075	.260	.000	.809	.256	.000	.895	.094	.561	1.000	.689	.524
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Preterm Birth	Pearson Correlation	.107**	.038	-.042	1	.047	.065*	.010	.044	.105**	.045	-.011	-.035	.035	.035	-.027	.034
	Sig. (2-tailed)	.001	.250	.212		.158	.049	.760	.183	.002	.233	.752	.289	.293	.294	.413	.306
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Obesity	Pearson Correlation	.171**	-.012	-.059	.047	1	.020	.104**	.051	.137**	.037	.034	-.020	-.014	.001	.051	-.014
	Sig. (2-tailed)	.000	.718	.075	.158		.533	.002	.068	.000	.271	.309	.557	.672	.974	.125	.685
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Diabetes	Pearson Correlation	-.009	-.104**	.039	.065*	.020	1	.044	-.002	.013	-.068*	.051	.030	.018	.003	.032	.043
	Sig. (2-tailed)	.787	.002	.260	.049	.533		.190	.951	.700	.042	.128	.369	.625	.927	.339	.192
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
HS or Less	Pearson Correlation	.010	-.132**	.216**	.010	.104**	.044	1	.113**	.026	-.093**	-.031	-.014	-.035	-.003	.037	-.051
	Sig. (2-tailed)	.754	.000	.000	.760	.002	.190		.001	.428	.005	.356	.681	.288	.928	.264	.123
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Parity	Pearson Correlation	.030	-.012	-.008	.044	.051	-.002	.113**	1	.338**	.339**	-.015	.009	-.019	.006	.038	-.024
	Sig. (2-tailed)	.367	.715	.809	.190	.068	.951	.001		.000	.000	.657	.790	.568	.867	.254	.466
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Previous Cesarean	Pearson Correlation	.644**	-.009	-.039	.105**	.137**	.013	.026	.338**	1	.154**	.064*	-.075*	-.015	.026	.051	-.051
	Sig. (2-tailed)	.000	.951	.256	.002	.000	.700	.429	.000		.000	.040	.025	.646	.435	.125	.067
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Age	Pearson Correlation	.149**	.200**	-.249**	.045	.037	-.068*	-.087**	.339**	.154**	1	-.038	.052	.053	.070*	-.007	-.007
	Sig. (2-tailed)	.000	.000	.000	.233	.271	.042	.005	.000	.000		.244	.119	.114	.037	.829	.829
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Ownership Status	Pearson Correlation	.060	-.098**	.004	-.011	.034	.051	-.031	-.015	.064*	-.038	1	-.178**	.234**	-.157**	-.297**	.031
	Sig. (2-tailed)	.070	.003	.895	.752	.309	.128	.356	.657	.040	.244		.000	.000	.000	.000	.356
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Catholic Affiliation	Pearson Correlation	-.100**	-.013	-.056	.035	.020	.030	-.014	.009	-.075*	.052	-.178**	1	.173**	.009	.127**	.088**
	Sig. (2-tailed)	.003	.703	.094	.294	.557	.369	.681	.790	.025	.119	.000		.000	.790	.000	.009
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
System Member	Pearson Correlation	-.030	.013	-.019	.035	-.014	.018	-.035	-.019	-.015	.053	.234**	.173**	1	.064*	-.247**	.017
	Sig. (2-tailed)	.371	.701	.561	.293	.672	.625	.288	.568	.646	.114	.000	.000		.011	.000	.612
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
Total hospital beds	Pearson Correlation	.029	-.109**	.000	.035	.001	.003	-.003	.006	.026	.070*	-.157**	.009	.064*	1	.064*	.048
	Sig. (2-tailed)	.382	.001	1.000	.294	.974	.927	.928	.867	.435	.037	.000	.790	.011		.011	.239
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
spreadFive	Pearson Correlation	.045	-.033	.013	-.027	.001	.032	.037	.038	.051	-.007	-.297**	.127**	-.247**	.064*	1	.045
	Sig. (2-tailed)	.180	.328	.689	.413	.725	.338	.264	.254	.125	.829	.000	.000	.000	.011		.173
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903
singleBED	Pearson Correlation	-.095**	.018	.021	.034	-.014	.043	-.051	-.024	.051	-.007	.031	.088**	.017	.048	.045	1
	Sig. (2-tailed)	.017	.591	.529	.306	.685	.192	.123	.466	.067	.829	.356	.009	.612	.239	.173	
	N	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903	903

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables that had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 4: Model 2c:

Model 2c: Cesarean Delivery Likelihood by Organizational Characteristics, Controlling for Sociodemographic Characteristics, (N=903), Listening to Mothers III Data, United States, 2011-2012

Variables	Coefficient	Odds Ratio	p-value
Ownership Status	0.527	1.695	0.016*
Catholic Affiliation	-0.574	0.563	0.012*
System Membership	-0.101	0.904	0.580
Total Hospital Beds	0.000	1.000	0.172
OpmarFive	0.356	1.427	0.038*
DnparMED	-0.356	0.694	0.016*
White1	0.231	1.260	0.190
Private Insurance			0.142
Medicaid	-0.229	0.795	0.236
Other Government Insurance	0.026	0.975	0.937
Out of Pocket	-0.649	0.522	0.204
Don't Know Insurance	-1.645	0.193	0.031*
High School or Less	0.228	1.256	0.314
Constant	-1.113	0.329	0.000
	P<0.005***	P<0.010**	P<0.050*

1. 5: Correlation Matrix for Model 3: Cesarean Delivery Pressure Likelihood by Individual & Sociodemographic Characteristics

Correlations

		Cesarean Delivery	White1	Insurance Status	Preterm Birth	Obesity	Diabetes	HS or Less	Parity	Previous Cesarean	Age
Cesarean Delivery	Pearson Correlation	1	.043	-.094*	.107**	.171**	-.009	.010	.030	.644**	.149**
	Sig. (2-tailed)		.199	.011	.001	.000	.787	.754	.367	.000	.000
	N	903	903	903	903	903	903	903	903	903	903
White1	Pearson Correlation	.043	1	-.182**	.038	-.012	-.104**	-.132**	-.012	-.006	.200**
	Sig. (2-tailed)	.199		.000	.250	.719	.002	.000	.715	.851	.000
	N	903	903	903	903	903	903	903	903	903	903
Insurance Status	Pearson Correlation	-.094*	-.182**	1	-.042	-.059	.038	.216**	-.008	-.038	-.249**
	Sig. (2-tailed)	.011	.000		.212	.079	.260	.000	.809	.259	.000
	N	903	903	903	903	903	903	903	903	903	903
Preterm Birth	Pearson Correlation	.107**	.038	-.042	1	.047	.065*	.010	.048	.105**	.040
	Sig. (2-tailed)	.001	.250	.212		.156	.049	.760	.150	.002	.233
	N	903	903	903	903	903	903	903	903	903	903
Obesity	Pearson Correlation	.171**	-.012	-.059	.047	1	.003	.104**	.061	.137**	.037
	Sig. (2-tailed)	.000	.719	.079	.156		.933	.002	.068	.000	.271
	N	903	903	903	903	903	903	903	903	903	903
Diabetes	Pearson Correlation	-.009	-.104**	.038	.065*	.003	1	.044	-.002	.013	-.068*
	Sig. (2-tailed)	.787	.002	.260	.049	.933		.190	.951	.700	.042
	N	903	903	903	903	903	903	903	903	903	903
HS or Less	Pearson Correlation	.010	-.132**	.216**	.010	.104**	.044	1	.113**	.026	-.093**
	Sig. (2-tailed)	.754	.000	.000	.760	.002	.190		.001	.429	.005
	N	903	903	903	903	903	903	903	903	903	903
Parity	Pearson Correlation	.030	-.012	-.008	.048	.061	-.002	.113**	1	.338**	.338**
	Sig. (2-tailed)	.367	.715	.809	.150	.068	.951	.001		.000	.000
	N	903	903	903	903	903	903	903	903	903	903
Previous Cesarean	Pearson Correlation	.644**	-.006	-.038	.105**	.137**	.013	.026	.338**	1	.154**
	Sig. (2-tailed)	.000	.851	.259	.002	.000	.700	.429	.000		.000
	N	903	903	903	903	903	903	903	903	903	903
Age	Pearson Correlation	.149**	.200**	-.249**	.040	.037	-.068*	-.093**	.338**	.154**	1
	Sig. (2-tailed)	.000	.000	.000	.233	.271	.042	.005	.000	.000	
	N	903	903	903	903	903	903	903	903	903	903

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 6: Correlation Matrix for Model 4: Cesarean Delivery Pressure Likelihood by Organizational Characteristics

Correlations

		Cesarean Pressure	Ownership Status	Catholic Affiliation	System Member	Total hospital beds	opmarFive	dnparMED
Cesarean Pressure	Pearson Correlation	1	.079*	-.054	-.034	.064	.034	-.029
	Sig. (2-tailed)		.017	.107	.309	.055	.304	.390
	N	903	903	903	903	903	903	903
Ownership Status	Pearson Correlation	.079*	1	-.178**	.234**	-.157**	-.257**	.031
	Sig. (2-tailed)	.017		.000	.000	.000	.000	.356
	N	903	903	903	903	903	903	903
Catholic Affiliation	Pearson Correlation	-.054	-.178**	1	.173**	.009	.127**	.088**
	Sig. (2-tailed)	.107	.000		.000	.795	.000	.009
	N	903	903	903	903	903	903	903
System Member	Pearson Correlation	-.034	.234**	.173**	1	.084*	-.247**	.017
	Sig. (2-tailed)	.309	.000	.000		.011	.000	.612
	N	903	903	903	903	903	903	903
Total hospital beds	Pearson Correlation	.064	-.157**	.009	.084*	1	.084*	.040
	Sig. (2-tailed)	.055	.000	.795	.011		.011	.234
	N	903	903	903	903	903	903	903
opmarFive	Pearson Correlation	.034	-.257**	.127**	-.247**	.084*	1	.045
	Sig. (2-tailed)	.304	.000	.000	.000	.011		.173
	N	903	903	903	903	903	903	903
dnparMED	Pearson Correlation	-.029	.031	.088**	.017	.040	.045	1
	Sig. (2-tailed)	.390	.356	.009	.612	.234	.173	
	N	903	903	903	903	903	903	903

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 7: Correlation Matrix for Model 5: Induction Likelihood by Individual & Sociodemographic Characteristics

Correlations

		Induce	White	Insurance Status	Preterm Birth	Obesity	Diabetes	HS or Less	Parity	Previous Cesarean	Age
Induce	Pearson Correlation	1	.068	-.016	-.035	.114**	.124**	-.006	.067	.054	.021
	Sig. (2-tailed)		.066	.657	.347	.002	.001	.872	.067	.144	.562
	N	741	741	741	741	741	741	741	741	741	741
White	Pearson Correlation	.068	1	-.173**	.026	.018	-.109**	-.091*	.009	-.005	.209**
	Sig. (2-tailed)	.066		.000	.473	.630	.003	.013	.807	.902	.000
	N	741	741	741	741	741	741	741	741	741	741
Insurance Status	Pearson Correlation	-.016	-.173**	1	-.023	-.046	.047	.233**	-.011	-.017	-.244**
	Sig. (2-tailed)	.657	.000		.526	.209	.205	.000	.771	.645	.000
	N	741	741	741	741	741	741	741	741	741	741
Preterm Birth	Pearson Correlation	-.035	.026	-.023	1	.033	.067	-.012	.029	.065	.017
	Sig. (2-tailed)	.347	.473	.526		.369	.068	.750	.434	.075	.649
	N	741	741	741	741	741	741	741	741	741	741
Obesity	Pearson Correlation	.114**	.018	-.046	.033	1	-.023	.110**	.046	.064	.017
	Sig. (2-tailed)	.002	.630	.209	.369		.540	.003	.211	.083	.654
	N	741	741	741	741	741	741	741	741	741	741
Diabetes	Pearson Correlation	.124**	-.109**	.047	.067	-.023	1	.054	-.007	.060	-.073*
	Sig. (2-tailed)	.001	.003	.205	.068	.540		.145	.857	.105	.047
	N	741	741	741	741	741	741	741	741	741	741
HS or Less	Pearson Correlation	-.006	-.091*	.233**	-.012	.110**	.054	1	.095**	-.019	-.099**
	Sig. (2-tailed)	.872	.013	.000	.750	.003	.145		.010	.599	.007
	N	741	741	741	741	741	741	741	741	741	741
Parity	Pearson Correlation	.067	.009	-.011	.029	.046	-.007	.095**	1	.237**	.352**
	Sig. (2-tailed)	.067	.807	.771	.434	.211	.857	.010		.000	.000
	N	741	741	741	741	741	741	741	741	741	741
Previous Cesarean	Pearson Correlation	.054	-.005	-.017	.065	.064	.060	-.019	.237**	1	.062
	Sig. (2-tailed)	.144	.902	.645	.075	.083	.105	.599	.000		.091
	N	741	741	741	741	741	741	741	741	741	741
Age	Pearson Correlation	.021	.209**	-.244**	.017	.017	-.073*	-.099**	.352**	.062	1
	Sig. (2-tailed)	.562	.000	.000	.649	.654	.047	.007	.000	.091	
	N	741	741	741	741	741	741	741	741	741	741

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 8: Correlation Matrix for Induction Likelihood by Organizational Characteristics.

Correlations

		Induce	Ownershp Status	Catholic Affiliation	System Member	Total hospital beds	opmarFive	dnparMED
Induce	Pearson Correlation	1	-.062	.032	.021	.017	.014	.045
	Sig. (2-tailed)		.089	.390	.564	.638	.699	.222
	N	741	741	741	741	741	741	741
Ownership Status	Pearson Correlation	-.062	1	-.196**	.221**	-.153**	-.253**	.042
	Sig. (2-tailed)	.089		.000	.000	.000	.000	.252
	N	741	741	741	741	741	741	741
Catholic Affiliation	Pearson Correlation	.032	-.196**	1	.163**	.008	.153**	.079*
	Sig. (2-tailed)	.390	.000		.000	.834	.000	.031
	N	741	741	741	741	741	741	741
System Member	Pearson Correlation	.021	.221**	.163**	1	.079*	-.215**	.027
	Sig. (2-tailed)	.564	.000	.000		.032	.000	.463
	N	741	741	741	741	741	741	741
Total hospital beds	Pearson Correlation	.017	-.153**	.008	.079*	1	.064	.043
	Sig. (2-tailed)	.638	.000	.834	.032		.083	.243
	N	741	741	741	741	741	741	741
opmarFive	Pearson Correlation	.014	-.253**	.153**	-.215**	.064	1	.041
	Sig. (2-tailed)	.699	.000	.000	.000	.083		.261
	N	741	741	741	741	741	741	741
dnparMED	Pearson Correlation	.045	.042	.079*	.027	.043	.041	1
	Sig. (2-tailed)	.222	.252	.031	.463	.243	.261	
	N	741	741	741	741	741	741	741

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 9: Correlation Matrix for Model 6: Induction Pressure Likelihood by (select) Individual & Sociodemographic Characteristics

Correlations

		Pressure to Induce	Preterm Birth	Obesity	Diabetes	HS or Less	Parity	Previous Cesarean	Age
Pressure to Induce	Pearson Correlation	1	.037	.012	.111	.066	-.065	.037	-.043
	Sig. (2-tailed)		.700	.899	.241	.488	.494	.700	.653
	N	113	113	113	113	113	113	113	113
Preterm Birth	Pearson Correlation	.037	1	.230*	.141	.089	-.097	-.037	-.038
	Sig. (2-tailed)	.700		.014	.136	.346	.308	.700	.693
	N	113	113	113	113	113	113	113	113
Obesity	Pearson Correlation	.012	.230*	1	-.129	.144	.069	.230*	.093
	Sig. (2-tailed)	.899	.014		.175	.129	.471	.014	.329
	N	113	113	113	113	113	113	113	113
Diabetes	Pearson Correlation	.111	.141	-.129	1	.182	-.066	.022	.039
	Sig. (2-tailed)	.241	.136	.175		.053	.485	.816	.681
	N	113	113	113	113	113	113	113	113
HS or Less	Pearson Correlation	.066	.089	.144	.182	1	.125	.089	.027
	Sig. (2-tailed)	.488	.346	.129	.053		.186	.346	.776
	N	113	113	113	113	113	113	113	113
Parity	Pearson Correlation	-.065	-.097	.069	-.066	.125	1	.153	.377**
	Sig. (2-tailed)	.494	.308	.471	.485	.186		.106	.000
	N	113	113	113	113	113	113	113	113
Previous Cesarean	Pearson Correlation	.037	-.037	.230*	.022	.089	.153	1	.170
	Sig. (2-tailed)	.700	.700	.014	.816	.346	.106		.071
	N	113	113	113	113	113	113	113	113
Age	Pearson Correlation	-.043	-.038	.093	.039	.027	.377**	.170	1
	Sig. (2-tailed)	.653	.693	.329	.681	.776	.000	.071	
	N	113	113	113	113	113	113	113	113

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 10: Correlation Matrix for Model 7: Induction Pressure Likelihood by Organizational Characteristics

Correlations

		Pressure to Induce	Ownership Status	Catholic Affiliation	System Member	Total hospital beds	opmarFive	dnparMED
Pressure to Induce	Pearson Correlation	1	-.024	-.053	.011	.076*	-.008	-.024
	Sig. (2-tailed)		.520	.151	.757	.039	.837	.517
	N	741	741	741	741	741	741	741
Ownership Status	Pearson Correlation	-.024	1	-.196**	.221**	-.153**	-.253**	.042
	Sig. (2-tailed)	.520		.000	.000	.000	.000	.252
	N	741	741	741	741	741	741	741
Catholic Affiliation	Pearson Correlation	-.053	-.196**	1	.163**	.008	.153**	.079*
	Sig. (2-tailed)	.151	.000		.000	.834	.000	.031
	N	741	741	741	741	741	741	741
System Member	Pearson Correlation	.011	.221**	.163**	1	.079*	-.215**	.027
	Sig. (2-tailed)	.757	.000	.000		.032	.000	.463
	N	741	741	741	741	741	741	741
Total hospital beds	Pearson Correlation	.076*	-.153**	.008	.079*	1	.064	.043
	Sig. (2-tailed)	.039	.000	.834	.032		.083	.243
	N	741	741	741	741	741	741	741
opmarFive	Pearson Correlation	-.008	-.253**	.153**	-.215**	.064	1	.041
	Sig. (2-tailed)	.837	.000	.000	.000	.083		.261
	N	741	741	741	741	741	741	741
dnparMED	Pearson Correlation	-.024	.042	.079*	.027	.043	.041	1
	Sig. (2-tailed)	.517	.252	.031	.463	.243	.261	
	N	741	741	741	741	741	741	741

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 11: Correlation Matrix for Model 8: EFM Likelihood by Individual Characteristics

Correlations

		EFM	Preterm Birth	Obesity	Diabetes	Parity	Previous Cesarean	Age
EFM	Pearson Correlation	1	-.032	.046	-.021	.094**	-.020	.060
	Sig. (2-tailed)		.379	.195	.565	.009	.583	.096
	N	780	780	780	780	780	780	780
Preterm Birth	Pearson Correlation	-.032	1	.031	.050	.059	.146**	.031
	Sig. (2-tailed)	.379		.385	.161	.099	.000	.385
	N	780	780	780	780	780	780	780
Obesity	Pearson Correlation	.046	.031	1	-.015	.054	.087*	.009
	Sig. (2-tailed)	.195	.385		.667	.131	.015	.803
	N	780	780	780	780	780	780	780
Diabetes	Pearson Correlation	-.021	.050	-.015	1	-.014	.035	-.072*
	Sig. (2-tailed)	.565	.161	.667		.704	.333	.046
	N	780	780	780	780	780	780	780
Parity	Pearson Correlation	.094**	.059	.054	-.014	1	.264**	.362**
	Sig. (2-tailed)	.009	.099	.131	.704		.000	.000
	N	780	780	780	780	780	780	780
Previous Cesarean	Pearson Correlation	-.020	.146**	.087*	.035	.264**	1	.110**
	Sig. (2-tailed)	.583	.000	.015	.333	.000		.002
	N	780	780	780	780	780	780	780
Age	Pearson Correlation	.060	.031	.009	-.072*	.362**	.110**	1
	Sig. (2-tailed)	.096	.385	.803	.046	.000	.002	
	N	780	780	780	780	780	780	780

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 12: Correlation Matrix for EFM Likelihood by Organizational Characteristics

Correlations

		EFM	Ownership Status	Catholic Affiliation	System Member	Total hospital beds	opmarFive	dnparMED
EFM	Pearson Correlation	1	.027	-.014	-.002	.032	-.021	-.034
	Sig. (2-tailed)		.446	.686	.951	.366	.566	.348
	N	780	780	780	780	780	780	780
Ownership Status	Pearson Correlation	.027	1	-.192**	.221**	-.147**	-.255**	.040
	Sig. (2-tailed)	.446		.000	.000	.000	.000	.260
	N	780	780	780	780	780	780	780
Catholic Affiliation	Pearson Correlation	-.014	-.192**	1	.167**	-.002	.137**	.075*
	Sig. (2-tailed)	.686	.000		.000	.948	.000	.035
	N	780	780	780	780	780	780	780
System Member	Pearson Correlation	-.002	.221**	.167**	1	.082*	-.227**	.014
	Sig. (2-tailed)	.951	.000	.000		.022	.000	.699
	N	780	780	780	780	780	780	780
Total hospital beds	Pearson Correlation	.032	-.147**	-.002	.082*	1	.076*	.036
	Sig. (2-tailed)	.366	.000	.948	.022		.034	.319
	N	780	780	780	780	780	780	780
opmarFive	Pearson Correlation	-.021	-.255**	.137**	-.227**	.076*	1	.041
	Sig. (2-tailed)	.566	.000	.000	.000	.034		.257
	N	780	780	780	780	780	780	780
dnparMED	Pearson Correlation	-.034	.040	.075*	.014	.036	.041	1
	Sig. (2-tailed)	.348	.260	.035	.699	.319	.257	
	N	780	780	780	780	780	780	780

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 13: Correlation Matrix for Model 9: Racial Discrimination Likelihood by Individual & Sociodemographic Characteristics

Correlations

		Racial Discrimination (RaceTreat)	Race	Insurance Status	Preterm Birth	Obesity	Diabetes	HS or Less	Parity	Previous Cesarean	Age
Racial Discrimination (RaceTreat)	Pearson Correlation	1	.164**	.163**	-.015	-.029	.282**	.135**	-.060	-.052	-.135**
	Sig. (2-tailed)		.000	.000	.663	.384	.000	.000	.071	.119	.000
	N	903	898	903	903	903	903	903	903	903	903
Race	Pearson Correlation	.164**	1	.173**	-.041	-.015	.101**	.145**	.010	.016	-.178**
	Sig. (2-tailed)	.000		.000	.220	.664	.003	.000	.775	.627	.000
	N	898	898	898	898	898	898	898	898	898	898
Insurance Status	Pearson Correlation	.163**	.173**	1	-.042	-.059	.038	.216**	-.009	-.038	-.249**
	Sig. (2-tailed)	.000	.000		.212	.079	.260	.000	.809	.259	.000
	N	903	898	903	903	903	903	903	903	903	903
Preterm Birth	Pearson Correlation	-.015	-.041	-.042	1	.047	.065*	.010	.048	.105**	.040
	Sig. (2-tailed)	.663	.220	.212		.156	.049	.760	.150	.002	.233
	N	903	898	903	903	903	903	903	903	903	903
Obesity	Pearson Correlation	-.029	-.015	-.059	.047	1	.003	.104**	.061	.137**	.037
	Sig. (2-tailed)	.384	.664	.079	.156		.933	.002	.068	.000	.271
	N	903	898	903	903	903	903	903	903	903	903
Diabetes	Pearson Correlation	.282**	.101**	.038	.065*	.003	1	.044	-.002	.013	-.068*
	Sig. (2-tailed)	.000	.003	.260	.049	.933		.190	.951	.700	.042
	N	903	898	903	903	903	903	903	903	903	903
HS or Less	Pearson Correlation	.135**	.145**	.216**	.010	.104**	.044	1	.113**	.026	-.093**
	Sig. (2-tailed)	.000	.000	.000	.760	.002	.190		.001	.429	.005
	N	903	898	903	903	903	903	903	903	903	903
Parity	Pearson Correlation	-.060	.010	-.009	.048	.061	-.002	.113**	1	.338**	.338**
	Sig. (2-tailed)	.071	.775	.809	.150	.068	.951	.001		.000	.000
	N	903	898	903	903	903	903	903	903	903	903
Previous Cesarean	Pearson Correlation	-.052	.016	-.038	.105**	.137**	.013	.026	.338**	1	.154**
	Sig. (2-tailed)	.119	.627	.259	.002	.000	.700	.429	.000		.000
	N	903	898	903	903	903	903	903	903	903	903
Age	Pearson Correlation	-.135**	-.178**	-.249**	.040	.037	-.068*	-.093**	.338**	.154**	1
	Sig. (2-tailed)	.000	.000	.000	.233	.271	.042	.005	.000	.000	
	N	903	898	903	903	903	903	903	903	903	903

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model.

1. 14: Correlation Matrix for Model 10: Insurance Discrimination Likelihood by Individual & Sociodemographic Characteristics

Correlations

		Insurance Discrimination (InsTreat)	Race	Insurance Status	Preterm Birth	Obesity	Diabetes	HS or Less	Parity	Previous Cesarean	Age
Insurance Discrimination (InsTreat)	Pearson Correlation	1	.139**	.210**	.003	-.028	.231**	.141**	-.029	-.067*	-.144**
	Sig. (2-tailed)		.000	.000	.939	.405	.000	.000	.384	.044	.000
	N	903	898	903	903	903	903	903	903	903	903
Race	Pearson Correlation	.139**	1	.173**	-.041	-.015	.101**	.145**	.010	.016	-.178**
	Sig. (2-tailed)	.000		.000	.220	.664	.003	.000	.775	.627	.000
	N	898	898	898	898	898	898	898	898	898	898
Insurance Status	Pearson Correlation	.210**	.173**	1	-.042	-.059	.038	.216**	-.008	-.038	-.249**
	Sig. (2-tailed)	.000	.000		.212	.079	.260	.000	.809	.259	.000
	N	903	898	903	903	903	903	903	903	903	903
Preterm Birth	Pearson Correlation	.003	-.041	-.042	1	.047	.065*	.010	.048	.105**	.040
	Sig. (2-tailed)	.939	.220	.212		.156	.049	.760	.150	.002	.233
	N	903	898	903	903	903	903	903	903	903	903
Obesity	Pearson Correlation	-.028	-.015	-.059	.047	1	.003	.104**	.061	.137**	.037
	Sig. (2-tailed)	.405	.664	.079	.156		.933	.002	.068	.000	.271
	N	903	898	903	903	903	903	903	903	903	903
Diabetes	Pearson Correlation	.231**	.101**	.038	.065*	.003	1	.044	-.002	.013	-.066*
	Sig. (2-tailed)	.000	.003	.260	.049	.933		.190	.951	.700	.042
	N	903	898	903	903	903	903	903	903	903	903
HS or Less	Pearson Correlation	.141**	.145**	.216**	.010	.104**	.044	1	.113**	.026	-.093**
	Sig. (2-tailed)	.000	.000	.000	.760	.002	.190		.001	.429	.005
	N	903	898	903	903	903	903	903	903	903	903
Parity	Pearson Correlation	-.029	.010	-.008	.048	.061	-.002	.113**	1	.338**	.338**
	Sig. (2-tailed)	.384	.775	.809	.150	.068	.951	.001		.000	.000
	N	903	898	903	903	903	903	903	903	903	903
Previous Cesarean	Pearson Correlation	-.067*	.016	-.038	.105**	.137**	.013	.026	.338**	1	.154**
	Sig. (2-tailed)	.044	.627	.259	.002	.000	.700	.429	.000		.000
	N	903	898	903	903	903	903	903	903	903	903
Age	Pearson Correlation	-.144**	-.178**	-.249**	.040	.037	-.066*	-.093**	.338**	.154**	1
	Sig. (2-tailed)	.000	.000	.000	.233	.271	.042	.005	.000	.000	
	N	903	898	903	903	903	903	903	903	903	903

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Prior to running the logistic regression analysis, I ran a correlation matrix using SPSS. There were no relationships between the variables with had a Pearson's correlation value greater than .400. Therefore, there were no instances of multicollinearity in this model. Place text or figures/tables here.