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A Mixed-Methods Analysis of Abortion Attitudes and Perceptions among Women Living in Alabama and South Carolina

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by

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ABSTRACT

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Legal induced abortion is a safe option for terminating a pregnancy for women of reproductive age in the United States (U.S.), though access has varied since the *Roe v. Wade* and *Doe v. Bolton* cases in 1973. Information is lacking on women's attitudes toward and perceptions of abortion as well as on related constructs such as pregnancy attitudes and contraceptive use. Exploring these constructs is important in that it can provide much needed context to women's reproductive life planning. This research aimed to explore perceptions of abortion access and safety and examine the potential associations between attitudes toward abortion access and pregnancy avoidance and contraceptive use, respectively, among women living in Alabama and South Carolina. Secondary data were from two representative, statewide surveys of reproductive-aged women (18-44 years) living in Alabama and South Carolina. This mixed-methods research used thematic analysis to categorize open-ended responses regarding perceptions of abortion access and safety and bivariate (χ^2 tests) and multivariate analyses to assess the relationships between abortion attitudes and pregnancy avoidance and contraceptive use, respectively. In Study 1, half of women (50.0%) thought that an abortion was very or somewhat easy to obtain and less than half women (41.2%) perceived abortion as very or somewhat safe in their state. The most common open-ended response themes were abortion legality and restrictions and abortion as similar to any medical procedure. In Study 2, women who were ambivalent about pregnancy

avoidance or who found it unimportant to avoid pregnancy were less likely to agree that safe, effective, and affordable methods of abortion care should be available to women in their community compared to those who found it important to avoid pregnancy (adjusted Odds Ratio (aOR), 0.53 and 0.55, respectively). In Study 3, contraceptive users were more likely to agree that safe, effective, and affordable methods of abortion should be available to women in their community than contraceptive non-users (aOR, 1.43). There are clear opportunities for key stakeholders in reproductive health and health policy to unite in efforts to create woman-centered practices, programs, and policies to meet the reproductive health needs of the women they serve.

DEDICATION

This dissertation is dedicated to women in the United States and across the globe who have sought and continue to seek true reproductive freedom. I see you, I hear you, and I stand with you.

ACKNOWLEDGEMENTS

It really does take “a village” to reach a milestone as massive as the completion of a dissertation—especially during a pandemic. First and foremost, I find it necessary to acknowledge my committee members (Dr. Katie Baker, Dr. Nathan Hale, and Dr. Mike Smith) for guiding me on this dissertation journey. I thank my dissertation chair, Dr. Katie Baker, for encouraging and mentoring me over the past five years of graduate education and for making me realize my true potential as a public health leader. I thank Dr. Nathan Hale for giving me much needed opportunities to work with statistical software and quantitative methods and for never being shy to give honest, critical feedback. I thank Dr. Mike Smith for always giving great advice and for being the methodological guru needed to carefully plan and execute the research presented in this dissertation. I am also appreciative of Dr. Debbi Slawson for being the most positive and supportive professor, department chair, DrPH coordinator, mentor, and friend during my time in the College of Public Health—your overwhelming support was needed more than you know. I also thank my fellow DrPH students, friends, and family for providing the support and encouragement needed to complete this dissertation. I am especially thankful for Erin Mauck, my “mom away from home” and “partner in crime,” who unconditionally supported me over the past few years and who understands my experiences as a doctoral student more than anyone else. I am grateful to the many friends who have supported me, listened to me endlessly talk about this dissertation, motivated me to keep writing, and most importantly, made Johnson City feel like home—especially Lauren and Josh Jones, Karrington Foster, Rachel Bradshaw, Jordan Mallory, Cam Mathis, and Mary Kerns. Finally, I am eternally indebted to my loving and supportive parents and siblings—Larry, Brenda, Nick, and Chris Peluso—who have cheered me on without hesitation, from near and afar, in all my educational endeavors.

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Chapter 1. Introduction

Background

Nearly half (45%) of the 6.1 million pregnancies per year in the United States (U.S.) are unintended (mistimed or unwanted; Guttmacher Institute, 2019a). Recent trends show that about one in five pregnancies (20%; excluding miscarriages) ends in abortion, a legal medical procedure that has been provided to millions of women for over 40 years (Guttmacher Institute, 2019c). Comparably, it is estimated that between 40-50% of all *unintended* pregnancies end in abortion (Finer & Zolna, 2014, 2016). In 2017, approximately 862,320 abortions were performed in clinical settings in the U.S., representing a 7% decline from 2014. The abortion rate among women of reproductive age (15-44 years) in 2017 was 13.5 abortions per 1,000 women, the lowest rate ever captured and reported in the U.S. (Guttmacher Institute, 2019c). Complications from most abortion procedures are rare (about 2% of patients), and the estimated mortality rate from legal abortion is less than 1 death per 100,000 procedures performed (Pazol, Creanga, Burley, & Jamieson, 2014; Sajadi-Ernazarova & Martinez, 2019; Zane et al., 2015). Taken together, it is evident that abortion, though declining in frequency, is not uncommon and is a safe pregnancy outcome for women of reproductive age in the U.S.

The U.S. Supreme Court has recognized the legal right to obtain an abortion since its landmark decisions in the *Roe v. Wade* and *Doe v. Bolton* (1973) cases. For the most part, abortion rights have since been avowed by the Court, most recently decisions to strike down state laws limiting abortion access in *Whole Woman's Health v. Hellerstedt* (2016) and *June Medical Services LLC v. Russo* (2020). Nevertheless, states across the nation have imposed a number of limitations on abortion access, funding and care. From 1973 to 2015, state legislators passed 1,074 abortion restrictions; of these, 288 (27%) were enacted between 2011 and 2015, the

most ever in a five-year period since the *Roe v. Wade* decision (Guttmacher Institute, 2016a). In an effort to operationalize states' legislative leanings regarding abortion, the Guttmacher Institute has developed a methodology for quantifying a state's hostility toward or, alternatively, support of abortion rights. Abortion restrictions and protections are each classified into six major categories. Restriction categories include: 1) Bans on abortion at any stage of pregnancy (pre- or post-viability) in violation of the U.S. Constitution; 2) Mandate on in-person counseling before receiving abortion services followed by a waiting period; 3) Restrictions on abortion funding via Medicaid; 4) Prohibition of telemedicine to prescribe medication abortion; 5) Limitations on abortion access for minors without parental consent; and 6) Burdensome restrictions or targeted regulations on clinics providing abortion services. On the other hand, protection categories include: 1) Inclusion of abortion rights in state constitution; 2) Affirmation of legal right to obtain an abortion via state legal standards; 3) Guarantee abortion funding via Medicaid; 4) Permit advanced practice clinicians to provide abortion services by law; 5) Require private health insurance plans to cover abortion; and 6) Uphold unrestricted access to abortion clinics via legal protections for clinics and providers. States are scored based on the numbers of restrictions and/or protections currently in place. A state is given a score of +1 if they have enacted an abortion protection and a score of -1 if they have enacted an abortion restriction. States with negative scores are generally considered very hostile (-6), hostile (-5 or -4), or leaning hostile (-3 or -2) to abortion rights, while states with positive scores are considered leaning supportive (+2 or +3), supportive (+4 or +5), or very supportive (+6) of abortion rights. Middle-ground states are those with scores of -1, 0, or +1. An estimated 40 million reproductive-aged women in the U.S. live in states that have shown some level of hostility toward abortion rights. The proportion of reproductive-aged women living in leaning hostile, hostile, or very hostile states has increased

from 49% of women in 2000 to 58% of women in 2019. Conversely, about 24 million women of reproductive age (36% of the total) currently reside in states that are supportive of abortion rights, and approximately 6 million reproductive-aged women (6% of the total) currently reside in middle-ground states (Guttmacher Institute, 2019b). Of the 22 U.S. states currently considered very hostile or hostile to abortion rights, a majority are located in the Southern U.S., as designated by the U.S. Census Bureau (n.d.). Alabama and South Carolina are among the states considered hostile to abortion rights (Guttmacher Institute, 2019b).

Largely due to state-level abortion restrictions, the availability of abortion services, specifically the number of facilities that provide abortion care, has shifted in recent times. An estimated 1,587 health care facilities, including hospitals, nonspecialized and specialized clinics and physicians' offices provided abortion services in 2017, representing a 5% decline from 2014 (Cartwright, Karunaratne, Barr-Walker, Johns, & Upadhyay, 2018; Guttmacher Institute, 2019c; Jones & Jerman, 2017a). Though this decline may not seem significant, it is crucial to consider state and regional trends in abortion service availability and abortion facility closures to gauge overall access to abortion among reproductive-aged women over time.

Despite attempts to restrict abortion access coupled with the declining presence of health care facilities that provide abortion services, results of recent public opinion surveys have shown that a majority of Americans are supportive of abortion rights under some circumstances. In fact, national polling data have consistently shown that over half of Americans believe abortion should be legal in all or most cases (Hartig, 2018; Quinnipiac University, 2018; Saad, 2018). Moreover, findings from recent polls and scientific studies have shown differences in views on abortion by selected personal characteristics such as race or ethnicity, religious affiliation, state of residence and political identity (Jozkowski, Crawford, & Hunt, 2018; Kaiser Family

Foundation, 2018a; Pew Research Center, 2014, 2015, 2018; White et al., 2016; Wiebe, Littman, & Kaczorowski, 2015).

Purpose of this Research

To date, few studies have explored abortion attitudes and perceptions among reproductive-aged women in the U.S. – those who stand to experience the most direct impacts of restrictions on abortion access, funding and care. In particular, women living in the U.S. South face the most stringent of abortion restrictions, with a majority of Southern states having instituted at least four different types of abortion-related policies (Guttmacher Institute, 2019b). Recent restrictions passed in some states have been especially burdensome and may be responsible for declines in abortion incidence over time. These include, but are not limited to, requiring waiting periods that force women to visit a clinic more than once before receiving an abortion, requiring parental consent for abortion services sought by minors, requirements that clinics and staff providing abortion services meet specific standards, mandating that abortion practitioners have specific hospital admitting privileges, and restrictions on insurance coverage of abortion services (Boonstra & Nash, 2014; Guttmacher Institute, 2016b, 2019b; Medoff, 2012a). Moreover, the passing of recent clinic-specific restrictions has resulted in a flurry of abortion clinic closures in several states in the Midwest and South (Grossman, White, Hopkins, & Potter, 2017; Guttmacher Institute, 2019c; Jones & Jerman, 2017a). In fact, as of 2017, five states—Kentucky, Mississippi, North Dakota, South Dakota and West Virginia—had just one functioning abortion clinic (Guttmacher Institute, 2019c; Jones & Jerman, 2017a). The aforementioned factors, along with an increasing availability of resources to support self-managed abortion (Grossman et al., 2010; Grossman, White, Hopkins & Potter, 2018; Jones,

2011; Murtagh, Wells, Raymond, Coeytaux, & Winikoff, 2018), are likely accountable for at least part of the decline in abortion incidence from 2014 to 2017 (Guttmacher Institute, 2019c). Contraceptive use is likely another factor behind the recent drop in abortion incidence in the U.S. (Dreweke, 2016). Namely, a greater percentage of sexually active reproductive-aged women are using long-acting reversible contraceptive (LARC) methods (Guttmacher Institute, 2020a; Kavanaugh & Jerman, 2018), and female sterilization is used more frequently and is the second most commonly utilized contraceptive method (Guttmacher Institute, 2020a). There is also some evidence that correct condom use is on the rise among sexually active adults in the U.S. (Sundaram et al., 2017). As a result, unwanted pregnancies have become less common among reproductive-aged women (Dreweke, 2016; Finer & Zolna, 2016).

Several recent studies have broadly examined women's attitudes and decision-making around unwanted pregnancy and abortion in specific subpopulations (Biggs, Gould, & Foster, 2013; Frohwirth, Coleman, & Moore, 2018; Gawron & Watson, 2017; Hans & Kimberly, 2014; Herold, Kimport, & Cockrill, 2015; Margo et al., 2016; O'Donnell, Goldberg, Lieberman, & Betancourt, 2018). Other studies have reported on women's attitudes toward abortion and thoughts about pregnancy decision-making, which have been captured through representative surveys of Americans generally (Adamczyk & Valdimarsdottir, 2018; Jelen, 2017; Jozkowski et al., 2018) and in particular, reproductive-aged women (Rice et al., 2017; White et al., 2016). Still, little is known about the connections, if any, between contraceptive use (or non-use), feelings about pregnancy, and attitudes toward abortion among reproductive-aged women in the U.S. South. In addition, there is a lack of available information regarding Southern women's perceptions of abortion access and safety, which could certainly influence women's pregnancy and abortion decision-making.

In addition to investigating and documenting abortion attitudes and perceptions of women living in Alabama and South Carolina, this research seeks to explore and understand the underlying factors that influence reproductive-aged women's abortion attitudes, perceptions and care-seeking behaviors. In other words, the purpose of this research is to provide a more accurate and comprehensive representation of reproductive-aged women's abortion attitudes and perceptions and the factors that influence pregnancy and abortion decision-making. In doing so, public health and health care practitioners can be informed on the factors that influence women's reproductive choices and subsequently, can work to provide appropriate and comprehensive counseling and education for women who are considering safe, effective, and affordable options for pregnancy planning, prevention, or termination. Furthermore, findings from this research have implications for state and federal policymakers, whose duties include representing the constituents who elected them and developing and advocating for policies informed by the views of those constituents.

Conceptual Frameworks Guiding the Research

Social-ecological models (SEM) theorize individuals as engrained in a hierarchical system of multiple levels of influence (Harper, Steiner, & Brookmeyer, 2018; McLeroy, Bibeau, Steckler, & Glanz, 1988; Rimer & Glanz, 2005). Both Kumar, Hessini, and Mitchell (2009) and Blodgett and colleagues (2018) have explored abortion attitudes and stigma using SEM in attempts to theorize the major levels of influence on individual feelings and decision-making around abortion. It is conceptualized that women's attitudes and decision-making related to abortion are influenced by multiple factors at various levels of influence, including

social/cultural, governmental, organizational/institutional, interpersonal, and individual (Figure 1.1).

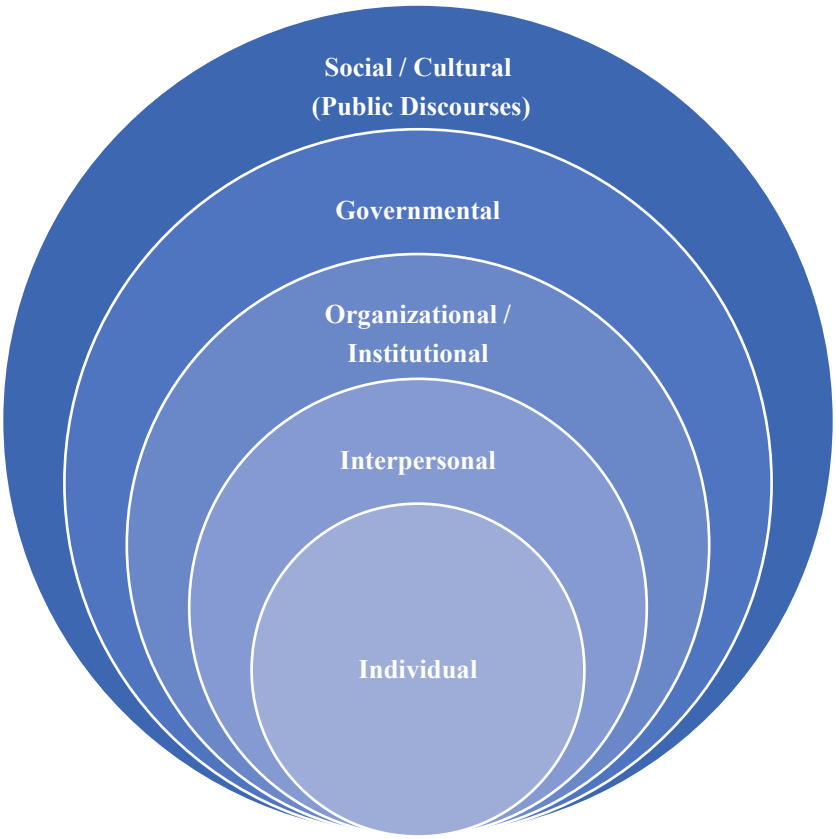

Figure 1.1. Social-ecological framework for abortion attitudes and stigma

Public discourses, or what Kumar et al. (2009) refer to as "framing discourses," are types of communication that attempt to influence public opinion on specific social issues or phenomena. Globally, public discourses around abortion have created a clear controversy and, in turn, divisiveness in attitudes and stigma around the issue of abortion (Blodgett et al., 2018; Kumar et al., 2009). For instance, the U.S. "pro-life" and "pro-choice" movements have

manifested, with the help of popular media outlets, an ultimatum for the public: one must choose if they are *for* or *against* abortion rights, thus making it a social obligation to adhere to a prescribed set of views (Kumar et al., 2009; Norris et al., 2011; Sharma, Saha, Ernala, Ghoshal, & De Choudhury, 2017; Sisson & Kimport, 2014). Furthermore, public discourses, which also lead to the creation of social norms around abortion, can work to shape laws and policies proposed and enacted by government officials. Abortion-related laws and policies are, in essence, representations of personal ideologies and lead to changes in abortion access, funding and care which subsequently impact women's thoughts and decision-making processes around abortion (Coast, Norris, Moore, & Freeman, 2018; Foster, Gould, Taylor, & Weitz, 2012; Medoff, 2012b). In recent times, U.S. foreign policy, namely the reinstatement of the "global gag rule" by President Trump in January 2017 has fueled abortion stigma worldwide (Hawkes & Buse, 2017; Rominski & Greer, 2017; Singh & Karim, 2017; Starrs, 2017). Also known as the "Mexico City" policy, this rule prohibits U.S. federal funding to any non-government organizations (NGOs) who advocate for abortion or provide referrals for abortion services (Kaiser Family Foundation, 2019). In addition to this international policy, the range of domestic policies, both restrictive and protective, passed in recent years stand to impact Americans' abortion attitudes and pregnancy decision-making.

Organizations and institutions may disseminate information, enact policies, and create structural norms that impact abortion attitudes and decision-making and perpetuate abortion stigma. For example, it has been shown that medical students and residents receive little systematic training on discussing or providing abortion, as a result of institutional policies and stigma (Espey, Ogburn, Chavez, Qualls, & Leyba, 2005; Freedman, Landy, Darney, & Steinhauer, 2010; Smith, Bartz, Goldberg, & Janiak, 2018). In addition, coverage of abortion

services often varies by a woman's insurer or type of insurance plan due to limiting structural policies at the insurer, state and national levels (Kumar et al., 2009; Roberts, Gould, Kimport, Weitz, & Foster, 2014; Salganicoff, Sobel, & Ramaswamy, 2019a).

Interpersonal factors, or those rooted in community and social networks comprised of peers, friends, family members and romantic or sexual partners, also stand to influence women's abortion attitudes and decision-making. Major interpersonal factors that influence women's abortion care-seeking have been well-documented and include marital status or factors related to a sexual or romantic partner (Biggs et al., 2013; Chibber, Biggs, Roberts, & Foster, 2014; Foster et al., 2012; Jones, Moore, & Frohwirth, 2011), correspondence and communication with members of one's social network (Chor, Tusken, Young, Lyman, & Gilliam, 2019; O'Donnell et al., 2018), perceived acceptance of abortion by one's parents or other family members (Kirkman, Rowe, Hardiman, Mallett, & Rosenthal, 2009; Shellenberg & Tsui, 2012), and perceived social support (Margo et al., 2016), among other factors. Still, interpersonal influences on women's abortion-related attitudes, regardless of whether they seek abortion care, have not been explored in depth.

Specific intrapersonal, or individual, factors can also influence women's attitudes and decision-making related to pregnancy and abortion, since the internal processes by which women make sense of pregnancy and its associated outcomes, like abortion, are complex and diverse. Coast et al. (2018) offer a conceptual framework that highlights the individual context, comprised of women's knowledge and beliefs about abortion and individual demographics or characteristics, as a crucial piece to women's decision-making processes around seeking abortion care (Figure 1.2; Coast et al., 2018). This conceptual framework was put forward to fill in the gaps that exist between traditional theories of health behavior and health care utilization (e.g.,

Theory of Planned Behavior; Social Cognitive Theory; Andersen's Behavioral Model of Health Services Use) and SEM. The framework suggests that pregnancy circumstances are naturally individualized and unpredictable, and that abortion-related decision-making and care-seeking should not be regarded and understood as a prescriptive, linear process. This framework can be used to present the possible influences on women's pregnancy and abortion trajectories, grouped into three major domains: 1) Pregnancy- and abortion-specific experiences; 2) Individual context; and 3) National and sub-national contexts (Coast et al., 2018). Major constructs that will be addressed through this research are included in Figure 1.3 below.

In accordance with the purpose of the study, the social-ecological framework (Figure 1.1) and the multidimensional abortion-related care seeking framework (Figures 1.2 and 1.3) provide a concrete foundation from which to investigate women's attitudes and decision-making around pregnancy and abortion and associated individual and interpersonal factors, capture women's knowledge and perceptions of abortion safety and implications, and ultimately tell a nuanced story about how women living in the U.S. South think about abortion.

Research Aims

Much of the available data on Americans' opinions about abortion originates from nationally representative polls and other surveys. These data lack the quality and specificity of academic and scientific studies for various reasons. First, the survey instruments utilized in representative polls and surveys lack the ability to provide rich information specific to individuals by relevant sociodemographic and intrapersonal characteristics. Additionally, these polls and other surveys provide little to no information about abortion decision-making and key factors associated with specific abortion attitudes and perceptions among populations of

reproductive-aged women, who stand to be most directly impacted by restrictions on abortion access, funding and care.

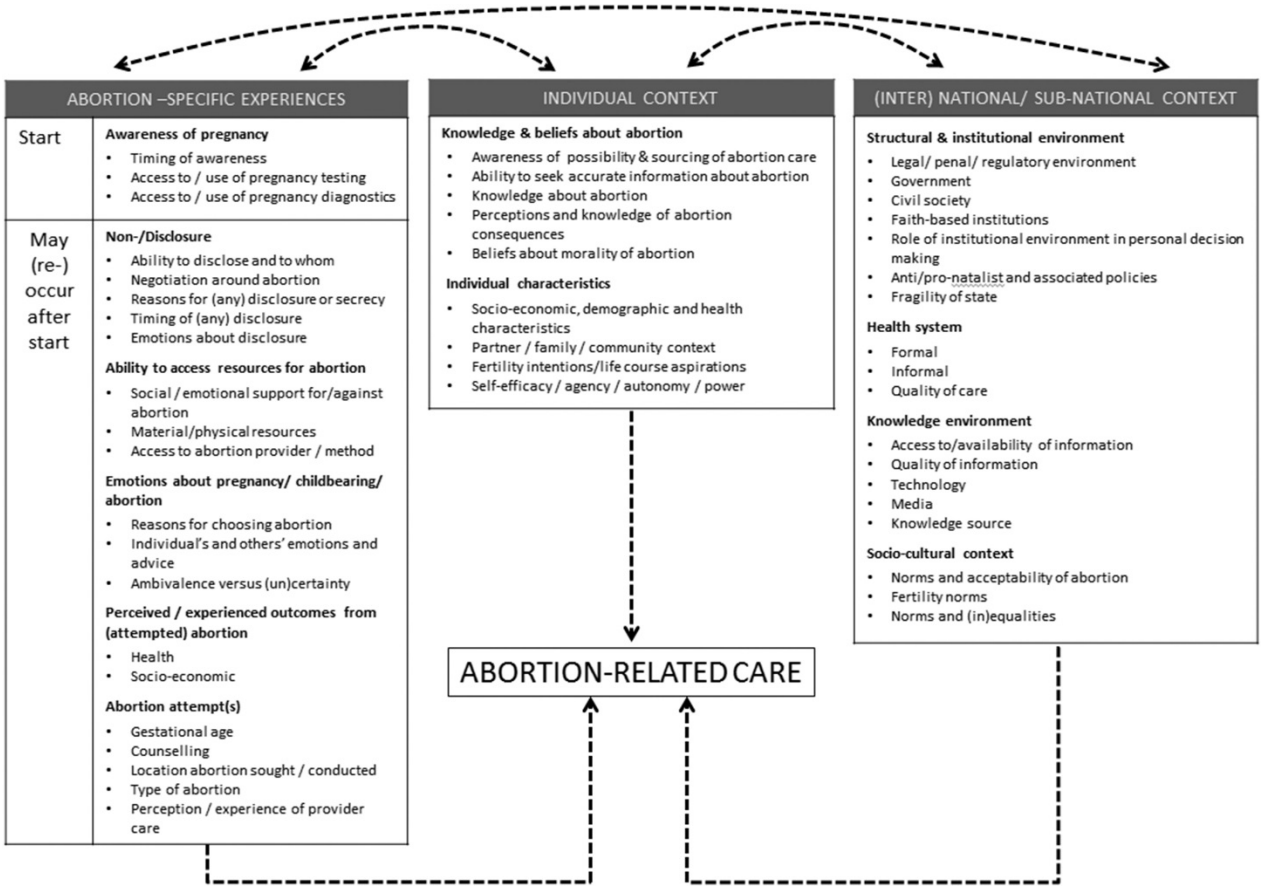

Figure 1.2. Conceptual framework for understanding women's decision-making in seeking abortion care

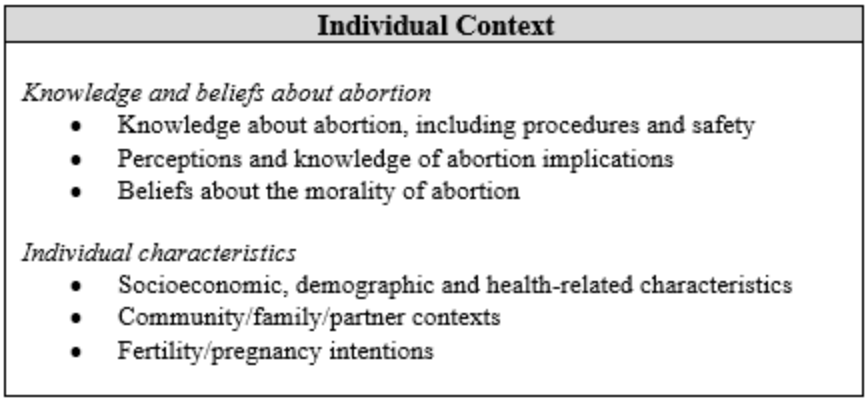

Figure 1.3. Constructs for exploring women's pregnancy decision-making and abortion attitudes

Further, to our knowledge, abortion-related attitudes and perceptions among reproductive-aged women living in the U.S. South have not been thoroughly investigated nor well-documented. Southern women's attitudes and perceptions are of particular importance, since a majority of the region's states have been identified as "hostile" or "very hostile" toward abortion rights, given the high prevalence of abortion restrictions in the region (Guttmacher Institute, 2019b). Gaining a better understanding of pregnancy and abortion decision-making will assist practitioners in the field of reproductive health in providing comprehensive counseling and education on women's reproductive choices and will also help to guide future discussions and dialogue around abortion policy and access in the U.S. In summary, the aims of this research are:

- *Research Aim #1* – To explore knowledge and perceptions around abortion safety and access among reproductive-aged women living in Alabama and South Carolina using thematic analysis.

- *Research Aim #2* – To examine the potential association between pregnancy avoidance and abortion attitudes among reproductive-aged women living in Alabama and South Carolina.
- *Research Aim #3* – To examine the possible association between current use of contraception and abortion attitudes among reproductive-aged women living in Alabama and South Carolina.

Summary of the Evidence

Unintended pregnancy. Unintended pregnancies, or pregnancies that are either mistimed or unwanted, represent about half of all pregnancies in the U.S. The incidence of unintended pregnancy among reproductive-aged women in the U.S. has continually declined since 2008 (Finer & Zolna, 2016; Guttmacher Institute, 2019a); however, in recent times, incidence has been elevated in certain groups of women. Notably, low-income, younger, and racial and ethnic minority women experience unintended pregnancy at significantly greater rates than their counterparts (Finer & Zolna, 2016; Guttmacher Institute, 2019a; Holliday et al., 2017; Iseyemi, Zhao, McNicholas, & Peipert, 2017; Kim, Dagher, & Chen, 2016). In addition, women living in Southern and Southwestern U.S. states and in densely populated areas experience significantly greater rates of unintended pregnancy compared to women in other geographic areas in the U.S. (Guttmacher Institute, 2019a).

Births resulting from unintended pregnancies are associated with poor health and economic outcomes for infants, children, women, and their families. Adverse maternal and child health outcomes often include delayed prenatal care, less favorable mental health before and after pregnancy, premature birth, and detrimental developmental effects for the child (Herd,

Higgins, Sicinski, & Merkurieva, 2016; Sonfield, Hasstedt, Kavanaugh, & Anderson, 2013). Unintended pregnancies also result in economic consequences for society. On average, a publicly funded birth costs $13,000 in prenatal care, labor and delivery, postpartum care and the first 12 months of infant care; additional care through month 60 (5 years of age) of a child's life might cost upwards of $8,000. Thus, publicly funded births have an estimated total cost of $21,000 per birth. In recent times, governmental expenditures from unintended pregnancies have added up to over $20 billion annually (Sonfield & Kost, 2015). Therefore, pregnancy outcomes, which include birth, miscarriage or abortion, are of particular significance. The most recent estimates indicate that, excluding instances of miscarriage, 58% of all unintended pregnancies end in birth, while 42% result in abortion (Finer & Zolna, 2016).

Abortion definitions and procedures. Abortion is a safe and legal option for ending a pregnancy. The Centers for Disease Control and Prevention (CDC) defines a legal induced abortion as "an intervention performed within the limits of state law by a licensed clinician (e.g., a physician, nurse-midwife, nurse practitioner, or physician assistant) that is intended to terminate a suspected or known intrauterine pregnancy and that does not result in a live birth" (Jatlaoui et al., 2019, p. 2). In the U.S., there are two main types of legal induced abortion deemed safe: procedural and medication (Kulier et al., 2011; Weitz, Foster, Ellertson, Grossman, & Stewart, 2004).

The majority of abortions performed in the U.S. are procedural (also known as in-clinic or surgical; Guttmacher Institute, 2019c; Jatlaoui et al., 2019; National Academy of Sciences, 2018). This type of abortion, typically performed at or before 13 weeks' gestation (Jatlaoui et al., 2019), involves a minor procedure during which the contents of a woman's uterus are removed by a licensed clinician. The most common type of procedural abortion in the first trimester of

pregnancy is vacuum curettage (also known as suction curettage or aspiration), which involves dilation of the cervix followed by removal of the uterine contents by suction through a thin tube known as a cannula (Stubblefield, Carr-Ellis, & Borgatta, 2004; World Health Organization, 2014). The procedure is generally known as vacuum aspiration (VA) if the source of suction is an electric pump, while it is known as manual vacuum aspiration (MVA) if a handheld syringe serves as the source of suction (Hamoda & Templeton, 2010; World Health Organization, 2014).

Dilation and Evacuation (D&E), another type of procedural abortion, is the most common type of abortion performed between 13- and 28-weeks' gestation (Donovan, 2017; Jatlaoui et al., 2019; O'Connell, Jones, Lichtenberg, & Paul, 2008). The D&E method is similar to first-trimester abortion procedures because it typically includes cervical dilation followed by VA; it also may involve the use of uterine evacuation forceps depending on a host of factors including gestational age, provider preference and experience, and the extent to which the patient's cervix is dilated (Donovan, 2017; Paul et al., 2011; World Health Organization, 2014).

Medication abortion is a non-surgical (i.e., non-procedural) method that involves the prescription of mifepristone (brand name *Mifeprex*) and misoprostol (brand name *Cytotec*), which are typically administered during the first eight weeks of pregnancy. Mifepristone (taken first, in a clinical setting) blocks the hormone progesterone from facilitating the development of pregnancy, while misoprostol (taken a day or two later, outside the clinical setting) causes miscarriage-like symptoms, namely cramping and bleeding, to empty the uterus (Kaiser Family Foundation, 2018b; Mifeprex REMS Study Group, 2017; Stubblefield et al., 2004; World Health Organization, 2014). Recent data suggest that just over one-third of all abortions are medication abortions, with use of the method rising greatly since the U.S. Food and Drug Administration

(FDA) approval of mifepristone in 2000 (Guttmacher Institute, 2019c, 2019d; Jatlaoui et al., 2019; Kaiser Family Foundation, 2018b).

Though data are scarce, some researchers and clinicians have also investigated the prevalence of self-managed abortion (also known as "self-induced abortion" or "self-abortion"). Jones and Donovan (2019) have referred to self-managed abortion as "the practice of ending a pregnancy without formal supervision of a health care professional." Others, including those in the general public and in mainstream media outlets have used terms such as "back-alley abortion" or "coat-hanger abortion" to describe self-managed abortion (Donovan, 2018). Self-managed medication abortion is one increasingly discussed option for ending a pregnancy without the help of a reproductive healthcare clinician, namely because misoprostol alone is highly effective (up to 85% effective) at ending a pregnancy (Allen & O'Brien, 2009; Ngai, Tang, Chan, & Ho, 2000) and was initially approved for purposes unrelated to abortion (Kaiser Family Foundation, 2018b; U.S. Food and Drug Administration, 2015). Though researchers and clinicians have explored and subsequently raised concerns about the availability of mifepristone and misoprostol outside healthcare facilities (Jerman, Onda, & Jones, 2018; Kerestes, Stockdale, Zimmerman, & Hardy-Fairbanks, 2019; Murtagh et al., 2018), others have noted that few women report self-inducing abortion (Grossman et al., 2015, 2018; Guttmacher Institute, 2016b). Still, many have reasoned that self-managed abortion is a safe and effective method for women to end a pregnancy without medical oversight (Aiken et al., 2020; Conti & Cahill, 2019; Jelinska & Yanow, 2018; Jones & Donovan, 2019).

Abortion incidence and trends. Abortion is a common pregnancy outcome in the U.S., with about one in five pregnancies ending in abortion (Guttmacher Institute, 2019c; Jones & Jerman, 2017a). Given abortion incidence in recent times, it is projected that one in four women

will have an abortion in their lifetime (Jones & Jerman, 2017b). The Guttmacher Institute (2019c) estimates that approximately 862,320 abortions were performed in clinical settings in the U.S. in 2017 (i.e., 13.5 abortions per 1,000 reproductive-aged women), a 7% decline since 2014 and a 54% decline since the highest recorded incidence in 1981 (Guttmacher Institute, 2019d). The majority (65.5%) of abortions are performed at 8 weeks' gestation or less, and nearly all (91%) are performed at less than 13 weeks' gestation (Guttmacher Institute, 2019d; Jatlaoui et al., 2019).

Moreover, nearly two-thirds of abortions performed in the U.S. are procedural (i.e., surgical), while just over one-third are medication (i.e., medical) abortions (Guttmacher Institute, 2019c; Jatlaoui, 2019). Of note, the number of medication abortions performed in the U.S. has increased by 79% since 2001 and represents a significantly higher proportion of all abortions (from 5% of all abortions in 2001 to 39% of all abortions in 2017) relative to the early 2000s (Guttmacher Institute, 2019d). Reproductive health and abortion clinics provide the majority of abortion services in the U.S. (95%), while private physicians' offices and hospitals provide relatively few (5%) abortions (Guttmacher Institute, 2019c). In 2017, Northeastern states collectively had the highest abortion rate (20.5 per 1,000 reproductive-aged women), followed by the West (13.5 per 1,000 reproductive-aged women), the South (12.1 per 1,000 reproductive-aged women) and the Midwest (10.2 per 1,000 reproductive-aged women; Guttmacher Institute, 2019c). Still, as some have noted, a significant number of women travel out of state for abortions (Fuentes & Jerman, 2019; Jones & Jerman, 2013); recent CDC estimates reveal that the percentage of abortions obtained by out-of-state women varies greatly by state (range, 0.6% - 49.8%), and some states do not report out-of-state abortion cases (Jatlaoui et al., 2019).

Though the incidence of abortion has declined significantly over time, abortion rates vary across demographic subpopulations. Recent estimates show that a majority of abortion patients are in their 20s (60%), are unmarried (77%), have had at least one previous birth (59%), have greater than a high school education (63%), have incomes less than 200% of the federal poverty level (FPL; 75%), identify as heterosexual (94%), have some type of religious affiliation (62%) and have health insurance (72%; Guttmacher Institute, 2016b, 2019d; Jones & Jerman, 2017b). When abortion frequencies (i.e., raw numbers) are analyzed by racial/ethnic group, the distribution appears to be fairly even, with white women representing the largest group of abortion patients (39% Non-Hispanic White; 28% Non-Hispanic Black; 24% Hispanic; 9% Non-Hispanic Other; Guttmacher Institute 2016b); however, when presented as abortion rates (i.e., accounting for the actual distribution of racial/ethnic subpopulations), the distribution appears to be different. Non-Hispanic Black women have the highest abortion rates (27.1 per 1,000 reproductive-aged women), followed by Hispanic women (18.1 per 1,000 reproductive-aged women), Non-Hispanic women of other races (16.3 per 1,000 reproductive-aged women) and Non-Hispanic White women (10 per 1,000 reproductive-aged women; Jones & Jerman, 2017b).

Though abortion complication rates vary by factors such as gestational age at the time of abortion and the type of abortion performed, it is estimated that about 2% of women who have had an abortion report any complications to a healthcare provider (Sajadi-Ernazarova & Martinez, 2019; Upadhyay et al., 2015). Abortion-related complications could include pain, bleeding, infection, post-anesthesia troubles, and mental health conditions such as depression, anxiety, and post-traumatic stress disorder; however, major complications can occur, including disseminated intravascular coagulation (DIC), major hemorrhage, injuries to the bladder or bowels, perforation of the uterus, and failed abortion (Carlsson, Breding, & Larsson, 2018; Paul,

Mitchell, Rogers, Fox, & Lackie, 2002; Raymond & Grimes, 2012; Zane et al., 2015). Nonetheless, the estimated mortality rate from legal induced abortion in the U.S. is less than 1 per 100,000 abortions performed (Pazol et al., 2014; Sajadi-Ernazarova & Martinez, 2019; Zane et al., 2015). Abortion mortality rate increases with gestational age, from 0.3 deaths per 100,000 procedures performed at 8 weeks' gestation or less to 6.7 deaths per 100,000 procedures performed at 18 weeks' gestation or more; deaths from abortions performed at a later gestational age typically result from major infection or hemorrhage (Zane et al., 2015). Still, Raymond and Grimes (2012) have shown that the risk of complications associated with childbirth is significantly higher (relative risk between 1.3 and 26, depending on the type of complication) than with abortion, and that the risk of death from childbirth is 14 times greater than that from legal induced abortion.

Abortion costs. The cost of an abortion can be influenced by the type of abortion performed or state restrictions on abortion payment but can also vary by personal characteristics such as insurance coverage, state of residence, rurality, or proximity to an abortion clinic (Guttmacher Institute, 2019d; Jones, Ingerick, & Jerman, 2018). Recent studies have shown that a majority of abortion patients have some type of health insurance (Guttmacher Institute, 2016b; Jones, Upadhyay, & Weitz, 2013) and receive some financial assistance in paying for abortion services (Roberts et al., 2014). One study estimated that a majority of Medicaid enrollees (86%) paid no out-of-pocket costs for abortion services (median, $0), while about half of privately insured patients paid minimal (< $20) out-of-pocket costs (median, $18; Roberts et al., 2014). However, patients who receive care at a facility not located in a state that requires abortion coverage for Medicaid patients (this requirement exists in 16 states) may incur significant out-of-pocket expenses (Guttmacher Institute, 2019e).

Without insurance coverage, the median out-of-pocket cost for an abortion performed in a clinical setting ranges from approximately $500 to $995 (increasing with gestational age), based on recent estimates (Jones et al., 2018; Leslie, Liu, Jones, & Roberts, 2020; Roberts et al., 2014); it is estimated that 53% of abortion patients paid out-of-pocket for abortion procedures or medications in 2014 (Guttmacher Institute, 2016b). In addition, several studies highlight additional costs associated with food, child care, transportation, lost wages, local anesthesia, ultrasound, abortion follow-up appointments and care associated with abortions performed in the second trimester of pregnancy and beyond, even among insured patients (Fuentes & Jerman, 2019; Gerdts et al., 2016; Jones & Weitz, 2009; Leslie et al., 2020).

Politicization of abortion. Despite the safety and prevalence of abortion as a pregnancy outcome, a woman's right to have an abortion has been debated for decades. Even after the landmark cases of *Roe v. Wade* (also referred to as simply "Roe"; 1973) and the lesser known *Doe v. Bolton* (also referred to as "Doe"; 1973) worked to establish a woman's legal right to obtain an abortion, public and political discourses, around issues related to abortion and women's reproductive autonomy continue to cause great polarization among the American public. In recent times, reproductive health researchers and advocates have suggested that abortion rights (i.e., the decision made in *Roe v. Wade*) are "under attack" (Gold & Donovan, 2017, p. 58), that women in the U.S. are facing an "assault on abortion availability and access" (Andaya & Mishtal, 2016, p. 41), and that sociopolitical dialogue around abortion has become "contentious, convoluted, and unpredictable" (Beckman, 2016, p. 102).

Abortion was not formally deemed illegal until the U.S. Congress passed the Comstock Act of 1873, which outlawed the dissemination of information about (e.g., advertising), the interstate shipment or importation of, and the sale or provision of "obscenities" related to the

"prevention of conception" (Bailey, 2010, p. 105-106). The act also included a statement suggesting that states work to enact similar laws; by 1920, a majority (at least 45 states) had passed an anti-contraception and/or anti-abortion statute similar to the Comstock Act (Bailey, 2010). Some states included physician exemptions (i.e., allowing prescription of contraception when a woman directly asked for it) in their statutes or later repealed anti-abortion and anti-contraception laws altogether (Bailey, 2010); thus, women's access to contraception and abortion varied considerably until the mid-to-late 20th Century, when the cases of *Roe v. Wade* (1973) and *Doe v. Bolton* (1973) were argued, and abortion was legalized across the U.S.

The U.S. Supreme Court recognized a woman's right to terminate her pregnancy with legal induced abortion because "The Due Process Clause of the Fourteenth Amendment protects against state action the right to privacy, and a woman's right to choose to have an abortion falls within that right to privacy" (Roe v. Wade, n.d.). Moreover, as part of the *Roe* decision, the Supreme Court outlined the legality of abortion by trimester of pregnancy. They ruled that during the first trimester of pregnancy, states may not regulate a woman's decision to have an abortion. During the second trimester, states are permitted to set regulations on abortion that are "reasonably related to maternal health." During the third trimester, states may regulate abortions or ban them entirely with exceptions for cases when the mother's life is in danger (Roe v. Wade, 1973, n.d.). The *Doe v. Bolton* (1973) case, which challenged a Georgia law prohibiting most abortions, was decided by the Supreme Court on the same day as *Roe.* The legalization of abortion paved the way for greater access to safe abortions for women who wanted them and, in turn, led to a substantial drop in both the number of illegal abortion procedures performed (from 130,000 in 1972 to 17,000 in 1974) and the number of maternal deaths as a result of unsafe, illegal abortion (from 39 deaths in 1972 to 5 deaths in 1974; Cates & Rochat, 1976). Thus, the

legalization of abortion has been deemed a major public health success (Cates, Grimes, & Schulz, 2003; Dreweke, 2015; Kelly, 1999). However, both the *Roe* and *Doe* decisions stopped short of mandating unhindered abortion access for American women (Medoff, 2016). Consequently, while advocates for abortion rights have argued for abortion access for all women, anti-abortion activists and legislators have used uncertainty about the extent to which abortion rights are unrestricted to discourage and prevent women from accessing abortion services. Taken altogether, abortion has become one of the most controversial issues of our time.

Following the *Roe* and *Doe* decisions in the 1970s, a period of sexual liberation and female bodily autonomy movements ensued (Center for Reproductive Rights, 2007). However, with increased reproductive freedom came much opposition from the "Religious Right," "National Right to Life" and other politically conservative groups, who promoted traditional conservative values and fetal rights (di Mauro & Joffe, 2007; Hoffmann & Johnson, 2005; McKeegan, 1993; Medoff, 2016). In turn, two prominent abortion discourses emerged: pro-life and pro-choice.

Anti-abortion, or pro-life, advocates have argued that abortion is analogous to murder, since a developing fetus represents a living person, and all living people have legal and moral rights (Medoff, 2016; Tan, 2004). In particular, groups like the National Right to Life Committee (2014) have used phrases like "kill her baby," "killing poor children," "dangerous and deadly" and "respect each new life" to portray their pro-life stance on abortion; others, like the Pro-Life Action League (2019), suggest that abortion "wounds mothers and fathers and dehumanizes our society." In addition, pro-life organizations, specifically those on the "Religious Right" have contested the use of the term "unsafe abortion" by researchers and pro-choice advocates, arguing that all abortions are unsafe for the developing fetus (Medoff, 2016). Some even argue that pro-

choice advocates should instead be designated as "pro-abortion," and "anti-life," asserting that fighting for abortion rights equates to wanting women to have abortions if they experience unwanted pregnancies (National Right to Life Committee, 2014; Pro-Life Action League, 2019; Tan, 2004). In essence, pro-life activists and organizations are purposeful in their use of anthropomorphic language (e.g., "child," "baby") to assert that fetuses have the same rights as humans living outside the womb. Researchers contend that anti-abortion, pro-life activism stemmed from proponents of sexual conservatism (i.e., supporters of traditional morals and values, such as no premarital sexual intercourse; Aalsma et al., 2013) reacting to messages of sexual liberation and the thriving women's and gay rights movements that dominated the 1960s and 1970s (di Mauro & Joffe, 2007; Sanger, 2016; Thornton & Camburn, 1989).

On the other hand, pro-choice activists have sought to uphold a woman's right to terminate her pregnancy, arguing that pregnant women's rights and decision-making outweigh fetal rights (Medoff, 2016). Pro-choice groups existed even before *Roe* and *Doe*, urging that women have the right to control their own bodies (i.e., bodily autonomy) and to determine if and when they become pregnant or carry out a pregnancy (Center for Reproductive Rights, 2019a; Weitz, 2010). For example, the National Association for the Repeal of Abortion Laws (NARAL) Pro-Choice America, a pro-choice organization founded in 1969, has suggested that "when the right to abortion is endangered, the fundamental equality of women is threatened" (2019a) and that "we cannot make a woman's decisions because we haven't walked in her shoes" (2019b). Other pro-choice organizations emphasize that "each woman's experience is unique," (National Abortion Federation, 2019), that "reproductive rights are issues of life and death for women" (National Organization for Women, 2019), and that there is a "state of emergency for women's health" due to "attacks" on abortion rights by anti-choice activists and lawmakers (Planned

Parenthood, 2019). Moreover, pro-choice supporters argue that anti-abortion groups, specifically lawmakers, are selectively supportive of human life (i.e., selectively "pro-life"); in other words, they have a moral opposition to abortion and support so-called "fetal rights," but most show disregard for social assistance programs that promote the welfare of children living outside the womb (i.e., "paradox of life"; Medoff, 2016, p. 159). Pro-choice advocates have consistently argued that pro-life activists have compromised abortion rights and women's reproductive freedom by communicating scientifically and medically inaccurate information to the public (i.e., propaganda, myths), thus creating major barriers to obtaining safe abortions for women who seek them.

Though pro-life and pro-choice discourses continue to be the dominant narratives, most Americans are centrists (i.e., not extremists) on the issue of abortion. In other words, some individuals who might identify as "pro-life" might do so, except if a pregnancy results from rape or incest or if there is an imminent threat to a pregnant woman's life. Similarly, individuals who identify as "pro-choice" may support choice for others but would never have an abortion themselves. Americans' views about abortion have been called "complex" (Feibel, 2019, n.p.) and "unsettled" (Sanger, 2016, p. 652), and some researchers have suggested moving away from the divisive pro-choice versus pro-life dichotomy to other frameworks for discussing abortion (Ludlow, 2008; Norris et al., 2011; Tan, 2004).

Across time, results of nationally representative polls and other surveys have supported the idea that a minority of Americans hold extreme views on abortion. For instance, results from Gallup (2019) polls on abortion, conducted nearly every year since 1975, have shown that many (48-61%) Americans believe that abortion should be legal under some circumstances, while fewer individuals hold the more extreme views that abortion should be legal in all cases (21-

34%) or that abortion should be illegal in all cases (15-21%). In addition, results from three recent national polls revealed that nearly two-thirds of Americans would not like to see the Supreme Court overturn the *Roe* decision (Gallup, 2019; Kaiser Family Foundation, 2018a; Quinnipiac University, 2018). Findings from recent polls and scientific studies have also shown differences in abortion views by characteristics such as income, race or ethnicity, religious affiliation, and political identity (Altshuler, Gerns Storey, & Prager, 2015; Kaiser Family Foundation, 2018a; Kavanaugh, Bessett, Littman, & Norris, 2013; Pew Research Center, 2015; White et al., 2016). Results from a statewide representative survey of women aged 18-49 living in Texas showed an increased likelihood of supporting laws that restrict abortion access among foreign-born Latina women (compared to Non-Hispanic whites), conservative Republican women (compared to Moderates and Independents), and women with incomes between 100% and 199% of the FPL (compared to women at or above 200% of the FPL; White et al., 2016). Further, a recent Pew Research Center (2015) study revealed that religiously unaffiliated individuals and those of Non-Christian faiths were more likely to support legal abortion than those with any religious affiliation. The study also showed that Mormons and Protestants were the least likely of any religious group to believe that abortion should be legal in all or most cases (Pew Research Center, 2015). Similar to public opinions about abortion, discussions around abortion access and legislation since *Roe* and *Doe* have been complex and wide-ranging.

Abortion access and legislation after Roe and Doe. Though the *Roe* and *Doe* (1973) cases resulted in the legalization of abortion in the U.S., the Supreme Court's ruling assured states' rights to regulate abortion during the second and third trimesters of a woman's pregnancy. Since 1973, states have enacted 1,276 abortion restrictions (Guttmacher Institute, 2020b). The passing of state-level restrictions has largely been made possible by several court decisions that

have undercut provisions made by the Supreme Court in *Roe*. Three years following abortion legalization, the Hyde Amendment was passed by the U.S. Congress, essentially banning the use of federal funds for abortions, except in cases when the pregnancy resulted from rape or incest or when the continuation of pregnancy would threaten the mother's life (Henshaw, Joyce, Dennis, Finer, & Blanchard, 2009; Salganicoff, Sobel, & Ramaswamy, 2019b). The Hyde Amendment was solidified following the *Harris v. McRae* (1980) case, as the Supreme court held that the federal and state governments were not required to fund abortion services, though the federal government could fund prenatal care and childbirth to signify its opposition to abortion (Boonstra & Sonfield, 2000).

Just over ten years later, two court cases further impacted abortion access in the U.S. First, in 1989, the Supreme Court ruled in *Webster v. Reproductive Health Services* that the state of Missouri could prohibit the use of state facilities and employees for abortion services and require physicians to perform fetal viability testing (e.g., ultrasound) prior to carrying out abortions at 20 weeks' gestation or later. As part of the *Webster* (1989) decision, the Court supported Missouri's rights to define human life as beginning at conception and to protect the interests of unborn children by restricting abortion access (Abboud, 2017a; Pew Research Center, 2013). Then, in 1992, the Court ruled in *Planned Parenthood of Southeastern Pennsylvania v. Casey* that states are permitted to enact laws regulating abortions during any trimester of pregnancy as long as laws do not cause "undue burden" for a woman or produce "substantial obstacles" to abortion care. As a result of the *Planned Parenthood v. Casey* (1992) decision, states could require parental consent for minors seeking abortion services, mandate patient counseling prior to receiving abortion care and implement mandatory waiting periods after pre-abortion counseling for abortions at any stage of pregnancy (Pew Research Center,

2013; Seward, 2009). Taken together, the decisions reached in *Webster v. Reproductive Health Services* (1989) and *Planned Parenthood v. Casey* (1992) suppressed the *Roe* trimester provisions, giving states the power to interpret when a fetus is "viable" and, in effect, the power to discourage or prevent abortion at any stage of a woman's pregnancy. However, the 2016 *Whole Woman's Health v. Hellerstedt* further complicated matters regarding state regulations imposing an "undue burden" on women seeking abortion services.

The Supreme Court's *Whole Woman's Health v. Hellerstedt* decision has been called the "most significant abortion ruling since 1992" (Yang & Kozhimannil, 2017, p. 3) and one that "will significantly expand women's access to abortions" (Reingold & Gostin, 2016, p. 925). The Court's ruling struck down a Texas Targeted Regulation of Abortion Providers (TRAP) law requiring that abortion clinicians have hospital admitting privileges and that facilities providing abortions meet ambulatory surgical center standards as unconstitutional in that it imposes significant barriers on women seeking abortions before fetal viability (Abboud, 2017b; Whole Woman's Health v. Hellerstedt, 2016; Reingold & Gostin, 2016; Yang & Kozhimannil, 2017). Despite the Court's 2016 ruling, many states have successfully limited abortion access via TRAP laws and other restrictions. In fact, nineteen states require abortions be performed in a hospital setting after certain stages of pregnancy, while thirty-four states mandate pre-abortion counseling on the potential consequences of having an abortion, and twenty-seven have implemented mandatory waiting periods (typically at least 24 hours) between pre-abortion counseling and abortion provision (Guttmacher Institute, 2019f, 2020a). States have enacted a range of other abortion restrictions, including the prohibition of all abortions at various stages of pregnancy, numerous funding restrictions (e.g., no public funding for abortions, no private insurance coverage of abortions), allowing clinicians to refuse to provide abortion care and requiring

parental involvement and consent for minors (Guttmacher Institute, 2020c). In total, states have passed 486 abortion restrictions since 2011, including 154 restrictions in the past three years (Guttmacher Institute, 2020b; Nash et al., 2018; Nash, Gold, Mohammed, Ansari-Thomas, & Cappello, 2018). Abortion restrictions could be partially responsible for declines in abortion incidence over time. Still, other factors, like the increased availability and use of contraception and shifts in pregnancy intentions among women of reproductive age have been suggested as key drivers of downward trends in abortion incidence over time (Dreweke, 2016; Guttmacher Institute, 2019c, 2020; Kavanaugh & Jerman, 2018).

Pregnancy intentions and attitudes, contraception, and abortion. Women can have considerably complex and dynamic feelings about becoming pregnant and outcomes associated with childbearing (e.g., birth, abortion; Foster et al., 2012; Mumford, Sapra, King, Louis, & Louis, 2016; Rocca et al., 2016). A pregnancy may result in various social and economic consequences for a woman, especially when it is unintended (Brown & Lindenberg, 1995; Guttmacher Institute, 2019a; Herd et al., 2016; Sonfield et al., 2013; Trussell et al., 2013). Though studies have shown that between 40-50% of unintended pregnancies end in abortion (Finer & Zolna, 2014, 2016), women's childbearing desires, their prior life experiences and the individual context in which a pregnancy occurs have rarely been captured or reported (Guttmacher Institute, 2019a). There are a variety of factors that influence pregnancy (and abortion) intentions and decision-making, ranging from intrapersonal factors to public discourse and social and cultural norms (Kumar et al., 2009). One study conducted by Santelli and colleagues (2006) showed that nearly all women who have abortions consider their pregnancy to be unintended or unplanned. Additionally, the Guttmacher Institute has included questions about pregnancy intentions on their National Abortion Patient Surveys (2010, 2016b). However, data

on the intendedness of pregnancies that result in abortion are quite limited, since state-level pregnancy surveillance systems, like the Pregnancy Risk Assessment Monitoring System (PRAMS) only collect data on pregnancies that end in live birth (Finer & Kost, 2011). Furthermore, little is known about the relationship between pregnancy intentions and attitudes toward and perceptions of abortion among reproductive-aged women in the U.S.; up to this point, these constructs have been well-researched but reported on independently.

Moreover, attitudes toward and use of contraception could reasonably affect women's pregnancy and abortion decision-making. Dreweke (2016) has argued that better contraceptive use has been the key driver of declines in unintended pregnancy and abortion incidence in the U.S. in recent times. Notably, women at risk for unintended pregnancy (i.e., sexually active; not currently pregnant, not wanting to become pregnant, not postpartum, nor sterile) who do not use contraception represent a majority of unintended pregnancies (compared to women who use some form of contraception) in this at-risk group (Guttmacher Institute, 2014). According to Dreweke (2016), this trend, coupled with a stark increase in the use of LARC methods (Kavanaugh, Jerman, & Finer, 2015), has contributed to the significant drops in unintended pregnancy and abortion seen across the U.S. Interestingly though, the results of one study showed that most abortion patients (51%) reported using a contraceptive method in the month they became pregnant (Jones, 2018). However, not much is known about the relationship between use of contraception and attitudes toward and acceptance of abortion. Though one might speculate that a woman's use of contraception indicates her general approval of family planning services, it might also be argued by some that abortion should not be included within the family planning purview (Blodgett et al., 2018). One recent study found no significant relationship between women's past contraceptive method use (referred to as "contraceptive context") and

abortion attitudes (Rye & Underhill, 2019); yet, the relationship between these two constructs has not been investigated elsewhere.

Abortion in Alabama and South Carolina. Similar to national trends, abortion rates in the U.S. South have declined in recent years, from 12.9 per 1,000 reproductive-aged women in 2014 to 12.1 per 1,000 reproductive-aged women in 2017 (Guttmacher Institute, 2019c). Abortion rates in South Carolina (5.4 per 1,000 reproductive-aged women) and Alabama (6.4 per 1,000 reproductive-aged women) are among the lowest in the South, and both states are considered "hostile" to abortion rights due to the number of abortion restrictions enacted by the respective state legislatures (Center for Reproductive Rights, 2019b; Guttmacher Institute, 2019b, 2019c). In Alabama, the following abortion restrictions have been enacted (Center for Reproductive Rights, 2019b; Guttmacher Institute, 2019g):

- Pre-abortion counseling, including information intended to discourage abortion, is required for all patients, as is a 48-hour waiting period between counseling and receiving abortion services.
- Ultrasound is required before an abortion can be performed, and clinicians must give patients the opportunity to clearly view the ultrasound image.
- Health insurance plans under the Affordable Care Act (ACA) marketplace exchange are prohibited from covering abortion services, unless the pregnancy resulted from rape, incest, or the woman's life would be endangered by continuing her pregnancy.
- Public funding of abortion is expressly prohibited, unless the pregnancy resulted from rape, incest, or the woman's life would be endangered by continuing her pregnancy.

- Abortion facilities are required to meet ambulatory surgical center standards, abortion clinicians must have hospital admitting privileges, and rooms where abortion services are provided must be a specific size.
- The provision of medication abortion via telemedicine is prohibited.
- An abortion may only be performed at 20 weeks' gestation or later in cases where the mother's life is at risk or if continuing the pregnancy would compromise her physical health.

In South Carolina, the following abortion restrictions have been enacted (Center for Reproductive Rights, 2019b; Guttmacher Institute, 2019g):

- Pre-abortion counseling, including information intended to discourage abortion, is required for all patients, as is a 24-hour waiting period between counseling and receiving abortion services.
- Minors under 17 years of age must receive parental consent before having an abortion, except when the pregnancy is a result of incest or if abortion is considered medically necessary to protect the mother's life.
- Health insurance plans under the Affordable Care Act (ACA) marketplace exchange are prohibited from covering abortion services, unless the pregnancy resulted from rape, incest, or the woman's life would be endangered by continuing her pregnancy.
- Insurance plans for state employees may cover abortion services, only if the pregnancy resulted from rape, incest, or the woman's life would be endangered by continuing her pregnancy.
- Public funding of abortion is permitted only if the pregnancy resulted from rape, incest, or the woman's life would be endangered by continuing her pregnancy.

- Abortion facilities are required to meet ambulatory surgical center standards, and abortion clinicians must have hospital admitting privileges.
- The provision of medication abortion via telemedicine is prohibited.
- An abortion may only be performed at 20 weeks' gestation or later in cases where the mother's life is at risk, if continuing the pregnancy would compromise her physical health, or if the developing fetus has a type of lethal abnormality.

Of note, Alabama recently passed a provisional law, the Human Life Protection Act, criminalizing abortion provision at any stage of pregnancy with no exceptions (Alabama House of Representatives, 2019). However, a federal judge temporarily blocked the ban as unconstitutional (Rojas & Blinder, 2019), though the ban would not be enforceable unless the *Roe* decision were to be overturned by the U.S. Supreme Court.

Nonetheless, as a result of onerous abortion restrictions, both South Carolina and Alabama have relatively few facilities currently providing abortion services (10 in South Carolina and 7 in Alabama; Guttmacher Institute, 2019g, 2019h). However, abortion facilities are concentrated in specific counties within South Carolina and Alabama; over 90% of counties in both states have no facilities providing abortion care (Guttmacher Institute, 2019g, 2019h). A study conducted by researchers at the Kaiser Family Foundation found that women in Dallas County, Alabama (home of Selma), a largely rural, medically underserved county facing high poverty rates, would have to travel approximately 50 miles to find the nearest abortion provider (Ranji, Long, Salganicoff, Rosenzweig, & Silow-Carroll, 2019). Another study of women's trajectories to abortion care in South Carolina found that half of women traveled at least 25 miles to reach an abortion facility (Margo et al., 2016).

Few polls or other studies have assessed views related to abortion access and public policy among women residing in the U.S. South. Pew Research Center (2014) has collected survey data on views about the legality of abortion by state. In all but three southeastern states (8 of 11), less than half of surveyed participants believed that abortion should be legal in all or most cases (Pew Research Center, 2014). However, the scope of this study was not limited to capturing the opinions of reproductive-aged women living in the U.S. South, who would be most directly affected by state-level abortion restrictions in the region. In addition, in a study examining abortion views in a convenience sample, Jozkowski and colleagues (2018) found that two-thirds of young adults in Arkansas and Oklahoma support abortion access to some extent. However, to date, no studies have investigated reproductive-aged women's knowledge of or support for abortion restrictions in South Carolina nor Alabama. Given current efforts to restrict and, in some cases, ban the provision of abortion services in many states across the U.S., any information regarding women's views on abortion will help to inform discussions around abortion rights and policymaking at the state and national levels of government. In addition, information on women's knowledge and perceptions of abortion service availability will add to the current body of literature on the factors that influence women's pregnancy and abortion decision-making processes.

Chapter 2. Reproductive-Aged Women's Perceptions of Abortion Access and Safety in Alabama and South Carolina: A Thematic Analysis

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Abstract

Background: Legal induced abortion is a safe pregnancy option for women of reproductive age. Reproductive-aged women's knowledge and perceptions of abortion access and safety in southern states like Alabama and South Carolina have not been investigated in great detail. This study aimed to fill this gap in research by exploring themes reflected in open-ended survey responses from a sample of women living in these two states. **Methods:** Data for this analysis were derived from two larger representative, statewide surveys of reproductive-aged women in Alabama and South Carolina. This analysis focused on two fixed-choice questions about participant perceptions of abortion access and safety in their state and corresponding open-ended responses. Usable open-ended responses were categorized and coded based on the participant's answer to the corresponding fixed-choice question, and key themes were identified based on generated codes. **Results:** A total of 3,352 open-ended responses (1,734 responses related to abortion access; 1,618 responses related to abortion safety) were analyzed. Women in the former sample most commonly believed that an abortion was very or somewhat easy to obtain (50.0%), and women in the latter sample most commonly believed that abortion was very or somewhat safe in their state (41.2%). Themes most commonly reflected in open-ended responses related to abortion access and safety were abortion legality and restrictions and abortion as similar to any medical procedure, respectively. **Conclusions:** This analysis highlighted a spectrum of perceptions of abortion access and safety noted by reproductive-aged women in Alabama and South Carolina as well as gaps in knowledge about abortion safety and personal beliefs about abortion in general. Public health and health care practitioners and policymakers alike should take note of these perceived barriers and gaps in knowledge to provide accurate information to and make data-informed decisions with women they serve.

Introduction

Legal induced abortion is a common and safe pregnancy outcome in the U.S. Recent trends show that about one in five pregnancies (excluding miscarriages) ends in abortion (Guttmacher Institute, 2019a). Approximately 862,320 abortions were performed in clinical settings in the U.S. in 2017, totaling 13.5 abortions per 1,000 women of reproductive age (15-44 years old; Guttmacher Institute, 2019a). Complications from most abortion procedures are rare (about 2% of all patients), and the estimated mortality rate from legal induced abortion is less than 1 death per 100,000 procedures (Jatlaoui et al., 2019; Pazol, Creanga, Burley, & Jamieson, 2014; Sajadi-Ernazarova & Martinez, 2019; Zane et al., 2015). In fact, Raymond and Grimes (2012) have highlighted that the risk of complications associated with childbirth is significantly higher (relative risk between 1.3 and 26, depending on the type of complication) than with abortion, and the risk of death from childbirth is 14 times greater than that from legal induced abortion.

Similar to national estimates, the abortion rate in the U.S. South is about 12.1 abortions performed per 1,000 reproductive-aged women (Guttmacher Institute, 2019a). Abortion rates in Alabama (6.4 per 1,000 per reproductive-aged women) and South Carolina (5.4 per 1,000 reproductive-aged women) are among the lowest in the South, and both states are considered "hostile" to abortion rights due to the number of abortion restrictions enacted by the respective state legislatures (Center for Reproductive Rights, 2019; Guttmacher Institute, 2019a, 2019b).

As a result of numerous abortion restrictions, both South Carolina and Alabama have relatively few facilities currently providing abortion services (10 in South Carolina and 7 in Alabama). Furthermore, abortion facilities are concentrated in specific counties within both

states; notably, over 90% of counties in both states lack any facilities that provide abortion care (Guttmacher Institute, 2019c, 2019d).

Several nationally representative studies have demonstrated that both men and women of reproductive age have low levels of knowledge about abortion legality, safety and availability (Berglas et al., 2017; Bessett, Gerdts, Littman, Kavanaugh, & Norris, 2015; Kavanaugh et al., 2013). A recent national poll also showed that most Americans believe that abortion is "less safe" or "about as safe" as childbirth (Kliff, 2016). Other studies have highlighted misperceptions related to risks of having an abortion, specifically among women who are seeking abortion services (Littman et al., 2014; Wiebe, Littman, Kaczorowski, & Moshier, 2014).

Reproductive-aged women's knowledge and perceptions of abortion access and safety in southern states like Alabama and South Carolina have not been investigated in great detail. Understanding what reproductive-aged women know and think about abortion access and safety in these respective states is important, as state and federal policymakers, reproductive health care providers and other key sexual and reproductive health stakeholders should be informed on current abortion discourse among women of reproductive age in order to make data-driven decisions for and with their patients, clients and constituents. At the same time, it is essential to identify potential influences that shape reproductive-aged women's abortion knowledge and perceptions so that public health and health care practitioners can begin to address gaps in knowledge and misperceptions about abortion through comprehensive counseling and education on pregnancy options for women experiencing mistimed or unwanted pregnancies. To address these underlying needs, we conducted a qualitative study to extract detailed information about

reproductive-aged women's perceptions of abortion access and safety in Alabama and South Carolina.

Materials and Methods

Data Source and Study Sample

This study used data from two representative, statewide surveys of women aged 18-44 years conducted by NORC at the University of Chicago between October 2017 and April 2018. The chair of the East Tennessee State University Institutional Review Board determined that this study did not meet the definition of human subjects' research and was exempted from further review. Briefly, women of reproductive age (18-44 years) residing in Alabama or South Carolina responded to a 124-item survey, which elicited information on selected demographic characteristics, past and current contraceptive use, history of pregnancy, birth and abortion, and pregnancy intentions. A multimodal data collection approach was utilized whereby a series of mailings and non-response follow-up activities ensued. Recruitment efforts included mailing letters to households (using address-based sampling), along with a $5 cash incentive, asking potentially eligible participants to complete a web-based survey followed by mailing a self-administered questionnaire to non-responders and finally, attempting to deliver the survey to potential participants using computer-assisted telephone interviewing. Participants provided informed consent prior to completing the survey and received a $10 Amazon gift code for their participation. The overall response rate using the American Association for Public Opinion Research Response Rate 3 definition was 24.1% (The American Association for Public Opinion Research, 2015). Post-stratified sample weights adjusting for differences in the initial probability of selection and differential non-response were created using a raking procedure that included

respondents' age, education-by-income, race/ethnicity, nativity, marital status, children under 18 in the household, housing tenure, and employment.

Of interest to this study, women responded to a series of ten survey items on abortion attitudes and perceptions. Two particular survey items read, "Based on what you know or have heard, how easy is it for a woman to obtain an abortion in your state?" and "Based on what you know or have heard, how safe or dangerous do you think abortion is in your state?" For the closed-ended question about abortion access, respondents were provided with response options of *Very easy, Somewhat easy, Neither easy nor difficult, Somewhat difficult, Very difficult, It depends on the situation, Don't Know,* and *Prefer not to answer.* This question was then followed by an open-ended question, which read, "Can you please provide more information about why you selected your response at Q30?" For the closed-ended question about abortion safety, respondents were provided with response options of *Very safe, Somewhat safe, Neither safe nor dangerous, Somewhat dangerous, Very dangerous, It depends on the situation, Don't Know,* and *Prefer not to answer.* This question was then followed by an open-ended question, which read, "Can you please provide more information about why you selected your response at Q32?" Respondents with blank or missing open-ended responses to either question were excluded from this analysis, as were individuals who responded *Don't Know* or *Prefer not to answer* to either fixed-choice question.

The final survey sample, which encompassed participants in both Alabama and South Carolina, included 4,281 women who completed one or more questions on this anonymous survey. Inclusion of participants living in both Alabama and South Carolina in this sample is justified for several reasons. First, the states are demographically similar (U.S. Census Bureau, 2019) and are in similar geographic locations (i.e., the Southeastern U.S.). In addition, the states

are comparable in both their stances on abortion rights and legislation and the number of abortion clinics located in the state (Guttmacher Institute, 2019b, 2019c, 2019d). Finally, enforceable abortion laws are nearly identical in the two states, with pregnant women having a legal right to abortion at or before 20 weeks' gestation, after which abortion is outlawed (NARAL Pro-Choice America, 2020a, 2020b).

Usable responses included those containing at least one word, phrase, sentence, or a combination of intelligible words, phrases or sentences. Unusable open-ended responses included those in which the participant restated their response to the previous question (e.g., Easy), responded with merely a state name or abbreviation (e.g., Alabama, South Carolina), or responded with a comment such as "No" or "N/A." Survey items used in this analysis, including number of participants responding to fixed-choice and open-ended questions, are shown in Figure 2.1. Of the 4,281 women of reproductive age who completed the statewide survey (in Alabama or South Carolina), 1,776 women responded to the survey item on abortion access and the open-ended question that followed, and 1,663 women responded to the survey item on abortion safety in addition to the open-ended question that followed. After excluding unusable or unintelligible responses, 1,734 and 1,618 responses, respectively, remained in the sample for analysis. Of note, the number of usable responses from Alabama and South Carolina participants was evenly distributed (1,676 in each state).

Analysis

Open-ended response data were examined using an inductive thematic analysis approach similar to that outlined by Braun and Clarke (2006), including key steps of data familiarization and code generation followed by theme searching, identification, naming and reporting.

Qualitative analyses of this nature (e.g., thematic, content, or text analyses) have previously been utilized as a strategy for investigating open-ended survey responses in public health and health services research (McKenna, Brooks, & Vanderheide, 2017; McLemore, Desai, Freedman, James, & Taylor, 2014). Still, this study is unique in its examination of open-ended responses regarding a rather nuanced construct (abortion perceptions) in a specific subpopulation (reproductive-aged women living in Alabama and South Carolina).

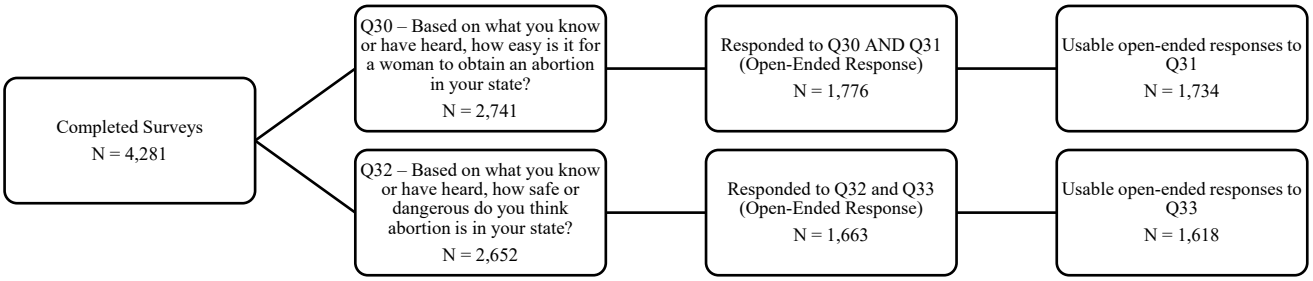

Figure 2.1. Flow chart of survey items used for analysis assessing perceptions of abortion access and safety

Open-ended responses associated with each survey item were extracted from Stata Version 15.1 (StataCorp, 2017) and were separated by participant response to the corresponding closed-ended question, forming eight distinct subsets of open-ended responses (Figure 2.2). Responses were further stratified by state of residence for coding. The first author (A.J.P.) generated an initial coding scheme for each subset of responses with guidance from the second author (K.B.). A number of open-ended responses encompassed multiple codes, which was addressed by reviewing the first key word, phrase or sentence in the response and applying the

appropriate code. The team collectively determined the final coding, and the first author began to search for and identify themes within the data. In order to do this, codes and accompanying example responses (quotes) from each analysis subset were first placed in tables. Finally, the first author identified codes that could be grouped into larger categories or themes and considered respondent quotes that best represented the identified themes. The team agreed upon the final themes, codes, and example responses included as key findings of this study.

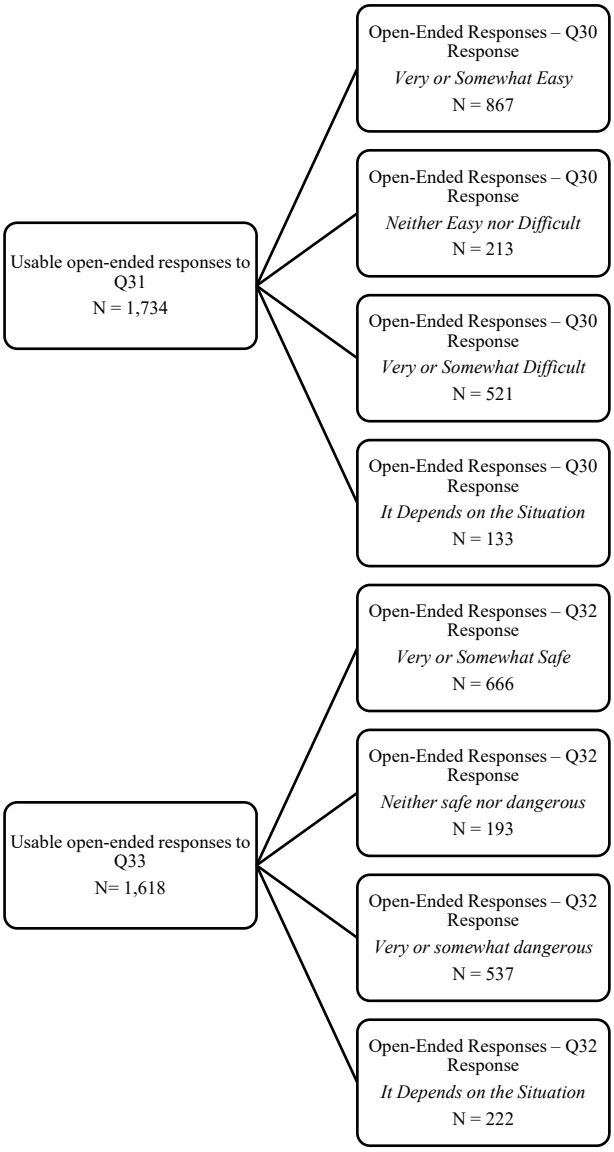

Figure 2.2 Method of stratification of open-ended responses for coding

Results

Most participants who responded to questions about abortion access were over 30 years old (66.6%), Non-Hispanic White (67.4%), and had completed an Associate's degree or higher (60.7%). Participants who responded to questions about abortion safety were demographically similar, as most were also over 30 years old (66.0%), Non-Hispanic White (68.9%), and had completed an Associate's degree or higher (62.9%). About one-third of participants who responded to questions about abortion access identified as pro-choice (35.4%), while another one-third identified as pro-life (32.6%), and others identified as neither (12.3%) or both (16.4%). Participants responding to questions about abortion safety followed a similar distribution for abortion identity. Participants who responded to both sets of abortion questions were almost equally distributed by state of residence (Table 2.1).

Four key themes were identified within the data on perceptions of abortion access: 1) Abortion legality and restrictions; 2) Cost and transportation barriers; 3) Personal sentiments and testimonies; and 4) Social, cultural, and religious barriers (see Table 2.2).

Five themes were identified within the data on perceptions of abortion safety: 1) Abortion as similar to any medical procedure; 2) Personal sentiments and testimonies; 3) Social threats / threats to women; 4) Abortion legality and regulations; and 5) Abortion as taking a life (see Table 2.4).

Table 2.1. Characteristics of participants with usable open-ended responses

Characteristic	Q30/31 (Abortion Access) Sample (N=1,734) n (%)	Q32/33 (Abortion Safety) Sample (N=1,618) n (%)
Age Category (y)		
18-24	253 (14.6)	240 (14.8)

25-29	266 (15.3)	246 (15.2)
30-35	407 (23.5)	376 (23.2)
36-39	326 (18.8)	303 (18.7)
40-44	421 (24.3)	390 (24.1)
Unknown	61 (3.5)	63 (3.9)
Race/Ethnicity		
Non-Hispanic White	1,169 (67.4)	1,114 (68.9)
Non-Hispanic Black	379 (21.9)	335 (20.7)
Non-Hispanic Other	86 (5.0)	70 (4.3)
Hispanic/Latina	53 (3.1)	49 (3.0)
Unknown	47 (2.7)	50 (3.1)
Education		
Less than High School	38 (2.2)	32 (2.0)
High School or Equivalent	180 (10.4)	156 (9.6)
Some College	405 (23.4)	349 (21.6)
Associate's or Bachelor's Degree	716 (41.3)	696 (43.0)
Graduate or Professional Degree	336 (19.4)	322 (19.9)
Unknown	59 (3.4)	63 (3.9)
Abortion Identity		
Pro-Choice	614 (35.4)	554 (34.2)
Pro-Life	566 (32.6)	535 (33.1)
Neither	213 (12.3)	201 (12.4)
Both	284 (16.4)	275 (17.0)
Unknown	57 (3.3)	53 (3.3)
State of Residence		
Alabama	866 (49.9)	810 (50.1)
South Carolina	868 (50.1)	808 (49.9)

Perceptions of Abortion Access

Of the 1,734 women with usable open-ended responses to the question about abortion access, half of participants (50.0%) indicated that it was somewhat or very easy to obtain an abortion in their state, while 30% indicated abortion was somewhat or very difficult to obtain, and the remaining respondents indicated that abortion was neither easy nor difficult to obtain (12.3%) or that it depends on the situation (7.7%). The distribution of themes across open-ended

responses to the question about abortion access, along with example responses for each theme, is shown in Table 2.2. The distribution of each theme stratified by state is shown in Table 2.3.

Abortion Legality and Restrictions

Open-ended responses to the question about abortion access were most commonly related to abortion legality and restrictions (51.6% of responses; Table 2.2). This theme encompassed several codes, including a lack of abortion restrictions resulting in unhindered access to abortion services, a restricted number of abortion providers or facilities in the state, abortion access depending on pregnancy circumstances or trimester, abortion as a legal right, and abortion as illegal in the state. Over half of women, specifically those who indicated that abortion was very or somewhat easy to obtain in their state, commented that there are many available abortion clinics in the state (52.7%; data not shown), for example: "lots of available facilities, free clinics."

Table 2.2. Key themes reflected in 1,734 open-ended responses regarding abortion access in participants' state of residence

Theme	n (%)	Example(s)
Abortion Legality & Restrictions	895 (51.6)	*[Participant indicating abortion is very or somewhat easy to obtain]: "Because you can get them from any store or doctors office or health department"* *[Participant indicating abortion is very or somewhat difficult to obtain]: "I believe its banned in SC."*
Cost & Transportation Barriers	276 (15.9)	*[Participant indicating abortion is neither easy nor difficult to obtain]: "I know where abortions can be given, and it isn't difficult to get an appointment (to my best knowledge), but they are only about 3-5 clinics spread out through the state, making transportation hard."*

Personal Sentiments & Testimonies	227 (13.1)	*[Participant indicating abortion is very or somewhat easy to obtain]: "offered too often as the 'easy way out' as if pregnancy is like a pair of shoes discarded because they rub blisters on your heels"*
Social, Cultural & Religious Barriers	220 (12.7)	*[Participant indicating abortion is very or somewhat difficult to obtain]: "Alabama is mostly Republican-Bible Belt."*
N/A (Uncertainty)	116 (6.7)	*[Participant indicating that it depends on the situation]: "I honestly don't know level of difficulty so that was best answer."*
TOTAL	1734 (100.0)	

Others responded that abortion "is advertised in newsprint, on radio, internet" and that women can "just go ask and go to a Planned Parenthood." Responses related to abortion legality and restrictions were quite different among women who indicated that abortion was very or somewhat difficult to obtain in their state. For instance, many women in this group commented on efforts to unduly restrict abortion in their state, for example: "Alabama works as hard as they can to keep women from being able to access abortion." Some women even perceived abortion as illegal except under certain circumstances, for example: "I think if you were raped it is allowed but if you just want to get rid of the baby, it is illegal."

Cost and Transportation Barriers

The theme of cost and transportation barriers was reflected in 15.9% of responses and encompassed two specific codes: cost or insurance coverage of abortion services and transportation or travel time to abortion facilities. Many women noted that abortion is accessible in their state, but only if one has the ability to pay or have the abortion covered through an insurance plan, for example: "you can go get one if you pay $500 for it and fill out lots of

paperwork." Likewise, several women who indicated that abortion was very or somewhat easy to obtain in their state explained that "if you have the money you can get it" and "all you need is money." Others explained the troubles involved with having few abortion clinics in the state that are geographically dispersed, for example: "I know where abortions can be given, and it isn't difficult to get an appointment (to my best knowledge), but they are only about 3-5 clinics spread out through the state, making transportation hard" (example shown in Table 2.2).

Personal Sentiments and Testimonies

The theme of personal sentiments and testimonies emerged within some open-ended responses on abortion access (13.1% of responses). Responses that reflected this theme were coded as personal or peer experiences accessing (or having difficulty accessing) abortion services, hearsay about abortion access, or personal beliefs or views not necessarily about abortion access. Documented personal or peer experiences accessing abortion were much more common among women who indicated that abortion was very or somewhat easy to obtain in their state. Some vaguely described knowing someone who had an abortion (e.g., "I know women who have done it"; "I know several people who have had one"), while other participants knew family members or friends who have accessed abortion services (e.g., "I have many friends who have had abortions"; "Because my daughter had an abortion"), and some had personally accessed abortion services (e.g., "I've had abortions in this state, so I know it's easy to obtain one"; "I had an abortion 15 yrs. ago. Finding a clinic wasn't hard"). Personal beliefs or views unrelated to abortion access were also reflected in some women's open-ended responses. One participant who explained that abortion is very or somewhat difficult to obtain in her state

"Because I don't believe in aborting a life." Another participant responded with a personal view on abortion: "It is up to the person whether or not they want to have an abortion."

Social, Cultural and Religious Barriers

Some responses (12.7%) reflected perceived social, cultural and religious factors influencing abortion access. Women mentioned stigma, social pressures from protesters outside abortion facilities, the prevalence of pro-life views, and religion as major barriers to obtaining an abortion in their state. These barriers were clearly exemplified in responses from women who indicated that abortion was very or somewhat difficult to obtain in their state. One participant simply stated, "Because I live in the Bible Belt," while another explained that "It is socially stigmatized" and there is a "history of protesters and violence outside of abortion clinics." Of note, open-ended responses related to social, cultural and religious barriers to abortion access were more prevalent in Alabama (16.2% of responses) compared to South Carolina (10.7% of responses; Table 2.3).

Table 2.3. Distribution of themes identified in abortion access open-ended responses by participants' state of residence

Column1 **Theme**	**South Carolina** **n (%)**	**Alabama** **n (%)**
Abortion Legality & Restrictions	445 (51.3)	450 (52.0)
"Tangible" Barriers	147 (16.9)	129 (14.9)
Personal Sentiments & Testimonies	119 (13.7)	94 (10.9)
Social, Cultural & Religious Barriers	93 (10.7)	139 (16.1)
N/A (Uncertainty)	62 (7.1)	54 (6.2)
TOTAL	868 (100.0)	866 (100.0)

Perceptions of Abortion Safety

Of the 1,618 women with usable open-ended responses to the question about abortion safety, 666 participants (41.2%) indicated that abortion was somewhat or very safe in their state, while about one-third (33.2%) indicated that abortion was somewhat or very dangerous, and the remaining respondents indicated that abortion was neither safe nor dangerous (11.9%) or that it depends on the situation (13.7%). The distribution of themes across open-ended responses to the question about abortion safety, along with example responses for each theme, is shown in Table 2.4.

Abortion as Similar to Any Medical Procedure

Open-ended responses to the question about abortion safety most commonly reflected participants' perceptions that abortion is similar to any medical procedure (24.4% of responses; Table 2.4). Though this theme was common across the sample, it was most common among women who indicated that abortion safety depends on the situation (60% of responses in the subset). This theme was illustrated in responses such as "There always is a risk w/surgery. Many situations that resort to abortion are risky to begin with" and "anything can happen during a procedure." Some women noted that, like many medical procedures, abortion safety depends on physician or practitioner experience or clinic procedures, for example: "if done correctly you should have no issues, if not then you could have medical issues." Others mentioned the health of the individual receiving an abortion as a factor that could impact abortion safety in responses like "Depends on what is going on with female" and "Age and health poses a question."

Personal Sentiments and Testimonies

Personal sentiments and testimonies were also commonly seen in participants' open-ended responses about abortion safety (24.0% of responses; Table 2.4). Responses were assigned a range of codes within this particular theme, with some participants including personal or peer testimonies indicating abortion was either safe (see example in Table 2.4), dangerous, or somewhere in between, others stating personal views or beliefs about abortion, and even some indicating they had heard about or seen information that abortion was either safe or dangerous. While peer or personal testimonies were not common among women indicating abortion was neither safe nor dangerous or somewhat or very dangerous, one participant shared that they "almost bled to death," while another stated, "I've had friends that have had no problems with them and friends that have issues so I think its a case by case basis." Of those participants indicating abortion was very or somewhat safe, a notable proportion (32.7%) responded that they assumed abortion was safe or had "never heard otherwise." Finally, some participants, particularly those who indicated abortion was very or somewhat dangerous, shared a personal view about abortion generally rather than a perception of abortion safety (e.g., "I do not support abortion"; "I just believe that it is wrong in any situation").

Table 2.4. Key themes reflected in 1,618 open-ended responses regarding abortion safety in participants' state of residence

Theme	n (%)	Example
Abortion as Similar to Any Medical Procedure	395 (24.4)	*[Participant indicating abortion is very or somewhat dangerous]: "Any operation has some danger and possibility of complications."*

Personal Sentiments & Testimonies	389 (24.0)	*[Participant indicating abortion is very or somewhat safe]: "I myself have had 2 abortions with zero complications."*
Abortion Legality & Regulations	309 (19.1)	*[Participant indicating abortion is very or somewhat safe]: "Abortions are only provided by licensed practitioners."*
Social Threats / Threats to Women	242 (15.0)	*[Participant indicating abortion is very or somewhat dangerous]: "It is dangerous for a woman both physically and psychologically. It is a procedure that is unnatural for her body and it causes long term trauma and guilt."*
Abortion as Killing a Child	155 (9.6)	*[Participant indicating abortion is very or somewhat dangerous]: "You're harming a life and taking a life."*
N/A (Uncertainty)	128 (7.9)	*[Participant indicating abortion is neither safe nor dangerous]: "I have not read much or experienced abortion first hand."*
TOTAL	1618 (100.0)	

Abortion Legality and Regulations

Another key theme reflected in open-ended responses related to abortion safety was abortion legality and/or regulations (19.1% of responses; Table 2.4). Related responses were coded as mentions of abortion as a legal procedure, abortion as performed by a licensed professional, abortion as a sanitary process, low complication rate from abortion or lower risk than carrying out a pregnancy, abortion legality depending on pregnancy circumstances (e.g., rape, incest, mother's life in danger), and abortion as highly restricted or illegal. The vast majority of responses related to abortion legality and regulations (89.3%; data not shown) came from women who indicated that abortion is very or somewhat safe in their state (see example in Table 2.4). Many women commented that abortion is very "regulated" and that abortions are provided by a "licensed" or "specialized" practitioner or physician in a "controlled" or "sanitary"

environment. Most notably, open-ended responses related to abortion legality and regulations were more prevalent among women living in South Carolina (23.3% of responses) relative to women living in Alabama (14.9% of responses; Table 2.5).

Table 2.5. Distribution of themes identified in abortion safety open-ended responses by participants' state of residence

Column1 **Theme**		
Abortion as Similar to Any Medical Procedure	210 (26.0)	185 (22.8)
Personal Sentiments & Testimonies	185 (22.9)	204 (25.2)
Abortion Legality & Regulations	188 (23.3)	121 (14.9)
Social Threats / Threats to Women	99 (12.3)	143 (17.7)
Abortion as Killing a Child	63 (7.8)	92 (11.4)
N/A (Uncertainty)	63 (7.8)	65 (8.0)
TOTAL	808 (100.0)	810 (100.0)

Social Threats / Threats to Women

The theme of social threats was reflected in 15.0% of responses and encompasses participants' perceptions related to the social and emotional dangers of seeking and/or receiving an abortion such as feeling guilt or shame or experiencing emotional trauma via clinic protesters and stigma around abortion, dangers to women's rights or threats to bodily autonomy, and other dangers (physical, emotional, or otherwise) to women specifically. Participants often mentioned the presence of protesters or existence of groups which pose a danger to women seeking abortion (e.g., "Because of the extremists who feel as though they can control a person's decision"; "Because there are a lot of people who vehemently disagree with abortion and I'd be afraid someone would attempt to harm me if I went"). The theme of social threats to abortion safety was much more prevalent among women indicating abortion was very or somewhat dangerous

(26.3% of responses) than in any other subset of respondents. Moreover, as noted in Table 2.5, this theme was more common in responses from women living in Alabama (17.7% of responses) compared to South Carolina (12.3% of responses).

Abortion as Taking a Life

The final theme identified in open-ended responses related to abortion safety was the perception of abortion as taking a life or killing a child (9.6% of responses; Table 2.4). This theme was exclusively found in open-ended responses among women indicating abortion was neither safe nor dangerous or dangerous. Within this theme, women commonly used words and phrases like "murder," "killing," and "a baby dies" to share their thoughts on why abortion is dangerous. In addition, some mentioned that abortion is "not healthy" or "unnatural." Of note, this theme was more prevalent in comments provided by women living in Alabama (11.4% of responses) compared to women living in South Carolina (7.8% of responses).

Discussion

Given that abortion rates in Alabama (6.4 per 1,000 reproductive-aged women) and South Carolina (5.4 per 1,000 reproductive-aged women) are among the lowest in the U.S. South (Guttmacher Institute, 2019a), and both states have imposed a number of restrictions on abortion access, it is interesting that half of respondents (n=867) believed that it was very or somewhat easy to obtain in abortion in their state. Still, open-ended responses enhanced our understanding of how women living in Alabama and South Carolina perceive access to abortion services in their respective states and exposed possible gaps in knowledge and misperceptions around abortion. In particular, open-ended responses reflected many of the major barriers to abortion

access and care-seeking highlighted in prior research efforts, including cost (Roberts, Gould, Kimport, Weitz, & Foster, 2014), transportation (Ranji, Long, Salganicoff, Rosenzweig., & Silow-Carroll, 2019; White, Turan & Grossman, 2017), state restrictions (Jones, Ingerick, & Jerman, 2018), social pressures and stigma (Altshuler, Ojanen-Goldsmith, Blumenthal, & Freedman, 2017; Kumar, Hessini, & Mitchell, 2009; Norris et al., 2011), and religious discourse (Frohwirth, Coleman, & Moore, 2018). However, our findings suggest that many women believe that abortion is accessible without many barriers, with some commenting that women can quickly find abortion clinics by using Google or the Internet or by visiting health departments or free clinics. It is evident that, in this sample of responses, women's perceptions about abortion access fall along a spectrum. On one end of the spectrum, women who indicated abortion is very or somewhat easy to obtain often perceived abortion as legal with unrestricted access. On the opposite end of the spectrum, women who indicated abortion is very or somewhat difficult to obtain often perceived abortion as illegal or heavily restricted with few accessible locations and providers.

Open-ended responses reflecting perceptions of abortion safety in Alabama and South Carolina fell along a similar spectrum. On one end of the spectrum, women who indicated abortion is very or somewhat safe noted, for the most part, that abortion is a legal procedure that is regulated and offered in a controlled environment by a licensed and/or specialized practitioner. On the opposite end of the spectrum, women who indicated abortion is very or somewhat dangerous often commented on the dangers of abortion for a woman, an unborn child, and in some instances, for society (i.e., framing abortion as murder and thus as a controversial issue). Given that data have pointed to the absolute (Jatlaoui et al., 2019; Pazol et al., 2014; Sajadi-Ernazarova & Martinez, 2019; Zane et al., 2015) and relative (Raymond & Grimes, 2012) safety

of abortion as a medical procedure, it was surprising that one-third of respondents indicated that abortion is very or somewhat dangerous in their state. Likewise, the theme of abortion as similar to any medical procedure (i.e., carrying risks) proved to be among the more interesting findings in our analysis in that it exposed potential misperceptions and lack of knowledge about abortion safety in our sample. In addition, it was clear that of those who indicated that abortion was dangerous at some level, some perceived abortion to be dangerous because it conflicts with their moral beliefs or takes the life of a child. In fact, language used in these comments seemed to reflect key words and phrases used by anti-abortion activists and groups (e.g., "murder," "killing," "child," "person"). This finding seems to suggest that the survey item on abortion safety prompted participants to share personal views and beliefs about abortion generally rather than their perceptions of the safety of abortion as a procedure or process. Future studies should further explore reproductive-aged women's perceptions of abortion access and safety with careful consideration of the wording of survey items, specifically around abortion safety.

Because our sample included women living in both Alabama and South Carolina, we also find it essential to briefly highlight the key differences in open-ended responses by state. Though there were not many differences in the distribution of themes by state in open-ended responses related to abortion access, it was clear that among Alabama respondents, social, cultural, and religious factors were reflected more commonly in open-ended responses. Though there is no precedent for this finding in previous research, it does suggest that women in Alabama perceive social, cultural, and religious barriers to abortion access as potentially more prevalent compared to women in South Carolina. Similarly, our findings suggest that women in Alabama more often perceived abortion as dangerous due to social threats or risks to women, a difference which could reasonably be aligned to the difference described previously. Further, open-ended responses

among women in South Carolina more commonly reflected abortion legality and regulations, which suggests that perceptions of abortion as a legal option that is regulated and offered in a controlled environment by a licensed physician are potentially more prevalent in South Carolina relative to Alabama.

Limitations and Strengths

This study had two major strengths. First, the study methodology moved beyond that of public polls and surveys specific to abortion to critically analyze reproductive-aged women's perceptions of abortion access and safety in two states and provided much needed context to fixed-choice survey responses. Second, the use of open-ended survey responses in qualitative analysis is advantageous relative to traditional qualitative data (e.g., interview or focus group data), namely because participant responses are unlikely to be influenced by others (such as in a focus group or interview). However, this study is not without limitations. First, since participants were not required to respond to the fixed-response or open-ended items related to abortion access and safety, some participants left the items blank. Thus, the themes identified in this study are not necessarily representative of the perceptions of women in our entire sample nor all reproductive-aged women living in Alabama and South Carolina. Second, the use of open-ended survey responses for qualitative analysis is imperfect, as participants are unable to expand upon their responses like they could in a focus group or interview setting. Because abortion perceptions can be complex and nuanced, future survey research should be designed to elicit detailed open-ended responses in addition to traditional fixed-choice survey responses. Alternatively, future studies in this area of research might use a mixed-methods approach to

capture both quantitative and qualitative responses to crucial questions about abortion access and safety in the U.S.

Implications for Practice and/or Policy

It is essential for public health and health care practitioners to know more about women's perceptions of abortion access and safety in order to provide the most accurate and up-to-date information on pregnancy options, especially in states where abortion is heavily restricted. Study findings provide insights on perceived barriers to abortion access directly from women of reproductive age and, at the same time, expose key gaps in knowledge around abortion safety. Study findings are also meant to inform policymakers at the state and federal levels of the many perceived barriers to abortion access, especially those who seek to remove barriers to safe abortion for women in communities situated in Alabama and South Carolina.

Conclusions

Women most commonly reported that abortion was very or somewhat easy to obtain (50.0%) and very or somewhat safe (41.2%) in their state; however, some still believed that abortion was dangerous (33.2%) for a mother, an unborn child, or society. This qualitative analysis highlighted specific barriers to abortion access and revealed key gaps in knowledge about abortion safety among reproductive-aged women in Alabama and South Carolina. Findings suggest key needs for comprehensive education about pregnancy options for reproductive-aged women, including legal induced abortion and policy change to remove barriers to abortion access for women seeking this option.

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Chapter 3. Examining the Relationship Between Pregnancy Avoidance and Abortion Attitudes in a Representative Sample of Women Living in Alabama and South Carolina

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Abstract

Objectives: Though attitudes toward pregnancy and abortion have been researched in depth, the two have been reported on independently, and thus their relationship is unknown. We examined the relationship between pregnancy avoidance and attitudes toward abortion access in a sample of reproductive-aged women (18-44 years) living in Alabama and South Carolina. **Methods:** We analyzed secondary data from two representative statewide surveys conducted by NORC at the University of Chicago between October 2017 and April 2018. Data analyzed were specific to women at risk for unintended pregnancy (N = 2,977). We used χ^2 and multinomial logistic regression analyses to assess the relationship between pregnancy avoidance and attitudes toward abortion access. **Results:** Most women in the sample found it important to avoid pregnancy (76.7%) and agreed that women should have access to safe, effective, and affordable methods of abortion care in their community (56.0%). Women who were ambivalent about pregnancy avoidance or who found it unimportant to avoid pregnancy were less likely (aOR, 0.53; 95% CI, 0.32-0.87 and aOR, 0.55; 95% CI, 0.32-0.91, respectively; $p < .05$) to agree that safe, effective, and affordable methods of abortion care should be available to women in their community compared to those who found it important to avoid pregnancy. **Conclusions for Practice:** Women who found it important to avoid pregnancy were more likely to report a positive attitude toward abortion access than women who were ambivalent toward pregnancy or found it unimportant to avoid pregnancy. Health care practitioners should carefully assess women's attitudes toward pregnancy and abortion, particularly among women living in U.S. states where options to safely terminate a pregnancy are limited.

Keywords: Pregnancy avoidance, abortion attitude, unintended pregnancy, Alabama, South Carolina

Significance

What is already known on this subject? Abortion is a legal option for women who want to terminate a pregnancy. Attitudes toward both pregnancy and abortion are complex and nuanced but are typically studied in different contexts. In particular, studies have not examined the relationship between pregnancy avoidance and abortion attitudes.

What does this study add? Women who were ambivalent about avoiding pregnancy or who found it unimportant to avoid pregnancy were less likely to indicate a positive abortion attitude compared to women who found it important to avoid pregnancy. Particularly in states where abortion access is highly restricted, women's pregnancy avoidance and abortion attitudes should be assessed regularly.

Introduction

Pregnancy, birth and abortion are common experiences for women of reproductive age in the U.S. Recent data have shown that 83% of women will have given birth by age 40 (Martinez, Daniels, & Febo-Vazquez, 2018) and that 25% of women will have an abortion in their lifetime (Guttmacher Institute, 2019a; Jones & Jerman, 2017). Though pregnancy and abortion are intricately connected experiences (i.e., abortion is an option for terminating a pregnancy), they are typically studied in isolation.

Women can have complex and changing feelings about becoming pregnant and related reproductive health outcomes, such as abortion (Foster et al., 2012; Mumford, Sapra, King, Louis, & Louis, 2016; Rocca et al., 2016). This is reasonable given that pregnancy may result in various social and economic consequences for a woman, especially when the pregnancy is unintended (Brown & Lindenberg, 1995; Guttmacher Institute, 2019b; Herd, Higgins, Sicinski,

& Merkurieva, 2016; Sonfield, Hasstedt, Kavanaugh, & Anderson, 2013; Trussell et al., 2013). Though recent studies have shown that 40-50% of unintended pregnancies end in abortion (Finer & Zolna, 2014, 2016), women's childbearing desires, their prior life experiences, and individual contexts in which pregnancies occur have seldom been captured or reported on in detail (Guttmacher Institute, 2019b). Further, a growing body of evidence suggests that pregnancy attitudes should be conceptualized as a multidimensional construct (Aiken, 2015; Aiken, Dillaway & Mevs-Korff, 2015; Aiken & Potter, 2016; Jones, 2017). In fact, results from a recent study from Jones (2017) drew attention to the importance of assessing pregnancy avoidance as a component of pregnancy attitudes rather than relying merely on traditional measures of pregnancy intention and/or happiness.

Few studies have collected data specific to abortion attitudes among women of reproductive age in the U.S. Results from a representative survey of women aged 18-49 years living in Texas did show significant associations between abortion attitudes and race/ethnicity, political affiliation and income as a percentage of the Federal Poverty Level (White et al., 2016). There is also some evidence of significant associations between abortion attitudes and education level, rurality, religious affiliation and political affiliation, though not specific to women of reproductive age (Jozkowski, Crawford, & Hunt, 2018).

Moreover, the relationship between reproductive-aged women's pregnancy avoidance and abortion attitudes is indeterminate. Investigating the relationship between the two constructs can provide key information regarding the intrapersonal, or individual, context of women's pregnancy (and abortion) decision-making. The need to assess and understand this relationship is even greater in states where access to abortion is heavily restricted, as the limiting of women's pregnancy options may meaningfully affect their reproductive decision-making. In response to

this underlying need, this study aimed to explore and assess the relationship between pregnancy avoidance and abortion attitudes in a sample of reproductive-aged women living in Alabama and South Carolina, two states where a number of abortion restrictions have been implemented to date (Guttmacher Institute, 2019c).

Methods

Study Population and Data Source

This study used data from two representative statewide surveys of women conducted by the National Opinion Research Center (NORC) at the University of Chicago between October 2017 and April 2018. Briefly, women of reproductive age (18-44 years) residing in Alabama or South Carolina responded to a 124-item survey, which elicited information on selected demographic characteristics, past and current contraceptive use, history of pregnancy, birth and abortion, and pregnancy intentions. A multimodal data collection approach was utilized whereby a series of mailings and non-response follow-up activities ensued. Recruitment efforts included mailing letters to households (using address-based sampling), along with a $5 cash incentive, asking potentially eligible participants to complete a web-based survey followed by mailing a self-administered questionnaire to non-responders and finally, attempting to deliver the survey to potential participants using computer-assisted telephone interviewing. Participants provided informed consent prior to completing the survey and received a $10 Amazon gift code for their participation. The overall response rate using the American Association for Public Opinion Research Response Rate 3 definition was 24.1% (The American Association for Public Opinion Research, 2015). Post-stratified sample weights adjusting for differences in the initial probability of selection and differential non-response were created using a raking procedure that included respondents' age, education-by-income, race/ethnicity, nativity, marital status, children under 18

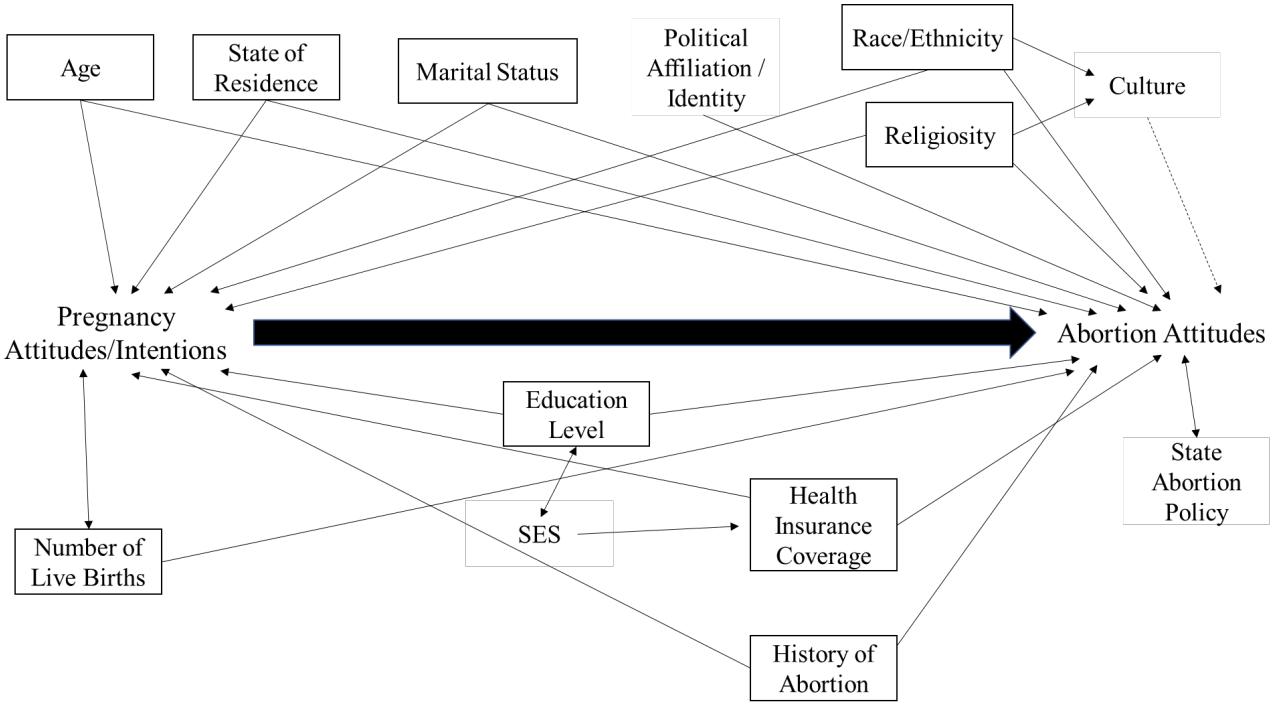
in the household, housing tenure, and employment. Because this study involves only secondary data analysis of de-identified data, the chair of the East Tennessee State University Institutional Review Board determined that this research did not meet the definition of human subjects' research and was exempted from further review.

Measures

Pregnancy avoidance was assessed by asking participants, "How important is it to you to AVOID becoming pregnant now?" Response options included *Very important, Somewhat important, Neither important nor unimportant, Somewhat unimportant,* or *Not at all important.* We recoded the variable for analysis, and categories included *Important* (very important + somewhat important), *Ambivalent* (neither important nor unimportant) and *Unimportant* (somewhat unimportant + not at all important). For this study, we used one item to assess a particular attitude toward abortion. Participants were asked to respond to the following statement: "Safe, effective, and affordable methods of abortion care should be available to women in their community." Response options included *Strongly agree, Agree, Neither agree nor disagree, Disagree,* or *Strongly disagree.* We recoded the variable for analysis, and categories included *Agree* (strongly agree + agree), *Neutral* (neither agree nor disagree) and *Disagree* (disagree + strongly disagree). We also included categorized variables for age at the time of survey, education level, race/ethnicity, relationship status, religiosity, number of live births, history of abortion, state of residence and health insurance coverage in our analysis as covariates. These covariates were identified through the development of a directed acyclic graph (DAG), a tool commonly used in public health and epidemiological studies to conceptualize the relationship between a predictor and outcome variable while also identifying potential confounders or sources of bias (Greenland, Pearl, & Robins, 1999; VanderWeele & Robins,

2007). The DAG presented in Figure 3.1 was developed with careful consideration of two conceptual frameworks: 1) a social-ecological framework of abortion attitudes and stigma published by Kumar, Hessini, and Mitchell (2009); and 2) a conceptual framework of factors that influence abortion care-seeking by Coast and colleagues (2018). Constructs measured through survey items specific to this study are enclosed by a box. Solid lines represent theorized relationships between constructs, while dotted lines represent relationships involving a construct that is not easily operationalized in the context of survey research.

Figure 3.1. Directed acyclic graph (DAG) for identifying covariates used in study analyses



Analyses

We conducted all analyses using Stata 15.1 (StataCorp, 2017) and used sample weighting for all bivariate and multivariate analyses. We used descriptive statistics to summarize key characteristics of our sample of reproductive-aged women at risk for unintended pregnancy,

including sociodemographic characteristics, pregnancy avoidance and abortion attitudes. For this analysis, we excluded participants who previously had a tubal ligation or another operation that prevents them from getting pregnant, who had been diagnosed as infertile or sterile, who were currently pregnant or who were currently trying to get pregnant. Women meeting any of these criteria were considered to not be at risk of unintended pregnancy. In addition, we excluded participants whose data were missing (i.e., left item blank or answered *prefer not to answer*) for the item assessing abortion attitude. We assessed bivariate associations between sociodemographic characteristics and pregnancy avoidance (predictor variable) and, subsequently, between these characteristics and abortion attitudes (outcome variable) using χ^2 tests of independence. We then built a multinomial logistic regression model to assess the relationship between pregnancy avoidance and abortion attitudes. The model included measures for pregnancy avoidance and abortion attitudes as well as any covariate measured in the survey and included in the DAG above. Finally, in order to test for multicollinearity, we also assessed the correlation matrix for the variables included in the regression model and conducted post-estimation testing of the regression model using variance inflation factors (VIFs); both assessments indicated no multicollinearity existed between variables (no correlation coefficient < -0.70 or > 0.70; Mean VIF = 1.15, no VIF > 10).

Results

Sample Characteristics

In our sample of 2,977 women at risk for unintended pregnancy, most were under 30 years old (51.9%), had some postsecondary education (78.1%), were non-Hispanic white (61.3%), were unmarried (63.7%), had zero live births (51.4%), had never received an abortion

(89.4%) and had health insurance (89.6%). In addition, about 55% of women indicated religion was very important in their daily lives. The sample was almost evenly distributed by state of residence (Table 3.1).

Table 3.1. Characteristics of the study sample with unweighted frequencies and weighted percentages (N = 2,977)

Characteristic	n (Weighted %)
Age[a]	
18-24	531 (30.0)
25-29	480 (21.9)
30-35	648 (21.1)
36-39	529 (13.5)
40-44	669 (13.6)
Education Level[a]	
Less than high school	105 (6.1)
High school or equivalent	346 (15.9)
Some college	663 (32.6)
Associate's or Bachelor's Degree	1,190 (33.7)
Graduate or Professional Degree	553 (11.8)
Race / Ethnicity[a]	
Non-Hispanic White	2,024 (61.3)
Non-Hispanic Black	606 (28.3)
Non-Hispanic Other	127 (6.0)
Hispanic / Latina	100 (4.4)
Marital Status[a]	
Married	1,453 (36.0)
Unmarried, Living with Partner	362 (19.8)
Unmarried, Not Living with Partner	995 (44.2)
Importance of Religion in Daily Life[a]	
Very important	1,733 (55.1)
Somewhat important	722 (26.6)
Not important	445 (18.3)
Number of Live Births[a]	
0	1,139 (51.4)
1	563 (19.0)
2	725 (19.3)
3+	380 (10.4)
History of Abortion[a]	

Yes	267 (10.6)
No	2,528 (89.4)
State of Residence	
Alabama	1,452 (48.8)
South Carolina	1,525 (51.2)
Health Insurance Coverage[a]	
Private	1,742 (56.8)
Public	584 (24.1)
Other	239 (8.7)
Uninsured	235 (10.4)

[a] Missing data: age (n=120), education level (n=120), race/ethnicity (n=120), marital status (n=167), importance of religion in daily life (n=77), parity (n=170), history of abortion (n=182), health insurance coverage (n=177)

Bivariate Associations with Pregnancy Avoidance

While most women found it important to avoid pregnancy at the time the survey was administered (76.7%), some were ambivalent about pregnancy avoidance (12.0%) or found it unimportant to avoid pregnancy (11.4%). Several sociodemographic and personal characteristics were significantly associated with pregnancy avoidance in this sample (see Table 3.2). For example, a greater percentage of women aged 18-24 years (85.7%) found it important to avoid pregnancy than women 40 years of age or older (69.4%; $p < .0001$). In addition, a greater percentage of unmarried women not living with a partner (83.0%) indicated it was important to avoid pregnancy compared to married women (68.5%; $p < .0001$). A greater percentage of women who indicated religion was not important in daily life (83.1%) found it important to avoid pregnancy than women who indicated religion was very important in daily life (73.6%; $p = .0392$). Finally, a greater percentage of women who had private health insurance (79.4%) found it important to avoid pregnancy compared to women who were uninsured (62.3%; $p = .0003$).

Table 3.2. Selected characteristics of women at risk of unintended pregnancy by pregnancy avoidance attitude (N = 2,750)[a]

Characteristic	Important to avoid pregnancy now (n = 2,042 (78.7%))	Neither important nor unimportant to avoid pregnancy now (n = 344 (12.0%))	Unimportant to avoid pregnancy now (n = 364 (11.4%))	
	%	%	%	*p* value
Age				**< .0001**
18-24	85.7	8.7	5.7	
25-29	75.9	14.6	9.6	
30-35	71.1	13.9	15.0	
36-39	68.9	17.1	14.0	
40-44	69.4	10.1	20.6	
Education Level				.2438
Less than high school	69.0	15.4	15.6	
High school or equivalent	72.2	17.2	10.7	
Some college	79.1	9.9	10.9	
Associate's or Bachelor's Degree	76.2	12.3	11.5	
Graduate or Professional Degree	75.4	11.5	13.1	
Race / Ethnicity				.4595
Non-Hispanic White	77.1	12.2	10.7	
Non-Hispanic Black	74.9	12.0	13.1	
Non-Hispanic Other	75.1	16.3	8.6	
Hispanic / Latina	68.5	12.3	19.2	
Marital Status				**< .0001**
Married	68.5	16.8	14.7	
Unmarried, Living with Partner	72.7	13.3	14.0	
Unmarried, Not Living with Partner	83.0	8.7	8.3	
Importance of Religion				**.0392**
Very important	73.6	13.2	13.2	
Somewhat important	77.6	11.7	10.7	
Not important	83.1	8.6	8.3	
Number of Live Births				**.0092**
0	79.9	10.3	9.8	
1	67.8	17.1	15.2	
2	76.1	12.4	11.5	
3+	74.3	13.5	12.2	
History of Abortion				.3428

Yes	81.4	10.4	8.2	
No	75.6	12.7	11.7	
State of Residence				**.0528**
Alabama	73.9	12.4	13.7	
South Carolina	78.0	12.4	9.6	
Health Insurance Coverage				**.0003**
Private	79.4	10.6	10.0	
Public	75.6	14.2	10.2	
Other	66.8	17.4	15.8	
Uninsured	62.3	14.9	22.7	

[a] Missing data (n=83) for this variable among women at risk for unintended pregnancy

Bivariate Associations with Attitudes toward Abortion Access

Most women in the sample agreed that safe, effective, and affordable methods of abortion care should be available to women in their community (56.0%), while smaller proportions disagreed (27.0%) or neither agreed nor disagreed (16.7%). With exceptions of age and health insurance coverage, all participant characteristics assessed in χ^2 tests were significantly associated with attitudes toward abortion access (see Table 3.3). For example, a greater percentage of women with a graduate or professional degree (65.6%) agreed that safe, effective, and affordable methods of abortion care should be available than women with high school education or equivalent (40.1%; $p < .0001$). Further, greater percentages of unmarried women living with a partner (62.1%) and living alone (60.3%) agreed that safe, effective, and affordable methods of abortion care should be available compared to married women (46.5%; $p < .0001$). A greater percentage of women who indicated religion was not important in daily life (89.9%) agreed that safe, effective, and affordable methods of abortion care should be available to women than those who indicated religion was very important in daily life (41.7%; $p < .0001$). Finally, a greater proportion of women with zero live births (63.4%) agreed that abortion should be

available to women in their community when compared to women with one or more live births ($p < .0001$).

Table 3.3. Selected characteristics of women at risk of unintended pregnancy by abortion attitude (N = 2,977)

Characteristic	Agree (n = 1,522 (56.0%)) %	Neutral (n = 471 (16.7%)) %	Disagree (n = 981 (27.0%)) %	*p* value
Age				.4811
18-24	59.1	14.6	26.3	
25-29	52.1	19.3	28.7	
30-35	58.0	15.8	26.2	
36-39	52.0	20.7	27.3	
40-44	56.3	15.8	27.9	
Education Level				**< .0001**
Less than high school	49.7	15.3	35.0	
High school or equivalent	40.1	23.2	36.6	
Some college	59.9	15.1	25.0	
Associate's or Bachelor's Degree	57.5	18.1	24.5	
Graduate or Professional Degree	65.6	10.6	23.8	
Race / Ethnicity				**< .0001**
Non-Hispanic White	52.8	14.7	32.5	
Non-Hispanic Black	60.1	22.3	16.6	
Non-Hispanic Other	64.2	16.6	19.2	
Hispanic / Latina	59.6	9.9	30.5	
Marital Status				**< .0001**
Married	46.5	16.9	36.6	
Unmarried, Living with Partner	62.1	16.9	21.0	
Unmarried, Not Living with Partner	60.3	17.0	22.7	
Importance of Religion				**< .0001**
Very important	41.7	20.0	38.3	
Somewhat important	62.4	17.3	20.3	
Not important	89.9	4.7	5.3	
Number of Live Births				**< .0001**
0	63.4	16.0	20.6	
1	53.5	16.1	30.4	
2	46.8	16.7	36.4	

3+	40.0	18.8	41.2	
History of Abortion				**< .0001**
Yes	82.7	13.4	3.9	
No	52.4	16.8	30.8	
Pregnancy Avoidance				**< .0001**
Important to avoid pregnancy	60.1	15.7	24.2	
Ambivalence toward pregnancy avoidance	38.5	21.4	40.1	
Unimportant to avoid pregnancy	46.1	15.9	38.0	
State of Residence				**.0015**
Alabama	51.1	18.1	30.9	
South Carolina	60.7	15.7	23.6	
Health Insurance Coverage				.4812
Private	58.4	15.3	26.2	
Public	52.7	17.4	29.9	
Other	51.1	21.8	27.2	
Uninsured	56.8	14.1	29.1	

Relationship between Pregnancy Avoidance & Attitudes toward Abortion Access

Pregnancy avoidance and abortion attitudes were significantly associated at $p < .0001$ (see Table 3.3). Among women who indicated that it was important to avoid pregnancy, 60.1% agreed that safe, effective, and affordable methods of abortion care should be available while a lower prevalence of women who were ambivalent about avoiding pregnancy or felt avoiding pregnancy was unimportant agreed (38.5% and 46.1%, respectively). Results from our multinomial logistic regression analysis, which assessed the relationship between pregnancy avoidance and attitude toward abortion access adjusting for age, education level, race/ethnicity, marital status, importance of religion, number of live births, history of abortion, state of residence and health insurance coverage type, are displayed in Table 3.4. Women who were ambivalent about pregnancy avoidance or who found it unimportant to avoid pregnancy were less likely (aOR, 0.53; 95% CI, 0.32-0.87 and aOR, 0.55; 95% CI, 0.32-0.91, respectively; $p <$

.05) to agree that safe, effective, and affordable methods of abortion care should be available to women in their community compared to those who found it important to avoid pregnancy.

Table 3.4. Adjusted odds of attitudes toward abortion access by pregnancy avoidance attitude

Characteristic	Neutral vs Disagree[a]	Agree vs Disagree[a]
	aOR [95% CI]	aOR [95% CI]
Pregnancy Avoidance		
Important to avoid pregnancy	REF	REF
Ambivalence toward pregnancy avoidance	1.00 [0.57-1.75]	**0.53* [0.32-0.87]**
Unimportant to avoid pregnancy	0.93 [0.51-1.68]	**0.55* [0.32-0.91]**

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; REF = reference

[a]Three levels of this abortion attitude were designated: agreement (strongly agree/agree), neutral (neither agree nor disagree), or disagreement (disagree/strongly disagree). Participants were asked to respond to the statement: *Safe, effective, and affordable methods of abortion care should be available to women in their community.*

Notes: Bolded values are significant at $p < .05$; model adjusted for age, education level, race/ethnicity, marital status, importance of religion, number of live births, history of abortion, state of residence, and health insurance coverage.

Discussion

In our sample of women at risk for unintended pregnancy, nearly three in four women found it important to avoid pregnancy and a majority agreed that safe, effective, and affordable methods of abortion care should be available to women in their community. Though our sample is only representative of Alabama and South Carolina, previous research has also shown that finding it important to avoid pregnancy is common among women at risk for unintended pregnancy (Jones, 2017) and that many will use strategies, like contraception or abortion, to avoid becoming pregnant or carrying out a pregnancy (Aiken, 2015). Our analyses also showed a significant association and relationship between pregnancy avoidance and attitudes toward abortion access, namely, that women who were ambivalent toward pregnancy avoidance or who found it unimportant to avoid pregnancy were nearly half as likely to agree that safe, effective,

and affordable methods of abortion care should be available to women in their community compared to women who found it important to avoid pregnancy. In other words, women who were either ambivalent toward avoiding pregnancy or found it unimportant to avoid pregnancy were significantly less likely to have a positive attitude toward abortion access compared to women who found it important to avoid pregnancy. Though this finding highlights a stronger likelihood of a positive attitude toward abortion access among women who find it important avoid a pregnancy, it is important to reiterate that pregnancy avoidance attitudes can change over a short period of time (Jones, 2017), a change which could, in turn, shift abortion attitudes among women at risk for unintended pregnancy. We highlight this particular point, because women who are ambivalent about avoiding pregnancy or who find it unimportant to avoid pregnancy may, at some point, find it important to avoid pregnancy and pursue options that align with this attitude, such as abortion. Though this study did not assess women's desire to pursue abortion, future research should aim to further explore this construct, specifically among women at risk for unintended pregnancy who are uncertain or not worried about avoiding pregnancy, to assess the relationship between abortion attitudes and abortion-seeking desires and behaviors. Still, regardless of women's pregnancy avoidance or abortion attitudes, some states across the U.S. continue to restrict access to abortion, including those states relevant to this study (Guttmacher Institute, 2019c). Future studies should evaluate the extent to which abortion restrictions impact pregnancy avoidance and abortion attitudes in states where abortion is most restricted, as women may experience significant limitations in their abilities to make reproductive choices that best suit their life circumstances.

Finally, several sociodemographic variables were significantly related to pregnancy avoidance and abortion attitudes, specifically education level, race/ethnicity, marital status,

importance of religion and health insurance coverage. Previous studies have similarly identified differences in pregnancy attitudes by race/ethnicity (Aiken et al., 2015) and differences in abortion attitudes by education level, race/ethnicity and religious affiliation (Jozkowski et al., 2018; White et al., 2016). Enhanced understanding of sociodemographic differences in pregnancy avoidance and abortion attitudes would allow for more inclusive, culturally relevant and tailored counseling strategies to provide the range of options for preventing or terminating pregnancies to women of reproductive age.

This study is not without limitations. First, our study population of women at risk for unintended pregnancy living in Alabama or South Carolina limits generalizability to the entire U.S. population of reproductive-aged women. Additional research is needed to determine if pregnancy avoidance and abortion attitudes (and the relationship between them) among women in these two states are comparable to the general U.S. population. Second, we assessed both pregnancy avoidance and abortion attitudes using a single measure at one point in time, which may have resulted in a loss of detailed information about women's pregnancy and abortion attitudes and desires over time. However, this study was exploratory in nature in that we aimed to assess the relationship between pregnancy avoidance and abortion attitudes generally; future studies should explore the dimensions of both pregnancy avoidance and abortion attitudes longitudinally to further understand the relationship between these constructs.

This study certainly has several strengths. To our knowledge, this is the first study to assess the relationship between pregnancy avoidance and abortion attitudes among women at risk for unintended pregnancy. These constructs, as well as their relationship, are particularly important among women living in states like Alabama and South Carolina, where abortion restrictions are prevalent, thereby limiting options for a woman to terminate a pregnancy. A

second strength of the study is a sample size that is large and representative of women at risk for unintended pregnancy in Alabama and South Carolina.

The results of this study are especially significant to public health and health care practitioners working in the field of reproductive health. We found that women who were either ambivalent about avoiding pregnancy or found it unimportant to avoid pregnancy were half as likely to have a positive attitude about abortion compared to women who found it important to avoid pregnancy. However, as noted, many women may be certain or uncertain about avoiding pregnancy at one point in time, yet this attitude may shift or become more complex over time. Health care providers, in particular, should carefully assess women's attitudes toward pregnancy and abortion to provide appropriate and comprehensive counseling and education on reproductive choices to women at risk for unintended pregnancy, especially those living in U.S. states where options to prevent or terminate a pregnancy are severely limited.

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Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no conflicts of interest.

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Chapter 4. Examining the Relationship between Current Contraception Use and Attitudes toward Abortion Access in a Representative Sample of Women Living in Alabama and South Carolina

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Abstract

Objective: To assess the relationship between current contraception use and attitudes toward abortion access in a sample of women at risk for unintended pregnancy. **Study Design:** We utilized secondary data from two representative, statewide surveys of reproductive-aged women (18-44 years) living in Alabama and South Carolina. Current contraception use was defined in two different ways: 1) current use versus non-use; and 2) contraceptive method type (highly effective, moderately effective, least effective, or non-use). We defined attitudes toward abortion access as level agreement with the statement: *Safe, effective, and affordable methods of abortion care should be available to women in their community.* We performed bivariate (χ^2 tests) and multivariate (multinomial logistic regression models) analyses to describe sociodemographic characteristics and contraceptive use measures independently associated with abortion attitudes. **Results:** Most women indicated current contraceptive use (64.7%) and agreed that safe, effective, and affordable methods of abortion care should be available to women in their community (56.0%). Compared to contraceptive non-users, contraceptive users were significantly more likely to agree than disagree that safe, effective, and affordable methods of abortion should be available to women in their community (aOR, 1.43, 95% CI: 1.00-2.04). **Conclusion:** Though contraceptive use and attitudes toward abortion access may change over time, the constructs showed significant association in this sample and should be further explored as factors influencing women's reproductive choices.

Implications: Reproductive health care providers should carefully consider the individual context of women's reproductive decision-making, namely, their contraceptive use, abortion attitudes, and sociodemographic characteristics, when offering counseling and education to women at risk for unintended pregnancy. Though further research is needed to explore the

dimensions of contraceptive use, abortion attitudes, and the relationship between the two, providers should capitalize on opportunities to discuss these factors with their patients, especially with women living in U.S. states, like Alabama and South Carolina, where options to prevent or terminate a pregnancy are limited.

1. Introduction

Contraceptive use and abortion are highly intertwined issues, and both are common among women in the U.S. In fact, nearly all (99%) of sexually active women have used at least one method of contraception [1], and one in four women will have an abortion in their lifetime [2,3]. Contraceptive use and attitudes toward abortion, taken together, can realistically affect women's pregnancy and abortion decision-making. Further, there is some evidence that contraceptive use has been the key driver of declines in unintended pregnancy and abortion incidence in the U.S. in recent times [2,4]. In particular, women at risk for unintended pregnancy (i.e., not currently pregnant, not trying to become pregnant, not postpartum, nor sterile) who do not use contraception comprise a majority of unintended pregnancies (compared to those who use some form of contraception) in this at-risk group [5]. This trend, coupled with an increase in the use of long-acting reversible contraceptive methods [6], has contributed to significant drops in unintended pregnancy and abortion in the U.S. in the 21st Century, particularly since 2008 [4].

Interestingly though, the results of one study showed that most abortion patients (51%) reported using a contraceptive method in the month they became pregnant [7]. However, not much is known about the relationship between contraceptive use and attitudes toward abortion. Though one might speculate that a woman's use of contraception indicates her general approval of family planning services, it might also be argued by some that abortion should not be included

within the family planning purview [8]. One recent study found no significant relationship between women's past contraceptive method use and abortion attitudes [9]; yet, the relationship between these two constructs has not been investigated elsewhere.

This study focuses on two states located in the Southeastern U.S., Alabama and South Carolina, where abortion restrictions are common [10-12] and attitudes toward and patterns of contraceptive use and attitudes toward abortion are often influenced by socially conservative politics and the norms of Catholic and Protestant Christianity [13,14]. The relationship between reproductive-aged women's contraceptive use and attitudes toward abortion is of much importance to public health and health care practitioners and advocates for reproductive freedom working in the Southeastern U.S. Investigating the relationship between the two variables will provide essential information regarding the intrapersonal, or individual, context of women's pregnancy (and abortion) decision-making. The need to assess and understand this relationship is even greater in states where access to abortion is highly restricted, as the limiting of women's pregnancy options, particularly contraception and abortion, may meaningfully affect their reproductive decision-making. In response to this underlying need, this study aimed to explore and assess the relationship between current contraceptive use and attitudes toward abortion access in a sample of reproductive-aged women (18-44 years) living in Alabama and South Carolina.

2. Materials and Methods

This study used data from two representative statewide surveys of women conducted by the National Opinion Research Center (NORC) at the University of Chicago between October 2017 and April 2018. Briefly, women of reproductive age (18-44 years) residing in Alabama or

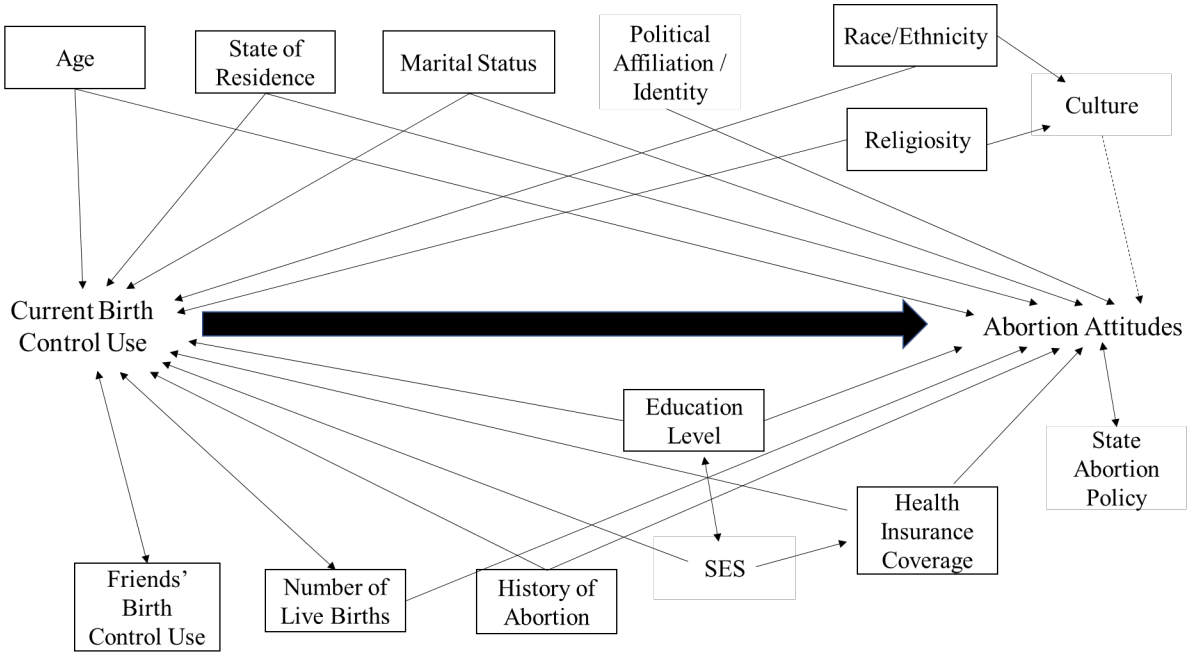
South Carolina responded to a 124-item survey, which elicited information on selected demographic characteristics, past and current contraceptive use, history of pregnancy, birth and abortion, and pregnancy intentions. A multimodal data collection approach was utilized whereby a series of mailings and non-response follow-up activities ensued. Recruitment efforts included mailing letters to households (using address-based sampling), along with a $5 cash incentive, asking potentially eligible participants to complete a web-based survey followed by mailing a self-administered questionnaire to non-responders and finally, attempting to deliver the survey to potential participants using computer-assisted telephone interviewing. Participants provided informed consent prior to completing the survey and received a $10 Amazon gift code for their participation. The overall response rate using the American Association for Public Opinion Research Response Rate 3 definition was 24.1% [15]. Post-stratified sample weights adjusting for differences in the initial probability of selection and differential non-response were created using a raking procedure that included respondents' age, education-by-income, race/ethnicity, nativity, marital status, children under 18 in the household, housing tenure, and employment. Because this study involves only secondary data analysis of de-identified data, the chair of the East Tennessee State University Institutional Review Board determined that this research did not meet the definition of human subjects' research and was exempted from further review.

2.1. Measures

Current use of contraception was assessed in two different ways. First, we determined if participants used any method of contraception (i.e., use vs. non-use) at the time of survey administration. We also categorized participants' use of contraception into highly effective contraceptive use (partner vasectomy, intrauterine devices, subdermal implants), moderately

effective contraceptive use (pills, patch, ring, injection), least effective contraceptive use (male condoms, female barrier methods, withdrawal, natural family planning, emergency contraception and other methods), and contraceptive non-use based upon Centers for Disease Control and Prevention definitions of method effectiveness [16]. This categorization of contraceptive methods by effectiveness has been utilized in previous studies We used one item to assess attitudes toward abortion access. Participants were asked to respond to the following statement: "Safe, effective, and affordable methods of abortion care should be available to women in their community." Response options included *Strongly agree, Agree, Neither agree nor disagree, Disagree,* or *Strongly disagree.* We recoded the variable for analysis, and categories included *Agree* (strongly agree + agree), *Neutral* (neither agree nor disagree) and *Disagree* (disagree + strongly disagree). We also included age category, education level, race/ethnicity, marital status, religiosity, number of live births, history of abortion, state of residence, health insurance coverage and in our analysis as covariates. These covariates were identified through the development of a directed acyclic graph (DAG), a tool commonly used in public health and epidemiological studies to conceptualize the relationship between a predictor and outcome variable while also identifying potential confounders or sources of bias [17,18]. The DAG presented in Figure 4.1 was developed with careful consideration of two conceptual frameworks: 1) a social-ecological framework of abortion attitudes and stigma published by Kumar, Hessini, and Mitchell [19]; and 2) a conceptual framework of factors that influence abortion care-seeking by Coast and colleagues [20]. Constructs measured through survey items specific to this study are enclosed by a box. Solid lines represent theorized relationships between constructs, while dotted lines represent relationships involving a construct that is not easily operationalized in the context of survey research.

Figure 4.1. Directed acyclic graph (DAG) for identifying covariates used in study analyses



2.2. Analyses

We conducted all analyses in Stata 15.1 and used sample weighting for all bivariate and multivariate analyses [21]. We used descriptive statistics to summarize key characteristics of our sample of women at risk for unintended pregnancy, including sociodemographic characteristics, current contraceptive use and attitudes toward abortion access. For this analysis, we excluded participants who previously had a tubal ligation or another operation that prevents them from getting pregnant, who had been diagnosed as infertile or sterile, who were currently pregnant or who were currently trying to get pregnant. We considered women who met one or more of these criteria to be not at risk of an unintended pregnancy. In addition, we excluded participants whose data were missing (i.e., left item blank or answered *prefer not to answer*) for the item assessing attitudes toward abortion access. We assessed bivariate associations between sociodemographic characteristics and contraceptive use (predictor variable) and, subsequently, between these

characteristics and attitudes toward abortion access (outcome variable) using χ^2 tests of independence. We then separately built two multinomial logistic regression models to assess the relationship between contraceptive use and attitudes toward abortion access. Each model included a measure of contraceptive use and attitudes toward abortion access in addition to covariates included in the DAG above. Of note, the variable measuring perception of friends' use of contraception was excluded from regression models, as a significant percentage of participants (27.2%) responded that they "Don't Know." Finally, in order to test for multicollinearity, we also assessed the correlation matrix for the variables included in the regression models and conducted post-estimation testing of the regression model using variance inflation factors (VIFs); both assessments indicated no multicollinearity existed between variables (no correlation coefficient < -0.70 or > 0.70; Mean VIF = 1.15, no VIF > 10).

3. Results

In our sample of 2,977 women at risk for unintended pregnancy, most were under 30 years old (51.9%), had some postsecondary education (78.1%), were non-Hispanic white (61.3%), were unmarried (63.7%), had zero live births (51.4%), had never received an abortion (89.4%) and had health insurance (89.6%). In addition, about 55% of women indicated religion was very important in their daily lives. The sample was almost evenly distributed by state of residence (Table 4.1).

Table 4.1. Characteristics of the study sample with unweighted frequencies and weighted percentages (N = 2,977)

Characteristic	n (Weighted %)
Age[a]	
18-24	531 (30.0)
25-29	480 (21.9)
30-35	648 (21.1)
36-39	529 (13.5)
40-44	669 (13.6)
Education Level[a]	
Less than high school	105 (6.1)
High school or equivalent	346 (15.9)
Some college	663 (32.6)
Associate's or Bachelor's Degree	1,190 (33.7)
Graduate or Professional Degree	553 (11.8)
Race / Ethnicity[a]	
Non-Hispanic White	2,024 (61.3)
Non-Hispanic Black	606 (28.3)
Non-Hispanic Other	127 (6.0)
Hispanic / Latina	100 (4.4)
Marital Status[a]	
Married	1,453 (36.0)
Unmarried, Living with Partner	362 (19.8)
Unmarried, Not Living with Partner	995 (44.2)
Importance of Religion in Daily Life[a]	
Very important	1,733 (55.1)
Somewhat important	722 (26.6)
Not important	445 (18.3)
Number of Live Births[a]	
0	1,139 (51.4)
1	563 (19.0)
2	725 (19.3)
3+	380 (10.4)
History of Abortion[a]	
Yes	267 (10.6)
No	2,528 (89.4)
State of Residence	
Alabama	1,452 (48.8)
South Carolina	1,525 (51.2)
Health Insurance Coverage[a]	
Private	1,742 (56.8)

Public	584 (24.1)
Other	239 (8.7)
Uninsured	235 (10.4)
Friends' Contraceptive Use[a]	
Almost all of them	810 (28.7)
Most of them	663 (24.1)
About half of them	231 (9.5)
Less than half of them	132 (5.4)
Almost none of them	128 (5.2)
Don't know	810 (27.2)

[a] Missing data: age (n=120), education level (n=120), race/ethnicity (n=120), marital status (n=167), importance of religion in daily life (n=77), number of live births (n=170), history of abortion (n=182), health insurance coverage (n=177), friends' contraceptive use (n=203)

A majority of women in the sample (64.7%) indicated current contraceptive use at the time of the survey. Current contraceptive use differed significantly by age, education level, race/ethnicity, marital status, importance of religion in daily life, and health insurance coverage. Table 4.2 displays these significant variations. In particular, a greater proportion of non-Hispanic white women were using a contraceptive method (68.7%) compared to other racial/ethnic groups (56.8% of Non-Hispanic Black women; 59.2% of Non-Hispanic women of other races; 54.2% of Hispanic/Latina women; $p = .0005$). In addition, a greater percentage of women who did not find religion important in their daily lives were using a contraceptive method (73.7%) compared to those who found religion somewhat (65.8%) or very important (60.8%, $p = .0014$). Greater percentages of women with private health insurance (69.4%), public health insurance (63.4%), or some other form of health insurance (69.9%) indicated current contraceptive use than women who were uninsured (43.9%; $p < .0001$).

Table 4.2. Selected characteristics of women at risk of unintended pregnancy by current use of contraception (N = 2,832)[a]

Characteristic	Currently using any contraception (n = 1,816 (64.7%)) %	Not currently using any contraception (n = 1,016 (35.3%)) %	*p* value
Age			**.0001**
18-24	63.4	36.6	
25-29	70.9	29.1	
30-35	69.5	30.5	
36-39	57.8	42.2	
40-44	53.6	46.5	
Education Level			**.0001**
Less than high school	50.1	50.0	
High school or equivalent	60.6	39.4	
Some college	59.6	40.4	
Associate's or Bachelor's Degree	71.3	28.7	
Graduate or Professional Degree	68.3	31.7	
Race / Ethnicity			**.0005**
Non-Hispanic White	68.7	31.3	
Non-Hispanic Black	56.8	43.2	
Non-Hispanic Other	59.2	40.8	
Hispanic / Latina	54.2	45.8	
Marital Status			**< .0001**
Married	70.4	29.7	
Unmarried, Living with Partner	71.0	29.0	
Unmarried, Not Living with Partner	56.3	43.7	
Importance of Religion			**.0014**
Very important	60.8	39.2	
Somewhat important	65.8	34.2	
Not important	73.7	26.3	
Number of Live Births			.2165
0	62.7	37.4	
1	68.0	32.0	
2	68.0	32.0	
3+	62.0	38.0	
History of Abortion			.1745
Yes	70.7	29.3	

No	64.0	36.0	
State of Residence			.3397
Alabama	62.9	37.1	
South Carolina	65.4	34.6	
Health Insurance Coverage			**< .0001**
Private	69.4	30.6	
Public	63.4	36.6	
Other	69.9	30.1	
Uninsured	43.9	56.1	

[a] Missing data (n=145) for this variable among women at risk for unintended pregnancy

When we examined current contraceptive use by type of method indicated, we found that women most commonly used moderately effective methods (32.7%), while fewer were contraceptive non-users (28.5%), used highly effective methods (23.5%) or used the least effective contraceptive methods (15.3%). Table 4.3 displays the differences in contraceptive method type by selected participant characteristics. In particular, a greater percentage of women with a graduate or professional degree (28.8%) were using a highly effective contraceptive method than those with less than a high school education (18.1%; $p < .0001$). In addition, a greater percentage of married women (30.6%) were using a highly effective method compared to unmarried women living with a partner (28.7%) and unmarried women living alone (15.1%; $p < .0001$). A greater proportion of women with zero live births (40.5%) were using a moderately effective method than women with three or more live births (21.0%; $p < .0001$). Additional results from bivariate analyses are displayed in Table 4.3.

Table 4.3. Selected characteristics of women at risk of unintended pregnancy by current contraceptive method (N = 2,839)[a]

Characteristic	Highly effective[b] (n=715 23.5%))	Moderately effective[b] (n=841 (32.7%))	Least effective[b] (n=461 (15.3%))	Non-use[b] (n=822 (28.5%))	*p* value
	%	%	%	%	
Age					**< .0001**
18-24	15.1	41.3	12.5	31.1	
25-29	25.3	36.8	16.0	21.9	
30-35	29.5	28.6	16.9	25.0	
36-39	22.8	27.7	17.7	31.9	
40-44	28.8	18.8	16.6	35.9	
Education Level					**.0407**
Less than high school	18.1	37.1	12.5	32.4	
High school or equivalent	22.3	35.9	13.3	28.6	
Some college	22.3	28.2	15.5	34.0	
Associate's or Bachelor's Degree	23.9	35.5	17.6	23.1	
Graduate or Professional Degree	28.8	30.0	13.7	27.6	
Race / Ethnicity					**.0488**
Non-Hispanic White	24.4	34.3	15.2	36.2	
Non-Hispanic Black	23.7	31.1	14.0	31.2	
Non-Hispanic Other	10.9	32.1	23.1	33.9	
Hispanic / Latina	21.2	20.8	18.8	39.2	
Marital Status					**< .0001**
Married	30.6	26.5	20.2	22.8	
Unmarried, Living with Partner	28.7	33.4	17.2	20.8	
Unmarried, Not Living with Partner	15.1	36.9	10.7	37.3	
Importance of Religion					.1991
Very important	23.5	31.1	14.9	30.5	
Somewhat important	19.9	35.7	15.8	28.6	
Not important	26.9	32.9	17.3	22.8	
Number of Live Births					**< .0001**
0	13.9	40.5	13.7	32.0	
1	28.3	29.0	17.0	25.8	
2	36.5	23.0	19.2	21.2	
3+	34.2	21.0	14.4	30.3	

History of Abortion					**.0074**
Yes	34.1	25.7	19.6	20.6	
No	21.8	33.8	14.9	29.4	
State of Residence					.2664
Alabama	22.1	33.8	14.0	30.1	
South Carolina	24.4	31.6	16.8	27.1	
Health Insurance Coverage					**.0003**
Private	23.5	36.5	15.0	25.1	
Public	26.4	32.3	14.5	26.8	
Other	25.5	30.9	15.8	27.8	
Uninsured	20.0	17.2	15.9	47.0	

[a] After creating mutually exclusive categories, there was some missing data (n=138) for this variable among women at risk for unintended pregnancy.

[b] Using definitions from the Centers for Disease Control and Prevention, methods were categorized as highly effective (partner vasectomy, intrauterine devices, subdermal implants), moderately effective (pill, ring, patch, injection), least effective (male condoms, female barrier methods, withdrawal, natural family planning, emergency contraception, or other method indicated) and non-use.

Most women in the sample agreed that safe, effective, and affordable methods of abortion care should be available to women in their community (56.0%), while smaller proportions agreed (27.0%) or neither agreed nor disagreed (16.7%). Table 4.4 presents variations in attitudes toward abortion access by participant characteristics and current contraceptive use. With exceptions of age and health insurance coverage, all participant characteristics assessed in χ^2 tests were significantly associated with attitudes toward abortion access. In particular, a greater percentage of women with a graduate or professional degree (65.6%) agreed that safe, effective, and affordable methods of abortion care should be available than women with high school education or equivalent (40.1%; $p < .0001$). Further, greater percentages of unmarried women living with a partner (62.1%) and living alone (60.3%) agreed that safe, effective, and affordable methods of abortion care should be available compared to married women (46.5%; $p < .0001$). A greater percentage of women who indicated religion was not important in daily life (89.9%) agreed that safe, effective, and affordable methods of abortion care should be available to women than those who indicated religion was very important in daily life (41.7%; $p < .0001$). Moreover,

a greater proportion of women with zero live births (63.4%) agreed that abortion should be available to women in their community when compared to women with one or more live births ($p < .0001$). Current contraceptive use was significantly associated with attitudes toward abortion access, with a greater percentage of current contraceptive users (58.4%) agreeing that safe, effective, and affordable methods of abortion care should be available than contraceptive non-users (51.2%; $p = .0338$).

Table 4.4. Selected characteristics of women at risk of unintended pregnancy by abortion attitude[a] (N = 2,977)

Characteristic	Agree (n = 1,522 (56.0%)) %	Neutral (n = 471 (16.7%)) %	Disagree (n = 981 (27.0%)) %	*p* value
Age				.4811
18-24	59.1	14.6	26.3	
25-29	52.1	19.3	28.7	
30-35	58.0	15.8	26.2	
36-39	52.0	20.7	27.3	
40-44	56.3	15.8	27.9	
Education Level				**< .0001**
Less than high school	49.7	15.3	35.0	
High school or equivalent	40.1	23.2	36.6	
Some college	59.9	15.1	25.0	
Associate's or Bachelor's Degree	57.5	18.1	24.5	
Graduate or Professional Degree	65.6	10.6	23.8	
Race / Ethnicity				**< .0001**
Non-Hispanic White	52.8	14.7	32.5	
Non-Hispanic Black	60.1	22.3	16.6	
Non-Hispanic Other	64.2	16.6	19.2	
Hispanic / Latina	59.6	9.9	30.5	
Marital Status				**< .0001**
Married	46.5	16.9	36.6	
Unmarried, Living with Partner	62.1	16.9	21.0	
Unmarried, Not Living with Partner	60.3	17.0	22.7	
Importance of Religion				**< .0001**

Very important	41.7	20.0	38.3	
Somewhat important	62.4	17.3	20.3	
Not important	89.9	4.7	5.3	
Number of Live Births				**< .0001**
0	63.4	16.0	20.6	
1	53.5	16.1	30.4	
2	46.8	16.7	36.4	
3+	40.0	18.8	41.2	
History of Abortion				**< .0001**
Yes	82.7	13.4	3.9	
No	52.4	16.8	30.8	
Current Contraceptive Use				**.0338**
Yes	58.4	16.2	25.3	
No	51.2	17.6	31.2	
Current Contraceptive Method Type[a]				.6515
Highly effective	57.0	15.8	27.2	
Moderately effective	56.9	17.3	25.8	
Least effective	58.6	15.1	26.3	
Non-use	51.8	17.2	30.9	
State of Residence				**.0015**
Alabama	51.1	18.1	30.9	
South Carolina	60.7	15.7	23.6	
Health Insurance Coverage				.4812
Private	58.4	15.3	26.2	
Public	52.7	17.4	29.9	
Other	51.1	21.8	27.2	
Uninsured	56.8	14.1	29.1	

[a] Using definitions from the Centers for Disease Control and Prevention, methods were categorized as highly effective (partner vasectomy, intrauterine devices, subdermal implants), moderately effective (pill, ring, patch, injection), least effective (male condoms, female barrier methods, withdrawal, natural family planning, emergency contraception, or other method indicated) and non-use.

In the first regression model, current contraceptive use was significantly associated with attitudes toward abortion access (Table 4.5). When adjusting for age, education level, race/ethnicity, marital status, importance of religion, number of live births, history of abortion, state of residence, and health insurance coverage, contraceptive users were significantly more likely to agree safe, effective, and affordable methods of abortion care should be available to women in their community compared to contraceptive non-users (aOR 1.43, 95% CI: 1.00-2.04).

In the second regression model, current contraceptive method type was not significantly associated with attitudes toward abortion access when adjusting for age, education level, race/ethnicity, marital status, importance of religion, number of live births, history of abortion, state of residence, and health insurance coverage (Table 4.6).

Table 4.5. Adjusted odds of abortion attitude by current contraceptive use

Characteristic	Neutral vs Disagree[a]	Agree vs Disagree[a]
	aOR [95% CI]	aOR [95% CI]
Current Contraceptive Use		
Yes	1.14 [0.77-1.69]	**1.43* [1.00-2.04]**
No	REF	REF

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; REF = reference

[a]Three levels of this abortion attitude were designated: agreement (strongly agree/agree), neutral (neither agree nor disagree), or disagreement (disagree/strongly disagree). Participants were asked to respond to the statement: *Safe, effective, and affordable methods of abortion care should be available to women in their community*.

*Notes: Bolded values are significant at $p < .05$; model adjusted for age, education level, race/ethnicity, marital status, importance of religion, number of live births, history of abortion, state of residence, and health insurance coverage.

Table 4.6. Adjusted odds of abortion attitude by current contraceptive method type

Characteristic	Neutral vs Disagree[a]	Agree vs Disagree[a]
	aOR [95% CI]	aOR [95% CI]
Current Contraceptive Method Type[b]		
Not Effective / Non-Use	REF	REF
Least Effective	1.22 [0.66-2.28]	1.45 [0.90-2.32]
Moderately Effective	1.14 [0.72-1.82]	1.37 [0.89-2.10]
Highly Effective	1.31 [0.78-2.22]	1.36 [0.87-2.12]

Abbreviations: aOR = adjusted odds ratio; CI = confidence interval; REF = reference

[a]Three levels of this abortion attitude were designated: agreement (strongly agree/agree), neutral (neither agree nor disagree), or disagreement (disagree/strongly disagree). Participants were asked to respond to the statement: *Safe, effective, and affordable methods of abortion care should be available to women in their community.*

[b] Using definitions from the Centers for Disease Control and Prevention, methods were categorized as highly effective (partner vasectomy, intrauterine devices, subdermal implants), moderately effective (pill, ring, patch, injection), least effective (male condoms, female barrier methods, withdrawal, natural family planning, emergency contraception, or other method indicated) and non-use.

*Notes: Bolded values are significant at $p < .05$; model adjusted for age, education level, race/ethnicity, marital status, importance of religion, number of live births, history of abortion, state of residence, and health insurance coverage.

4. Discussion

About two-thirds of our sample indicated current use of any contraception, falling well below recent national estimates indicating that 90% of women at risk for unintended pregnancy are current contraceptive users [22,23]. However, results from one analysis showed that contraceptive use in this at-risk group is lower in states across the Southeastern U.S., including both Alabama and South Carolina, where 76% reported current contraceptive use [24]. Results of this study also show that a majority of women support access to safe, effective, and affordable methods of abortion care for women in their community. Moreover, our analyses showed a significant association between current use of any contraception and abortion attitude. Particularly, women who were using a contraceptive method were more likely to agree that safe, effective, and affordable methods of abortion care should be available to women in their community compared to women who did not indicate current contraceptive use. In other words, contraceptive users were more likely to have a positive attitude toward abortion access when compared to contraceptive non-users in our sample of women at risk of unintended pregnancy. We highlight this particular finding because, as mentioned above, women at risk for unintended pregnancy who do not report contraceptive use comprise a majority of unintended pregnancies [5]. If a woman's contraceptive non-use results in experiencing an unintended pregnancy, she will have to decide whether to carry the pregnancy to term or pursue an option to terminate the pregnancy, which involves consideration of attitudes toward abortion as well as individual life

circumstances. Though this study did not assess the desire to pursue abortion care and its relationship to current contraceptive use, it is important to investigate the extent to which women's contraceptive attitudes and behaviors impact and/or predict abortion attitudes, desires, and care-seeking behaviors. Future research should aim to further explore these constructs and their relationships, specifically among women at risk for unintended pregnancy who want to avoid pregnancy. Still, regardless of women's contraceptive use or abortion attitudes, state policymakers in many Southern states continue to restrict abortion access, including states relevant to this study [25]. Based on the results of this study, it is apparent that state policymakers in Alabama and South Carolina are creating abortion legislation that does not necessarily reflect the views of their constituents at risk for unintended pregnancy. Future studies should evaluate the extent to which abortion restrictions impact contraceptive use abortion attitudes in states where abortion is most restricted, as women may soon see significant limitations in their abilities to make reproductive decisions that best suit their life circumstances. In addition, researchers should seek to understand the extent to which policymakers consider the views of their constituents, specifically those who may be directly impacted by policy decisions, when crafting and voting on legislation impacting women's reproductive health choices.

Our findings also highlight sociodemographic characteristics significantly associated with contraceptive use and attitudes toward abortion access, specifically age, education level, race/ethnicity, marital status, importance of religion in daily life, and health insurance coverage. In particular, when compared to women of other racial and ethnic groups, a greater proportion of non-Hispanic white women were using any form of contraception, and a smaller proportion indicated support for access to safe, effective, and affordable methods of abortion care. Furthermore, women who found religion to be important in their daily lives were less likely to be

using a method of contraception and less likely to indicate support for access to safe, effective, and affordable methods of abortion care. These findings suggest that there are factors within the context of women's life circumstances that could significantly impact or even predict certain reproductive choices such as contraceptive use and abortion care-seeking. Moreover, enhanced understanding of sociodemographic differences in contraceptive use and abortion attitudes would allow for more inclusive, culturally relevant and tailored counseling strategies to provide the full range of options for preventing or terminating pregnancies to reproductive-aged women.

We noted several limitations of this study. First, our study population of women at risk for unintended pregnancy living in Alabama or South Carolina limits generalizability to the entire U.S. population of reproductive-aged women. Additional research is needed to determine if contraceptive use and abortion attitudes (and the relationship between them) among women in these two states are comparable to the general population. Second, we assessed contraceptive use and abortion attitude cross-sectionally in this exploratory study. In knowing that contraceptive use and method choice and abortion attitude could change over time, we recognize the need to longitudinally explore the dimensions of these constructs to further understand their relationship.

However, this study certainly had several strengths. To our knowledge, this is one of few studies to assess the relationship between current contraceptive use and abortion attitude among women at risk for unintended pregnancy. These constructs, as well as their relationship, are particularly important among women living in states like Alabama and South Carolina, where abortion restrictions are prevalent, thereby limiting options for a woman to terminate a pregnancy. A second strength of this study is a sample size that is both large and representative of women at risk for unintended pregnancy in Alabama and South Carolina.

The results of this study are especially significant to public health and health care practitioners working in the field of reproductive health. We found that current contraceptive users were significantly more likely to support access to safe, effective, and affordable methods of abortion care compared to women who were not using any form of contraception. However, as noted, women may alter their use of contraception or change their attitude toward abortion over time. We also found that several sociodemographic characteristics were significantly associated with contraceptive use and attitudes toward abortion access respectively. Reproductive health care providers, in particular, should carefully consider women's contraceptive use, their abortion attitudes, and their life circumstances altogether to offer appropriate and comprehensive counseling and education on reproductive choices to women at risk for unintended pregnancy, especially to those living in U.S. states where options to prevent or terminate a pregnancy are vastly limited.

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Chapter 5. Conclusion

Abortion is a safe and legal option to terminate a pregnancy for women in the U.S. About one in four women will have an abortion in her lifetime, and in 2017, just over 860,000 abortions were provided in clinical settings, a 7% decline from 2014 (Guttmacher Institute, 2019a, 2019c; Jones & Jerman, 2017a, 2017b). Despite its legality, safety, and incidence, abortion has remained a highly contentious issue in public discourse since 1973, when the Supreme Court recognized it as a woman's right and choice in *Roe v. Wade* and *Doe v. Bolton* (Beckman, 2016). Furthermore, many states have exercised their authority to restrict abortion access through various policy initiatives since *Roe* and *Doe*, with well over 1,000 abortion restrictions passed since 1973 (Guttmacher Institute, 2016). In contrast, some states have worked to protect abortion rights for women of reproductive age. According to the Guttmacher Institute (2019b), over half (58%) of reproductive-aged women currently live in states considered hostile toward abortion, while 36% currently live in states that are supportive of abortion, and 6% live in "middle-ground" states. The prevalence of state-level abortion restrictions, particularly in "hostile" states like Alabama and South Carolina, in recent years suggests that public opinion supports restricting access to abortion. However, previous studies and polls have measured abortion attitudes dichotomously (i.e., pro-life versus pro-choice), effectively forcing individuals to choose one stance or the other. Research examining the nuances of Americans' abortion attitudes and perceptions, specifically among women of reproductive age, is lacking. Furthermore, while other constructs specific to women's reproductive choices, such as attitudes toward pregnancy and contraceptive use, have been explored in depth, there have been no concerted efforts to examine these constructs in relation to abortion. Enhanced understanding of pregnancy and abortion attitudes and contraceptive use as well as the social and ecological factors that influence reproductive

decision-making would help to better inform public health and health care professionals as well as policymakers on reproductive-aged women's thoughts about key issues in sexual and reproductive health. This information could be used to develop appropriate strategies for providing women with ample options to safely plan, prevent, or terminate pregnancies as they desire.

Briefly, the current research aimed to: 1) explore knowledge and perceptions around abortion access and safety among reproductive-aged women living in Alabama and South Carolina using thematic analysis; 2) examine the potential association between pregnancy avoidance and abortion attitudes among reproductive-aged women living in Alabama and South Carolina; and 3) examine the possible association between current use of contraception and abortion attitudes among reproductive-aged women living in Alabama and South Carolina.

Results from the first study showed distinct thematic variations in perceptions of abortion access and safety. While many women perceived abortion access as essentially unrestricted, others noted the various barriers that could work to restrict abortion access in their state. Similarly, some perceived abortion as a safe process performed in a controlled environment by a licensed physician, while about one-third of respondents perceived abortion as somewhat or very dangerous in their state. A number of open-ended responses also reflected personal sentiments or testimonies about abortion access or safety, respectively. To some extent, open-ended responses varied by state of residence. Of note, Alabama participants more commonly indicated social, cultural, and religious barriers to abortion access compared to South Carolina participants. In addition, open-ended responses from South Carolina participants more often reflected perceptions of abortion as a legal option that is regulated and offered in a controlled environment by a licensed physician compared to Alabama participants.

Results from the second study showed that a majority of women at risk for unintended pregnancy found it important to avoid pregnancy and agreed that safe, effective, and affordable methods of abortion care should be available to women in their community. Women who found it important to avoid pregnancy were significantly more likely to have a positive attitude toward abortion access compared to women who were either ambivalent toward pregnancy avoidance or found it unimportant to avoid pregnancy. Findings also indicated significant associations between several sociodemographic characteristics and pregnancy avoidance and abortion attitudes, specifically education level, race/ethnicity, marital status, importance of religion in daily life and health insurance coverage.

Results from the third study showed that a majority of women at risk for unintended pregnancy currently used a form of contraception and agreed that safe, effective, and affordable methods of abortion care should be available to women in their community. Compared to contraceptive non-users, current contraceptive users were significantly more likely to have a positive attitude toward abortion access. Study findings suggest that there are factors within the context of women's life circumstances that may significantly impact or even predict certain reproductive choices such as contraceptive use and abortion care-seeking. Study results also show significant associations between sociodemographic characteristics and contraceptive use and abortion attitudes, namely age, education level, race/ethnicity, marital status, importance of religion in daily life, and health insurance coverage. Of note, when compared to women of other racial and ethnic groups, a greater proportion of non-Hispanic white women were using any form of contraception. Furthermore, women who found religion to be important in their daily lives were less likely to be using a method of contraception and less likely to indicate support for access to safe, effective, and affordable methods of abortion care.

Findings from the second and third studies have implications relevant to the substance of family planning services provided to women of reproductive age in Alabama and South Carolina. While feelings about pregnancy and possible actions to prevent a pregnancy are typical topics of conversation between family planning providers and their patients, abortion is generally not considered a method of family planning, especially in Title X clinics, where providers are not permitted to counsel patients on abortion nor refer them for abortion-related care (U.S. Department of Health and Human Services, 2019). We found that a feeling about preventing a pregnancy (i.e., pregnancy avoidance) and an action taken to prevent pregnancy (i.e., contraceptive use) were independently associated with an attitude toward abortion access. Taken together, these findings support the practice of viewing pregnancy, contraception, and abortion on the same family planning continuum, from preconception and pregnancy prevention to conception and options for continuing or terminating a pregnancy. Dehlendorf and colleagues (2019a, 2019b) have worked to address the underlying needs for patient-centered, comprehensiveness family planning care and shared decision-making around pregnancy prevention through the development and implementation of the *My Birth Control* contraceptive decision support tool. Researchers found that the *My Birth Control* decision support tool heightened patient experiences with contraceptive counseling and improved overall contraceptive knowledge (Dehlendorf, 2019a). However, the support tool only facilitated discussions around pregnancy and contraception. Based on the findings from this research, it may be beneficial for family planning providers to initiate conversations about abortion in addition to utilizing patient-centered approaches similar to that of the *My Birth Control* intervention. As the impacts of restrictions on abortion access become even more salient, it will be essential for reproductive health care providers to normalize dialogue around pregnancy,

contraception, and particularly, abortion in their patient-centered, comprehensive family planning practices.

There were several limitations of this research. First, each study sample included women living only in Alabama or South Carolina, which limits the generalizability of the results to all women of reproductive age living the in the U.S. Second, we analyzed data collected cross-sectionally. The variables of interest to this research (individual attitudes toward and perceptions of abortion, pregnancy avoidance, and contraceptive use) could reasonably change or become more nuanced over time with shifting individual life circumstances. Still, these studies represent novel contributions to the field of reproductive health and the first attempts to explore and contextualize abortion attitudes and perceptions of reproductive-aged women living in Alabama and South Carolina. This research could be expanded and strengthened through three future studies that each work to address key limitations mentioned above.

Future Study 1: In-Depth Exploration of Abortion Perceptions

This research explored perceptions of abortion access and safety, constructs which have not been investigated in depth previously. Future studies should be designed to elicit detailed information on reproductive-aged women's perceptions of abortion access and safety in addition to traditional fixed-choice survey responses. Researchers might consider using mixed methods to capture both quantitative and qualitative survey responses to crucial questions about abortion access and safety in states across the U.S. In particular, it would be worthwhile to compare perceptions of abortion access and safety among women of reproductive age living in states supportive of abortion versus states hostile toward abortion. In doing so, researchers could gain

insights into the potential effects of state-level abortion legislation on women's perceptions of abortion access and safety.

Future Study 2: Longitudinal Data Collection

This research also examined pregnancy avoidance, contraceptive use and attitudes toward abortion access in a snapshot of time (i.e., cross-sectionally). To strengthen the current evidence base on abortion attitudes, a future study could aim to longitudinally explore the dimensions of pregnancy avoidance, contraceptive use, and abortion attitudes to further understand these constructs and their relationships. This prospective study could utilize the same survey instrument described in the second and third studies above but collect data at multiple points across time (e.g., annually or biannually) in order to account for shifts in pregnancy and abortion attitudes and contraceptive use. In addition, study investigators might consider developing scales of pregnancy and abortion attitudes to provide opportunities to evaluate more comprehensive measures of each construct and their relationships to one another and with contraceptive use.

Future Study 3: Policymaking and its Impact on Abortion Access

Results from all three studies described above highlight the disconnect between reproductive-aged women's abortion attitudes and perceptions and policymakers' decisions around abortion legislation in Alabama and South Carolina. Understanding women's attitudes toward abortion is crucial for policymakers, who are appointed to develop policies and make decisions that reflect their constituents' views, specifically women of reproductive age at risk for unintended pregnancy. For instance, it is unclear whether policymakers rely on scientific evidence to develop or vote on abortion legislation or if they simply "vote their conscience" or

use anecdotal evidence to make abortion policy decisions. A future study could aim to understand the rationale behind reproductive health policymaking and the impact of specific policy decisions on abortion access in states in the Southeastern U.S. This prospective study could utilize qualitative methods (e.g., semi-structured interviews with state legislators in Alabama and South Carolina) to better understand decision-making processes around abortion and other reproductive health-related policies at the state level.

Implications for Practice and Policy

Findings from this research are pertinent to public health professionals, health care providers and policymakers alike. Understanding the factors involved in pregnancy, contraception, and abortion decision-making processes is essential in order to provide appropriate and comprehensive counseling and education on reproductive choices to women at risk for unintended pregnancy, especially those living in states like Alabama and South Carolina, where options to prevent or terminate pregnancy are severely limited. Given that women of reproductive age are directly involved in decision-making around pregnancy, contraception, and abortion, there are clear opportunities for key stakeholders in reproductive health and health policy to unite in efforts to create woman-centered practices, programs, and policies to meet the reproductive health needs of the women they serve.

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