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Birthing reimagined: Perceptions of safety and autonomy in birth experiences among postpartum individuals during COVID-19

SENIOR THESIS

Presented to the Faculty of the Department Of Anthropology
of Washington University in St. Louis

in candidacy for Honors
in the Anthropology, Global Health, and Environment Major

By

Beldina W. Orinda

St. Louis, Missouri
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Abstract:

Background: Safety during childbirth is a priority for care providers, but patients' perceptions of safety may differ from those of providers, especially in biomedical settings.[1–4] This can influence health outcomes and satisfaction with the birth experience.[5–7] We hypothesize that autonomy, defined as the ability to make decisions about care during childbirth, may enhance feelings of safety and positive mental health outcomes.[9,15]

Methods: Surveys via REDCap v11.1.29 captured the experiences and Edinburgh Postnatal Depression Scale (EPDS) scores of pregnant and postpartum women. Participants (n=49) included 15 pregnant and 34 postpartum individuals, aged 18 and older, who had given birth within the last two years. We controlled for COVID-19's impact on birth experiences. Quantitative data were analyzed using IBM SPSS (v29), and qualitative analyses were conducted in Excel.

Results: No statistically significant association was found between mental health and birth factors (e.g., the presence and execution of a birth plan, shared characteristics with providers, etc.) ($p < 0.05$). Qualitative analysis identified trends that promote feelings of safety, such as decision-making with a provider, security in the patient-provider relationship, comfort in the birth setting, and support from family and providers.

Conclusions: Providers can enhance patient satisfaction by listening to concerns and offering respectful expertise without pressure..[9,10,14] Implementing accessible alternative care models is crucial for all birthing individuals.[5,22] There is sufficient evidence that we have the providers and frameworks necessary to boost comfort, satisfaction, safety, and autonomy for all birthing individuals.[3,5,56–59]

Keywords: *childbirth, pregnant, postpartum, mental health, autonomy*

Introduction

Though safety during childbirth is the goal of most care providers, this intention may not be realized or felt by the patient undergoing care because their perceptions of safety may differ from provider perceptions.[1–4] There is merit in considering how a patient's feelings of safety - or lack thereof - may influence health outcomes and satisfaction with the birth experience.[5–7] Understanding perceptions of safety in patient terms and recognizing patient autonomy to make decisions could translate to better outcomes and increase satisfaction, as healthcare providers work to cater to patient needs during one of the most vulnerable experiences in their lives.[8–14]

We hypothesize that autonomy, defined here as the ability to make decisions regarding your choice of care during childbirth, may contribute to feelings of safety and positive mental health outcomes, specifically in the execution of birth plans among birthing parents.[9,15] We examine whether or not the presence of a birth plan and its successful execution promote positive mental health outcomes, specifically as seen through the participant choice of provider, settings, and level of support. Additionally, utilization of alternative birth methods within a birth plan may be associated with increased feelings of safety in some birthing parents; thus, an assessment of perceptions of non-traditional birthing settings (e.g., birth centers, homes) coupled with personal birth experiences helps us understand how feelings of safety affect health decisions made by birthing persons.

Background

Personal autonomy is defined by Stanford's Encyclopedia of Philosophy as "...the capacity to discern what "follows from" one's beliefs and desires, and to act accordingly."[16] One might ask what it means to exercise *birth autonomy.* This principle is theorized and described by Halfdansdottir et al. (2015) as being when "[a birthing person] receives all relevant information on available choices, risks and benefits, is capable of understanding and processing the information and choosing…in the absence of coercion, provided she intends no harm to others and is accountable for the outcome."[9] This ability to exercise agency over one's birth experience may have implications for perceptions of birth safety, satisfaction, and outcomes.[17–19]

Brooks and Sullivan (2002) address the cultural shift in patient-provider relationships that has been witnessed in recent years, highlighting the former paternalistic standard that dictated

that doctors determine treatment apart from patient input.[15] They argue that although there may be instances in which patients aren't able to make decisions for themselves, patient-physician partnership and patient-centered decision-making have become the general standard of practice across biomedical settings in all contexts. To add to their point, they present the idea that solutions such as birth plans, serving as advanced directives, may prove useful in ensuring patients' autonomy.[15] However, this shift still operates within a medical system that prioritizes medical standards of treatment rather than patients' sense of safety. Thus, the idea that patients truly exert control over the birthing process is challenged by some, including Lothian (2008) in their article "Choice, Autonomy, and Childbirth Education." They suggest that choice is not as powerful as it seems when the choices themselves are limited by providers, birth settings, regulations, accessibility, and other circumstantial restrictions that birthing people have to consider.[17,20,21] Lothian also argues that choices are often manipulated by those in the dynamic who hold more power, namely providers.[17,22] Thus, Lothian declares that "In the current maternity care environment, choice is a myth."[17] In that vein, they switch their focus to the concept of autonomy, saying that autonomy only exists if women are considered to hold 'authoritative knowledge,' or as she quotes from Lamaze International - "inner wisdom.'[17,23] She articulates that "Autonomy transfers power from the expert to the woman, but this does not happen if women are not respected, valued, and honored for their knowledge."[17] Often, this external respect is not a reality. In this Lothian brings in the discussion of safety, saying that the tension between definitions of safety for providers and patients is present. Providers consider their 'safety-security' through a medical-legal lens as a key factor in decision-making, while mothers obtain a sense of security from their own desires, understanding, and perception of the reality at hand, layered with their sense of trust and expected birthing experience.[17] If these differences do not align, tension between patients and providers may result when decisions need to be made regarding care.[17,24] Lothian quotes Nadine Edwards (2005) as saying the following in their book titled *Birthing Autonomy: Women's Experiences of Planning Home Births* - "Enabling autonomy through the facelessness and technocratization of our maternity services is impossible. (p. 255)."[17,25] However, the relevance of this discourse extends past the question of who gets to make decisions in patient-provider relationships.

It is evident that the maternity care system within the United States has been structured to center around interventionist and biomedical frameworks that are rooted in deep historical

realities that continue to influence our present system; Jamie Abrams (2014) articulates these realities in their article titled "The Illusion Of Autonomy In Women's Medical Decision-Making."[18] In their introduction, they begin with an assessment of 'modern childbirth,' or what some term the '(over)medicalization of childbirth.'[18,19,26,27] This phenomenon encapsulates the shift to hospital settings, male medical providers, and increased intervention measures in birth from more natural birthing methods characterized by limited interventions, out-of-hospital births, and alternative providers, namely midwives, and doulas.[28] With the growing number of male obstetricians and gynecologists in the late 18th and early 19th century, the rhetoric surrounding the 'safety' of having attendant midwives - many of whom were Black and had been the main sources of care for generations - became negative, and dismissive.[18,29–32] Others like Cahill (2001) take this argument further, theorizing that the male dominance within birthing contexts has led to a patriarchal birthing paradigm that they term 'male appropriation,' suggesting that there has been a shift towards viewing female bodies as 'abnormal,' and pregnancy as 'pathological,' thus perpetuating a need for excess intervention.[19,22] In addition to this cultural shift, Jessica Martucci also claims that the rise in pain relief and surgical practices contributed to an increase in hospital-based births.[32] The campaign against more natural forms of birth proved successful, with the majority of American women giving birth in hospitals by the 1930s.[32] She argues that at this point, the distinction between natural and hospital births was first made, and the natural birth movement would continue to grow in decades to come. Martucci highlights personalities like anthropologist Margaret Mead and her extensive research on systems of reproduction in other contexts, obstetrician-gynecologists Grantly Dick-Read and his book *Childbirth Without Fear,* Fernand Lamaze who developed the beginnings of the breastfeeding movement, and Ina May Gaskin, the 1970s 'birth reformer' who married feminism and traditional birth practice.[32]

However, regardless of the circulation of these ideas and the belief among birthing persons that birth should involve minimal interventions, the system at large remains in favor of hospital birthing.[18,26,32] Abrams further interrogates the reality and extent of medicalization in our present system, citing research stats pointing to an overwhelming centralization of care in hospitals; 98.7% of babies are born in hospitals, with 86.1% being attended by medical doctors.[18] In terms of intervention measures, there has been a steady increase in cesarean sections over the last few decades; the most recent data showed a slight increase in 2021 to 32.1% from 31.8% in

2020.[18,33] According to the CDC, the peak (32.9%) was reached in 2009 after steady increases since 1996.[33] For reference, the WHO recommends C-section rates of ~10-15%.[103] This is important because cesarean sections and other interventions can increase the risk of complications following procedures.[2,18,34] Fetal monitoring and inductions have also become mainstream, with patients opting in or feeling pressure to undergo procedures.[18] Abrams cites the Listening to Mothers California dataset, where 74% of participants preferred only medically necessary interventions, but only 5% had zero-intervention births.[27] This discrepancy between interest and expectation and execution is seen within other research and with other aspects of birth, including providers, and birth location.[1,3] This trend is concerning because feelings and perceptions of safety are critical for positive health outcomes and facilitating positive birth experiences. [1,2,4]

Safety, 'birth consciousness,' environments, and outcomes

Dahan and Shabot (2022) further articulate the vital importance of safety for birthing persons and their outcomes within their article "Not just mechanical birthing bodies: articulating the impact of imbalanced power relationships in the birth arena on women's subjectivity, agency, and consciousness."[5] Dahan has developed and introduced the concept of 'birth consciousness' defining it as the "...unique psycho-physical altered state of women's consciousness that often occurs during physiological birth."[5,35,36] The theory surrounding this concept is grounded in research establishing that birthing people enter a state of intense focus and 'zoning out,' retreating inward and 'dissociating' as a manifestation of the transient hypofrontality brain mechanism. This mechanism progressively works to deregulate the prefrontal cortex function, thus reducing pain, reducing 'high cognitive skills,' and managing anxiety, all in an effort to prepare the body and mind to engage fully in delivery. Experiencing birth consciousness has physical implications for delivery because, without the pain and anxiety management and regulation, patients' birth may not progress physically (e.g., contractions, dilation, etc.), which may require medical intervention strategies.[5,37] With this regulatory mechanism comes the need to create a unique environment that facilitates a sense of safety and comfort for the birthing person, thus enabling an uninterrupted psycho-physical transition. Dahan and Shabot also cite research from Buckley (2015) and Stark et al. (2016), indicating that where a birthing person does not feel safe within their environment, their contractions are less effective and diminish,

which is described as 'slow labor' by Stark et al..[5–7] Thus, physiologic birth is obstructed by the complex relationship between birthing people, their environments, and their physiology. While a medical-legal view of safety is focused on procedures and liabilities, the idea of birth consciousness as a lens through which to view safety is patient-centered and recognizes the unique intimacy of the birth experience.[5,35,36]

Kukla and colleagues (2019) emphasize this intimacy of birth, arguing that just as a cancer patient's care team respects the patient's decisions in moderating the treatment they undergo, birthing individuals should receive similar respect. Given that - "Birth is a momentous and intimate event, and women may have a variety of reasons for rationally tolerating small increases in medical risk in order to avoid other harms or to gain other benefits."[8] The failure to 'humanize' birth violates women's sense of autonomy and safety in multiple ways.[5,18,32] We will examine these avenues of experience in the United States context, namely through experiences with providers, within birth settings, in light of race, and during the COVID-19 pandemic.

The United States and the rest of the world: Comparisons

Though medicalization has been a trend across the West, we see a disparity between the US and other countries.[26,38–40] Birth in the US is overwhelmingly medicalized and less effective at protecting patients compared to other countries; research from the last few years and decades affirms this comparative conclusion.[38,39]

It is evident that health systems have a large part to play in reducing risks to pregnant people and their offspring. Unlike the US, many high-income countries such as the United Kingdom and France have systems in place that integrate follow-up visits, alternative practitioners and providers such as midwives and doulas, options for birth settings (e.g. birth centers and attended home births), and additional support for new parents.[41] These approaches are associated with improved outcomes, specifically in reduced intervention care and recovery time, shorter labors, improved breastfeeding initiation, and more.[42] (Wint et al. 2019). Unlike other countries, the US has not adopted an integrative and collaborative approach to its care of pregnant and postpartum patients, and the statistics for maternal mortality and morbidity are worse in the US than in any other country.[38,39,43,44] The CDC reports an increase in the rate from 23.8 deaths per 100,000 live births in 2020 compared to 20.1 the previous year.[45] Comparisons between countries in 2015 showed that the US had 14 deaths per 100,000 live births, much

higher than the rates of 9, 8, and 5 in the United Kingdom, France, and Spain, respectively.[46] These horrifying statistics have served as a wake-up call for many within the system, with calls to introduce alternative options and expand the scope of reproductive health care to include fewer interventions (e.g. c-sections, episiotomies, Pitocin and induced labor, etc.) and more appropriate measures for low-risk pregnant persons.[1,2,4,47,48] Often, seeking providers in support of this vision is the first step towards reimagining maternal care in the United States.

Providers, Setting, Care, and Autonomy

Considering the domination of OB-GYN practitioners as primary birth attendants, many of the alternative options for birth attendants are overlooked. Alternative providers are often not well integrated into the medical system as accessible options for care.[18,49,50] This may limit the options from which pregnant people can choose. For reference, when we refer to 'alternative providers' in this report, we are specifically referencing doulas and midwives. We adhere to the definitions outlined by Scrimshaw and Backes (2020) in their book "Birth Settings in America: Outcomes, Quality, Access, and Choice" of the specific ways doulas and midwives practice in the United States.

Midwives are said to "...specialize in the management of pregnancy, birth, and new-born care."[3] The American Pregnancy Association also defines them as "...health care professional[s] who [provide] an array of health care services for women including gynecological examinations, contraceptive counseling, prescriptions, and labor and delivery care."[51] Scrimshaw and Backes highlight the varying types of certifications that can be secured for midwives in the United States, specifically certified nurse midwives (CNMs) who are trained in both midwifery and nursing, certified midwives (CMs) who are trained as midwives at the masters level, and certified professional midwives or 'lay midwives.'[3]

The role of a doula is defined as follows:

> *The role of doulas is to provide nonclinical support during labor and birth, as well as during the prenatal and postpartum periods. While doulas, nurses, and midwives all provide labor support to the woman, doulas focus on only one laboring woman at a time, providing continuous support without other concurrent responsibilities, such as*

recordkeeping or monitoring of equipment. Doulas do not perform any clinical tasks, such as giving medication or conducting examinations. In addition to supporting the woman, the doula can also offer emotional support to the woman's partner and family. In the postpartum setting, the doula may assist the new mother with breastfeeding and newborn care, and may also help with light housekeeping and cooking duties at home.[3]

DONA International, which was founded in 1992 to certify and train doulas, also defines them as "...a trained professional who provides continuous physical, emotional and informational support to their client before, during and shortly after childbirth to help them achieve the healthiest, most satisfying experience possible."[52] Thus, doulas serve as support persons for both the laboring individual and their family and help to aid in the transition to postpartum care. Historically, doulas are said to mirror the role of family members and general community support. But modern and Western culture lends itself to a more structured and formal relationship, with doulas serving as advocates for parents and families in healthcare settings and abiding by more specific expectations and roles in birth settings. [50,53] However, how and when doulas can practice often depends on the setting their clients are laboring in.

Birth Setting

It could be argued that the best action in response to overmedicalization is choosing not to give birth within an overly medicalized setting, namely hospitals, in search of a more natural birth. The discussion surrounding the array of options, namely hospitals, birth centers, and homes, is complex. Scrimshaw and Backes (2020) provide a complete and comprehensive overview of the varying options and we are grounding our discussion of birth settings in their definitions and descriptions.[3]

As discussed above, hospital births are often attended by OB-GYNS, with higher risks of interventions, including but not limited to "...intravenous (IV) line, continuous electronic fetal monitoring, bed rest, limited oral intake during labor, cervical ripening, induction or augmentation of labor, artificial rupture of membranes, epidural analgesia, blood draws for laboratory studies, episiotomy, vacuum- or forceps-assisted birth, and cesarean birth." [3] Vaginal births after cesareans (VBACs) may or may not be possible, depending on the hospital. Within hospitals, mobility may be limited, with most people giving birth in the lithotomy

position and often on the bed. Primary attendants include OB-GYNs and midwives, along with other supportive members of the medical team (e.g. nurses, anesthesiologists, etc.)[3]

Among birth centers, there are two main types - free-standing birth centers and hospital-affiliated birth centers.[3] Free-standing birth centers operate as independent entities, usually led by midwives who serve as primary attendants in addition to other nursing staff and birthing professionals. They have emergency protocols and plans in place should they be needed, but are primarily utilized by low-risk birthing persons. Birthing is less restrictive and monitored; patients can eat, drink, and move around as they feel the need. More natural interventions are utilized, including but not limited to hydro birthing, birth balls, nitrous oxide, acupuncture, and others.[3]

On the other hand, hospital-affiliated 'birth centers' often function as separate natural birthing units in hospitals.[51] They serve as a hybrid option between free-standing birth centers and hospital units. Midwives and other professional birthing staff may serve as more primary attendants, but there is increased access to interventions that are more medical in nature. They also sustain more natural birthing practices and interventions for patients to opt in for as desired. A quick transfer to the hospital unit in case of an emergency or a change of heart on the part of the patient is also possible.[3]

Lastly, home births are mainly attended by midwives unless a patient decides to give birth without an attendant present, known as 'freebirthers.'[3] A patient may opt for a home birth for a variety of reasons outlined by Scrimshaw and Backes. Citing Declercq and Stotland (2018), they say, "Women who plan home births may do so out of a wish to experience physiologic childbirth, a desire for a personalized experience, a desire to avoid unneeded medical interventions, a dislike of the hospital atmosphere, a desire for a sense of control, the lack of a hospital in their community, cultural beliefs and practices, financial constraints, or geographic barriers."[3,54]

Despite all these options, Scrimshaw and Backes highlight that the system of interaction between different birth settings in the United States is not adequate, especially because of the complications surrounding birth facility licensing in the United States and the lack of formal integration between different types of providers and services.[3]

Satisfaction, Outcomes, and Autonomy

Evidence suggests that alternative birth centers increase positive outcomes, decrease interventions, and increase satisfaction among birthing people who utilize them.[11,12,55] Utilizing midwives and doulas has also been shown to increase satisfaction among patients while promoting positive outcomes, namely spontaneous vaginal birth and breastfeeding initiation [3,56–59] Macpherson et al. (2016) also concluded that psychological and physiological recovery is improved with the use of midwives in 'specialized settings'. Similarly, Bossano et al. (2017) saw increased satisfaction or 'fulfillment' in those who gave birth spontaneously and vaginally without operative intervention as compared to those who gave birth via c-section or induction.[57,58]

Thus, the importance of providers and birth settings cannot be overestimated, especially in light of Dahan's research on birth consciousness and environment suggesting that their role in creating comfortable spaces is critical for enabling physiologic birth. [5,35,36] Mental health outcomes are a critical indicator of the relationship between setting, providers, and overall outcomes. Bell and Andersson (2016) conducted a systematic review assessing the association between postpartum depression in postpartum participants and their perceptions of their birth experience. They cited research by Stadlmayr et al. (2016) that found that patients with positive provider relationships and birth experiences were less likely to retain negative experiences and perceptions of their birth experience in the years following birth. [14,60] Thus, provider-patient relationships are seen to have an impact on maternal health outcomes, and the choice of provider is essential.

> *The trauma that failed patient-provider relationships can induce has also been documented. Dahan and Cohen Shabot (2022) cites Emily Martin, who likens the patient-provider relationship to a foreman on the job, saying that in their world, "'Uteruses produce 'efficient or inefficient contractions'; good or poor labor is judged by the amount of 'progress made in certain periods of time'...the uterus is a machine being held to certain standards of efficient work [while the woman]...is seen as a passive host for the contracting uterus…What role is the doctor given?...he is predominantly seen as the supervisor or foreman of the labor process" (Martin, 1987, pp. 59, 61, 63).'"*[5]

Women are sometimes violated physically and emotionally belittled, or at the very least, experiencing the wave of interventions - known as the 'intervention cascade' - against their will.[22,31,61,62] One quote that was cited in the article said "I was steamrolled with unnecessary intervention and didn't get to speak with a doctor about my options, risks vs. benefits . . . I feel like the nurses, doctors, and hospital only did what was in their best interest, not mine . . . It was a nightmare" (Reed et al., 2017, p. 4)[5] Knowledge that these experiences exist and that traumatic births can take place at the hand of providers should prompt action geared towards restoring autonomy and putting protections in place for birthing persons, especially in hospital settings.

Yet, to complicate this endeavor further, Halfdansdottir et al. (2015) argue for the balance needed between patient autonomy and principles of medical practice, namely "Do no harm." It is key that women maintain their autonomy, while practitioners provide regulation and consultation as a supportive entity; however, this support would not subscribe to the fetal-centric approach to care, but rather act in alignment with maternal preferences and the consideration of safety for mother *and* child.[9] Citing Dworkin (1988) they state: "Mutual and equal respect between individuals in both areas of expertise — the professional and the personal — is essential if autonomy is to create a counter-balance to paternalism (Dworkin 1988)."[9,10]

It is evident that medicalization poses a threat to the autonomy between providers and patients.[5,26] However, the use of alternative providers and the choice to give birth in alternative settings outside of a hospital may help patients to avoid common medicalized interventions. Doulas and midwives are effective additions to care teams both inside and outside the hospital.[47,49,63] Additionally, the choice of birth locations allows the pregnant person to exercise more agency in constructing their birth experience and maximizing the chances of a safe, healthy, and personal birth.[11]

Race and Autonomy

In considering and arguing for the potential to regain autonomy for birthing people, it is essential to address where race and autonomy have been even more at odds, putting birthing people of color at risk.[62,64–67] The failure to cultivate a culture of autonomy and safety within the United States healthcare system is clearly reflected in the relationship Black persons have had with obstetrics and gynecology. Historically, Black people have been disadvantaged and exploited by the medical system, being stripped of any autonomy they possessed from the birth

of obstetrics and gynecology as a specialization.[68] Recent media coverage has called out the work of the founder of obstetrics, James Marion Sims, in conducting gynecological experiments on enslaved women without anesthesia.[68] These experiments led to the discovery of the speculum and techniques for surgery repairing fistulas at the expense of Black women's humanity and autonomy. Similar experiments were carried out by François-Marie Prevost among Black women in Haiti, where he developed the c-section.[69]

Both of these physicians operated off false premises developed by scientists like Samuel Cartwright in the 1800s, who believed that Black people feel less pain and are different and peculiar from white bodies.[70] Recently, Hoffman and colleagues (2016) assessed whether healthcare providers still believe there are inherent biological differences between Black and white patients. They administered a survey measuring the beliefs held by members of the public and medical students, then tested to see whether their assessment of pain and treatment recommendations would be adequate and accurate for two hypothetical patients. One patient was white, and the other was black. They found positive associations between racial bias in pain assessment and racial bias in treatment recommendation ($r = 0.46$, $p < 0.0001$).[70] Results produced by this study indicate that some medical professionals may still believe that biological differences exist between white and Black bodies and their perceived level of pain tolerance; thus, these perceptions of limited pain directly influence treatment decisions outside of the patient's control. [31,70] This historical context adds to other more recent and notorious cases of patient violation and mistreatment outside of reproductive health, including the Tuskegee Syphilis Study, and the use of Henrietta Lacks' cells (HeLa cells) for scientific and medical advancement without her or her family's consent.[71] All this exacerbates distrust of the medical system among Black persons and communities.

Despite the recognition of these grievous medical offenses and violations of Black autonomy and rights, what Owens and Fett (2019) term "legacies of slavery" still pervade the medical system.[31] The disparities in reproductive outcomes continue to persist and worsen as a reflection of these historical frameworks that pervade medical practice. Black pregnant people in the United States are 3-4 times more likely to die in childbirth than white pregnant people.[67] Reasons include medical neglect, dismissal of concern, underlying complications, and preexisting risk factors associated with economic disparities and experiences of discrimination.[47,72–74] These reasons are mainly circumstantial and are reflective of racist,

discriminatory, and oppressive systems that contribute to these negative health outcomes. There has been recent media coverage on this point, and more research is being done to assess how this problem might be addressed in the United States.[44,65,67,75,76] Researchers like Dana-Ain Davis outline the conceptual relationships between obstetric violence and racism, while terming the simultaneous occurrence and intersection of the two phenomena as 'obstetric racism,' a term that has been cited and utilized to capture the relationship between practitioners and Black and non-Black laboring persons. Davis cites obstetric violence as being –

> *…a form of gender-based violence experienced by people giving birth who are subjected to acts of violence that result in their being subordinated because they are obstetric patients. The term suggests that institutional violence and violence against women coalesces during pregnancy, childbirth, and postpartum (Women's Global Network for Reproductive Rights 2017)*[62]

They also define obstetric racism as being

> *…an extension of racial stratification and is registered both from the historically constituted stigmatization of Black women and from their recollections of interactions with physicians, nurses, and other medical professionals during and after pregnancy. Obstetric racism is a threat to maternal life and neonatal outcomes. It includes, but is not limited to, critical lapses in diagnosis; being neglectful, dismissive, or disrespectful; causing pain; and engaging in medical abuse through coercion to perform procedures or performing procedures without consent. Informing women's interpretations of those encounters is a fluency of historically constituted racism, segregation and policing. Obstetric racism emerges specifically in reproductive care and places Black women and their infants at risk.*[62]

Davis argues that ideas rooted in the 'pathological Black family,' the 'strength' of Black bodies and infants, 'presumed incompetence,' 'disrespect' in advocating for oneself, and the dismissal of Black people's pain and concerns fuel racism and violence; these ideas all had direct impacts on the lives of their participant's birth experiences and outcomes.[62] However, Davis also argues that "...birth workers, including midwives and doulas, mediate obstetric racism and stratified reproductive outcomes."[62]

Even during the slave era, Black, Indigenous, and immigrant midwives and support persons played a large role in the effort to preserve maternal health among their own communities and white birthing persons alike.[29–31,77] However, with the rise of unregulated white male obstetricians and the resulting spike in maternal mortality rates, the Sheppard-Towner Act was passed in 1921 to establish a federally-funded public health workforce.[29,30,77] This act, though it was seemingly positive, was grounded in a growing sentiment of distrust and blame towards Black midwives, and the push to have white nurse-midwives or white male obstetricians attend births outside of the home was emphasized.[29,30,77] All this was despite the fact that midwives had been practicing for centuries in America with relatively good outcomes; the increase in deaths during the 20th was mainly due to obstetric error and practice.[29,30,77,78] This discourse rendered Black and colored birth attendants obsolete and discouraged mothers from seeking their services. Coupled with the increased privatization and medicalization of birth, the role of Black birth attendants diminished in the face of racism and medical elitism.[29,31,77]

Thus, the discussion of alternative birth providers and birth settings proves relevant in light of racial realities in the United States, especially considering their role in Black birthing historically. The option of community care may prove useful to Black families who look for additional support and more personable and reliable care.[79] This may also allow Black persons to reclaim their own bodies and outcomes. However, access to culturally competent or "community" care - specifically defined as care that is centered in a community setting as opposed to a hospital, as cited by Gildner and Thayer (2021) and termed by Davis-Floyd and Cheyney in 2019 - remains limited for many pregnant people in the US.[21,79–84] For the purposes of this study, 'cultural competence' and 'community care' refer to internalized ways of caring for pregnant parents within communities, and a focus on de-medicalizing and personalizing maternity care. This coupled with racial representation can be powerful. However, the majority of traditional and alternative providers are not representative of minority groups in the United States (e.g., doulas are mainly white, middle-aged women), which may cause some Black individuals to avoid care that doesn't align with their identities.[79] As a result, many alternative care options remain inaccessible financially, physically, and culturally; this inaccessibility perpetuates systems that limit autonomy and safety in Black birthing communities.[3,21] Scrimshaw and Backes (2020) articulate these realities perfectly in advocating for the *birthing justice framework*, saying "Similar to reproductive justice overall, birthing justice starts from the

position that the movement for birthing rights and care options has failed to recognize and address the circumstances of traditionally marginalized and underserved groups, which compound the childbearing challenges faced by more advantaged families" (Oparah et al., 2018). Thus, birthing justice is predicated on the idea that while individual choice is necessary, it is not sufficient for just and equitable access and opportunity (Sister Song, 2023)."[3,73,85] Thus, we can view our pursuit of increased autonomy for Black birthing persons through the lens of 'birthing justice,' recognizing the unfortunate historical and current realities that have produced negative outcomes, and working to increase accessibility, safety, and autonomy for Black persons.

COVID-19 and Birth

Lastly, the COVID-19 pandemic has had a profound impact on all aspects of healthcare and substantially affected the care received by pregnant, birthing, and postpartum individuals. Thus, COVID-19 has had incredible implications for birth experience and decision-making among *all* birthing persons. Birthing people were made even more vulnerable to the effects of medicalization in the face of regulatory measures for COVID-19. Thayer (2020) sheds light on these realities in her SAPIENS article titled "U.S. Coronavirus Advice Is Failing Pregnant Women," sharing some of the modifications in experience faced by mothers, including but not limited to parent-child separation, inability to initiative skin-skin, and limiting the number of support persons allowed which forced patients to choose between partners, family, and additional birthing support providers (e.g., doulas).[40] Because there has been a normalization of hospital births in the United States overall, accessibility to alternative options that may have encouraged fewer interventions, more natural birth, and more autonomy was already often limited or impossible to secure financially before COVID-19.[18,32,40] Thus, individuals would have been more vulnerable to COVID-19 hospital regulations and complications without other birthing options.

As was evident in the early years of the pandemic, many pregnant people had to modify their birth plans and experienced less autonomy in their birthing choices overall. This was manifest in changes to the settings and providers or support people involved, the interventions administered during birth, and the COVID-19 protocols and limitations enforced within birthing facilities. Gildner and Thayer (2020) witnessed this trend within their CARE (COVID-19 and

Reproductive Effects) study, where they initially surveyed 1400 individuals at the start of the pandemic on their care and experience throughout pregnancy and the pandemic, with more participants joining over the course of the study. The majority of their study participants gave birth in hospitals (94.8%) and 85.9% were white.[20] They tested their sample to see how many individuals made changes to their birth plan, which they referred to as 'birth alterations,' and which alterations were most common. Changes made included modifying birth plans while remaining at the same hospital, changing one's choice of birth setting, and other COVID-19-related changes. Response results were that 45.2% experienced an alteration; among those who chose to modify an aspect of their plan, 60.8% made changes because of comments made by a medical provider.[20] Changes made solely based on personal choice and no external input were a close second at 53.9%.[20] It is clear that though the majority of women made decisions to modify their care based on a provider's advice, many others made decisions without external input.[20] Regardless, many ended up changing their plans due to COVID-19, an example of limited autonomy being exercised within circumstantial realities.

Other studies have found that birth alterations served as a point of stress and difficulty for parents throughout the pandemic. According to Liu et al. (2022), dissatisfaction (including due to birth plan alterations) is associated with postpartum depression.[86] Their Perinatal Experiences and COVID-19 Effects (PEACE) study surveyed 506 participants, specifically on their birth experiences and what did not go according to plan. For mental health outcomes, they specifically assessed depression, anxiety, and PTSD. Though there wasn't a statistically significant association between social support changes and maternal mental health outcomes, there was an 'observed association' between those who reported high PTSD levels and selected the 'other' option for the reason why. Many participants described social interactions or lack thereof as the stressor in their individual experiences.[86]

Shuman et al. (2022) expanded on the discussion surrounding the effects of COVID-19 and mental stress. Their cross-sectional descriptive study surveyed 371 postpartum women who had given birth after COVID-19 had been declared a health emergency in the United States. They specifically saw five distinct themes in their set, including "(1) Heightened emotional distress; (2) Adverse breastfeeding experiences; (3) Unanticipated hospital policy changes shifted birthing plans; (4) Expectation vs. reality: "mourning what the experience should have been;" and (5) Surprising benefits of the COVID-19 pandemic to the delivery and postpartum

experience."[87] Overall, lack of support due to COVID-19-related regulations and different abilities in how one could cope with stress, breastfeeding complications, and inability to access consultants as normal all contributed to increased stress and burden on the moms surveyed. Mayopoulos et al. (2021) also drew the connection between acute stress responses during COVID-19 and negative mental health outcomes, specific symptoms of post-traumatic stress disorder, difficulties breastfeeding, and difficulties bonding with the baby.[88] So, it is evident that COVID-19 and the resulting uncertainty had clear effects on the outcomes among birthing persons.

In the same vein, COVID-19 has been shown to affect the mental health of pregnant and postpartum persons.[89] Reasons contributing to this may include financial difficulty or job loss, death of loved ones, and changing circumstances relating to the pandemic. Thayer and Gildner (2021) also conducted research within the CARE Study to assess the impact of COVID-related financial stress on the mental health of study participants.[90] Using the Edinburgh Postpartum Depression Scale (EPDS) scores to determine whether or not a participant was likely to have clinically significant depression (EPDS $\geq$ 15),[90,91] they established an positive association between the mental health scores of those who agreed or strongly agreed with the statement *"I am worried about my financial situation due to the COVID-19 crisis."*[90] Thus, they saw that those who agreed with the statement sustained higher EPDS scores. [90]

Kerker, Wilheim, and Weis (2023) expound on these associations, emphasizing that maternal mental health has implications for child development and health across the lifetime.[89] Whether in utero or postpartum, infant health, predispositions, and attachment are all at higher risk for poor outcomes when a pregnant parent undergoes significant stress [89,92,93] Stressors included loss of or decreased employment, COVID-related stress in the workplace (especially for essential workers), social crises coinciding with or caused by COVID-19, the difference in care delivery/telehealth, fear over leaving the house and being exposed, and social isolation and support.[89] The researchers also highlighted the biological pathways influencing maternal cortisol levels, noting that in-utero exposure may lead to intrauterine growth restriction, low birth weight, low gestational age/preterm birth, infant gut modifications, developmental complications, and delays, and a host of other complications.[89] Thus, the implications of COVID-19 for health outcomes are extensive and concerning.

However, there were positive implications of COVID-19 restrictions for some families represented in the research.[87,94] Research conducted within the CARE study and by Shuman et al. confirmed that despite all the negatives, some individuals found that pandemic-related lockdowns and shelter-in-place orders provided their families with space and time to recover following labor and delivery; many emphasized that spouses remained at home for longer and were able to spend time with their children. Additionally, there was the limited ability for visitors and guests within the hospital and postpartum, which relieved pressure on parents and helped with setting boundaries. Others felt that their families had time to bond, including with other existing children.[87,94]

Thayer and Gildner (2021) also highlight that future maternity care preferences may be affected by the pandemic. In general, a large percentage of pregnant individuals in their study (n=900) preferred to give birth in more medicalized contexts, with access to hospital interventions, mainstream pain management strategies, and additional resources in case of complications. Many participants cited safety as the reason for their preference to give birth in a hospital, and this trend remained clear despite the pandemic.[21] Yet, a subset of participants indicated a novel preference for community-centered care, although COVID-19 did not seem to serve as a core reason why these women were considering alternative birthing methods. Rather, the reasons transcended COVID-19 and were related to overall preferences regarding 'patient-centered care and preference for less medical intervention.'[21] Their study also examined participants' perceptions of 'safety' and how that led to their choice of birthing options. Even among those who preferred hospital births, there was variation in how safety was defined and the level of intervention desired. Their work informed our questions related to 'safety.'[21]

Overall, COVID-19 has had incredibly vast and somewhat concerning implications for maternal health, specifically for decision-making and autonomy in birth. We have yet to see the full extent of generational effects sustained by COVID-19 stressors and experiences.

Reflections and the Project Objective

Collectively, this background research outlines the myriad of factors and issues facing maternal health experts and researchers, specifically examining them through the lens of autonomy for birthing persons in the US. The compounded effect of social and biological trends coupled with global events has created a need to examine the gaps existing within maternal

health systems - specifically that of Black persons - in new and urgent ways. Thus, this thesis project is grounded in an examination of birthing persons' perceptions of safety and comfort within the multiple aspects of their birth experience, namely **providers**, **settings**, **COVID-19**, and **overall feelings of safety**. We specifically tested for associations between perceptions of these factors within each experience, and their mental health as the primary outcome.

Project Description and Development

Objectives and Hypotheses

Research objective: This thesis project tests whether patient autonomy, choices of provider and setting, satisfaction, and perceptions of safety are associated with mental health outcomes. Our hypotheses were as follows:

Hypothesis 1 - Participants who were able to follow through with their birth plan, shared factors in common with their providers and felt 'safe' during their pregnancy and birth will report better mental health outcomes.

Hypothesis 2 - Participants who report different birth preferences (e.g. settings and providers) will report different factors (e.g. access to medication and interventions, increased agency and choice in birthing practices and experiences, etc.) that make them feel safe during pregnancy, delivery, and the postpartum period.

Participant Pool

Our participants (n=49) consisted of pregnant (n=15) and postpartum (n=34) individuals who were 18 years and older and had given birth within the last two years. This study period was selected to accommodate and control for the excessive changes that COVID-19 made to the birth and postpartum experience.

Additionally, in light of background research on racial disparities and the lack of studies representative of black populations or 'centering' Black voices - including during the pandemic - we intentionally sampled more Black individuals to address the need for more studies that examine these issues through the lens of people of color.[20,21,21,95,96] Participants were recruited through two avenues: the WashU Volunteers for Health (VFH) database, and through Black Moms Connection, an organization that seeks to support Black mothers and families (see more here: https://www.blackmomsconnection.com/). This second avenue was sought to ensure that we had an adequate number of Black persons in our dataset and helped with our purposeful sampling. Ultimately, we had both Black (n=27) and white (n=21) persons in our sample.

This was a nationwide sample, with participants who were local and others spanning as far as California and Florida. This study was representative of individuals from many varying locations in the United States, and people who gave birth in a variety of settings as well.

Methods

Survey Development

We conducted an examination of intentions and experiences relating to providers, support persons, birth settings, and birth interventions for both pregnant *and* postpartum persons. Surveys were designed to capture individual prenatal and postpartum experiences during the COVID-19 pandemic. Pregnant persons answered the questions in light of their current visits and providers, with an examination of their intended birth plan. Postpartum participants were directed to reflect more retrospectively, with an added focus on the postpartum experience and support. We also asked questions related to their birth experience, whether or not it progressed as expected or desired, and coupled that response with an analysis of their mental health outcomes. All questions were not required and could be skipped if desired. We utilized REDCap v11.1.29 for our surveys to account for its secure and centralized operation. We built the survey within REDCap and facilitated survey operations and data exportation from there.

Screening

The survey began with a pre-assessment/screening to determine if the individual was qualified to participate based on the criteria outlined (e.g. having given birth within the last two years, currently pregnant, or both). Those who selected 'None' would be redirected to a page thanking them for their interest but barring them from participation. Following the screening, a collection of demographic questions was presented, specifically pertaining to the individual's ethnicity, race, age, number of children, education level, and employment status. Both the pregnancy and postpartum surveys contained sections pertaining to prior birth experience and mental health.

Pregnancy Survey

The pregnancy-specific portion of the survey included questions relating to the status of the pregnancy (e.g. birth date) and specifically asked whether or not the participant had a birth plan. If they answered 'Yes,' they were given an opportunity to share what their birth plan was. Following questions specifically addressed experiences relating to providers & support persons. We specifically asked what provider they were currently seeing, the provider they intended to use for the delivery, their similarities in demographic and experience in relation to their provider, their feelings of comfort and support with their provider, whether or not they intended to switch providers, whether or not they elected to have support persons present (including but not limited to a midwife, partner, doula, mother or parental figure, other family members, friends, or other persons not specified). Lastly, we asked how their provider interacted with and communicated with them and their designated support persons about their preferences and care.

We then followed with questions on setting preferences or intent, and senses of safety in their present setting where they attend appointments. They were then given the opportunity to rate the quality of their prenatal care thus far, share if they had experienced any complications, share perceptions of their physical, emotional, and mental outcomes, and share overall perceptions of the quality of their experience to that point.

Postpartum Survey

The postpartum survey encapsulated the pregnancy experience, experience in delivery, and the postpartum experience. To begin, questions relating to the details of the birth and the baby's outcomes were asked, including the date of birth, the week at which the baby was born, and the baby's sex, weight, and length. The survey also asked whether participants had delivered via Cesarean section and if it was elective or not. We also asked if they had a birth plan, what it was, and if they were able to adhere to it. Similar questions to those asked in the pregnancy version about providers followed, with an emphasis on provider choice, similarity, comfort, and communication. We specifically asked participants about the quality of their postnatal care, and their experience with any complications during labor, coupled with their perceptions of physical, emotional, and mental health outcomes during postpartum - including their perceptions of the quality of their healing post-birth. Questions relating to general perceptions of care at each stage

of the experience (pregnancy, labor, and postpartum) followed, with the questions and feelings of safety and perceptions of settings followed.

The analyses represented in this report were conducted with the portion of our data relating to postpartum persons and their experiences. We chose to do this because the number of participants who completed the postpartum survey was larger. Additionally, postpartum persons provided information about both their prenatal and postpartum experiences, allowing us to assess a more complete picture; as a result, the data collected from the postpartum set was more robust. For this reason, we will primarily refer to the postpartum survey for the remainder of this report unless there is a key difference between the pregnancy and postpartum surveys that need to be highlighted. Reference Appendix I for the full questionnaire.

Question Development

To adequately assess all the points of interest, we structured our questions in such a way that allowed us to obtain a diverse set of data and responses. For instance, we included several open-ended prompts that provided opportunities for participants to share their personal experiences in a narrative format. As demonstrated below, each set of questions included binary and/or multiple-choice formats, as well as short answer components to simplify data analysis while retaining more abstract and qualitative data. This allowed us to conduct both qualitative and quantitative analyses. Reference Appendix I for the full questionnaire.

Mental Health & Scale Integration

To measure mental health tendencies among participants, we utilized the Edinburgh Postnatal Depression Scale (EPDS), a gold-standard 10-question tool that serves as a screening survey and is meant to identify participants at higher risk for developing postpartum depression; total scores can range between 0-30 and are calculated by summing the results of each question which count for up to 3 points of the total score.[97,98] Participants were given the option to complete this portion of the survey, but it was not required; 31 of 34 participants completed the scale-related questions. We calculated participants' EPDS scores as part of our data analysis. Consistent with previous work, scores greater than 10 were considered to possibly have depression.[97,98] Please reference the *Quantitative Data Analyses* section for more on how this data was utilized in our analyses and conclusions. To ensure that participants had access to

mental health resources, we provided a list of no cost websites and helplines at the end of the survey. See Appendix 1 for the Resource List and Appendix 2 for the EPDS Scale.

Data Recruitment & Collection

This study received ethical approval from Washington University's IRB Board (Study 202207030). We obtained informed consent from all participants. The survey was administered in REDCap, which automatically captures survey responses.

Data was collected over a period of three months, from August-September 2022. Participants who provided their email upon completing the survey were provided with a $15 Amazon electronic gift card. Follow-up communications and reminders were sent to ensure that participants were aware of deadlines and expectations. Answers to all questions were not required to submit the survey, but approximately 75% of the survey had to be completed to receive the gift card.

Statistical Analysis

Our statistical analyses were conducted as follows:

For Hypothesis 1 - *Participants who were able to follow through with their birth plan, shared factors in common with their providers and felt 'safe' during their pregnancy and birth will report better mental health outcomes* – we utilized two statistical tests in our analyses – logistic regressions to accommodate the presence of confounders in some of our analyses, and a chi-squared to assess the self-reported perceptions of care in relation to EPDS scores. We determined that either a logistic regression or chi-squared would be suitable for these analyses and decided to utilize logistic regression for our binary variables.

For Hypothesis 2 - *Participants who report different birth preferences (e.g., settings and providers) will report different factors (e.g., access to medication and interventions, increased agency and choice in birthing practices and experiences, etc.) that make them feel safe during pregnancy, delivery, and the postpartum period* – we utilized qualitative data responses to capture patient experience and highlight their perceptions in writing. We then read through the responses and determined general themes and trends among their responses based on each set of themed questions.

Quantitative Results

Data were analyzed in IBM SPSS (v29). Logistic regression, chi-squared, and descriptive statistics were used to test the study hypotheses.

Participant Pool Demographics

Within the postpartum set, there were 17 Black individuals and 16 white individuals, with one participant of an unidentified race. Participants ranged from 21-39 years old (M=29.67, SD=4.69), and most (n=28, 82%) had 1-2 children. The majority had a bachelor's degree (n=18, 52.9%), while a significant number of other participants had obtained a high school diploma or its equivalent (n=4, 11.8%) or had some college credit but no college degree (n=4, 11.8%). The majority work full-time in an office (n=14, 41.2%) with stay-at-home parents following in frequency (n=7, 20.6%).

Figure 1: Education Level | What is the highest education level you completed?

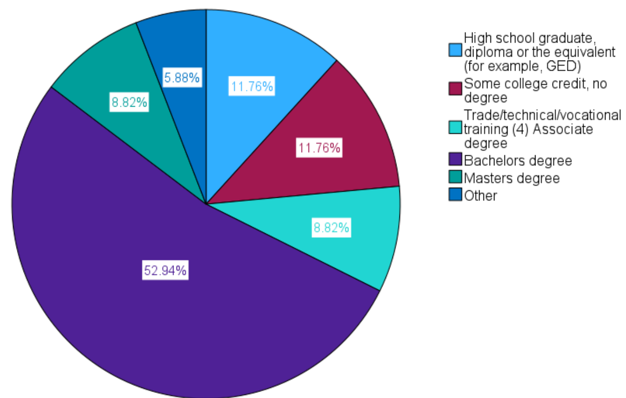
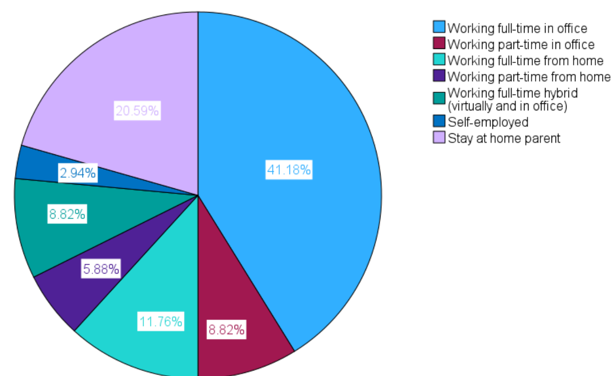


Figure 2: Employment Status | What is your employment status?



Birth Statistics

Birth Plans & General Outcomes

Participants gave birth within a range of 32-42 weeks, with 20% of the set giving birth at 38 weeks (n=7). Six participants gave birth via cesarean section, with four elective and two emergency operations. The sample was almost perfectly split between whether or not they opted

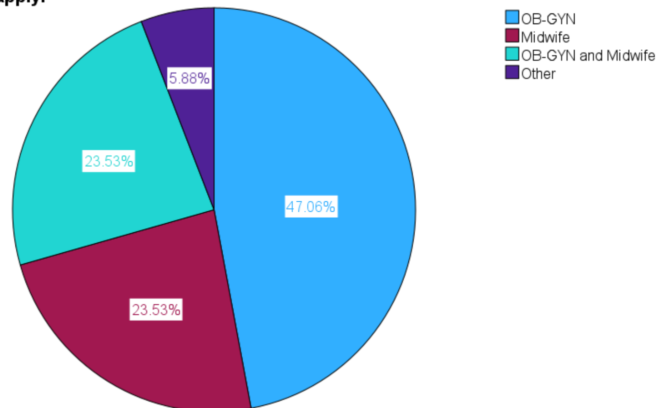
for a birth plan; 50% did not have one (n=17) while 47.1% did (n=16). Among those who answered, the majority said they were able to stick to their original plans (n=23, 67.6%). However, there is a slight discrepancy because some who said they did not have a birth plan seem to have answered that they were able to follow through with one, which demonstrated a slight difference in the perception of the question.

Additionally, in responses to the question *"Did you have any complications during labor?"* participants mostly reported no complications, with 73.5% selecting 'no' (n=25). However, 26.5% of participants did experience complications (n=9).

Providers

The majority of participants received care from an obstetrician-gynecologist (OB-GYN) at 47.1% (n=16). Midwives and OB-GYN/Midwife pairs were seen at the same frequency with 23.5% opting for either option (n=8). Two participants opted for 'other' options including 'OB, midwife and APRN' and 'OB, NP and APRN' as their clarifications.[1] However, these numbers differ slightly from those reporting what participants intended to select as their provider; 55.9% of the set intended to see an OB-GYN (n=19), 35.3% of the set intended to see a midwife (n=12), and 8.8% of the set intended to see both (n=3). 94.1% of the sample reported that their intended provider delivered their infant (n=32).

Figure 3: Providers | What kind of provider(s) did you see during your pregnancy? Select all that apply.



Provider Ratings

The sample as a whole was very favorable towards their providers. In response to the question: "On a scale of 1-5, how do you feel about your provider?" with 1 being 'strongly dislike', and 5 being 'strongly like,' participants exclusively chose between 4 and 5, with 47.1%

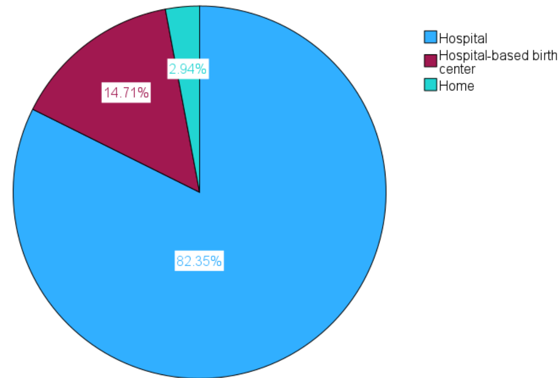
[1] 'OB' refers to an obstetrician-gynecologist, 'APRN' refers to an advanced practice nurse, and 'NP' refers to a nurse practitioner.

selecting 4 (n=16) and 52.9% selecting 5 (n=18). Responses were slightly more varied in response to the question "On a scale of 1-5, how well did your provider work and communicate with your support persons and team?" with 1 being very poorly and 5 being very well. The majority (58.5%, n=20) selected 5, with those who selected 4 following at 32.4% (n=11). Three participants selected 3 for 'okay' (8.8.%).

Settings

Of the settings available for selection, the majority of participants selected the hospital as their intended place of birth at 82.4% (n=28). Five participants reported their intention to give birth in a hospital-based birthing center (14.7%), while one intended to give birth at home (2.9%). The overwhelming majority were able to act on their intentions at 97.1% (n=33). The one participant who was unable to give birth at home as intended clarified why, saying "I was closer to a hospital when I went into labor."

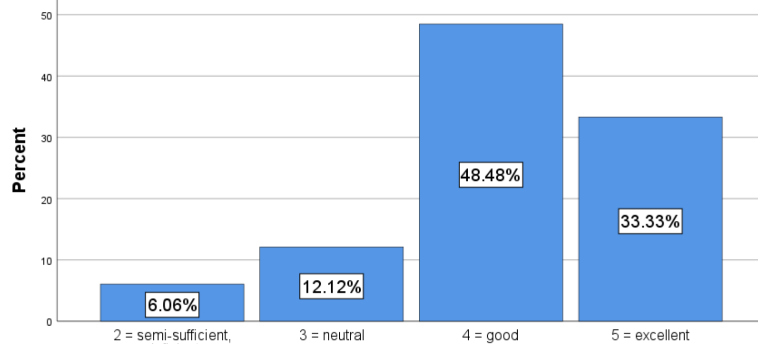
Figure 4: Birth setting intended | What setting did you plan on giving birth in?



Overall Ratings of Postnatal Care

Participants were asked to rate the quality of their postnatal care. The responses were varied, with 32.4% rating their care as 'excellent' (n=11), 47.1% rating their care as 'good' (n=16), 11.8% rating their care as 'neutral' (n=4), and 5.9% rating their care as semi-sufficient/deficient.

Figure 5: Ratings of postnatal care quality



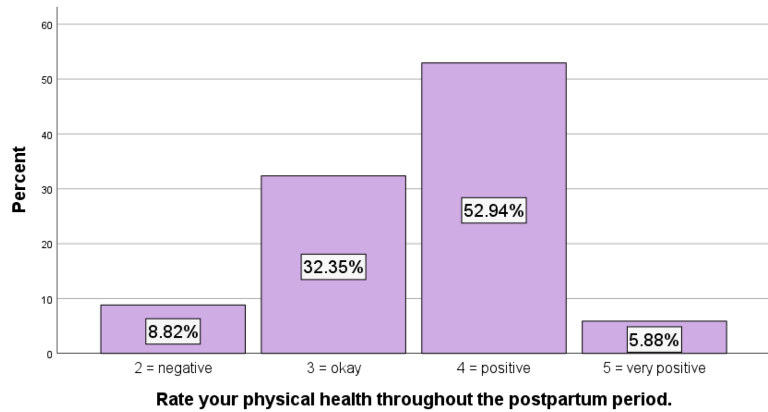


Figure 6: Ratings of physical health postpartum

Participants were asked to rate their physical health, healing, emotional well-being, and mental well-being during the postpartum period on a scale of 1-5, 1 being 'very negative' and 5 being 'very positive'.

Physically, the majority of participants felt positive about their health, with 52.9% selecting 'positive' (n=18). Following was 'okay' at 32.4% (n=11), 'negative' at 3.3% (n=3), and 'very positive' at 5.9% (n=2). Most were satisfied, but it is worth noting that a significant portion (41.2%) fell below the 'positive' rating (M=3.56, $\sigma^2 = 3.56$). The data distribution was normal (skewness = -0.445).

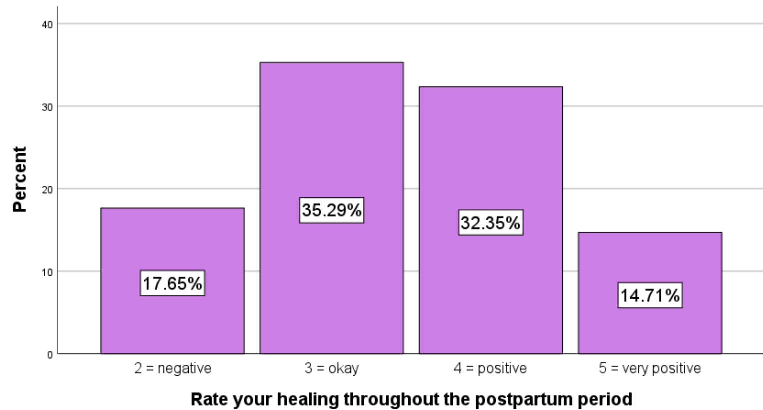
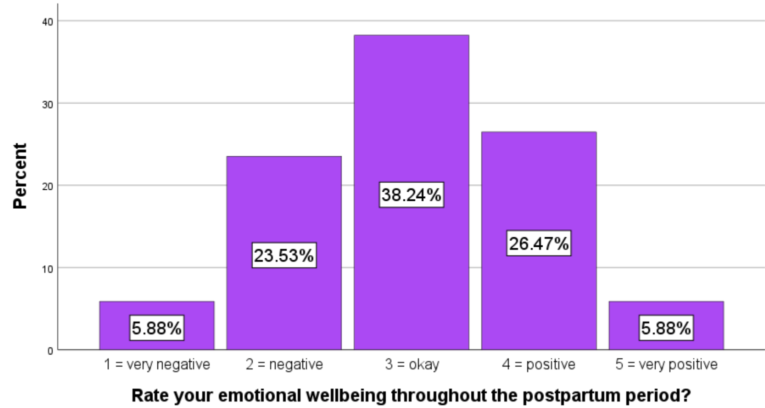


Figure 7: Healing postpartum

Similar patterns were observed among ratings for healing throughout the postpartum period. Reports were slightly less favorable, with the majority of participants selecting 'okay' as their rating (n=12, 35.3%). 'Positive' ratings followed at 32.4% (n=11), with negative and positive being relatively close at 17.6% (n=6) and 14.7% (n=5), respectively (M=3.44, $\sigma^2 = 0.921$). The data was normally distributed (skewness = -0.068).

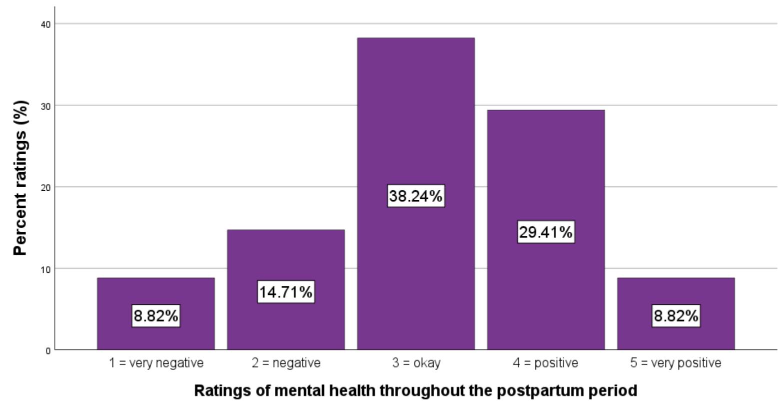
Even more, variation was evident in the emotional well-being of participants. The majority selected ‘okay’ about their emotional state (n=13, 38.2%). ‘Positive’ and ‘negative’ ratings followed at 26.5% (n=9) and 23.5% (n=8), respectively. The very extremes composed 5.9% of the set each (n=2, M=3.03, σ^2 = 0.999). A majority of the set selected ‘okay’ and below for their ratings (67.%). The data was normally distributed (skewness = -0.062).

Figure 8: Emotional wellbeing postpartum



Lastly, the mental health ratings were the most variable of all, though they were generally more positive. 38.2% selected ‘okay’ in reference to their mental health postpartum (n=13), followed by ‘positive’ ratings at 29.4% (n=10). ‘Negative’ ratings accounted for 14.7% of the set (n=5) while ‘very negative’ and ‘very positive’ ratings accounted for 8.8% of the responses each (n=3 for each) (M=3.15, σ^2 = 1.160). The data was normally distributed (skewness = -0.309).

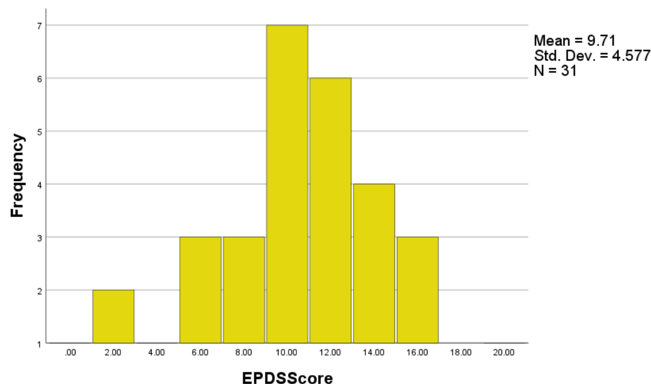
Figure 9: Participant perceptions of mental health during postpartum



Mental Health Outcomes

Mental health outcomes were determined by the Edinburgh Postnatal Depression Scale (EPDS) scores; values greater than or equal to 10 were marked as possibly having depression as used in the original literature, though some studies deviate from the established cutoff. [97,98,103] The highest score possible is 30.[97,98]

Figure 10: Distribution of EPDS Scores among postpartum dataset



The majority of our set that responded to this question (number of respondents = 31) scored higher than 10 on the scale (n=18, 52.9%). Upon assessing the breakdown of scores, it is evident that the majority of participants sustained a score of 10 (n=4); however, the data was extremely variant. The mean was approximately 10 (M=9.70), with a median and mode of 10. The range was 19, and the maximum value represented was 19 ($\sigma^2 = 20.95$). With such high variance, it was important to test for associations with several factors represented in our dataset, including race, presence of a birth plan, choice in providers and settings, level of support, and sense of safety.

Association Testing

To determine the relationship between mental health outcomes and various components of the birth experience, we conducted logistic regression tests and a chi-squared test to test the study hypotheses and examine autonomy through the lens of birth plans, choices of provider and setting, satisfaction with care, and perceptions of safety (EPDS scores were considered positive for depression risk when scoring $\geq$ 10). Significance was determined when $p<0.05$.

Autonomy: Testing associations between birthplans and EPDS

We conducted a logistic regression to assess links between birth plans and EPDS status using two questions:

a) *Did you have a birth plan? (Yes/No)*
b) *Were you able to stick to your birth plan? (Yes/No)*

The results for A indicated that those who responded ‘Yes’ to having a birth plan had lower odds of having depression (B= -.036, df=1, OR=.964; 95%CI= 0.227-4.102). However, the results were non-significant (p=.961).

The results for B indicated that those who responded ‘Yes’ to having been able to follow through with their birth plan had higher odds of being depressed (B=.145, df=1, OR=1.156. 95%CI=.241-5.530). The results were non-significant (p=.856).

Perceptions: Testing associations between provider similarity and EPDS

We conducted a logistic regression to test the relationship between provider similarity and EPDS status using the following question:

a) *Did your primary provider(s) look like you or share experiences or identities with you? (Yes/No)*

The results indicated that those who responded ‘Yes’ that their providers shared similarities with them had lower odds of having depression (B=-.249, df=1, OR=.779, 95%CI=.243-2.504). The results were non-significant (p=.675).

Perceptions: Testing associations between safety and EPDS

We conducted a logistic regression to test links between feelings of safety and EPDS status using the following question:

a) *Did you feel safe throughout your pregnancy, delivery, and postnatal care? (Yes/No)*

The results indicated that those who responded ‘Yes’ they felt safe during their pregnancies had higher odds of being depressed (B=.375, df=1, OR=1.455, 95%CI=.177-11.937). The results were non-significant (p=.727).

When we factored in race as a confounder and adjusted for Black participants based on prior research,[31,62] people who responded ‘Yes’ they felt safe during their pregnancies had 41.8% higher odds of being depressed (B=.349, df=1, OR=1.418). The results were still non-significant (p=.748).

Perceptions: Testing associations between feelings about COVID-19 and EPDS

We conducted a logistic regression assessing how COVID’s effects on participants' feelings surrounding birth were associated with EPDS status based on the following question:

a) *Did the COVID-19 pandemic affect your feelings surrounding giving birth? (Yes/No)*

The results indicated that those who responded 'Yes' that COVID-19 affected their feelings surrounding birth had higher odds of being depressed (B=.359, df=1, OR=.1.432, 95%CI=.316-6.492). The results were still non-significant (p=.642).

Perceptions: Testing associations between satisfaction with postnatal care and EPDS

We conducted a chi-squared test comparing participant ratings of care with their EPDS status based on the following question:

a) *On a scale of 1-5, (1 = very negative, 5 = very positive) how would you rate the quality of your postnatal care? (1 = very negative, insufficient; 2 = semi-sufficient, deficient; 3 = neutral; 4 = good; 5 = excellent).*

The Pearson's chi-square result was equal to 11.840 (df=12, p= .459). Since the p-value is greater than 0.05, the results were insignificant, indicating that there was no statistically significant association between depression scores and varying levels of satisfaction with postnatal care, and the expected values were similar to those observed in the output.

Qualitative Analysis: Written Participant Responses

In addition to our quantitative analysis, our results would not be complete without an adequate representation of participant experiences and voices in our analysis. Many other studies inspired the qualitative methods used here, specifically Thayer and Gildner's CARE study as was elaborated on in previous sections. Their mixed methods approach included questions that elicited more nuanced and detailed responses than others on the topic of participant experiences during COVID-19, specifically addressing how participants navigated birth and postpartum physically, mentally, and emotionally. However, Thayer and Gildner have stated that their data set is limited in terms of diversity, and consists of more white participants.[20,21,90] To build off of their work, we wanted to mirror the methods used, while utilizing our more diverse sample to include the voices of Black persons.

Collection and Question Format

Qualitative data was collected on five key points, namely 1) **birth providers**, 2) **birth settings**, 3) **COVID-19's impact on experience and care**, 4) **best and worst experiences in birth, delivery, and postpartum**, and 5) **perceptions of safety in birth**. The majority of the questions were structured in such a way that provided participants with the option to elaborate on their answers to binary questions. For example, participants were asked the following:

Did you have a birth plan? ***Yes / No*** *| If yes, please describe.*

This particular question was provided for clarification purposes, with the intention of including more detail that would aid in analysis. Other questions were more reflective in nature:

What qualities in your care provider made you feel most comfortable during your pregnancy, delivery, and postpartum periods? Please describe.

Written questions were optional, but provided space for more detailed reflection on the part of the participant. Please reference Appendix I for the full questionnaire.

Qualitative Analysis: Methods and Results

Analyses were conducted with the intention of identifying trends and determining if participant responses were similar to those found in the literature. The responses represented here provide general insight and add to the quantitative data and analyses that are represented in this project. We will share the general trends seen across responses for five points of interest. Please reference Appendix IV for additional response excerpts that were not included here.

Providers

Provider relationship was assessed in six ways and collected using the following questions seen in Figure 11.

FIGURE 11: ***Questions Pertaining to Providers***

Provider Similarity: Did your primary provider(s) look like you or share experiences or identities with you?

If yes, how? Check all that apply: Race/ethnicity (1)/gender identity (2)/cultural background (3)

If yes, how does that similarity make you feel? Please describe.

If no, how does that difference make you feel? Please describe.

Comfort with Provider: Did you feel comfortable with your provider? Yes / No

Please describe why or why not.

Care from Provider: Did you feel well-cared for by your provider? Yes / No

Please describe why or why not.

Heard by Provider: Did you feel heard by your provider? Yes / No

Please describe why or why not.

Communication with Provider: Did you feel that your provider effectively shared information with you? Yes / No

Please describe why or why not.

Provider Qualities: What qualities in your care provider made you feel most comfortable during your pregnancy, delivery, and postpartum periods? Please describe.

Provider Similarity

Provider similarity included race/ethnicity, gender identity, and cultural background. The intention was to assess patient perception of their providers in relation to what they may or may not have in common. All but one postpartum participant said that they had something in common with their provider.

When asked how sharing characteristics with their provider made them feel, many participants reflected on overall feelings surrounding these commonalities, without focusing on the influence of specific shared traits. Responses include the following:

"It made me feel safe and I felt I could express myself in the best way I could." - age 38, white, multipara

"I know my wishes will be respected. I am treated as a whole person." - age 38, white, multipara

These examples highlight the general emphasis on themes of support, safety, and autonomy, with a reference to provider relationships fostered by the similarities marked by the participants. But some mentioned more specific factors as being positive and necessary for their positive experiences. As described in the quantitative results section, the majority of participants had 1-2 of these characteristics in common, with race/ethnicity (n=23; 67.6%) and gender (n=20; 58.5%)

being the most present commonalities. Among the written responses, both were mentioned. Race was highlighted by one respondent:

"It makes me feel comfortable because we were of [the same] race." - age 32, Black, nullipara

However, participants mentioned gender more frequently as a factor that was important to them. Examples include the following:

"I definitely wanted a female provider as I am much less comfortable with male doctors in general." - age 25, white, nullipara

"Understood and safe. I feel that since she is a woman with children she will support my decisions as she relates. I personally refuse to see a male obgyn." - age 28, white, multipara

These emphasize the safety and understanding that many found with female practitioners. Some even said that this mattered to them more than race:

"I gave birth at a birthing center where any/all of the midwives were my provider. Not all of them were the same race/ethnicity to me, but some were. The more important thing to me was that my providers were women. This helped me to be fully in the process without being self conscious. Female practitioners made me feel more safe." - age 33, white, nullipara

Overall, the qualitative responses were robustly in favor of gender as a common factor and a key part of feeling 'safe.'

Still, there were some ambivalent responses worth noting, including the following:

"I only cared about my baby's safety and my provider being able to take care of me, I don't care about any other factors" - age 24, white, nullipara

"it wasn't relevant; I was more concerned with having access to the midwifery model of care than with my midwife's race/gender/cultural characteristics" - age 39, white, multipara

This was a point that was interesting to consider, in seeing that perceptions of what creates safety in birthing circumstances varies across the set. The emphasis of the last one was

particularly interesting, in seeing that the *type* of provider was more valuable as a factor of consideration rather than their characteristics. Our last key response illustrates this perfectly, as it was provided by one participant that marked not having anything in common with their provider. They say:

"I was extremely nervous to give birth in North Dakota, however my OBGYN reputation didn't do her justice. Even though we didn't have any common ground she made me feel safe and heard. I trusted her with my life and any decisions she made I knew was in my best interest. She knew my previous birth experience, my fears, my hopes and worked with me every step of the way." - age 25, Black, multipara

This response grounds the remainder of our analysis of provider and patient relationships, in emphasizing the importance of feeling safe, being heard, and trust, regardless of the provider's similarity with the patient.

Provider Comfort, Care & Hearing

Participants responded to the questions regarding providers' capacity to provide a comforting, caring, and attentive environment for patients in very similar ways. We will go over the most pertinent themes that emerged in these three questions.

All postpartum participants (n=34) marked 'yes' for the question relating to their comfort with their providers. Key responses trends in response to the question of "Why" they felt comfortable included a focus on 'kindness,' 'expertise,' and 'listening' on the part of the provider. Within these key trends were continued threads of thought from the previous question on similarity and familiarity. Responses included the following:

"I felt comfortable because we share the same cultural background" - age 27, Black, multipara

"I felt comfortable because we shared the same race/ethnicity and I have known her for long." - age 30, white, nullipara

There was a consistent favorable response toward those who had attentive, engaged providers who listened to their patients. The focus on listening was also coupled with expressions of appreciation for those who were able to make their own decisions with their provider's support, thus exercising their autonomy, as demonstrated in the following responses:

"She listens and allows me to do what is best for me. I live a hectic life and she is always willing to fit me in and adjust things to work for me. Example being upon discharge from having my 4th baby my 3 older kids were with their father and it was going to be hard to bring everyone up to get me from discharge so since I had not taken any pain medication she allowed me to discharge myself." - age 28, white, multipara

"The midwives who I ended up working with really listened to me. They stuck to my birth plan and allowed me to listen to my body, like pushing before it would usually be time because that is what felt right. Their care during the pushing stage and after care was gentle. I was glad to have worked with the two midwives that I did, because one that I saw for some prenatal care was dismissive of my choices and sarcastic and I feel like that would have really affected my birth experience if she was on duty." - age 33, white, nullipara

Listening, interest, and acknowledgment of patient realities and preferences is emphasized in these responses, and suggests that exercised autonomy during the birth, delivery, and postpartum periods may help to create a sense of satisfaction among birthing persons.

Lastly, some fell back on a more practical point of comfort - provider experience and expertise. One said:

"I felt very comfortable because he is experienced in the field. Has been helping people with delivery for years now and had very low record of not doing his job well." - age 30, unidentified race, multipara

The more provider expertise-centric sense of comfort stemming from trust in the chosen provider may or may not conflict with the desire and mindset that is more inclined to exercise autonomy and have providers engage within the patient's expectations as much as possible. More research and detailed responses is necessary to determine whether or not these ideas are in conflict.

All these ideas contribute to the sense of comfort and care. Just as with the question specifically pertaining to 'comfort' all participants (n=34) marked that they felt *'cared for'* by their provider. Similar themes existed within this set of responses; however, there was an added emphasis on communication between provider and patient, and positive perceptions of effective communication within patient experiences. This was coupled with a narrative surrounding positive listening by providers. Responses included the following:

"He made sure he communicated every information I needed to know. Both good and bad. He sounded very professional too (knows what he is saying and doing). Gives me advices and gives me the choice to decide too. Nothing was enforced on me." - age 30, unidentified race, multipara

"I know it was a paid service but it is a personal thing to be nice and talk to people gently. I got all the support and communication I needed. So [yah]! It made me feel well cared for" - age 25, Black, nullipara

The component of listening came in most strongly in the responses regarding being *'heard by'* (marked by n=33 participants) the provider, specifically demonstrated in three ways - a) adherence and/or respect for the birth plan, b) modification of plans in response to complications or circumstances, and c) reassurance in the face of complications or difficulty.

Birth plan adherence was discussed as a matter of mutual respect between the provider and the patient. The following responses capture this sentiment:

"My birth plan was honored and my questions and concerns were treated as valid." - age 33, white, nullipara

"They followed my birth plan as much as they could given the circumstances of my birth." - age 24, white, nullipara

Within these statements, participants also allude to the intentional accommodation and attentiveness of the provider(s). The following statements illustrate this as well:

"I ended up delivering early from having [PUPPP]. It was intolerable and covered my body head to toe. She advocated for me with the board of directors to deliver the baby before the state 39w mark to alleviate my condition." - age 28, white, multipara

"I had a lot of major health issues this pregnancy that could easily turn deadly such as gestational diabetes, and other complications. As well as a history with preeclampsia, so whenever I was concerned about anything my provider was quick to act and or reassure me." - age 25, Black, multipara

The recognition of these special and specific circumstances created a space where patients felt heard and seen. This support was more circumstantial and physical in light of the complications these participants faced, but others also cited the emotional support provided by their care team:

"They comforted me multiple times as my birth was very traumatic and the amount of empathy shown was amazing" - age 24, white, nullipara

Terms that stand out from these responses include comfort, reassure, empathy, advocacy, and honor - all active components of creating a healthy and safe provider-patient dynamic.

Lastly, communication resurfaced in the responses to the question about the provider's ability to *'share information effectively'* with the patient. All but one participant marked that they felt their provider communicated effectively (n=33/34), and much of the positive feedback stemmed from a sense of informed autonomy among participants. Many cited the step-by-step breakdown that providers engage in to ensure that they understood the decisions being made and the options available for their course of care. Many also emphasized that they *did not* feel pressured to make a particular decision in light of the information being shared, and thought they were well informed to make decisions for themselves. Some responses included the following -

"They gave me resources to research my options thoroughly and discussed in detail my various questions. I didn't feel pressured to make a particular decision, which i really appreciated." - age 25, white, nullipara

"when I wanted individualized care that deviated from the routine practices of her clinic, she always gave me all the information I needed to make an informed decision" - age 39, white, multipara

However, a few responses - like the following - reflected an opposing sentiment:

"She regularly told me what to and what not to do at points of my pregnancy" - age 32, white, multipara

Thus, there was a slight difference between those that were looking for a more directive approach from their providers, and those who were not. This difference is worth highlighting in assessing the variation in how patients desire to build trusted relationships with their providers.

Overall, overlapping patterns within the responses to questions about being cared for, heard by, and communicated with by providers were apparent. It is clear that according to the responses in this data set, attentiveness, listening, accommodation, respect for birth plans and autonomy, kindness, and effective communication, all go a long way to promoting patient satisfaction.

Provider Qualities

Lastly, reported provider qualities clearly highlighted what patients value in their providers. It is clear that many of the same trends seen in previous responses continue to manifest in these quality-specific narratives. Support, specifically in the form of empathy and emotional and mental support, was a key theme in these responses:

"Delivery. They just constantly made me feel like ' I got this' like I was the only person they cared about at the time. The only person that mattered." - age 29, Black, nullipara

"During pregnancy I had lots of anxiety so I appreciated them doing extra things to make me feel comfortable and that my baby was healthy. During delivery the whole team was so kind and empathetic and explained every step for the way. During postpartum they checked on me every hour or 2 and there was so much help available for me and my baby" - age 24, white, nullipara

These responses detail the **attentive** and **consistent** care provided on multiple fronts to those who were in need.

Other responses addressed the purpose and positioning of the provider within the experience, specifically highlighting key provider attitudes:

> *"...open, caring, relaxed - it didn't have a feeling of they are the doctor and they know better than me, no feeling of superiority. It felt more like their purpose was to serve and attend pregnant and birthing women." - age 33, white, nullipara*

Other key terms were similar to previous responses, including 'considerate,' 'kind,' 'empathy,' 'listening,' 'expert,' 'caring,' 'gentle,' 'non-imposing,' and 'calm.' These all contribute to the overall sense of trust that patients seem to have within autonomous and engaged provider-patient relationships.

Birth Settings

Birth settings in our sample were not as varied as expected. We collected the data relating to birth setting through the questions referenced in Figure 12. The majority of participants who responded to the questions pertaining to the birth setting had hospital-based births (n=28). Five individuals gave birth in hospital-based birthing centers (n=5), and one gave birth at home (n=1). Within this section, we asked the following questions:

FIGURE 12: ***Questions Pertaining to Birth Settings***

What setting did you plan on giving birth in? Hospital / Free-standing birth center / Hospital-based birth center / Home / Other

If other, please describe.

Why did you intend to give birth in this setting? Please elaborate.

Did you give birth in this setting? Yes (1) / No (2)

If not, why not?

If not, where did you end up delivering your child?

What aspects of your preferred birth setting make you feel most comfortable?

What words or phrases come to mind when you think about giving birth in a hospital?

What words or phrases come to mind when you think about giving birth at home or in a free-standing birth center (unaffiliated with a hospital)?

For the question relating to the reasons behind the choice of birth setting, responses were also varied, but most centered around the notion of safety and risk minimization.
For hospital settings, many cited the need to be close to or within a facility that housed the equipment and resources necessary in an emergency. Several cited more specific needs related to past experiences, as seen in the following responses:

"My family had a history of birth complications so although my pregnancy was extremely healthy and low risk I had a weird feeling and wanted to be in a safe setting" - age 24, white, nullipara

"My first baby ended up in the NICU and so i wanted to be at a place where a nicu was close for the 2nd baby" - age 35, Black, multipara

Several other participants mentioned the proximity to the NICU as a factor in their decision on where to give birth. Others like the first participant quoted here were cautious for more personal reasons and acted preemptively in anticipation of possible complications.

Others were less concerned about circumstances and more about cultural norms and expectations, saying:

"Because it is the normal and appropriate setting to give birth" - age 25, Black, nullipara

"That I was giving birth the right way at the right location. That made me comfortable with the process." - age 25, Black, nullipara

This almost moral rhetoric and sense of correctness and 'appropriateness' was a thread seen in a few responses, suggesting that cultural norms and medicalization may be very strong influences in where an individual decides to give birth. Some cited the need for a setting to be 'professional' or 'conventional' with the expectation that it was at least more appropriate, if not safer.

And still, others sought a more 'low-intervention' experience and made decisions accordingly. One said:

"I wanted a low-intervention birth. I am aware of the cascade of interventions in mainstream hospital births and it almost seems to be an unfortunate rite of passage these days for women to end up with birth trauma. Something about bright lights and gloves and being hooked to machines just seems incongruent with the instinctive and also the sacred side of birth. I wanted to be able to birth in a dark, quiet room and labor in a tub, with the option to be transferred to the hospital if something truly went wrong." /// "Less clinical, more privacy, more freedom to move around or labor how I choose, dark room, big warm tub" - age 33, white, nullipara

This vastly different rhetoric and expectation emphasizes the differences in what birthing individuals consider 'safe,' especially when it comes to birth settings. Those who favored non-hospital settings wanted the comfort, support, and limited clinical intervention that birth-center and home births provide. However, some did mention that they preferred a middle ground, and opted for a hospital-based birthing center or 'low interventions rooms' within the hospital. In their words:

"Yes, I was in the low intervention delivery room and that was planned as I knew I wanted an unmedicated birth." - age 32, Black, nullipara

"Less clinical, more privacy, more freedom to move around or labor how I choose, dark room, big warm tub" - age 33, white, nullipara

Additionally, there was one response that cited accessibility as a barrier to accessing care outside of a hospital, and another one that cited complications and lifestyle as a barrier.

"Safety of me and my baby, as well as insurance reasons." - age 30, white, nullipara

"I would have preferred to have given birth at a center but I needed to be induced which required a hospital. Also my schedule is too hectic to allow spontaneous labor. 3 out [of] 4 of my children were induced for this reason." - age 28, white, multipara

Thus, it is evident from these responses that a variety of perspectives persist surrounding safety within certain settings. However, there is also a suggestion that more may be limiting some from accessing alternative settings, whether it be distance, availability, or cost. These are all worth considering as we determine what feelings of safety look like for patients within birth settings.

The last component of our assessment of birth setting perceptions was captured in the last two questions:

What words or phrases come to mind when you think about giving birth in a hospital?

What words or phrases come to mind when you think about giving birth at home or in a free-standing birth center (unaffiliated with a hospital)?

These questions provided space for us to engage with participant perceptions outside of their personal birth experience. Thus, we captured general words that were seen throughout the set to describe both the positive and negative ideas of hospitals and birth centers (see Figure 13 for a more detailed breakdown).

Figure 13: Comparison of responses to questions pertaining to birth settings **Most common words/concepts seen across responses*	
What words or phrases come to mind when you think about giving birth in a hospital?	**What words or phrases come to mind when you think about giving birth at home or in a free-standing birth center (unaffiliated with a hospital)?**
POSITIVE	**POSITIVE**

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- Safety* (14)
- Advocacy/Speaking up (1)
- Secure/Security (2)
- Trusted (1)
- Cautious (1)
- Available (1)
- Free (financial) (2)
- Less risky (1)
- Resources/Necessities (2)
- Providers (2)
- Typical/Best/Good (4)
- Rapid response (1)
- Calculated (1)

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- Waterbirth (1)
- Doula (1)
- Midwife (1)
- Support system* (4)
- Comfortable* (4)
- Cozy/homey (2)
- Individualized (1)
- Quiet (1)
- Natural (2)
- Powerful (1)
- Connected/instinctive (2)
- No medications (1)
- Beautiful (1)
- Strong will/strength (2)
- Unrushed (1)
- Slow (1)
- Freedom (2)
- Autonomy (1)
- Discipline (1)

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NEGATIVE

- Pain (2)
- Screaming (1)
- Sterile (1)
- Bright (lights)* (3)
- Interventions (1)
- Interference (1)
- Trapped (1)
- Out of control (1)
- Traumatic (1)
- Clinical (1)
- Pressure (1)

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NEGATIVE

- Risky* (8)
- Unsafe (3)
- Unclean/Messy (2)
- Not advisable (1)
- Scary (2)
- Dangerous (2)
- Unprofessional (1)
- Poor services (1)
- Infection (1)
- Stress (1)
- Complications (2)

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• Surgery (1) • Disrespect (1) • Uncomfortable (2)	• Fear (1) • Worry (1) • Uncertainty and anxiety w/familiarity (1)

For hospital settings, there was an overwhelming focus on 'safety' as the key reason why many chose hospital settings. The idea of resources - coupled with access and security - was emphasized heavily, perhaps suggesting that participants were looking for an option that was as close to 100% safe as possible. For example, one participant (who contrasted the different settings) said:

"Giving birth at home is not one hundred percent safe" -age 25, Black, multipara

Though some participants distrusted hospital settings, several cited having worked to obtain fewer interventions within the hospital. Others recognized the dual nature of hospital births, saying that they feel safer, but are often less comfortable. For example, some described them as:

"Safer, [calculated], uncomfortable" - age 35, Black, multipara

"Pressure, surgery, deflation, disrespect, surveying, security, necessities, service" - age 38, white, multipara

These responses were more nuanced and neutral, with a practical focus on the dualities of hospital birthing. Still, some participants were strongly in favor of the hospital because it was 'typical' and expected, and others had never considered another option.

On the other hand, there were negative or warning statements about hospitals, including the following:

"Bright lights, uncomfortable beds, cold tile floors, uncomfortable bathroom, painful massages, controlling nurses, no access to comfort or convenience.... The best ice of your life" - age 28, white, multipara

"Be careful and mindful. Watch your surrounding and the people around you. Be gracious to your nurses but also aware. Don't do anything you do not want to do and ask plenty of questions." - age 25, Black, multipara

Some viewed hospitals through a lens of rigidity and control, feeling that there was limited comfort and peace of mind to be found in a place that is sterilized, homogenized, mechanical, and impersonal. The words 'uncomfortable,' 'traumatic,' 'sterile,' 'trapped,' and 'bright' all highlight the perception of harshness in medical settings that some hold.

This is in stark contrast to the negative statements made about alternative settings –
"Unsafe, unclean, unprofessional" - age 22, Black, multipara

"Eeewwww. God please. Do people still risk their life this way? Bad... These are things that comes to mind honestly" - age 25, Black, nullipara

Clearly, there was a diversity in the strength of opinion, with some seeing home births as outdated in contrast to hospital settings. However, the nature of the critiques was less descriptive and detailed.

For home and birth center births, the positive keywords emphasized were 'support system,' 'natural,' 'comfortable,' and 'powerful.' The emphasis on slowness, alternative birthing methods, and freedom was also present. Participants mentioned both the beauty of experience, the different methods and providers involved, and the feeling of strength associated with birth in alternative settings. However, there were more nuanced responses that held similar duality and complexity to those shared in the hospital-related questions. Participants highlighted the nervousness and risk that can still come in what is considered to be a 'comfortable' and 'individualized' setting, saying:

"Listen to yourself if things don't feel right listen to your body for you and your baby's safety." - age 32, Black, nullipara

"Comfortable, supported, nervous, natural, powerful, connected, risky." - *age 28, white, multipara*

"increased uncertainty and anxiety even in the face of familiarity" - *age 29, Black, nullipara*

The warnings and realities articulated are clear indicators that all settings carry an element of risk and concern for most parties. However, the ability to choose and act on what is best for a patient and what honors their desires may be what can help to promote feelings of safety in every setting, regardless of where it may be.

COVID-19 and Feelings of Safety

As discussed in prior sections, COVID-19 has colored the experiences of birth, exacerbating mental health concerns and modifying or disrupting care for many pregnant, birthing, and postpartum people. In light of this profound effect, we asked the following questions in an attempt to capture how feelings of safety were influenced by the pandemic:

FIGURE 14: ***Questions Pertaining to COVID-19 and birth experiences***

Did the pandemic impact your prenatal care? Yes / No

If yes, please describe.

Did the pandemic impact your birth experience? Yes / No

If yes, please describe.

Did the pandemic impact your postpartum care? Yes / No

If yes, please describe.

Did the COVID-19 pandemic affect your feelings surrounding giving birth? If so, how?

We approached this question by first assessing COVID-19's effects on participants' feelings overall. We then followed with analysis by stage of pregnancy, first examining how the pandemic affected prenatal care, childbirth itself, and followed by the postpartum period.

Generally speaking, eleven people said that COVID-19 affected their feelings about or towards birth (n=11). Key themes are seen throughout responses centered around stress and uncertainty, with mentions of anxiety over the health of the baby and the patient themselves. Some participants said the following:

"concern about the wellbeing of me and baby, since my pregnancy was in the early days of the pandemic before much was known" - age 39, white, multipara

"Its a scarier experience because i was scared of getting covid and losing my life" - age 35, Black, multipara

These narratives of fear and anxiety were illustrative of the sentiments echoed throughout the set. Additionally, expectations surrounding birth and support were also disrupted. One participant said:

"I am thankful for my doctor and nurses because they were all I had to depend on. I was used to having my mother and siblings there to help care for the baby while I recovered but we couldn't this time." - age 25, Black, multipara

These realities were more specifically addressed in the following questions broken down by stage, but the disruptive trend is clear across the responses detailing COVID-19's effects.

COVID-19 Prenatal

The responses relating to the pandemic's effect on prenatal care centered around the format and nature of visits. One participant commented on virtual visits, saying:

"More virtual appointments early on vs in person" - age 35, Black, multipara.

Others commented on attending visits alone:

“Before I moved to St. Louis, I was in Texas with an OB and had to go to all my appointments alone. They were very short and I rarely was allowed to ask questions. Due to changing policies at the hospital in St. Louis, I didn't know for sure if I would be able to have my husband with me which was stressful, but in the end I was able to be with both him and my mother.” - age 25, white, nullipara

“I wasn't able to have visitors or help so I was very isolated. Many appointments I had to go alone.” - age 25, Black, multipara

Others highlighted the difficulty in getting to appointments at all.

“I skipped appointments at times bc it was so difficult to jump thru the hoops they were requiring.” - age 28, white, multipara

Lastly, other responses centered on the anxiety that came with maintaining precautions, specifically hygiene:

“Covid was one thing to fight against. Cleaning the house and making sure that I was personally not infected or near to getting infected was a struggle. I had to watch everything. What I eat. How I ate it and where I ate it. Method of greeting. What to do before and after touching any plain surface. It was a struggle.” - age 30, unidentified race, multipara

“Covid was so stressful, you'd have to be extra cautious, sanitize everything you touch, watch where you go and who you interact with, in short it wasn't easy” - age 30, white, nullipara

All these emphasize the inconvenience and fear that pregnant persons carried between having limited support in an already uncertain time, having to adjust to new ways of providing care, and the anxiety that came with the possibility of COVID-19 exposure.

COVID-19 Delivery

Similar to the prenatal period, responses about delivery during COVID-19 centered around the modifications in support persons and visitors. Some had more positive perspectives about the change in visitor protocol:

"Only 1 support person allowed. No visitors. It was a blessing." - age 38, white, multipara

"visitors weren't allowed, but I wasn't upset about that." - age 30, white, multipara

Some people were less overwhelmed with the expectation of visiting after birth. However, others still felt the loss:

"As said before I couldn't have any visitors so family support outside of my husband was non existent." - age 25, Black, multipara

Additionally, as alluded in the response above, COVID-19 protocols interfered with the perceived quality of the birth experience for some. The inconvenience of navigating the new system, the difficulty of giving birth in a mask, and the inability to access certain interventions were highlighted in the following responses:

"we were fearful going into the hospital -- this was before the vaccine, and we had to be admitted through the ER for the induction rather than going directly to L&D" - age 39, white, multipara

"We all wore masks. I am hard of hearing and it I was difficult to understand the providers with masks on." - age 25, white, nullipara

"Because of the pandemic, nitrous oxide was not available as an option for pain management during labor." - age 33, white, nullipara

All this illustrated the complications that COVID-19 brought to the birthing experience. However, it is clear that some saw benefits in the new boundaries made possible through COVID-19 protocols - specifically visitor limits.

COVID-19 Postpartum

Lastly, the postpartum experience during COVID-19 as represented by our dataset was marked by difficulty in obtaining the medical care desired, specifically specialist (e.g., lactation consultants) or just general follow-up care.

"I didn't have many appointments post partum and was unable to find an in network mental health care provider with availability." - age 25, white, nullipara

"In relation to my third pregnancy (03/2020) I really wanted to seek lactation consultant services but a lot of the optional programs in the hospitals had been suspended. I ended up having to formula feed the baby." - age 28, white, multipara

These participants mention issues specifically related to availability and access to necessary care. However, others articulated that they did not prioritize their care because they were more concerned about protecting their new child from the virus. The responses include the following -

"Not this pregnancy but my last in 2020 - I had to delay by 6 week check up bc of Covid restrictions. I didn't want to bring the baby anywhere" - age 35, white, multipara

Still, one participant commented on their preference for the new reality:

"I got to do virtual visits, which I prefer." - age 30, white, multipara

Lastly, the overall concern for the safety of the baby was clearly seen in several responses, including this one:

"We kept baby home as much as possible." - age 38, white, multipara

It's evident that fear underlies a lot of these responses, suggesting that the addition of a vulnerable entity may have exacerbated anxiety and stress for the new parents. This, coupled with the difficulty in accessing much-needed care, are the trends represented in the postpartum responses.

COVID's effect on the experiences of pregnancy, birth, and recovery are all different, but share the same fundamental disruptive factors - specifically, anxiety or uncertainty, fear, and some level of isolation or modifications in the kinds of support available to participants. However, even in this, there were some positive elements (e.g., altered visitor protocols) that were expressed, thus creating the potential for a more nuanced examination of potential new protocols we can embrace for those that prefer more intimate and private birth experiences. This could entail retaining COVID-19-era policies that support the evolution of parental preferences.

Overall Safety in Birth Experience

To complete our qualitative analysis, we asked questions related to overall feelings of safety throughout the entire experience. (See questions asked in Figure 15).

FIGURE 15: ***Questions Pertaining to perceptions of safety in overall experience***

What do you consider to be a 'safe' pregnancy and birth (i.e., with regards to providers, locations, and interventions)?

Did you feel safe throughout your pregnancy, delivery, and postnatal care? Yes / No

Why or why not?

These questions served to synthesize the examination of safety we conducted within each factor and stage of the birth experience. In their responses, participants reflected on a number of key factors, including birth circumstances (settings, support people, and providers), education and awareness of birth and one's own needs, adequate support, and the attitudes and practices of practitioners caring for the patient (specifically how care providers address patient needs).

The key response themes centered around education and awareness, including responses like these:

"A safe pregnancy is about educating yourself on what you need as a mother. You have to look up your preference of providers and locations. The experience is what the individual creates to make birthing and delivery flow." - age 32, Black, nullipara

"Beginning as low intervention as possible with the knowledge of when to intervene. I would feel more safe giving birth at home than in a regular hospital setting hooked to machines." - age 33, white, nullipara

It is clear that patient responsibility in taking charge of their health and care is a theme that was seen among some responses, relating back to autonomy and patient decision-making. On the other hand, other responses focused more on the external resources and factors that create the birth experience, referencing setting and risk, amenities, and communication. Example responses include the following:

"it depends on the pregnancy; for myself with a low-risk pregnancy, a midwife is better suited to support a healthy pregnancy and physiological birth at home or in a birth center, but for those with higher-risk pregnancies, a hospital would be a more appropriate location" - age 39, white, multipara

"A safe pregnancy would be a location that has great amenities and support for families, (classes, nurses hotline, access to records,), communications that everyone understands, providers that take care to listen and hear concerns." - age 25, Black, multipara

The external factors, therefore, seem to matter more to some than the intrinsic sense of patient control.

However, at the end of the day, a key point that pervades all these qualitative responses is the need for support in the choices made by the participants. The positive effect of support was reflected in the responses of those who did feel safe during pregnancy:

"My provider made me feel heard and seen for any and every concern, they helped me build a plan with them so everyone knew my desires with my birthing plan." - age 25, Black, multipara

"The care from my partner, loved ones and friends and the adequacy of my provider" - age 30, white, nullipara

Clearly, one of the key factors of a positive birth experience is who is around you and how they honor one's desires and circumstances. For instance, one participant stated that it is essential to:

"[Have] people around you to understand what's going on when you're in pain. Sometimes it's hard to listen or even know what's going on when contractions are kicking your butt"- age 29, Black, nullipara

At a very vulnerable time in their lives, patients need adequate and patient-centered support. Reviewing these reflections allowed us the opportunity to catch a more nuanced glimpse into participants' experiences while giving them the space to share their stories. As Charity Gibson so eloquently states in her article "Birth Narratives: A Vehicle for Women's Agency and Catharsis" (2020): "It is, therefore, invaluable to encourage all women to share their birth narratives to rectify homogenization and to allow them to represent the multifaceted experiences that exist."[99] We hope to have done just that while contributing to a rich body of existing literature that captures patient experiences.

Discussion & Conclusion

Our research results have provided insight into patient perceptions of their providers, settings, feelings of safety, COVID-19, and the pandemic's impact on their mental health. Though our quantitative analysis results were not significant ($p < 0.05$) our qualitative responses provided insight into patient perceptions of care, specifically during COVID-19.

There was no statistically significant association between mental health and any of the factors we tested for, namely the presence of a birth plan, successful execution of a birth plan, shared characteristics with providers, feelings of safety throughout pregnancy, feelings surrounding COVID-19 and its the impact on birth experiences, and satisfaction with postnatal care. Based on participant ratings of their mental health care in postpartum, it is apparent that most participants (~76%) perceived their mental health as being 'okay' to 'very positive.' Additionally, the majority of sample exhibited an EPDS score close to 10 (ranging from 9-11), which was the cutoff for our determination of depression risk and vulnerability (n=7). Less extreme risk for depression across the majority of the set might explain the lack of a meaningful association between depression and our variables within our association tests.

Within our qualitative and quantitative responses, it was evident that there was an overwhelmingly positive perception of providers and care across our sample. Many participants cited that their providers listened to them, considered their concerns, and did not force their recommendations on them. Considering that the majority of our set gave birth within hospitals and with OB-GYNs, this is very positive and encouraging to see and suggests that a balance of patient autonomy and provider expertise can exist in all settings and with all providers.[9,15]

However, there were differences in what participants considered to be 'safe' for their births, and how this influenced their preferences in care. Some associated 'safety' in birth with more medical personnel and resources, while others preferred 'low intervention' births that were less structured and rigid.[18,54] Some of this was reflective of cultural norms and expectations, possibly related to the realities of medicalization and its widespread cultural buy-in, while other responses reflected concern over safety and risk.[18,32] Accessibility was also a point of concern brought up by some, which emphasizes the need to make different kinds of care more available as a potential option for birthing people to consider.[21,49,63,79,81–84]

Additionally, there was a trend in light of how provider similarity affects patient satisfaction. Though the quantitative numbers suggest a smaller disparity between preferences for race and gender similarities in providers across participants, the qualitative responses were more robustly in favor of gender as a common factor and a key part of feeling 'safe.' Several cited relatability and similar experiences as the reason behind this preference. This was the strongest trend we saw within the qualitative responses related to provider similarity, with some participants explicitly saying that they would not trust a male provider. This is especially interesting in light of the medicalization discourse and the reality of patriarchal and paternalistic paradigms within medical practice. This is true even between providers, with midwives and doulas – typically female professionals – often being sidelined within birthing spaces.[18,19,26,29,77] The complex relationship between male providers and female patients or providers, along with the gendered tension specifically unique to obstetrics and gynecology needs to be considered when examining a person's choice of provider. Future examinations of this point could be coupled with an assessment of race as a complicating factor.[30,31,62,73,74,77]

Overall, what participants really stressed across differences was the need for empathetic support from family and providers alike. This need was especially seen in the light of the effects of COVID-19.[86,87] Within this support included the need for providers to listen to patients' concerns and consider their desires for birth. Many expressed extreme satisfaction with their providers for having done this. This was especially important in light of the fear and uncertainty that was highlighted across the sample because of COVID-19. Yet, some participants also reported positive changes during the COVID-19 pandemic. Sentiments surrounding appreciation for newer policies surrounding visitor regulations were a smaller but visible trend. This is consistent with the literature and other studies that have been conducted assessing patient perceptions of COVID-19.[87,94]

All in all, despite some differences in perspective regarding what makes participants feel 'safe' in childbirth, many of the same trends emerged across our sample - the ability to make decisions together with a provider, a sense of security and safety within the patient-provider relationship, comfort within a chosen birth setting, or overall support from family and providers.

Limitations

Limitations of our study include the following. First, during survey recruitment, we experienced an unexpected level of spam requests via email to participate in the survey for compensation. Though each request was screened individually, there is a possibility that the data was compromised by the accidental inclusion of false participants. We were unable to verify for sure who was genuinely intending to take the survey, but we made sure to review each response and select participants with this reality in mind.

Additionally, this study was limited to the United States, and our dataset within those parameters was small. We had a substantial amount of diversity in location across our set, which makes it hard to consider trends and patterns within a centralized location. Additionally, our full postpartum set (n=34) was small, reducing the power of our statistical analyses. Thus, there is an opportunity to replicate this research with a large dataset and reassess for statistical trends.

Conclusions & Future Directions

Autonomy can be experienced in any setting. Satisfaction is often more a product of the experience of birth and a patient's feelings of safety within it.[36] Providers can work to ensure patient satisfaction with care by listening to patient concerns and providing respectful and appropriate expertise without pressure, instead treating all patients with respect and compassion.[9,10,14] There is also clear evidence suggesting that alternative providers and care may promote positive outcomes.[49,55,57,58,63] Ultimately, there is a need to ensure that alternative models of care are accessible for all birthing persons, shifting cultural perceptions of maternal care models may also 'humanize birth' once again.[5,22] Whether alternative care models focus on community care and birth education[21,22,81,82,84] or the integration of midwives and doulas into healthcare settings,[49,100,101] there is sufficient evidence that we have the providers and frameworks necessary to boost comfort, satisfaction, safety, and autonomy for birthing individuals of all backgrounds.[3,5,56–59] As stated by Scrimshaw and Backes:

> *…this care should be delivered "in the right way," that is, in a way that respects the autonomy and dignity of all birthing people, given that…some women experience a gap between the care they expect and want and the care they receive. Women want safety, freedom of choice in the birth setting and provider, choice among care practices, and respectful treatment. Individual expectations, the amount of support received from*

caregivers, the quality of the caregiver–patient relationship, and involvement in decision making appear to be the greatest influences on women's satisfaction with the experience of childbirth."[3]

Birthing people have spoken to what makes them feel safe - will we listen?

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APPENDICIES

Appendix I: Questionnaire

Pre-survey:

Please select the option applicable to you:

- Currently pregnant
- Have given birth sometime within the last 2 years (2020-now)
- Both
- Neither (end survey if select this option)

Zip code:

GENERAL Questions

What is your ethnicity? Select all that apply.

White (1) Hispanic, Latino, or Spanish origin (2) Black or African American (3) Asian (4) American Indian or Alaska Native (5) Native Hawaiian or Other Pacific Islander (6) Other (7): Please define

What is your age?

How many children live in your household (including any currently on the way)?

What is the highest education level you completed?
Some high school, no diploma (1) High school graduate, diploma or the equivalent (for example, GED) (2) Some college credit, no degree (3) Trade/technical/vocational training (4) Associate degree (5) Bachelor's degree (6) Master's degree (7) Professional degree (8) Doctorate degree (9)

What is your employment status?
Working full-time in office (1), Working part-time in office (2), Working full-time from home (3), Working part-time from home (4), Working full-time hybrid (5), Working part-time hybrid (6), Self-employed (7), Stay at home parent (8), Unemployed (9)

Pregnancy Survey

When is your baby due? (calendar in RedCap)

How many weeks pregnant are you?

Do you have a birth plan? Yes (1) / No (2)

If yes, please describe.

What kind of provider are you currently receiving care from during your pregnancy? OB-GYN (1)/Midwife (2)/ Other (3)

If 'Other,' please explain.

What kind of provider do you intend to use for this delivery? OB-GYN (1)/Midwife (2)/ Other (3)

Why do you intend to use this provider type?

Does your provider look like you or share experiences or identity with you? Yes (1) / No (2)

If yes, how? Check all that apply: Race/ethnicity (1)/gender identity (2)/cultural background (3)

If yes, how does that similarity make you feel? Please elaborate.

If no, how does that difference make you feel? Please elaborate.

On a scale of 1-5, how do you feel about your provider? (1 strongly dislike, 5 = strongly like):

Do you feel comfortable with your provider? Yes (1) / No (2)

Please describe why or why not.

Do you feel well-cared for by your provider? Yes (1) / No (2)

Please describe why or why not.

Do you feel heard by your provider? Yes (1) / No (2)

Please describe why or why not.

Do you feel that your provider effectively shares information with you? Yes (1) / No (2)

Please describe why or why not.

What qualities in a care provider would make you feel most comfortable during your pregnancy and upcoming delivery? Please describe.

Do you intend to switch providers before delivery? Yes (1) / No (2)

If yes, why?

What support people do you intend to have present at your birth? Select all that apply.
Midwife (1)/ Partner (2)/Doula (3)/Mother (4)/ Other Family (5)/Friends (6)/ Other (7)
If other, please elaborate.

On a scale of 1-5, how well does your provider work and communicate with your support persons? (1 being very poorly and 5 being very well) (will add (2 = poorly, 3 = moderately, 4 = well to answer choices)

What setting do you plan on giving birth in? Hospital (1)/Free-standing birth center (2)/Hospital-based birth center (3)/Home (4)/Other (5)
If other, please describe.
Why have you selected this setting? Please elaborate.

Do you feel safe in the setting where you attend your appointments? Yes/No
If yes, what makes you feel safe?
If no, what makes you feel unsafe?

What factors would make you feel most comfortable in your ideal birth setting?

On a scale of 1-5, (1 = very negative, 5 = very positive) how would you rate the quality of your prenatal care so far?
1 = very negative, insufficient
2 = semi-sufficient, deficient
3 = neutral
4 = good
5 = excellent

Perceived Outcomes

Have you had any complications during your pregnancy so far? Yes (1) / No (2)
If yes, please describe.

On a scale of 1-5, (1 = very negative, 5 = very positive) how would you…
Rate your physical health throughout pregnancy?
Rate your emotional health throughout pregnancy?
Rate your mental health throughout pregnancy?

<u>Perceptions</u>

Please share your best pregnancy experience thus far.

Please share your worst pregnancy experience thus far.

Is there anything else that you think would be helpful for us to understand about what it is like to be pregnant and planning to give birth during this time?

Has the COVID-19 pandemic affected your feelings of safety surrounding giving birth?
Yes (1) / No (2)
If yes, how?

What would you consider to be a 'safe' pregnancy and birth (i.e., with regards to providers, locations, and interventions)?
Do you feel safe throughout your pregnancy thus far? Yes (1) / No (2)
Why or why not?

What words or phrases come to mind when you think about giving birth in a hospital?

What words or phrases come to mind when you think about giving birth at home or in a free-standing birth center (unaffiliated with a hospital)?

Postpartum Survey

What day was your baby born? (calendar in RedCap)

How many weeks pregnant were you when you gave birth?

What is your baby's sex? 1, boy 2, girl 3, other (describe).

What was your baby's weight at birth? ____ (lbs) **_____** (oz)

What was your baby's length at birth? _____ inches

Did you have a cesarean section? Yes (1) / No (2).

If yes, was the cesarean section elective or emergency?

Did you have a birth plan? Yes (1) / No (2)

If yes, please describe.

Were you able to stick to your birth plan? Yes (1) / No (2)

If not, please explain what was different.

What kind of provider(s) did you see during your pregnancy? Select all that apply. OB-GYN (1)/Midwife (2)/ Other (3)

What kind of provider did you intend to use during labor and delivery? OB-GYN (1)/Midwife (2)/ Other (3)

Did this provider type deliver your infant? No/Yes

If no, which provider type delivered your infant? OB-GYN (1)/Midwife (2)/Unassisted (3)/Other (4)

If no, why did a different provider deliver your infant? Please describe.

Did your primary provider(s) look like you or share experiences or identities with you?

If yes, how? Check all that apply: Race/ethnicity (1)/gender identity (2)/cultural background (3)

If yes, how does that similarity make you feel? Please describe.

If no, how does that difference make you feel? Please describe.

On a scale of 1-5, how did you feel about your provider? (1 strongly dislike, 5 = strongly like):

Please describe.

Did you feel comfortable with your provider? Yes (1) / No (2)

Please describe why or why not.

Did you feel well-cared for by your provider? Yes (1) / No (2)
Please describe why or why not.
Did you feel heard by your provider? Yes (1) / No (2)
Please describe why or why not.
Did you feel that your provider effectively shared information with you? Yes (1) / No (2)
Please describe why or why not.

What qualities in your care provider made you feel most comfortable during your pregnancy, delivery, and postpartum periods? Please describe.

What support people did you have present at your birth? Select all that apply. Midwife (1)/ Partner (2)/Doula (3)/Mother (4)/ Other Family (5)/Friends (6)/ Other (7)
If other, please elaborate.

On a scale of 1-5, how well did your provider work and communicate with your support persons and team (1 = very poorly, and 5 = very well)?

What setting did you plan on giving birth in? Hospital (1)/Free-standing birth center (2)/Hospital-based birth center (3)/Home (4)/Other (5)
If other, please describe.
Why did you intend to give birth in this setting? Please elaborate.
Did you give birth in this setting? Yes (1) / No (2)
If not, why not?
If not, where did you end up delivering your child?

What aspects of your preferred birth setting make you feel most comfortable?

On a scale of 1-5, (1 = very negative, 5 = very positive) how would you rate the quality of your postnatal care?
1 = very negative, insufficient
2 = semi-sufficient, deficient
3 = neutral
4 = good
5 = excellent

Did the pandemic impact your prenatal care? Yes (1) / No (2) .
If yes, please describe.

Did the pandemic impact your birth experience? Yes (1) / No (2) .
If yes, please describe.

Did the pandemic impact your postpartum care? Yes (1) / No (2) .

If yes, please describe.

<u>Perceived Outcomes</u>

Did you have any complications during labor? Yes (1) / No (2)

If yes, please describe.

On a scale of 1-5, (1 = very negative, 5 = very positive) how would you…

Rate your physical health throughout the postpartum period?
Rate your healing throughout the postpartum period?
Rate your emotional wellbeing throughout the postpartum period?
Rate your mental health throughout the postpartum period?

<u>Perceptions</u>

What was your best pregnancy experience?
What was your worst pregnancy experience?

What was your best delivery experience?
What was your worst delivery experience?

What was your best postpartum experience?
What was your worst postpartum experience?

Is there anything else that you think would be helpful for us to understand about what it is like to be pregnant or give birth during this time?

Did the COVID-19 pandemic affect your feelings surrounding giving birth?
If so, how?

What do you consider to be a 'safe' pregnancy and birth (i.e., with regards to providers, locations, and interventions)?

Did you feel safe throughout your pregnancy, delivery, and postnatal care? Yes (1) / No (2)

Why or why not?

What words or phrases come to mind when you think about giving birth in a hospital?

What words or phrases come to mind when you think about giving birth at home or in a free-standing birth center (unaffiliated with a hospital)?

Pregnancy & Postpartum Questions

Have you given birth prior to your most recent/current pregnancy? Yes (1) / No (2)

If yes, how many times have you previously given birth before your most recent/current pregnancy?

If yes, in which of the following locations have you given birth? Select all the apply. Home (1) / free-standing birth center (2) / hospital-based birth center (3) / hospital (4) / other (5)

If you answered "other" for previous birth location, please describe.

If you have previously given birth, which of the following providers have you used in your previous deliveries? Select all the apply. Unassisted (1) / midwife (2) / obstetrician (3) / other (4) (describe)

If you have previously given birth, which of the following delivery types have you experienced? Select all the apply. Vaginal (1), elective cesarean (2), emergency cesarean (3), Vaginal birth after cesarean (VBAC) (4)

Exit:

Thank you for your participation in this survey! Your information will help us to understand how provider preferences and feelings of safety throughout pregnancy, childbirth, and postpartum lead to better health outcomes and satisfaction throughout the experience.

We recognize that some of you may have experienced significant challenges, including but not limited to financial difficulties, household stress, and offspring loss. There are a variety of free, online resources available to support you no matter your situation, including:

Supporting Mamas Resources for Miscarriage and Infant Loss
A comprehensive list of sites and links that may contain useful information and resources.
https://supportingmamas.org/miscarriage-and-infant-loss/

National Institute for Health Resources for Stillbirth (English and Spanish)
A list of several of services, resources, and support groups available to parents.
https://www.nichd.nih.gov/health/topics/stillbirth/resources/patients

Postpartum Support International Helpline
Call 1-800-944-4773 (English and Spanish)
Text a Message to 503-894-9453 (English) or 971-420-0294 (Spanish)

This resource is available 24 hours a day. If you contact the helpline you will be asked to leave a confidential message and a trained volunteer will return your call or text. They will listen, answer questions, offer encouragement, and connect you with local resources as needed. For more information, please visit:

https://www.postpartum.net/get-help/help-for-moms/

Lucie's List has also compiled a list of free, online resources available to support and connect new mothers. You can find this resource list here: https://www.lucieslist.com/resources-to-help-moms-stay-virtually-connected-during-covid-19/

We thank you again for your time.
You may now exit this window.

Appendix II: Edinburgh Postnatal Depression Scale (EPDS)

<u>Mental Wellbeing</u>

Please select the answer that comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

In the past 7 days…

1. I have been able to laugh and see the funny side of things
As much as I always could
Not quite so much now
Definitely not so much now
Not at all

2. I have looked forward with enjoyment to things
As much as I ever did
Rather less than I used to
Definitely less than I used to
Hardly at all

3. I have blamed myself unnecessarily when things went wrong
Yes, most of the time
Yes, some of the time
Not very often
No, never

4. I have been anxious or worried for no good reason
No, not at all
Hardly ever
Yes, sometimes
Yes, very often

5. I have felt scared or panicky for no very good reason
Yes, quite a lot
Yes, sometimes
No, not much
No, not at all

6. Things have been getting on top of me

Yes, most of the time I haven't been able to cope at all.
Yes, sometimes I haven't been coping as well as usual
No, most of the time I have coped quite well.
No, I have been coping as well as ever.

7. I have been so unhappy that I have had difficulty sleeping

Yes, most of the time
Yes, sometimes
Not very often
No, not at all

8. I have felt sad or miserable

Yes, most of the time
Yes, quite often
Not very often
No, not at all

9. I have been so unhappy that I have been crying

Yes, most of the time
Yes, quite often
Only occasionally
No, never

10. The thought of harming myself has occurred to me

Yes, quite often
Sometimes
Hardly ever
Never

Appendix III: Quantitative Data Tables

Logistic Regression: Birthplans x EPDS | Question A

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	30	44.1
	Missing Cases	38	55.9
	Total	68	100.0
Unselected Cases		0	.0
Total		68	100.0

a. If weight is in effect, see classification table for the total number of cases.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.002	1	.961
	Block	.002	1	.961
	Model	.002	1	.961

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	41.051[a]	.000	.000

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted EPDSBinaryTransformed No	Predicted EPDSBinaryTransformed Yes	Percentage Correct
Step 1	EPDSBinaryTransformed	No	0	13	.0
		Yes	0	17	100.0
	Overall Percentage				56.7

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Did you have a birth plan?	-.036	.739	.002	1	.961	.964
	Constant	.288	.540	.284	1	.594	1.333

a. Variable(s) entered on step 1: Did you have a birth plan?.

Correlation Matrix

		Constant	Did you have a birth plan?
Step 1	Constant	1.000	-.731
	Did you have a birth plan?	-.731	1.000

Logistic Regression: Birthplans x EPDS | Question B

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	31	45.6
	Missing Cases	37	54.4
	Total	68	100.0
Unselected Cases		0	.0
Total		68	100.0

a. If weight is in effect, see classification table for the total number of cases.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.033	1	.857
	Block	.033	1	.857
	Model	.033	1	.857

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	42.132[a]	.001	.001

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted EPDSBinaryTransformed No	Predicted EPDSBinaryTransformed Yes	Percentage Correct
Step 1	EPDSBinaryTransformed	No	0	13	.0
		Yes	0	18	100.0
	Overall Percentage				58.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Were you able to stick to your birth plan?	.145	.799	.033	1	.856	1.156
	Constant	.223	.671	.111	1	.739	1.250

a. Variable(s) entered on step 1: Were you able to stick to your birth plan?.

Correlation Matrix

		Constant	Were you able to stick to your birth plan?
Step 1	Constant	1.000	-.840
	Were you able to stick to your birth plan?	-.840	1.000

Logistic Regression: Provider Similarity x EPDS

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	31	45.6
	Missing Cases	37	54.4
	Total	68	100.0
Unselected Cases		0	.0
Total		68	100.0

a. If weight is in effect, see classification table for the total number of cases.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.177	1	.674
	Block	.177	1	.674
	Model	.177	1	.674

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	41.989[a]	.006	.008

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted: EPDSBinaryTransformed No	Predicted: EPDSBinaryTransformed Yes	Percentage Correct
Step 1	EPDSBinaryTransformed	No	0	13	.0
		Yes	1	17	94.4
	Overall Percentage				54.8

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ProviderSimilaritypp	-.249	.596	.175	1	.675	.779
	Constant	.697	.964	.523	1	.470	2.008

a. Variable(s) entered on step 1: ProviderSimilaritypp.

Correlation Matrix

		Constant	ProviderSimilaritypp
Step 1	Constant	1.000	-.926
	ProviderSimilaritypp	-.926	1.000

Logistic Regression: Safety x EPDS

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	31	45.6
	Missing Cases	37	54.4
	Total	68	100.0
Unselected Cases		0	.0
Total		68	100.0

a. If weight is in effect, see classification table for the total number of cases.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.121	1	.728
	Block	.121	1	.728
	Model	.121	1	.728

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	42.044[a]	.004	.005

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted		
			EPDSBinaryTransformed		Percentage Correct
			No	Yes	
Step 1	EPDSBinaryTransformed	No	0	13	.0
		Yes	0	18	100.0
	Overall Percentage				58.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Did you feel safe throughout your pregnancy?	.375	1.074	.122	1	.727	1.455
	Constant	.000	1.000	.000	1	1.000	1.000

a. Variable(s) entered on step 1: Did you feel safe throughout your pregnancy? .

Correlation Matrix

		Constant	Did you feel safe throughout your pregnancy?
Step 1	Constant	1.000	-.931
	Did you feel safe throughout your pregnancy?	-.931	1.000

Logistic Regression: Safety x EPDS (confounder = race)

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	31	45.6
	Missing Cases	37	54.4
	Total	68	100.0
Unselected Cases		0	.0
Total		68	100.0

a. If weight is in effect, see classification table for the total number of cases.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.786	2	.675
	Block	.786	2	.675
	Model	.786	2	.675

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	41.380[a]	.025	.034

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted EPDSBinaryTransformed No	Predicted EPDSBinaryTransformed Yes	Percentage Correct
Step 1	EPDSBinaryTransformed	No	1	12	7.7
		Yes	1	17	94.4
	Overall Percentage				58.1

a. The cut value is .500

Correlation Matrix

		Constant	Did you feel safe throughout your pregnancy?	What is your ethnicity? Select all that apply. (choice=Black or African American)
Step 1	Constant	1.000	-.868	-.343
	Did you feel safe throughout your pregnancy?	-.868	1.000	-.020
	What is your ethnicity? Select all that apply. (choice=Black or African American)	-.343	-.020	1.000

Logistic Regression: COVID-19 x EPDS

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	31	45.6
	Missing Cases	37	54.4
	Total	68	100.0
Unselected Cases		0	.0
Total		68	100.0

a. If weight is in effect, see classification table for the total number of cases.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.219	1	.640
	Block	.219	1	.640
	Model	.219	1	.640

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	41.946[a]	.007	.009

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted		
			EPDSBinaryTransformed		Percentage Correct
			No	Yes	
Step 1	EPDSBinaryTransformed	No	0	13	.0
		Yes	0	18	100.0
	Overall Percentage				58.1

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Did the COVID-19 pandemic affect your feelings surrounding giving birth?	.359	.771	.217	1	.642	1.432
	Constant	.201	.449	.199	1	.655	1.222

a. Variable(s) entered on step 1: Did the COVID-19 pandemic affect your feelings surrounding giving birth?.

Correlation Matrix

		Constant	Did the COVID-19 pandemic affect your feelings surrounding giving birth?
Step 1	Constant	1.000	-.583
	Did the COVID-19 pandemic affect your feelings surrounding giving birth?	-.583	1.000

Chi-squared/Crosstabs Function: Birth Satisfaction x EPDS

On a scale of 1-5, (1 = very negative, 5 = very positive) how would you rate the quality of your postnatal care? * Rate your mental health throughout the postpartum period? Crosstabulation

			Rate your mental health throughout the postpartum period?					
			1 = very negative	2 = negative	3 = okay	4 = positive	5 = very positive	Total
On a scale of 1-5, (1 = very negative, 5 = very positive) how would you rate the quality of your postnatal care?	2 = semi-sufficient, deficient	Count	1	0	1	0	0	2
		Expected Count	.1	.3	.8	.6	.2	2.0
		Standardized Residual	2.5	-.6	.2	-.8	-.4	
	3 = neutral	Count	0	1	2	1	0	4
		Expected Count	.2	.6	1.6	1.2	.4	4.0
		Standardized Residual	-.5	.5	.3	-.2	-.6	
	4 = good	Count	0	3	7	5	1	16
		Expected Count	1.0	2.4	6.3	4.8	1.5	16.0
		Standardized Residual	-1.0	.4	.3	.1	-.4	
	5 = excellent	Count	1	1	3	4	2	11
		Expected Count	.7	1.7	4.3	3.3	1.0	11.0
		Standardized Residual	.4	-.5	-.6	.4	1.0	
Total		Count	2	5	13	10	3	33
		Expected Count	2.0	5.0	13.0	10.0	3.0	33.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.840[a]	12	.459
Likelihood Ratio	10.387	12	.582
Linear-by-Linear Association	2.939	1	.086
N of Valid Cases	33		

a. 19 cells (95.0%) have expected count less than 5. The minimum expected count is .12.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.599	.459
	Cramer's V	.346	.459
N of Valid Cases		33	

Appendix IV: Qualitative Analysis | Written Patient Responses

Below are collections of relevant quotes, including those referenced in the Qualitative analysis and additional ones that are similar to those included.

PROVIDERS Qualitative

Similarity	Comfortable	Cared for	Heard by	Shared how	Qualities
QUOTES: “I feel supported and inclusive” - Participant 17 “It made me feel safe and I felt I could express myself in the best way I could.” - Participant 23 “I felt more comfortable and at home.” -Participant 30 “I know my wishes will be respected. I am treated as a whole person.” -Participant	**QUOTES:** “I felt comfortable because we share the same cultural background” - Participant 13 “Because the midwife and I had something in common” - Participant 17 “she wasn't pushy, always listened to and acknowledged my concerns, and was gentle and kind” - Participant 25 “She listens and	**QUOTES:** “I felt very comfortable because he is experienced in the field. Has been helping people with delivery for years now and had very low record of not doing his job well.” - Participant 35 “Never shamed for my choices or views.” -Participant 38 “He made sure he communicated every information I needed to know. Both good	**QUOTES:** “They comforted me multiple times as my birth was very traumatic and the amount of empathy shown was amazing” -Participant 8 “He always took my opinion into account. He asked but never commanded.” - Participant 14 “she wasn't pushy, always listened to and acknowledged my concerns, and was gentle and kind” -	**QUOTES:** “Every visit she told me what we would be looking at and explain the process thoroughly.” - Participant 3 “They gave me resources to research my options thoroughly and discussed in detail my various questions. I didn't feel pressured to make a particular decision, which i really appreciated.” - Participant 18	**QUOTES:** “Physical and psychological support to the woman in labour” -Participant 1 “She was a doctor of color and understood my concern of being heard and having a safe unmedicated delivery.” -Participant 3 “Delivery. They just constantly made me feel like ' I got this' like I was the only person they cared about at the time. The

38 “It made my relationship with the provider easy” -Participant 59 “She was a woman. I am a woman.” -Participant 6 “I am happy my OB was a woman.” -Participant 15 “I definitely wanted a female provider as I am much less comfortable with male doctors in general.” -Participant 18 “Understood and safe. I feel that since she is a woman with children she will support my decisions as she relates. I personally refuse to see a male obgyn.” -Participant 28 “I gave birth at a birthing center where any/all of the	allows me to do what is best for me. I live a hectic life and she is always willing to fit me in and adjust things to work for me. Example being upon discharge from having my 4th baby my 3 older kids were with their father and it was going to be hard to bring everyone up to get me from discharge so since I had not taken any pain medication she allowed me to discharge myself.” -Participant 28 “I felt comfortable because we shared the same race/ethnicity and I have known her for long.” -Participant 30 “As previously stated, my provider was interested in my hopes, desires, and fears. She made me feel completely involved and whenever I had a	and bad. He sounded very professional too (knows what he is saying and doing). Gives me advices and gives me the choice to decide too. Nothing was enforced on me.” -Participant 57 “He made sure we had detailed communication with every necessary information(good and bad). He gives me good advice and it's always worth it.” -Participant 59 “I know it was a paid service but it is a personal thing to be nice and talk to people gently. I got all the support and communication I needed. So [yah]! It made me feel well cared for” -Participant 63	Participant 25 “I ended up delivering early from having puppps. It was intolerable and covered my body head to toe. She advocated for me with the board of directors to deliver the baby before the state 39w mark to alleviate my condition.” -Participant 28 “I had a lot of major health issues this pregnancy that could easily turn deadly such as gestational diabetes, and other complications. As well as a history with preeclampsia, so whenever I was concerned about anything my provider was quick to act and or reassure me.” -Participant 31 “My birth plan was honored and my questions and	“when I wanted individualized care that deviated from the routine practices of her clinic, she always gave me all the information I needed to make an informed decision” -Participant 25 “Communication was easy and regular with my doctor, even with little things. I had 24 access to a nurses line and if needed appointments were easy to schedule. They made everything accessible from doctor summary after each visit to lab results mere hours after each visit.” -Participant 31 “They informed me at every step what they were doing and their recommendations and why they were recommending certain steps.” -Participant 36	only person that mattered.” -Participant 6 “During pregnancy I had lots of anxiety so I appreciated them doing extra things to make me feel comfortable and that my baby was healthy. During delivery the whole team was so kind and empathetic and explained every step for the way. During postpartum they checked on me every hour or 2 and there was so much help available for me and my baby” -Participant 8 “Accessibility. Responsiveness. Kindness. Professionalism. Humor. Sensitivity.” -Participant 14 “Mostly the transparency and honesty throughout each of my visits and hospital stay” -

midwives were my provider. Not all of them were the same race/ethnicity to me, but some were. The more important thing to me was that my providers were women. This helped me to be fully in the process without being self conscious. Female practitioners made me feel more safe.” -Participant 35 “Safe and secured. She was (is) a white woman but feels closer because she is a 'lady'. It was my first time giving birth. So I really felt safe around a female obstetrician” -Participant 63 “It makes me feel loved and safe and I was given utmost care” -Participant 1 “It makes me feel comfortable because we were of [the same] race.” -Participant 4	concern she listened and acted immediately.” -Participant 31 “The midwives who I ended up working with really listened to me. They stuck to my birth plan and allowed me to listen to my body, like pushing before it would usually be time because that is what felt right. Their care during the pushing stage and after care was gentle. I was glad to have worked with the two midwives that I did, because one that I saw for some prenatal care was dismissive of my choices and sarcastic and I feel like that would have really affected my birth experience if she was on duty.” -Participant 35 “They tried to make me feel as comfortable as		concerns were treated as valid.” -Participant 35 “They followed my birth plan as much as they could given the circumstances of my birth.” -Participant 26	“Answers all questions and has extensive experience so that knowledge brings clarity.” -Participant 38 “Everyone made a point to answer my questions.” -Participant 54 “I knew about most things at each point in time. It wasn't my first time giving birth either so loads of things were not kept from me” -Participant 57 “She regularly told me what to and what not to do at points of my pregnancy” -Participant 58	Participant 15 “Empathy, good listening skills, thoughtful, knowledgeable” -Participant 18 “Being open, caring, relaxed - it didn't have a feeling of they are the doctor and they know better than me, no feeling of superiority. It felt more like their purpose was to serve and attend pregnant and birthing women.” -Participant 35 “They were caring and gentle. They listened to me and considered my wants and needs.” -Participant 36 “His method of talking. Very calm and patient. He didn't enforce or impose any activity on me. He confirmed that I was comfortable with everything and made

“More calm. My provider was also white. I'm not racist though. But well, he seem more fit for the job” -Participant 57 “I only cared about my baby's safety and my provider being able to take care of me, I don't care about any other factors” -Participant 8 “it wasn't relevant; I was more concerned with having access to the midwifery model of care than with my midwife's race/gender/cultural characteristics” -Participant 25 “I was extremely nervous to give birth in North Dakota, however my OBGYN reputation didn't do her justice. Even though we didn't have any common ground she made me feel safe and heard. I trusted	possible even when things did not go according to plan. They followed my wants most of the time.” -Participant 36 “I felt comfortable because he's experienced in the field. He has a good pedigree” -Participant 59 “I felt very comfortable because he is experienced in the field. Has been helping people with delivery for years now and had very low record of not doing his job well.” -Participant 57				me know the complication or risk of not doing some certain stuff if I decide not to. It's my life anyways. But he says kind things.” -Participant 57 “Clear communication, calmness , gentle, understanding, patience, he doesn't force his impression on me.” -Participant 59 “I feel her expertise. I genuinely feel strongly that she knows what she is doing. So that made me very comfortable and also made me obey instructions easily” - p63

her with my life and any decisions she made I knew was in my best interest. She knew my previous birth experience, my fears, my hopes and worked with me every step of the way." -Participant 31					

BIRTH SETTINGS Qualitative

Settings
QUOTES: "Yes, I was in the low intervention delivery room and that was planned as I knew I wanted an unmedicated birth." -Participant 3 "My family had a history of birth complications so although my pregnancy was extremely healthy and low risk I had a weird feeling and wanted to be in a safe setting" -Participant 26 "My first baby ended up in the NICU and so i wanted to be at a place where a nicu was close for the 2nd baby" -Participant 36 "Because it is the normal and appropriate setting to give birth" -Participant 63 "That I was giving birth the right way at the right location. That made me comfortable with the process." -Participant 63 "I wanted a low-intervention birth. I am aware of the cascade of interventions in mainstream hospital births and it almost seems to be an unfortunate rite of passage these days for women to end up with birth trauma. Something about bright lights and gloves and being hooked to machines just seems incongruent with the instinctive and also the sacred side of birth. I wanted to be able to birth in a dark, quiet room and labor in a tub, with the option to be transferred to the hospital if something truly went wrong." /// "Less clinical, more privacy, more freedom to move around or labor how I choose, dark room, big warm tub" -Participant 35

Perceptions of Different Settings

Words that come to mind when thinking of hospital births	Words come to mind when thinking about birth center births
<u>QUOTES:</u> **POSITIVE** "Speak up for yourself, have the confidence to voice your concerns, and have your partner know what you need if you can't speak for yourself." -Participant 3 "Rapid response care which in my mind was most important." - Participant 54 **NEGATIVE** "sterile; bright; intervention; interference; disruption; policies and procedures" -Participant 25 "Bright lights, uncomfortable beds, cold tile floors, uncomfortable bathroom, painful massages, controlling nurses, no access to comfort or convenience.... The best ice of your life" -Participant 28 "Be careful and mindful. Watch your surrounding and the people around you. Be gracious to your nurses but also aware. Don't do anything you do not want to do and ask plenty of questions." - Participant 31 "Out of control, traumatic, clinical, cold, bright, scary, technology, trapped" -Participant 35	**<u>QUOTES:</u>** **POSITIVE** "Water birth, midwife and doula, support system" -Participant 12 "comfortable; cozy; supported; calm; individualized; quiet" - Participant 25 "No medications Beautiful experience Strong Will power" - Participant 31 "Free, unrushed, comfortable, slow, natural, instinctive" -Participant 35 "Comfortable, homey, support" -Participant 36 "Freedom, autonomy, strength and discipline" -Participant 38 **NEGATIVE** "Giving birth at home is not one hundred percent safe" -Participant 7 "Unsafe, unclean, unprofessional" -Participant 17 "Eeewwww. God please. Do people still risk their life this way? Bad... These are things that comes to mind honestly" -Participant 63 "Messy, who gone clean this mess up lol" -Participant 6

BOTH/NUANCED	BOTH/NUANCED
“Safer, [calculated], uncomfortable” -Participant 36 “Pressure, surgery, deflation, disrespect, surveying, security, necessities, service” -Participant 38	“Listen to yourself if things don't feel right listen to your body for you and your baby's safety.” -Participant 3 “Comfortable, supported, nervous, natural, powerful, connected, risky.” -Participant 28 “increased uncertainty and anxiety even in the face of familiarity” -Participant 62

COVID Qualitative

COVID Safety: Did C19 affect your feelings around going birth?	**COVID Prenatal:** Did the pandemic affect your prenatal care?	**COVID Delivery:**	**COVID PP:**
QUOTES: "The stress and uncertainty took a lot of the joy out of having a baby. I spent a lot of time crying and wishing I was not pregnant (it was an unplanned pregnancy)." - Participant 18 "concern about the wellbeing of me and baby, since my pregnancy was in the early days of the pandemic before much was known" -Participant 25 "I am thankful for my doctor and nurses because they were all I had to depend on. I was used to having my mother and siblings there to help care for the baby while I recovered but we couldn't this time." - Participant 31	**QUOTES:** "Before I moved to St. Louis, I was in Texas with an OB and had to go to all my appointments alone. They were very short and I rarely was allowed to ask questions. Due to changing policies at the hospital in St. Louis, I didn't know for sure if I would be able to have my husband with me which was stressful, but in the end I was able to be with both him and my mother." - Participant 18 "I skipped appointments at times bc it was so difficult to jump thru the hoops they were requiring." -Participant 28 "I wasn't able to have visitors or help so I was very isolated. Many appointments I had to go	**QUOTES:** "Because of the pandemic, nitrous oxide was not available as an option for pain management during labor." - Participant 35 "Only 1 support person allowed. No visitors. It was a blessing." -Participant 38 "visitors weren't allowed, but I wasn't upset about that." - Participant 54 "We all wore masks. I am hard of hearing and it I was difficult to understand the providers with masks on." -Participant 18 "we were fearful going into the hospital -- this was before the vaccine, and we had to be admitted through the ER for	**QUOTES:** "We kept baby home as much as possible." -Participant 38 "Not this pregnancy but my last in 2020 - I had to delay by 6 week check up bc of Covid restrictions. I didn't want to bring the baby anywhere" - Participant 41 "I got to do virtual visits, which I prefer." -Participant 54 "I didn't have many appointments post partum and was unable to find an in network mental health care provider with availability." - Participant 18 "In relation to my third pregnancy (03/2020) I really wanted to seek lactation

“Its a scarier experience because i was scared of getting covid and losing my life” -Participant 36 “I had anxiety at many points thinking I was at the risk of Covid. won't lie.” -Participant 57 “Just humanly. The pandemic is something to be scared of and having a child in the midst of Everything. Bills around. The economy is pushing to survive through it all. I just really hope we all come out fine.” -Participant 63	alone.” -Participant 31 “Covid was one thing to fight against. Cleaning the house and making sure that I was personally not infected or near to getting infected was a struggle. I had to watch everything. What I eat. How I ate it and where I ate it. Method of greeting. What to do before and after touching any plain surface. It was a struggle.” -Participant 57 “Covid was so stressful, you'd have to be extra cautious, sanitize everything you touch , watch where you go and who you interact with, in short it wasn't easy” -Participant 59	the induction rather than going directly to L&D” -Participant 25 “As said before I couldn't have any visitors so family support outside of my husband was non existent.” -Participant 31 “Had to deliver with a mask on and couldnt bring my mother in.” -Participant 36	consultant services but a lot of the optional programs in the hospitals had been suspended. I ended up having to formula feed the baby.” -Participant 28 “Now I'm actively taking care of 2people to protect ourselves against covid. I don't even know if I do so well for myself yet but having a baby can be so much hardwork. I always have to be way too careful. And covid is no joke. So yes. Keeping baby safe is one of the impact the pandemic has on my postpartum care. Disinfectants everywhere” -Participant 63

SAFETY Qualitative

What could you consider to be a safe pregnancy and birth?	Feel safe in pregnancy? YES	Feel safe in pregnancy? NO
<u>QUOTES:</u> “Take a prenatal vitamin, exercise regularly and educate yourself.” -Participant 1 “A safe pregnancy is about educating yourself on what you need as a mother. You have to look up your preference of providers and locations. The experience is what the individual creates to make birthing and delivery flow.” -Participant 3 “Having people around you to understand what's going on when you're in pain. Sometimes it's hard to listen or even know what's going on when contractions are kicking your butt” -Participant 6 “To me, safe is taking all the health precautions and interventions. But mainly making sure there is enough staff on site.” -Participant 15 “High quality hospital. I wouldn't want to do a home or stand-alone birthing center birth. The hospital birthing center was a good median for	**<u>QUOTES:</u>** “I knew I had to create a space for myself because I was battling depression and I had to consider my physical health to protect my son.” -Participant 3 “My husband always made me feel safe” -Participant 4 “I had faith in God.” -Participant 6 “we were fortunate enough to be able to isolate and stay safe at home throughout the pandemic, leaving only for prenatal care and groceries, so I felt safe” -Participant 25 “Because I have a stable job and home and live in a safe area. I was also able to work remotely from home.” -Participant 28 “My partner and provider made me feel safe” -Participant 30 “My provider made me feel heard and seen for any and every concern, they helped me build a	**<u>QUOTES:</u>** “I was very anxious throughout pregnancy.” -Participant 18 “I was very worried about getting Covid and I didn't see almost anyone other than immediate family.” -Participant 35 “Scared of getting covid” -Participant 36

me.” -Participant 18 “it depends on the pregnancy; for myself with a low-risk pregnancy, a midwife is better suited to support a healthy pregnancy and physiological birth at home or in a birth center, but for those with higher-risk pregnancies, a hospital would be a more appropriate location” -Participant 25 “A safe pregnancy would be a location that has great amenities and support for families, (classes, nurses hotline, access to records,), communications that everyone understands, providers that take care to listen and hear concerns.” -Participant 31 “Beginning as low intervention as possible with the knowledge of when to intervene. I would feel more safe giving birth at home than in a regular hospital setting hooked to machines.” -Participant 35 “Where a person's boundaries, conclusions and autonomy is respected, the natural processes of the body are honored and mom and baby are seen as a dyad.” -Participant 38 “Using a location where everything that would be needed is readily available. The providers know what they are doing. If things go south, they have an idea of what it might be or who might know about it and the solution is also easily accessible.” -Participant 57 Safe pregnancy would be using the right	plan with them so everyone knew my desires with my birthing plan.” -Participant 31 “It was ideal, i wasn't high risk until after giving birth” -Participant 40 “The care from my partner, loved ones and friends and the adequacy of my provider” -Participant 59	

obstetrician and giving birth in a safe and secured place that won't stress you during delivery. Having the right medical practitioner to put one through the process before it happens and every information one needs to maintain a safe pregnancy. -Participant 63		