Intersectional Inequality in Reproductive Health in the United States

By

Kelsey Q. Wright

A dissertation submitted in partial fulfillment of

the requirements for the degree of

Doctor of Philosophy

(Sociology)

at the

UNIVERSITY OF WISCONSIN-MADISON

2022

Date of final oral examination: May 26, 2022

The dissertation is approved by the following members of the Final Oral Committee:
Jenna E. Nobles (chair), Professor, Sociology
Monica Grant, Professor, Sociology
Tiffany Green, Assistant Professor, Population Health Sciences
Anthony R. Hatch, Associate Professor, Science in Society, Wesleyan University
Emily S. Mann, Associate Professor, Health Promotion, Education, and Behavior, University of South Carolina
Christine Schwartz, Professor, Sociology

TABLE OF CONTENTS

DEDICATION iii
ACKNOWLEDGEMENTS iv
ABSTRACT vii
Introduction 1
  Reproduction 1
  Guiding Theories and Concepts 2
  Dissertation Overview 16
CHAPTER 1. The Discursive Construction of Pregnancy as a Social Problem in Hearings on Welfare Reform 19
  Introduction 19
  Background 22
  Data and Methods 29
  Results 35
  Conclusion 59
  Tables and Figures 61
  Appendix 1: Codebook 64
CHAPTER 2. Exposure to Extreme Heat and Inequities in Birth Outcomes Over Time 66
  Introduction 66
  Background 71
  Methods 79
  Analytic Strategy 84
  Results 85
  Discussion 91
  Conclusion 94
  Tables and Figures 97
CHAPTER 3. "It changed the atmosphere surrounding the baby I did have": Making sense of reproduction during the COVID-19 pandemic 103
  Introduction 103
  Background 105
  Methods 118

Results 122
Discussion 132
Conclusion 138
CONCLUSION 141
REFERENCES 148

DEDICATION

The labor, thought, and emotion that went into this dissertation is dedicated to Katie Unthank, who makes her own justice every day by living radiantly and never ceasing to fight for what is right. Her fierce feminisms and commitment to justice inspired much of the deeper thinking that went into this work, and she inspires me every day with her radical existence.

It is also dedicated to my grandmother and grandfather, Patsy and Harold Wright. To my grandmother, who had what it took to become an age-defining scientist, but not the circumstances to do so. And to my grandfather, who was more curious about people than anyone I've ever met, and who fed my own curiosity.

ACKNOWLEDGEMENTS

There is truth in proverbs, and the two that stick out to me about the process of undertaking Ph.D. studies are that "it takes a village" and that "a good dissertation is a done one." I've had so much support from my "villages" along the way, from the listening and reading done by my parents, Julie Quinn and David Wright, to the supportive texts and questions from my extended family, and to the emotional, logistical, and epistemological support from my found families.

I must first and foremost say thank you to Jenna Nobles, who not only made sure that my dissertation was done, but that it was done well, thoughtfully, and in my own way. I can't imagine a better mentor who encourages interdisciplinary thinking and deep work. An additional special thanks to Emily Mann, who offered me an intellectual community to think about reproduction when I didn't have one, and who has generously been there when I needed support, a research idea sounding board, or advice on how to make my work better (which it always is after speaking to her). Thanks as well to the rest of my committee: Monica Grant, Tiffany Green, Tony Hatch, and Christine Schwartz. You've each had a profound effect on my intellectual and academic trajectory in different ways for which I will always be grateful. I would also like to thank Russell Dimond for his patience and never-ending help with getting my analyses just right every time.

I've had several amazing communities in which I found my intellectual homes. I must thank Ginger Berndt, Anna Chatillon, and Lisa Raeder for not only reading and commenting on my work with great thought and alacrity, but also for being willing to share their own work while it was still being developed. I've learned so much from all of you over the past few years and I look forward to seeing you for more zoom calls, across time and space. I've also extremely benefited from a writing group that came out of the anniversary conference for a seminal book

on reproduction organized by Rene Almeling. To Amy Alterman, Alyssa Basmajian, Alice Cartwright, Elise Higgins, Genesis Luigi, and Sarah Williams: you have been there not only to support me as I moved through the academic process but also as friends and family during some of the hardest times for personal, policy, and social changes occurring while we've known each other. I've said it before, but I'll say it here again, it has been such a gift to get to know each of you and to have so many friends doing amazing work who I feel so connected to. Thank you so much for your support during these hard times for reproductive justice. Finally, the FemSem group at the University of Wisconsin, Madison, has provided so much support, feedback, and connection while working through grant applications, research projects, papers, and abstracts. To this group of amazing students, and in particular, Ruby Bafu, Lindsay Cannon, Kristina Fullerton, Frankie Frank, Maddy Garcia, Annaliese Grant, Youbin Kang, Jungmyung Kim, Anita Li, Morgan Matthews, and Emma Romell, thank you from the bottom of my heart for sharing your insights and time over the years. I also want to thank my CDE office mates, Julie Goodwin, Yiyue Huangfu, Wontak Joo, Jia Wang, and Leafia Ye for our shared tribulations and triumphs over the years.

As with any endeavor, my found family has made the difference between my sanity being marginally intact versus decimated by the completion of my Ph.D. To my lifelong sisters, Tamara Marzouk and Val Scott, I thank and love you so much for the support texts, calls, and thoughtful notes which always came at times that I desperately needed them and were the exact boost I needed to keep going. To my great friend and colleague, Vicky Boydell, whose anthropologist mind always knows what I'm talking about, even when I don't, and whose ideas for new work never cease to amaze. Thank you for your friendship, time, and willingness to take international calls over the years. Finally, to my Baltimore family, new and old: it has been a gift

to be with you and your families while I finished my final year of my dissertation, one which I wouldn’t take back for the world. I’ve learned so much about love and family this year and have gotten so much love and support in return. To Charles Arthur, Kate Grabowski, Erica Kern, April Truelove, Linnea Zimmerman, and Adam, Sasha, Rane, Lulu, Penny, Roz, and Brady, thank you for sharing these gifts with me.

ABSTRACT

In this dissertation, I use reproduction as a site of inquiry to investigate forms of inequality in the United States, including inequalities in gender, race, and class. Across the three independent but interrelated studies, I investigate how discourse, context, and norms structure the experience of reproduction by focusing on the ways that relations of power—whether discursive or institutional—constrain or expand the conditions for reproductive justice over time and space.

In the first study, I analyze transcripts of congressional hearings on welfare reform. I investigate how policymakers co-constitute pregnancy and welfare as "problems" related to social degradation and child harm, where proposed solutions are alternatively preventative or punitive. I describe how construction of this problem is gendered and racialized. The language of cultural racism is invoked to describe young, single, mothers as responsible for a decline in morality and young fathers as lacking accountability. The results demonstrate specific rhetorical strategies that actors in the policymaking process of reforming welfare relied on to construct welfare pregnancies as "problems" against a normative construction of a White, middle-class, heterosexual, consumption-based family unit.

In the second study, I use restricted birth data from the National Vital Statistics System and meteorologic data from the National Oceanic and Atmospheric Administration to examine how racial and socioeconomic variation in exposure to climate change contribute to inequities in birth outcomes—markers of early-life health that appear consequential for health and wellbeing into adulthood. Using econometric tools, I find that exposure to extreme relative heat in the first trimester worsens most birth outcomes for most race-SES-exposure groups, while exposure to relative heat in the third trimester has some beneficial and equalizing effects on birth outcomes.

In the third study, I use data from in-depth interviews conducted during the COVID-19 pandemic lockdown, defined as March to October 2020, to examine social schemas participants used to understand and interpret their partnership and childbearing experiences and desires. In the context of the pandemic lockdown, a profound event that shaped much about peoples' everyday realities, respondents drew heavily on existing narratives that reinforced heterosexual, social, and medicalized hierarchies to make sense of reproductive experiences. In this way, respondents aligned reproduction with behavioral and socialization frameworks that *counter* the "planful" paradigm of reproductive decision-making widely used in demographic scholarship.

Introduction

Reproduction

Reproductive norms, practices, and processes are potent sites for the reproduction of historical legacy, group identities, and social statuses. Institutions in the United States have a history of reproductive violence against marginalized people (i.e., through forced sterilizations, encouraging Norplant use, forced adoption, and denial of maternal and child health programs for women of color and poor women) (Dehlendorf et al 2013; Roberts 1997). The abuses emerging from these patterns aren't limited to historical contexts or interactions with medical institutions; they also have direct impacts on individuals,' families,' and communities' well-being, health, and everyday lives. Although there are hopeful movements in the United States centered around Reproductive Justice frameworks, legacies of reproductive coercion have created unequal patterns of reproduction across racial and class lines that persist today (Roberts 1997).

Women's reproductive bodies are often imbued with characteristics of "public property," as they can come to symbolically embody generational and national futures (Waggoner, 2017). To monitor, control, and diagnose the reproductive body is to impose and maintain social order— "pregnancy crystallizes concerns about gender, female identity, motherhood, and work, as well as hopes and fears for children—the next generation, the 'future' of society" (Armstrong, 2003, pp. 17). Through emerging biomedical, risk, and neoliberal discourses, women are asked to bear the responsibility of enacting hegemonic moral motherhood ideologies to "protect" the assurance of population renewal, which, in the global "West," is inherently tied to renewing *White* populations (Waggoner, 2017). This focus on the morality and responsibility of mothers to reduce risk ignores how widespread social problems, such as structural racism, limited access to healthy institutions, unlivable wage labor standards, and the spatially and socially entrenched aftermath of slavery in the United States can affect individual and community experiences of

reproduction (Davis, 2019; Waggoner, 2017). It additionally ignores how hegemonic norms—around motherhood, sexuality, race, class, etc.—come to be internalized, enacted, and resisted to (re)produce paradigms of reproduction.

The goal of this dissertation is to employ a variety of data sources and analyses to explore intersectional experiences of reproductive desires and norms and to better understand the structural constraints that define the conditions of reproductive justice. By exploring these norms and constraints, I reveal conditions that make resistance and the realization of reproductive justice more or less possible in different situations, contexts, and among varying relations of power.

Guiding Theories and Concepts

Intersectionality

Definitions

Intersectionality has been alternatively and simultaneously heralded as a critical analytic framework, a theoretical framework, concept, paradigm, heuristic device, broad knowledge project, praxis, as an analytical and political tool, a field, and as an intervention against social reproductions of power (Crenshaw, 1989; McCall, 2005; Choo & Ferree, 2010; Alexander-Floyd, 2012; Bilge, 2013; Cho, Crenshaw, & McCall, 2013; Collins 2015). Many scholars have historically attributed the advent of intersectionality to an article authored by Kimberlé Crenshaw in 1989, and while Crenshaw articulated and enshrined the concepts underlying intersectionality *qua* intersectionality, hers, and others, work builds on decades of work by Black feminists. Intersectionality examines a theoretically infinite number of axes of oppression and emerged specifically from Black Feminist thought as a result of the idea that race and gender do not constitute additive, separate, categories (Crenshaw, 1989). Rather, social categories are co-

constructed to place individuals and communities closer or farther from systems of power. As Davis (2019) points out, inequalities between Black and White women in infant, child, and maternal mortality rates persist in the United States because the "tropes, practices, and beliefs" that emerge as an "enduring aftermath of slavery" ensure that institutional interest in reproductive equality is "much less stable and valued for Black women" (pp. 15). Occupying different historical, social, geographical, economic, and cultural positions offers different standpoints for understanding experiences of reproduction; one of the main functions of an intersectional approach is to resist the erasure of this specificity, the essentializing force which employs sweeping characterizations, and to take seriously the credibility of individual and community perspectives, particularly if they are marginalized (Cho, Crenshaw, & McCall, 2013).

Intersectionality as an analytic disposition has many of the features of "traveling theory": it is subject to definitional fluidity, defies a single unifying grand theory (it would be antithetical to seek one), and can and has been appropriated by actors seeking to gain status, authority, and recognition from "disciplining" intersectionality's knowledge projects (Collins, 2015). Importantly, intersectionality takes as a central goal the analysis of oppression; this viewpoint originated in work by critical Black feminists who argued that taking the oppressed position of Black women as an analytic starting point (where categories like race, class, nationality, sexuality, etc. are not separate from race or gender, but are co-constituted with them) centers the perspective of marginalized persons and examines interlocking matrices of oppression and privilege to better articulate situated perspectives and understand processes of othering and resistance (Cho, Crenshaw, & McCall, 2013; Collins, 2000; Collins, 2015; Crenshaw, 1989). This work seeks to clarify the processes of how power operates to limit certain groups and communities' freedoms and equalities and seeks to combat these inequalities via knowledge

production, activism, and pedagogy (Alexander-Floyd, 2012; Bilge, 2013). An intersectional framework approaches analyses by pursuing a description of systems of advantage and disadvantage based on social constructs of difference that explain power differentials (Ross & Solinger, 2017). These power differentials are historically specific, and their identification works to unravel causes of disparity that are obscured when the current construction of an issue is considered taken for granted (Bilge, 2013; Choo & Feree, 2010).

Defining Concepts

Some of intersectionality's notable aspects include the focus on and inclusion of multiply marginalized subjects in pedagogy and research, a focus on analytic interactions at sites of oppression, the institutional co-constitution of oppression, a considerable focus on identity, reflexivity on methodological and epistemological issues, and acknowledgement that social classes are reciprocally constructing phenomena, which in turn shape complex social inequalities organized by unequal material realities and distinctive social experiences (Bilge, 2013; Choo & Ferree, 2010; Collins, 2015). Several critical authors have argued that intersectionality consists of three main sets of concerns or projects related to power relations and social inequalities: 1) the examination of intersectionality as a specific field of study—for example, whether it has an essential subject and knowledge production practices; 2) intersectionality as an analytic strategy, which includes debates about appropriate methodologies and "intersectional ways of thinking about problems of sameness and difference in relation to power" (Cho, Crenshaw, & McCall, 2013); and 3) intersectionality as political intervention or critical practice (Cho, Crenshaw, & McCall, 2013; Collins, 2015). These different foci constitute part of what Collins (2015) terms the "definitional dilemma" of intersectionality—that the field can neither be defined so narrowly that it only reflects a narrow group of interests nor so broadly that it loses its critical meaning and

approach. These foci also constitute the basis for many of the critiques that have occurred in response to the use of intersectionality in academic research.

In the studies that follow, I approach intersectionality as an analytic tool to frame choices about methodology, subjects of interest, and to think about how power and oppression are revealed or obscured in specific instances. I employ historical discourse analyses, interview methodologies, and what McCall (2005) would call an "inter-categorical" statistical approach to examine the discursive mechanisms that actors use to establish authority and expertise, which allow for reproductive oppression to occur, how women in "unmarked" racial categories re-create modes of gender and medical oppression, and how race, class, and geography interact to produce different reproductive outcomes in the U.S. (Choo & Ferree, 2010). These studies draw on relationships of oppression that already exist among constituted social groups and works to understand how complexly patterned realities of oppression are expressed within these groups (McCall, 2005). By trying to reveal how oppression is operating in each study—by reinforcing taken-for-granted norms, various processes of cementing rhetorical authority, or via medical and geographic institutions—I hope to better document the reproductive violence done by racialized-gendered systems and offer potential options for future praxis.

Critiques

Many of the critiques aimed at recent uses of intersectional approaches focus on how purported adaptations of intersectionality often fail to connect the original vision of intersectionality grounded in oppression, political subjectivities, and ultimately, activism and practice to the work being undertaken (Bilge, 2013; Collins, 2015). These critiques suggest that many authors overlook the inherent liberatory project of intersectional work, and by attributing intersectionality to alternative movements—for example, to earlier, White-dominated feminist

movements—not only does such work miss the radical potential and deeper theory within intersectionality, it also serves as an erasure of the work undertaken by Black feminists to develop intersectional approaches (Alexander-Floyd, 2012; Bilge, 2013; Collins, 2015). These failures to link modern attempts at intersectionality to its historical roots often emerge from efforts to apply some sort of universality or grand theory to the use of intersectionality; a practice which defies intersectionality's roots in complexity and nuance (Bilge, 2013). By seeking to claim intersectionality is rooted in and applies to a broader audience (i.e., is applicable to White woman), some authors miss the core organizing points of intersectional theory, that *all* oppression is tied to the oppression of Black women because oppression is inherently co-constitutive with other social categories (Alexander-Floyd, 2012). These efforts can do violence to intersectional representation through epistemological claims, citation practices, and by defining orientations towards intersectionality based on the oppression of women of color as "content specialization" (Alexander-Floyd, 2012; Bilge, 2013). As Tomlinson (2013) states: "critics assume their task is to critique intersectionality, not to foster intersectionality's ability to critique subordination" (pp 996).

The practices described above are part of ongoing power struggles internal to specific fields and disciplines who seek to claim the "legitimate" definition of intersectionality (Bilge, 2013). In doing so, many actors also seek to "discipline" intersectionality in a practice that Bilge (2013) describes as more concerned with the institutional success of knowledge and authority over defining legitimate knowledge than with social change. By seeking to tie intersectionality to a specific discipline or way of knowing it becomes allied with neoliberal knowledge production in ways that not only de-historicize intersectionality, but also that neutralize the radical potential for justice-oriented change (Alexander-Floyd, 2012; Bilge, 2013). When the act of "disciplining"

allies knowledge production practices with neoliberalism (i.e., with the marketization, individualization, and responsibilization of academe), it allows for what Bilge (2013) terms "ornamental intersectionality." Ornamental intersectionality allows firms to enact market-based tokenization exploiting diversity, which accumulates value for economic institutions through improved public relations, without doing anything to address the underlying structural conditions that produce and reproduce injustice (Bilge, 2013).

A final main critique of modern intersectionality work is that existing analyses fail to incorporate actors and subjects who are in "unmarked" categories, or categories that are taken for granted as having authority, knowledge, and power—in the U.S. context, a good example is White males who are also wealthy (Choo & Ferree, 2010). By failing to incorporate unmarked social groups, the relationship between marked and unmarked groups where power relations are produced and recreated are obscured (Choo & Ferree, 2010). Carbado (2013), in defining the term "colorblind intersectionality" suggests that framing unmarked categories such as whiteness as being outside of intersectionality's purview legitimizes a broader ontology where groups of people in unmarked categories travel through life as neutral reference groups against which all others must be compared.

"Doing" intersectionality

Counter to the reductive tendencies found in some of the work critiqued by intersectional theorists, some current intersectional practitioners and critical researchers offer insights into how to undertake intersectional work in ways that honor its origins. A central concept in these recommendations is recognizing that social categories, while distinct, are always co-created with other categories within complex, structured, institutional power dynamics (Bilge, 2013; Cho, Crenshaw, & McCall, 2013). Thus, intersectional approaches to research require an

understanding that social categories are complex, never singular, and situated within historically contingent configurations of power and oppression (Bilge, 2013; Choo & Ferree, 2010). Recommendations for doing intersectionality "well" also include citing women of color as knowledge producers and examining one's own epistemological practices to ensure that the critical and radical history of intersectionality is not erased in practice (Alexander-Floyd, 2012; Bilge, 2013; Collins, 2015). They also include problematizing relations of power for unmarked social categories and ensuring that intersectionality is not represented as a universalizing tool in practice (Bilge, 2013; Choo & Ferree, 2010). Finally, critical praxis, or "knowledge that takes a stand, critiques social injustices that characterize complex social inequalities, imagines alternatives, and/or proposes viable action strategies for change" are essential for translating research on inequality to justice in the real world (Collins, 2015).

Reproductive Justice

<u>Definition</u>

Reproductive justice is "the application of the concept of intersectionality to reproductive politics in order to achieve human rights" (Ross & Solinger, 2017, pp.79). More specifically it is defined as "the human right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities" (Ross, 2017; Ross & Solinger, 2017). Like intersectionality, reproductive justice has multiple applications, all centered around unequal power relations, especially when those relations are produced by the state (Luna & Luker, 2013). This is the case because the state, in engaging in surveillance practices around poverty and reproduction, regulates reproductive futures by monitoring maternal "worthiness," which emerges from embedded assumptions about the otherness of race, class, nationality, gender, sexuality, and disability (*ibid*.). In particular, reproductive justice

offers a focus on the lack of safety—reproductive, physical, social—for oppressed persons and conceptualizes reproduction as spanning bodily self-determination, sexual autonomy, and the complex dynamics between an individual and their community (Ross, 2017). As Loretta Ross (2017) articulates reproductive justice, it is an "effort to bridge the gap between the actualities of our lives and the consciousness of our oppressors"; in doing this, reproductive justice propels knowledge projects that seek to undo the erasure of lived, oppressed perspectives.

History

The reproductive justice movement formed in 1997 when a coalition of organizations led by women of color launched a nonprofit called SisterSong to build a national reproductive justice movement in the U.S. in response to being marginalized in reproductive rights movements, which had historically focused on rights and issues related to middle-class White women. In particular the right to become a mother, long taken-for-granted by middle class, heterosexual, White women, was challenged in order to reveal racial and class structures creating hierarchies of reproductive subordination through public policies, wealth, and laws (Ross, 2017). Actors in the reproductive justice movement challenged the rhetoric of choice, long used by White feminists to advocate for abortion (Luna & Luker, 2013). The concept of choice, and of privacy, upon which the original *Roe v. Wade* decision was based, primarily protected physician rights and those patients who had access to resources and autonomy that allowed for having choices and pursuing privacy. Many women were not accommodated by this perspective, as their fertility was either actively or passively surveilled when they participated in government support (and surveillance) for daily activities (Luna & Luker, 2013; Roberts, 2015). As quoted in Luna & Luker (2013), Fried (1990) states: "the decision to fight for choice rather than justice is, in itself, a decision to appeal to those who already have choices" (pp 9).

Rather than recognizing the existing system as oppressive and in need of change, the White/liberal feminist movement sought to gain equality, rather than justice, with White, heterosexual men (Luna & Luker, 2013). This approach failed to entertain the needs of people who experienced and were embedded in multiple oppressions, whose lives could not be disengaged from the daily violence of economic injustice, racism, and other inequalities (Luna & Luker, 2013). The legacy of the "choice" based approach has been that contemporary policy makers promote contraceptive methods, particularly long-acting ones, as sometimes the singular way to combat poverty by reducing the amount of taxpayer money spent on children who are dependent on welfare (Roberts, 2015). This practice is not only coercive to those who seek government benefits, it fails to address the underlying structural foundations of poverty and instead focuses on individual women, often poor, Black, or young, as the perpetrators of poverty (see Wright, 2020).

Theory & Principles

Human rights, including sexual and reproductive rights are afforded to every human being by virtue of being human. While the United States has not ratified many of the international human rights conventions, the rights outlined in these documents are still understood to be rights afforded to all humans. According to Ross and Solinger (2017), intersectionality is the process that allows individuals and communities to achieve these rights. Ross (2017) suggests that despite detractors, global human frameworks offer the most likely moral, political, and legal regime which can accomplish the goals of reproductive justice because these frameworks bring together justice movements in a unifying ideology based on shared humanity rather than identity categories. Ross also argues that despite the U.S. state being a blatant violator and non-signatory on rights treaties, this is not an inconsistency in approach

(2017). Rather, she argues that this is challenge for U.S. activists to address. By identifying and understanding intersectional experiences of social phenomena like reproduction, the conditions of reproductive justice become more apparent and available to those resisting oppression and fighting for justice. As Luna & Luker (2013) state: "reproductive justice simultaneously demands a negative right of freedom from undue government interference and a positive right to government action in creating conditions of social justice and flourishing for all."

Reproductive justice is also rooted in intersectionality frameworks, which are rooted in pivotal works by critical Black feminists and activists. These roots are seen in the reproductive justice movement in the affirmation and centering of marginalized voices, lived and embodied experiences, moving from silence into speech, and demanding to be heard as real, whole persons advocating for dismantling oppression and changes in power distributions (hooks, 1984; Ross, 2017). Reproductive justice roots itself in moral and political struggles to build a social justice movement that asks to dismantle the dichotomies of oppressor and oppressed and build communities where one's humanity is co-constituted with everyone else's (Onyebuchi Eze, 2010). In disrupting dichotomous epistemologies, reproductive justice practices challenge white supremacy, choice-life binaries, neoliberalism, and colonial practices of knowledge production (Ross, 2017). In undertaking such projects, interlocking systems of disadvantage and privilege begin to become unraveled and alternative futures where dignity and freedom are preeminent become possible (Ross, 2017).

Practice

In practice, reproductive justice takes many forms. It centers the scholarship and activism of women of color through methodological, citation, and pedagogical practices and affirms women of color as epistemological experts (Ross, 2017). Reproductive justice ways of being and

ways of knowing offer radical alternatives for relations within and between communities, thinking about generational and community responsibility where restorative (rather than retributive) justice is the mainstay (Ross, 2017). Alexis Pauline Gumbs (n.d.), in Loretta Ross' work (2017) is quoted as saying "those of us who nurture the lives of children who are not supposed to exist, who are not supposed to grow up, who are revolutionary in their very beings, are doing some of the most subversive work in the world" (pp. 190). Not only is raising children who are "marked" as other a radical practice of reproductive justice, it is part and parcel of reimagining and recreating flawed systems—where equality (traditionally sought by White feminists) seeks to integrate reproduction into existing systems, justice seeks change the system altogether (Ross, 2017). To this end, Ross (2017) argues that White allies successful engagement with reproductive justice requires challenging neoliberal discourses about individual responsibilities and rights and addressing white supremacy as an everyday ideology in local and global contexts. Finally, reproduction does not stand alone. Dorothy Roberts (2015) argues "true reproductive freedom requires a living wage, universal health care, and the abolition of prisons. Black women see the police slaughter of unarmed people in their communities as a reproductive justice issue. They recognize that…cutting short the lives of black youth violates the right of mothers to raise their children in healthy, humane environments…insist that American society must begin to value black humanity" (pp 81).

Life Course Theory

Main Principles

In his major work, *Children of the Great Depression: Social Change in Life Experience* (1974), Glen Elder Jr. began to articulate the emerging principles and concepts that he would later form into a life course approach to studying social psychology and demography. This book

examined how the ages and stages at which parents and children experienced major historical events like the Great Depression created path-dependent trajectories for their life courses. From this work emerged four defining principles of life course approaches to research: historical time and place, timing in lives, linked lives, and human agency (Elder, 1998). Historical time and place refer to the shaping of individual life courses by the ages and stages at which they experience historical events and places over their lifetimes (Elder, 1998). Timing in lives refers to the developmental impact of the timing of life transitions (or a succession of transitions) within a person's life; subsequent research has demonstrated that early experiences in life have enduring consequences by affecting later transitions or trajectories (Elder, 1998). As the life course progresses, advantages or disadvantages experienced with each transition, limited by opportunities in existing social structures, accumulate to help shape the path-dependent nature of life course transitions (Elder, 1998). Linked lives describes lives that are interdependent, and which share historical and social influences—these historically contingent networks shape the opportunities and constraints available within society (Elder, 1998). Finally, Elder (1998) describes the principle of human agency—that humans act and make their own choices within constrained historical and social structures to determine their own life course; however, not even advantages accumulated over the life course can ensure triumph over adversity if opportunity is not available in the prevailing society.

Organizing Concepts

As life course approaches seek to explore the pathways of entire life courses, there are many important orienting concepts that are included in these approaches, many of which address time, duration, and calendar or social age. One overarching concept within a life course approach is that of a trajectory—a pathway that takes place over an extended period of time and is defined

by movement through or across social age structures (Elder, 1985). Each trajectory is marked by a sequence of events or transitions—such events can be linked over stages or ages to examine path dependency, cumulative advantage or disadvantage, or the historical context for life events (Elder, 1985).

Transitions are positioned within trajectories and delineate a time span where specific life events occur that change the individual's state—for example, from being single to being married, from being unemployed to gaining a job, from being childless to being a parent, etc. (Elder, 1985). Because transitions are nested within trajectories, the distinctive form of the trajectory, including the temporal context of the individual (both calendar and social age), historical context, and stage of life, gives transitions meaning which in turn influence the dynamic processes of the trajectory (Elder, 1985). The concept of transitions embeds the importance of duration—the times between changes in state—which typically stand in for poorly understood explanatory processes (Elder, 1985).

Elder (1985) also articulates the importance of the interdependence between trajectories and transitions by arguing that multiple trajectories, or opportunities for trajectories, emerge from life courses differentiated by timing, historical context, and agency. For example, he describes how events that "off timed" from traditional ages and stages, particularly in the transition to adulthood, are known to have enduring effects across the life course—the interdependence of young adulthood and later adulthood is demonstrated in these early degrees of institutional social differentiation seen in late adolescence, which often determines later trajectories (Elder, 1985).

Turning Points

Elizabeth D. Hutchinson, in her 2019 textbook on life course approaches to social work, defines a turning point as a "time when major change occurs in the life course trajectory. It may involve a transformation in how the person views the self in relation to the world and/or a transformation in how the person responds to risk and opportunity. It serves as a lasting change and not just a temporary detour. As significant as they are to individuals' lives, turning points usually become obvious only as time passes" (pp 18). These refer to what Elder (1985) described as events that redirect paths within life course trajectories. He argues that these events must be evaluated using an understanding of their severity or duration, knowing what resources, beliefs, and experiences people are bringing to the situation, how the situation or event is defined, and understanding resulting lines of adaptation chosen from available alternatives (Elder, 1985). Understanding the severity or duration of event, knowing what people are bringing to the situation, and understanding how the event is defined influence what lines of adaptation (or available alternatives at the crossroads) are available to individuals, where similar events followed by different adaptations can lead to drastically different life course trajectories (Elder, 1985)

Additional work suggests that three types of life events serve as turning points: those that close or open opportunities, those that make a lasting change on the person's environment, and those that change a person's conception of self, beliefs, or expectations (Rutter, 1996). Additionally, transitions can become turning points if the transition involves family conflict, when it is "off time" (see above), when it is followed by unforeseen negative consequences, when the transition occurs within a crisis or is followed by a crisis, or when it requires exceptional social adjustments, often around health or family (Harevan, 2000). Importantly,

turning points in the life course, as subjectively assessed by individuals, can produce lasting shifts in life course trajectories, even encompassing reversals (Hutchinson, 2019).

Theory of Conjunctural Action

Conjunctures

Johnson-Hanks et. al (2011) in their articulation of the Theory of Conjunctural Action, draw on the work of Pierre Bourdieu and William H. Sewell to define conjunctures as short-term confluences of specific structural configurations within which action can occur. Conjunctures are temporary; they open a situation up to action and are resolved by people drawing on schemas and materials available to them to reinstall the previous state or open up social transformation to create new circumstances (Johnson-Hanks et. al, 2011). Schemas are mechanisms through which persons understand, represent, filter, and interpret situational input and which structure behavioral responses to events, including conjunctures (Johnson-Hanks et. al, 2011). These schemas are the consequence of power—cultural, economic, political—to define which ways of knowing and understanding the world are accessible based on the social structures one occupies. They do not inhibit individual agency in the moment, but situational constraints limit access to schemas and other decision-making tools when resolving conjunctures (Johnson-Hanks et. al, 2011). In this way, structural and individual patterns create macro and micro interactions that lead to path-dependent, or probabilistic, trajectories of the life course (Johnson-Hanks et. al, 2011).

Dissertation Overview

Although the data sources and methods of this dissertation vary, they all call upon notions of intersectionality to inform the research presented here. Chapter 1, “The Discursive Construction of Pregnancy as a Social Problem in Hearings on Welfare Reform,” employs an

historical discourse approach to analyze two case studies of hearings on pregnancy and welfare reform in the 1990s, prior to the passing of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which effectively dismantled federal cash-based assistance in the United States. This study examines how different actors in congressional hearings employ discursive strategies to define pregnancy and welfare as co-constitutive problems of social and moral decline, to define subjects of welfare as "bad" agents who do not effectively perform neoliberal governmentality functions, and to endorse preventative or punitive solutions aligned with committee members' ideological goals.

In Chapter 2, "Exposure to Extreme Heat and Inequities in Birth Outcomes Over Time," I use multiple population and ecological datasets to examine whether climate change and geographic distribution of racial identities and Medicaid usage produce intersectional, differential birth outcomes. Although there is a significant literature on environmental exposures and birth outcomes, this study draws on intersectionality, reproductive justice, and environmental justice frameworks to think about how population scholars can better imagine and operationalize nexuses of disadvantage that are constantly in flux. By combining demographic population change with climate change, I demonstrate how extreme relative heat exposure can produce differential associations with birthweight and gestational age among different racial and insurance-user groups. This work sets the stage for additional research that can examine neighborhood and geographic constraints in adaptation by measures of inequality.

In Chapter 3, "Making sense of reproduction during the COVID-19 pandemic," I investigate how women in a demographically dense period of their lives (ages 25-35), navigate their reproductive desires in the uncertain context of the COVID-19 pandemic lockdown. I draw on the Theory of Conjunctural Action (Johnson-Hanks et al. 2011) to focus on schemas and

conjunctures that allow the women interviewed in this study to articulate taken-for-granted norms that govern their reproductive desires and expectations during a period of material constraint. I describe three main themes that participants articulated in their interviews—a strong alliance to heteronormative life course ages and stages, a reliance on the relational support offered during pregnancy and the postnatal period, and adherence to biomedicalized standards of care even in the face of risk and uncertainty.

Across these chapters, I focus on reproduction as a productive site of social inequality. By examining different elements of reproduction using differing data sources, I demonstrate that ideological strategies of knowledge construction, structural conditions, and internalized norms reflect the interplay of power and agency and constrain the conditions for reproductive justice. By maintaining a focus on differing and ever-changing intersectional experiences of gender, sexuality, race, and class, this work demonstrates the conditions for reproductive justice exist only through mitigation of structural and normative constraints, and that this mitigation is "much less stable and valued" for some groups compared to others (Davis, 2019, pp. 15).

CHAPTER 1. The Discursive Construction of Pregnancy as a Social Problem in Hearings on Welfare Reform

Introduction

Since the declaration of the "War on Poverty" in 1964, politicians on the progressive and conservative sides of the political spectrum have invested in discursive strategies aimed at eliminating welfare benefits as entitlements and centering those using welfare as irresponsible, dependent, and immoral (Naples, 2013). While much research focuses on the cultural consequences of these strategies, less work has focused on the specific institutional and rhetorical strategies used to creating knowledge and expertise within testimonies at congressional hearings, a key source of congressional record. During the 1990's, when welfare reform was enacted, many of the speech fragments uttered in these hearings represented the "zeitgeist" of public and political debate about the interrelatedness of pregnancy and welfare. In this study, I compare discursive strategies used in two cases of congressional hearings held on July 29th, 1994, and on January 20th, 1995. These hearings address how the "problem" of "illegitimate" or "out-of-wedlock" births within welfare reform are re-established as fact in spite of evidence to the contrary offered by (few) elected representatives, representatives of non-profit organizations, academics, representatives of think tanks, and recipients of welfare.

By the 1990s debate on welfare reform, pregnancy, and welfare had been extensively and discursively linked as a problem of moral and social decline in need of solving through prevention or punishment. However, at the core of this problem statement is a teleological issue: policymakers alternatively argued that welfare, by providing increased financial assistance for children, incentivized pregnancies, while (sometimes simultaneously) arguing that immoral (young or out-of-wedlock) pregnancies caused people to go on welfare. These speakers essentially argued that pregnancy led to more women enrolling in welfare and that enrollment in

welfare led to more women becoming pregnant. The literature problematizes this in two ways. In the first problematic, preventing pregnancies does only that—it prevents pregnancies—it does not address underlying inequalities that provide the economic, political, social, and historical context for reproduction (Gubrium et al. 2016). Instead of solving social problems, the focus on the reduction of "unwanted" pregnancies attributes social inequalities to the practices of individuals and legitimizes regulation of fertility and bodies (Gubrium et al. 2016). Secondly, the goal of reducing unintended fertility relies on assumptions about the *differentness* of pregnancies that are unintended—that they extend from young, poor, women of color, that they are too much and too early, and that they are the result of sexualized and racialized bodies—rather than focusing on the contexts of social disadvantage that prevent certain women from self-determination in enacting their reproductive and sexual priorities (Geronimus 2003). The fertility of racialized, sexualized, and classed women who perform or reject notions of risk and familial aspirations offers an entryway to hyper-surveil and regulate that fertility through policy spaces in ways that naturalize heterosexuality, whiteness, and existing privilege (Littlejohn 2013, Longo 2018, Mann 2013).

I draw on questions and strategies posed by discourse analysts and Foucauldian governmentality theorists to undertake an historical discourse analysis examining how knowledge and expertise defining pregnancy and welfare as co-constitutive problems were produced in two distinct, but related hearings held by the Subcommittee on Human Resources for the House Committee on Ways and Means during the 103rd and 104th congressional sessions. In doing this analysis I seek to answer the question of how official, spoken testimony, as part of

policy-making efforts, defines pregnancy as a problem in the context of welfare[1]. Within these hearings, I focus on how spoken testimony, by members of the convening committee and from those invited to give testimony, plays an important role in the production of the idea that pregnant women and mothers who are recipients of welfare have pregnancies that are assumed to be unintended, unplanned, or unwanted, and that these pregnancies represent a social problem. I examine how speakers offering testimony or moderating the hearing construct the problem at hand, how they do or don't use "facts" and expertise to support their stance, and what solutions are offered to the constructed problem. This analysis uses these case studies to examine the questions: What role do the circumstances—actors, rules of engagement, and political regime—have in socially constructing the co-constituted "problem" of poverty and childbearing in the United States? In particular, how do the strategies enacted in these circumstances allow the "problem" to be constructed as scientific fact despite conflicting evidence? In examining these cases, I find that actors in these congressional hearings use spoken testimony so that the figure of the pregnant recipient of welfare comes to be associated with contradictory formulations of responsibility, social decline, immorality, and "un-American" values.

It is widely acknowledged that pregnancies and motherhood associated with welfare have been subject to racist, heterosexist, and classist stereotypes as part of concerted political efforts to make welfare recipients appear responsible for their own poverty (Roberts, 1997; Ross & Solinger, 2016). While we know which groups are often the target of these discursive efforts (poor, young, Black women), this work seeks to add to this body of knowledge by uncovering who produces these discourses in explicitly political and spoken contexts, and *how* they go about

[1] Throughout these hearings the term pregnancy is synonymous with "illegitimate" births, "out-of-wedlock" births, teenage pregnancy, and single parenthood, usually motherhood, all of which are presumed to be unplanned or unintended

doing so. Focusing on “other” identities of women and mothers is not a new tool—Republican and Southern Democrat policymakers drew on racialized and classed stereotypes of people, particularly women, on welfare, to garner support from White Americans to undermine existing welfare programs during the Nixon and Reagan eras (Roberts, 1997). What is new here is the specific attention given to strategies used within hearings to establish or challenge the idea of the pregnant recipient of welfare as a social problem, rather than as a yet-to-be-established piece of knowledge.

Background

Welfare and the Contemporary Racial State

Welfare in the United States emerged during the Progressive Era from liberals advocating for state and/or federal subsidies for White women who were left abandoned or widowed by their main source of income—their husbands. This form of subsidy allowed “deserving” White women to continue to labor in the household without demanding they participate in the market economy (Abramovitz, 1988; Piven & Cloward, 1971; Quadrango, 1994). These systems devalued the widespread, historically necessary, labor market participation of Black women while excluding them from receiving state subsidies (Gordon, 1994; Mink, 1995; Skocpol, 1992). The non-innocent exclusion of Black women from welfare systems ensured an ongoing supply of cheap domestic and agricultural labor and ignored Black women’s calls for economic and parental justice rather than for a subsidized single family housing norm (Abramovitz, 1988; Gordon, 1994; Handler & Hasenfeld, 1991; Mink, 1995; Piven & Cloward, 1971; Quadrango, 1994; Skocpol, 1992). This systematic exclusion of Black women from welfare continued throughout much of the 20th century—in the 1930s only 3% of welfare recipients were Black (Roberts, 1999). While the Civil Rights movement opened welfare benefits to Black women, the

majority of welfare recipients remained White (Mink, 1995). Lyndon B. Johnson's "War on Poverty" attempted to eliminate racial bias that had been incorporated into post-war New Deal programs; however, "[Black welfare activists] got themselves included not in social insurance but mainly in public assistance programs, which by then had become even stingier and more dishonorable than they had been originally" (Gordon 1994, pp. 5; Piven & Cloward, 1971; Quadrango, 1994).

By the time the Clinton administration ran its presidential campaign on the promise to "end welfare as we know it," any gains in reducing racial stratification in federal welfare systems were on the table to be axed (Coyle & Berkman, 1996). The 1996 welfare reform law, entitled the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) limited federal eligibility standards for welfare recipients by allowing states to receive block grants and apply for waivers allowing them to run experimental welfare programs, including those that built in racial bias (Coyle & Berkman, 1996). It additionally required federal lifetime caps and work requirements for those using welfare, further contributing to narratives of dependency and responsibility for poverty. As welfare transformed to become a state-based behavior modification of the poor, imageries of welfare dependency—associated with laziness, excess fertility, and welfare largess—became quickly associated with Black women using welfare compared to the earlier imagery of the "worthy White widow" (Fraser & Gordon, 1994; Mink, 1995; Roberts, 1999). Contemporary conservative scholars, like Charles Murray (also the author of the extremely controversial *Bell Curve,* which, among other issues, argued that heritable intelligence and race are linked), described poor women having babies as costly to the public, pathological, and as inducing women to enroll in welfare to then have more children (Roberts, 1999). This idea of "dependency" relies on the idea that welfare recipients aren't working (most are when

they are able, but often not for a living wage); that race, family structure, and poverty all induce reliance on welfare, which then creates poverty; and that by increasing monitoring and behavior modification among welfare beneficiaries, the state can reduce fertility, despite the complete lack of evidence linking fertility rates and welfare benefits offered by states (Funicello, 1993; Mink, 1994; Roberts, 1999).

These new standards allowed for government bureaucrats to engage in degrading moral assessments of means standards, probing clients' sexual behavior, and widespread surveillance of clients' behaviors in their private and public lives (Coyle & Berkman, 1996). This bureaucratic discretion allowed the state to monitor and modify welfare beneficiaries because this aid was considered to be an "undeserved subsidy" rather than an entitlement or tax break, such as many middle-class Americans receive (Bennett & Sullivan, 1993; Funicello, 1993). The 1996 reforms also engendered myths that marriage can end child poverty and that collecting child support from fathers will end "dependency" on welfare (Brenner, 1989; Fineman, 1995). These myths, while problematic in their own right for assuming that single mother households are aberrant and can only lead to poverty, also dismiss the fact that economic opportunities are not equally distributed by race in the United States (Fineman, 1995). They assume that paternal absence or single parent households lead to welfare, which causes poverty, rather than examining and addressing underlying conditions that create poverty in the first place.

Quadrango (1994) argues that the link between the War on Poverty and the Black Civil Rights movement is what led to systematic Black exclusion from social insurance in a meaningful way. She argues that our deficient welfare system "is the price the nation still pays for failing to fully incorporate African Americans into the national community," because Black welfare beneficiaries represented a threat to White political power (Quadrango, 1994, pp. 4).

Liberal cultural values including individualism, a reverence for private property, and libertarianism are commonly accepted explanations for the United States' lack of a robust welfare system (Quadrango, 1994). However, Quadrango argues that these explanations are reductive, and that Americans have ideologically worked counter to these ideals enough times throughout the nation's history that they are not satisfactory explanations (Quadrango, 1994). Rather, she argues that the true lack of welfare system can be found in the U.S.' staunch adherence to racial politics, White supremacy, and ideological belief in welfare dependency.

Congressional Committees as Discursive Sites

There is little agreement on the role of congressional hearings in the legislative process, with some researchers arguing that hearings represent legitimate information-gathering missions to inform public policy while others suggest that legislators strategically arrange the contexts of hearings to meet their political and tactical goals (Diermeier & Fedderson, 2000; Gring-Pemble, 2009; Perna, Orosz, & Kent, 2019; Whittier, 2016). Some also argue that hearings are a strategic site for other actors, such as those testifying, to establish important discourse narratives in policy-making (Diermeier & Fedderson, 2000). Whittier (2016), in her examination of the Violence Against Women Act, argues that committee and subcommittee hearings are a "major location" for the construction and circulation of normative discourse and that hearings are understudied as sites of discourse production.

The House Committee on Ways and Means is the oldest committee in the United States Congress and was first established as a standing committee in January of 1802 (Committee on Ways and Means, 2022). While historically the committee has focused on revenue, appropriations, and banking, revenue-related aspects of social service programs came under the committee's purview in the 1900s (Committee on Ways and Means, 2022). The Subcommittee

on Human Resources within the House Committee on Ways and Means has jurisdiction over bills and matters related to the public assistance provisions of the Social Security Act (Committee on Ways and Means, 2022). In addition to having jurisdiction over assistance for needy families, social security, and eligibility of welfare recipients for food stamps, the committee also oversees matters related to childcare, child and family services, foster care, adoption, supplemental security income, and unemployment compensation (Committee on Ways and Means, 2022).

Committee members—congressional representatives appointed to these committees—enter hearings well-informed about the testimonies that will be provided (witnesses are required to enter written testimony well before they give spoken testimony and are often interviewed or prepped by committee staff members), and often have knowledge of expected answers to their prepared questions (Diermeier & Fedderson, 2000; Perna, Orosz, & Kent, 2019). The political party with the current majority in the House of Representatives selects committee chairs, who exert substantial power over the structure of these hearings by determining who testifies, for how long, and in what order (Diermeier & Fedderson, 2000; Perna, Orosz, & Kent, 2019; Whittier, 2016). There are established norms for hearings, including time limits on testimonies, time limits allotted to each committee member to pose questions to the witnesses, and structured opening and closing remarks that allow the committee chair and the ranking committee member to frame the beginning and the end of the hearing (Perna, Orosz, & Kent, 2019). Committee members can select witness testimony to highlight, reframe, challenge, or ignore, giving them time-delimited discursive power to moderate the structure of hearings.

Some legislators use expert witnesses, who can be researchers affiliated with academic institutions, parts of the government, think tanks, or other institutions, to validate their priorities

by asking them to confirm claims to truth or rightness (Perna, Orosz, & Kent, 2019). These are often phrased as leading questions, seeking expert confirmation of legislator positions. Alternatively, legislators can ignore or challenge expert testimony to question the testimony's credibility in the official record (Perna, Orosz, & Kent, 2019). Complexities and nuances are often rejected when problem statements are rephrased and repeated back to those testifying, as these fail to align closely with interventions or policies that are possible within the proposed reforms committees are considering, what Pape (2019) calls "ideologically motivated ignorance" (Whittier, 2016). Finally, by choosing who speaks when and in what order, committee members and political parties create contexts of discourse where elite discourse is facilitated, inclusion of alternative public views is minimized, and specific public voices are marginalized (Gring-Pemble, 2009).

Governmentality

Michel Foucault articulated the concept of governmentality as a transition in the forms of social regulation and control emerging in 16th century Europe alongside the development of administrative states (Lupton, 1999). This historical shift consisted of the transformation from political power to cause or prevent death to that of administering life (Foucault, 1991). This administration of life came together through a variety of elements—a *dispositif,* or governing apparatus—working in concert to identify a population in need of regulation and then mobilize said population to regulate itself (Foucault, 1991). This ongoing process of marshaling the population to practice self-monitoring and regulation by internalizing and practicing norms that are in the interest of the state is the process of normalization (Foucault, 1991; Lupton, 1999).

In the modern United States, governmentality is characterized by a neoliberal approach to political rule, an approach that champions individual freedom and attempts to minimize state

intervention (Lupton, 1999). Despite the appeal to individual liberty, within neoliberalism, choice can act as an illusion as it endows social actors with a rational and non-social status that makes choice the ultimate indicator of individual success (Mann & Grzanka, 2018). As Mann and Grzanka (2018) argue in their visual analysis of Long-Acting Reversible Contraceptive (LARC) promotion materials, when the only option is the one presented as hegemonic and normative, the absence of choice then begets the appearance of "unfettered free will". This is essential to normalization—even if there is only one set of hegemonic norms to conform to, this conformity still appears as a choice in a neoliberal context. Therefore, any deviance from norms also appears as choice.

Essential to the enactment of governmentality is the co-construction of risk, surveillance, and individual responsibility. Risk is implicated in inferential statistics as a "moral technology." By transforming population statistics for who is "at-risk" into perceptions of probabilistic, but not deterministic, individual risk, "good" citizens can be convinced to engage in self-regulation and self-governance through risk avoidance and self-surveillance (Hatch, 2016; Lupton, 1999; Rose, 2007). This internalized voluntary compliance with the interests and needs of the state is based on "expert" knowledge that renders citizens the most productive, healthy, and efficient they can be (Lupton, 1999). In this way, the responsibility for the provision of entitlements from the state transforms into an acceptance of personal responsibility that calls into question the notion of entitlements themselves and puts the onus of the administration of life on individuals (Rose, 2007). This reduces or eliminates the liability of the state to deal with the structures that cause social ills like poverty or environmental disaster (Hatch, 2016). While the focus on self-regulation can appear liberating and as freedom from state intervention, this also connotes the

obligation to participate in a prescribed version of self-regulation and in a framework that deflects from structural causes of injustice.

Data and Methods

Case Selection

The specific selection of these two hearings is intended to provide a case study of how the "problem" of welfare and pregnancy become co-constituted through strategies of spoken testimony. These hearings represent a unique political situation: the transfer of political power between parties in the House of Representatives while retaining the same president (Bill Clinton). They are hearings covering the period briefly before the Personal Responsibility and Work Reconciliation Act (PRWORA, Clinton's welfare reform) was enacted in 1996 and were held by the same subcommittee; however, said subcommittee changed hands from a Democrat to Republican majority. The chairmanship of the Subcommittee on Human Resources thus transferred from a Democrat representative to a Republican representative, while President Clinton's goals on welfare reform ostensibly remained the same over this period (Caracsson, 2006). Choosing these two hearings as case studies allows for comparison of whether different political parties, and the "experts" they select, engage in similar or different strategies to produce pregnancy and welfare as co-constituted problems.

The hearings culminated in President Clinton's 1996 signing of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which effectively ended cash-based assistance and entitlement programs in the United States. Conservatives characterized the signing of this bill as an affirmation of the American work ethic and as a Republican political victory, while progressives saw it as a failure to their country and constituents (Gring-Pemble, 2009). Two top welfare officials in Clinton's regime resigned in protest of PRWORA's

components, which reflected strategic actions by the Republican party to ensure decreased federal involvement and devolution to the states, increased work requirements, and strict regulatory measures (Gring-Pemble, 2009).

In this analysis, I draw on Swidler & Arditi's (1994) articulation of a "new" sociology of knowledge and on Frickel & Moore's articulation of the "New Political Sociology of Science" to orient a historical discourse analysis. I also draw on concepts of expertise and ignorance found within Science and Technology Studies. Both Swidler & Arditi's (1994) and Frickel & Moore's (2010) work examine how social organizations, including institutions imbued with political meaning, make certain types of knowledge possible; additionally, they both focus on moving from more traditional examinations of the contents of knowledge towards investigating the processes and practices of knowing. In particular, the New Political Sociology of Science examines the emergence of knowledge from unstable origins into obdurate objects that are the result of political, networked practices (Frickel & Moore, 2010). These frameworks take into account how social conditions and contexts shape how knowledge is transmitted over time and space and consider taken-for-granted knowledge as often the result of political machinations or invention to serve current social power arrangements (Swidler & Arditi, 1994). Some key elements of the New Political Sociology of Science are that it focuses on the unequal distribution of power and resources, pays attention to rules and rule-making, and pays attention to the dynamics of institutional organization (Frickel & Moore, 2010).

These approaches theorize knowledge as a cultural or political object that has more power the more it resides within and reproduces within institutions; as knowledge is embedded within institutional contexts, it can become ideological, and the actors related to that institution emerge with the power to define authoritative knowledge and establish truth (Swidler & Arditi,

1994). These genres of knowledge are often used, in naturalized ways with categories that appear taken-for-granted, to maintain and reinscribe social inequalities (Swidler & Arditi, 1994).

In this analysis, a specific committee of the House of Representatives—the Committee on Ways and Means, represents a key institution that grants the right to authoritative knowledge and truth claims within the context of spoken testimonies (Jasanoff, 1990). Because the committee defines and has a stake in maintaining the "rules of engagement" for its own institutional power, members of the committee can engage in both authorizing knowledge and in ideological ignorance to maintain its sphere of influence and specific political positions (Pape, 2019). They can do this by engaging with specific experts or advisors to legitimate specific policy efforts, by preventing certain topics from being addressed or put on the agenda, or by ignoring or countering alternative forms of knowledge (Hess, 2007; Frickel et al, 2010; Jasanoff, 1990; Lentsch & Weingart, 2011; McGoey, 2007; Proctor & Schiebinger, 2008). Especially in contexts where there are strong policy priorities, ideology may precede the definition or pursuit of scientific knowledge (Suryanarayanan & Kleinman 2013).

Data

Both hearings selected as case studies, one titled "Welfare Reform Proposals, H.R. 4605. The Work and Responsibility Act of 1994" (hereafter "Welfare Reform Proposals") and the other titled "Contract with America-Welfare Reform," represent politically motivated bipartisan efforts during the early 1990s to drastically reform welfare in the United States. These hearings were retrieved by searching for the terms "pregnancy" or "pregnancies" or "pregnant" in the ProQuest Congressional Database and by restricting the results to congressional hearings held between 1993 and 1996 by the Subcommittee for Human Resources of the House Committee on Ways and Means. Both hearings heavily discuss the contested relationship between poverty,

welfare, and pregnancy—the relationship of "truth" under investigation in this research. The difference between the two hearings is that "Welfare Reform Proposals" was heard while there was a democratic majority in the House of Representatives and was chaired by a Democrat, while the "Contract with America" hearing occurred after midterm elections, when Republicans had swept elections for the House and Senate and when President Bill Clinton's re-election campaign was dependent on bipartisan action on welfare reform, one of his key running platforms.

The hearing on July 29th, 1994, "Welfare Reform Proposals" occurred prior to the "Republican Revolution" elections in November of 1994, which swung control of the House of Representatives and the Senate from Democrat to Republican while President Bill Clinton (D) was still in his first term in office. This hearing includes 21 unique speakers; 7 of the speakers were female and 14 were male, and 10 states were formally represented. Nine Democrat representatives spoke during this hearing, 2 Republican representatives spoke, and one each from a conservative and progressive think tank spoke. The hearing on January 20th, 1995, "Contract with America," included 20 unique speakers and occurred after the "Republican Revolution," which is reflected in the political makeup of speakers: only 4 of the representatives in attendance were Democrats in this second hearing, while 7 were Republican and 1 was an Independent, with 12 states being represented. Six of the speakers were female and 14 were male; across both hearings, all three recipients of welfare who testified were female (See Tables 1 and 2 for a list of speakers and affiliations).

Analytic Approach

The Discourse-Historical Approach to analysis examines how social power, dominance, and inequality are enacted, reproduced, and resisted in social text and talk; these analyses require

not just descriptive labor, but interpretative labor focused on how discourse structures the context and properties of social interaction (van Dijk, 2005). Reisigl and Wodak (2016) outline several definitions and strategies for engaging in a Discourse-Historical Approach. They urge researchers to focus on inconsistencies, paradoxes, contradictions, and dilemmas in discourse while seeking to disentangle the implicit persuasive or manipulative character of discursive practices to interpret specific discursive events (Reisigl & Wodak, 2016.). They define ideology as "hegemonic symbolic forms circulating in…often one-sided world views composed of related mental representations, convictions, attitudes, and evaluations shared by members of a social group." These ideologies serve two important and distinct functions: they establish hegemonic narratives of identities, i.e., in- vs out-groups, and they control access to hegemonic discourse via "gate-keeping" practices (Reisigl & Wodak, 2016).

The authors then go on to define power as "an asymmetric relationship among social actors who assume different social positions or belong to different social groups"; in this situation, power functions as the ability to exert one's own or a group's will against the will of others; this power is legitimatized in social discourse through overt or implicit threat of force, status, knowledge, persuasiveness, and other kinds of power relationships (Reisigl & Wodak, 2016). In other words, those who get to define both the situation and the truths of the situation are those who can claim power. Van Dijk (2005) elaborates on these points to demonstrate that bridging micro-macro elements of discourse through analysis is necessary to arrive at a critical unified analysis and suggests examining distinct characteristics of discourse to achieve these ends. In this work, I explore who holds the discursive power to define the problem of the situation and its truths, and the strategies these actors use to generate the linkages between poverty, race, and pregnancy that are "held to be true," regardless of evidence.

To conduct these analyses, I began by using the memo-ing function in NVivo to review each of the hearings, examining only spoken testimony (other types of testimony included in hearings include newspaper articles, written testimony, letters to the committee, proposals for reform, etc.). While memo-ing, I iteratively and inductively explored codes for discursive strategies used to speak about unintended pregnancies, summarized each speaker's testimony, and identified each speaker's agenda as it appeared in the hearings. I also noted important discursive strategies where speakers named other speakers or concepts in certain ways; when actors qualified, exaggerated, or mitigated the importance of other speakers or information shared; when specific claims to representing the truth were made; and when testimonies were challenged.

I used these memo-ing exercises to develop a codebook that focused on the discursive construction of pregnancy as a welfare problem via problem statements, "facts" and evidence used by speakers to endorse or detract from these problem statements, and solutions proposed to deal with the problem statements (see Appendix 1 for codebook). In a second-pass examination of the data, I coded for five main problem frames that emerged in my initial review of the hearings: social and moral decline related to unmarried motherhood and irresponsible fatherhood, appeals to change welfare to protect children from harm, neoliberal responsibility for the consequences of childbearing, appeals to lawmakers to focus on at-risk persons to target for behavior change and prevention, and contesting the reasons for having sex/becoming pregnant. These frames are highly interrelated and co-constitutive. To further clarify my analysis, I printed out the coded speech fragments from each discursive frame and arranged them individually on large notepads under one of three labels: problem statement, facts and evidence, and solutions.

Interpretive Strategy

In my interpretive analysis, I focus on describing the strategies used to enact problem statements, to legitimate or discredit facts or evidence, and claim expertise over a solution as the "correct" one within two main problem frames: that of social and moral decline related to unmarried motherhood and irresponsible fatherhood and that of appealing for welfare change to protect children from harm. I also examine patterns across types of speakers, strategies, and perspectives to identify contradictions and collaborations in producing pregnancy within welfare reform. Throughout these two frames, I weave in the other coded components to highlight varying emphases on personal responsibility, the government's role in prevention, and contested meanings of becoming pregnant. In this analysis, I focus on strategies for establishing hegemonic narratives and gatekeeping those narratives. Finally, I developed memos about who and what is missing and left out of these interactions to identify whose perspectives are being taken-for-granted and how this might affect how pregnancy is constructed as a problem in the world of welfare. I end by discussing the representations of reality left out of the formal picture.

Results

Out-of-wedlock births and "Social Pathology"

As I present these findings, I articulate how different types of speakers engage with frames and strategies to articulate problem statements, how they draw on "facts" to support their arguments or detract from someone else's, and on the "solutions" they propose to deal with the stated problem. The language used to describe pregnancies in these testimonies are almost universally "illegitimate," out-of-wedlock, or teen pregnancies, although all are implicitly unintended with few exceptions. I use the terms articulated by the speakers themselves to retain the sense of the hearings, however throughout I consider them to be speaking about the concept

that researchers currently regard as unintended pregnancy. Speakers also widely employed the use of coded language to speak about racial or racist tropes—an example includes using the term "urban" to stand for all young, Black, adults. My analysis finds that speakers in both hearings construct the problem of pregnancy as one of teen, out-of-wedlock, or "illegitimate" births related to welfare as part of a narrative of social decline.

There are two main sub-themes articulated by speakers about the social and moral degradation of society which are forcefully gendered: the first constructs women who have children out-of-wedlock as being "at the center of a tangle of social *pathologies*, including school dropout, welfare use, unemployment, drug addiction, and crime" (Dave Camp, R-Representative, Michigan, 1995, emphasis added). The other constructs the presumedly absent father of these children as "improperly socialized…young men…perpetrating a reign of terror" (Glenn Loury, Professor of Economics, Boston University, 1995) by failing to be accountable to their families, failing to live up to norms of productive masculinity, and failing to support their children financially. About young men, speakers in these hearings evoke images of violence, terror, and drug use—men who are "men but not fathers." Without financial support for their children, regardless of the contextual constraints faced at the community or individual level, these "urban" (read: Black) young men cannot be fathers and therefore are responsible for the loss of social control in the community. For young women, unmarried pregnancies act as indicators of societal tension with the "rest" of society—these women represent the duality of being young, sexual, and therefore irresponsible, while also being mothers, and therefore responsible. These discursive constructs act to create an imagined other, presumably young, not White, and poor, whose behavior is not only the cause of social decline but is also un-American in its lack of orientation towards rational neoliberal economic goals. The implication of these

statements is that if only these young men and women could be made less unruly, forced to conform, and respect the values of marriage and capitalism, society would not be in the dire straits it is in. In constructing pregnant women using welfare as a social problem the speakers in these hearings link them to moral declines in accountability, cultures of irresponsibility, and child harm.

These problem statements linking the pregnancies of poor (often implicitly Black) women to social ills rely on the assumption that any pregnancy that occurs to an unmarried, young, poor, woman is not only unintended but unwanted. Several speakers, particularly congressional representatives, participate in this discourse by extensively questioning testifying welfare recipients to try and establish them as rational actors in becoming pregnant rather than accepting at face value the testimony provided that many people don't adhere to a regime of planning for pregnancy (Aiken, Borrero, Callegari, & Dehlendorf, 2016). However, there is a rich literature on family formation paradigms that identify reasons for becoming pregnant that aren't adherent to a middle-class, heterosexual, bourgeois, white norm (for examples see Edin & Kefalas, 2005 or Barcelos, 2018). These same speakers seek to establish the testifying welfare recipients as "deserving" by confirming that they are not part of the "problems" established in their problem statements, i.e., they exhibit responsibility, are motivated, and are engaging in education and employment.

Unmarried women and the decline of society

In both "Welfare Reform Proposals" and "Contract with America," speakers articulated that "illegitimate," or out-of-wedlock births were problems for the country, however the discursive force of the argument differs between the two hearings. In "Welfare Reform Proposals," Sander Levin (D-Representative, Michigan, 1994) states "we need to confront

directly the problem of the breakup of the family in this country." By stating the "breakup of the family" as the problem within the context of a hearing on out-of-wedlock pregnancy within welfare reform, Levin has established the premise of the debate: poor women on welfare who refuse to become married are causing the deinstitutionalization of families in America.

The academic evidence provided in "Welfare Reform Proposals" focuses on presenting evidence countering the problem statement that Levin has proposed. Greg Duncan, a Professor of Economics at the University of Michigan, calls on multiple appeals to evidence, expertise, and prestige to establish as a fact that "[welfare] benefit levels have no significant effect on the likelihood that Black women and girls will have children outside of marriage and either no significant effect or only a small effect on the likelihood that Whites will have such births" (1994). His presentation of this evidence also counters assumptions in public opinion and in recent welfare reform proposals that imagine a direct causal connection between the provision of welfare benefits and out-of-wedlock births among teens. Duncan takes special care to emphasize the lack of relationships for young Black women, suggesting that he may be addressing assumptions he has guessed the committee or other speakers at the hearing may have about the racialized nature of welfare. He goes on to bolster his testimony by reading a statement issued by 67 prominent researchers highlighting that welfare programs are not among the primary reasons for out-of-wedlock births and that eliminating safety nets would do more harm than good, particularly for children. Duncan calls upon not only a *body* of social science evidence to bolster his evidence in testimony but also on the *prestige* of the researchers signing the statement he mentions to offer it extra weight. By aligning himself and colleagues with power derived from the persuasion of expertise, he counters some of the rhetorical and governmental power displayed by some of the more conservative speakers testifying or by members of the committee.

June O'Neil, a Professor of Economics and Finance at Baruch College, CUNY, counters Duncan's and the "67 other researchers" evidence by stating, from a position of personal and professional expertise, that "there is little question that out-of-wedlock childbearing and welfare participation are closely intertwined" (1994). She takes several tactics to establish her evidence as fact, not in contrast to previous evidence, but in addition to it. She establishes that while Duncan is referring to a *body* of literature, she is referring to research *she herself has completed* and, which she implies, is perhaps better constructed than some of the other available research. She does not refute previous evidence presented but suggests that her evidence is also fact, that it perhaps provides nuance, despite being contradictory to the evidence previously presented. Here, her evidence is authoritative because she herself has undertaken it, rather than representing the viewpoints of a conglomerate.

The congressional representatives speaking in the hearings have political alignments with one or more preferred policies that either exist or are being proposed in future bills. Despite knowing these alignments and stating at the outset of the hearings that these are fact-finding missions to inform better policy, some representatives ask leading questions to try and get expert speakers to agree with their preferred policies (Perna, Orosz, & Kent, 2019). Although representative speakers will elicit solutions from representatives of non-profits and welfare recipients, they often return to polemical debates and ask the purveyors of expertise, academics, or think tank researchers, to provide evidence for or against specific solutions. In considering the problem of social decline and out-of-wedlock births, two solutions tend to be offered: prevention and punishment.

Among the academics who worked with welfare recipients, many generally supported the ideal of preventing out-of-wedlock pregnancies, but often with caveats based on their own

research experience. For example, Constance Williams, an Associate Professor of Social Policy at Brandeis University, and the only qualitative researcher represented in these hearings emphasized the similarities between the "subjects" of welfare debate and everyone else in terms of being interested in and engaging in sex while highlighted the structural constraints of preventing early pregnancies (she was one of the very few to emphasize structural conditions without attributing them to an inherent cultural deficit) (1994). She contrasts the experience of the young girls she works with, who have no after school activities, no neighborhood activities, and who live in unsafe neighborhoods where their mothers are frequently at work, with her experience with her own children, who were constantly in after-school activities, had expectations, sanctions, and were surveilled (Constance Williams, Associate Professor of Social Policy at Brandeis University, 1994). In doing this, she points out the appeal of sex and pregnancy to her subjects, while highlighting an infantilizing assumption that emerges elsewhere in discourses of responsibility: young people require constant monitoring of their sexuality to become acceptable citizens.

In comparison, Rebecca Maynard, a Professor of Education and Social Policy at the University of Pennsylvania, spoke about how different the lives of the women she worked with were from everyone else. She argues that because their lives were different, prevention via the provision of contraception was not sufficient, as it doesn't address the underlying realities of women's lives. She says "they were not contracepting effectively. Why not? Because they did not sleep in the same homes every night, the pills were here, the pills were there. *They don't live on 24-hour clocks like the rest of us*" (1994, emphasis added). Even though Maynard is implicitly emphasizing the conditions of existence that may constrain prevention or choice sets that the women in her study may experience, she does so by emphasizing that <u>*these women are*</u>

<u>not like us</u>. She discursively constructs "us" to be in alignment with the other testifiers, the congressional committee, and, presumably, everyone who does not look like her or live like her (i.e., an upper-middle-class, highly educated, White woman). To solve this intractable social problem causing the decline of America then is to solve otherness, is to bring into line those who are not or cannot be like the "rest of us." Preventing pregnancy among unmarried women becomes symbolic of preventing pregnancy among otherness—what self-respecting heterosexual capitalist woman would choose this path? This reflects the idea that motherhood is a privilege only for women who meet certain criteria and to meet those criteria, the "others" must be defined as "unfit, degraded, and illegitimate" (Ross & Solinger, 2017, pp. 4). Her "deviance" is unimaginable to the recipients of this testimony, both those in the room and the imagined American public and so the solution must be to bring her body and her behavior back in line with everyone else rather than promoting her engagement in self-determined reproduction in a safe environment, which would include reducing the paternalism of the state and of representatives of expertise that assume her pregnancy is unwanted. This line of reasoning extends racist, classist, and sexist "tropes, practices, and beliefs that constantly reconstituted as an enduring aftermath of slavery" by repeating intersections of oppression that are repeated through legal and extralegal reproductive policies (Davis, 2019).

A conservative think tank representative, Charles Murray, who had recently published the widely criticized and controversial book, *The Bell Curve*, prophesized the solutions proposed in the later 1995 hearing by focusing proposed solutions on cultural punishment and the moral culpability of women who engage in sex. As part of the discourse of social decline, he minimizes the responsibility of the father outside of legal marriage by focusing on the actions of the woman engaging in unmarried sexual relations:

> If a woman conceives a child, choosing not to use birth control; she observes the male, knowing that he is not using any birth control; she then chooses not to give the child-to abort the child, and she chooses not to give the child up for adoption…[if you have failed to give the fathers legal standing through marriage] the causal role of the father leading to the point that a young woman takes a baby home from the hospital and keeps it to raise herself is quite minimal. (Charles Murray, Bradley Fellow, American Enterprise Institute, 1994)

In this statement, Murray refocuses the problem statement to articulate the moral fallibility of the mother—if she had not made the *choices* she did (repeating the arguments framed within neoliberal responsibility politics), neither her child nor the father would have a problem. Murray's statement gets more directly at the sexist, classist, and racist undertones that many of the speakers appear to espouse while also trying to appear somewhat colorblind when they are constructing the problems underlying out-of-wedlock pregnancies. He states that welfare pregnancies: "allow a woman to say I can have a baby without a husband…this represents a tragedy for both the babies and the way the society functions." Only the mothers, and implicitly poor women of color, can be at-fault in the decline of society related to welfare dependency because only their sexuality and only their choices are out of line with norms and expectations, and only their births represent "pathologies." The focus on the immorality of the mother reflects a wider neoliberal discourse about individual responsibility but also reflects the construction of women as "public property" in American society (Armstrong, 2003). Women's pregnant bodies come to represent potential futures, which allows pregnant bodies to become objects of public moral scrutiny, monitoring, and overt social control. As Armstrong (2003) states "over the last two centuries, pregnancy has been used as a location to project social anxieties and to exert social control" (pp. 16; Waggoner, 2017). These social anxieties almost universally construct young, poor, women of color as "bad reproducers" and allows discourses to continue to focus on

blaming and punishing the individual that is in some way “other”. This construction of “others”, especially racialized constructions, also obstructs the realities of historical welfare—prior to PRWORA, more White women than Black women were using welfare assistance (Naples, 2013).

The problem construction in the 1994 “Welfare Reform Proposal” is in contrast to the more politicized, morally driven, survival rhetoric used in the 1995 “Contract with America” problem statements. Dave Camp, a Republican congressional representative from Michigan, uses the opening of the hearing to define the problem as a political one: “illegitimate” pregnancies are a “social catastrophe…[which is] the leading domestic issue of our times” (1995). He characterizes the definition of this problem as driven by motivated elected Republicans and top conservative thinkers and sets the stage for others to speak about out-of-wedlock pregnancies as a historically Black problem that has become a “social catastrophe” because White women are catching up in their “illegitimacy” rates.

Relative to “Welfare Reform Proposals,” “Contract with America” has several non-congressional speakers who are prominent actors in defining “illegitimacy” as *the* social problem. William Bennett, at the time a co-director of a conservative think tank, characterized the discursive interrelatedness between “illegitimacy” and social structure in the following way: “The rapid and massive collapse of family structure is without precedent among civilized nations. Our country cannot sustain it; no country can. *No society has ever survived* with single parenthood as the norm” (William Bennett, Co-Director, Empower America, 1995, emphasis added). This statement ignores widespread evidence about myriad family structures that have characterized societies throughout history and ignores that the two-parent, two-child nuclear family in the United States was not normative until after World War II (Coontz, 1992). Here

Bennett calls upon notions of nationalism, civilization, and survival to emphasize the extremity of the problem of "illegitimacy" as constructed by himself and others in "Contract with America." He goes on to characterize out-of-wedlock births as representative of life stories that are "tragedies" and "wasted lives," preserving the assumption that the cause of poverty is not structural, historical, or contextual, but is due to the immorality of the mother specifically in refusing to become married or to have a sexual partner willing to marry her.

Pam White, a former welfare recipient, concurred by stating: "a lack of values and the decline in religious beliefs are reasons why teen pregnancies occur, with the high cost to both the person and society" (Pam White, Property Manager, 1995). White's discursive position throughout the hearing is an interesting one—she is the subject being discussed—she became pregnant as a teenager, started using welfare, and never got married—but has established herself as above reprimand for pulling herself and her children out of welfare, becoming trained and employed, and by ensuring "good" lives for her children (meaning she emphasizes their employment and education). Despite knowing she is the subject of these debates, and contradicting the narratives in some places, for example by contextualizing the structural reasons that some women are unable to access child support, White also discursively supports the construction of women using welfare as costly and harmful to society. While these conversations may seem in opposition to each other, they are aligned—although White has been the subject under discussion, she no longer is, and while welfare helped her, it was her own actions that picked her up by her bootstraps. She has undergone "normalization," the defining function of governmentality—she has internalized the correct norms and self-regulated in such a way as to embody them (Foucault, 1991). Therefore, she can be both a deserving recipient of welfare aid and align herself with the viewpoints of the committee to establish herself as an independent,

responsible, productive citizen and concur with the construction of the problem as one of social degradation.

The construction of out-of-wedlock pregnancy as a social and welfare problem in "Contract with America" also comes to rely heavily on other elements of official and unofficial conservative political agendas of the time, including cultural racism and a focus on small, decentralized government (Bonilla-Silva, 2006). Reverend Robert Sirico, a Roman-Catholic priest and the president of the Action Institute for the Study of Religion and Liberty in Grand Rapids, MI, stated in his testimony the following:

> The problem of illegitimacy is shredding the fabric of our society. We all agree on that. It is critical that radical measures be taken to restore the family unit as the organic extension of the natural order of private life absent excessive government involvement. Let me say at the outset that I view a two-parent family as the moral norm. Indeed, I believe the family is the fundamental unit of society…Illegitimacy is not merely a technical problem but a moral one. To the extent that the Federal Government encourages out-of-wedlock births, it is morally culpable (Reverend Robert Sirico, President, Action Institute for the Study of Religion and Liberty, 1995)

Sirico's sentiments echo those debated extensively throughout these hearings as part of the arguments made for or against specific elements of the welfare reform bill: not only should the federal government be less involved in individuals' lives and should leave governance to states or local charities, but by offering welfare the federal government is complicit in the "real" problem: the immoral action of encouraging women to have children young and outside of marriage. This perspective reflects the historical narratives of the racialized "welfare queen," who exploits the federal welfare system and has endless children to keep collecting the additional ~60$ a week (Roberts, 1997). Speakers across both hearings contest this framing, arguing that an additional 60$ a week could not possibly offset the costs of an additional child and does little, if

anything, to alleviate poverty. However, by appealing to moral notions of family, morality, and widespread public beliefs that many people on welfare were "on the rolls" just to take advantage of taxpayer dollars, Sirico is able to counter an established "fact."

Notably, Sirico states "The problem of illegitimacy is shredding the fabric of our society. We all agree on that," a discursive tactic to both align himself with a political viewpoint of some committee members and to distance himself from alternative evidence claims. By stating "we can all agree on that," he suggests that disagreement with his statement is going against the grain, instigating conflict, and challenging authority. There are several attempts made to establish other sets of facts, including callbacks to the evidence established by academic experts in the 1994 "Welfare Reform Proposals" hearing (Harold Ford, D-Tennessee, 1994). Rebecca Blank, a Professor of Economics at Northwestern University, offers three main causes for out-of-wedlock births that are not welfare (women's increasing economic independence, men as less attractive marriage partners, and declining social stigma associated with single parenthood) (1995). Note that these proponents do not challenge the idea that out-of-wedlock birth is a social ill, only that it is a social ill associated with welfare benefits. However, Reverend Sirico is asked to be the last to give testimony in these hearings and thus has the last say in what constitutes fact and fiction.

Other speakers in the "Contract with America" hearing succeed in crystalizing "family instability" (read as out-of-wedlock births or lack of marriage) as a specifically racial problem. As Dave Camp (R-Representative, Michigan) opens the hearing, he uses statistics to establish the legitimacy of this tactic: "For African Americans, we have reached the almost incomprehensible level of 7 out of 10 children born outside of marriage. For Whites, if current trends continue, one of four children will soon be born outside marriage, and the rate is growing faster for Whites than African Americans" (1995). William Bennett, a conservative think tank representative, calls

on the historicity of these debates by highlighting how the Moynihan report, “The Negro Family: The Case For National Action,” authored in 1965, established that “the White family has achieved a high degree of stability and is maintaining that stability” (1995). He goes on to highlight the changes in the 30 years since the original report, stating “White family structure has been severely eroded by high rates of illegitimacy, divorce, desertion, and welfare dependents…The percentage of white females who are divorced has risen sharply. If these trends continue, they will have even more serious consequences for American society than the decline of the Black family, since Whites constitute a much larger segment of the population” (William Bennett, Co-Director, Empower America, 1995).

What both Camp and Bennett have done is juxtaposed frequentist statistics between two racial groups in the United States. By opening with the “incomprehensible” statistics of the essentialized Black family, both Bennett and Camp try to elicit horror in the listener that the equally essentialized White family could ever be so “eroded.” This way of juxtaposing two groups implies concern for the White family and dismissal of the Black family by constructing Black families as historically deviant and unstable. “Illegitimate” births only constitute a threat to society when they begin to occur more frequently among White families, which Bennett justifies demographically: they make up more of the population. By appealing to the “objectivity” of statistics, he is engaging in a color-blind frame that allows for racism without labeling the speakers as racists (Bonilla-Silva, 2006). By stating “facts,” both men hide the implicit work that their discourse is doing in constructing a society in danger of decline when Black family structures have effectively infected (going back to the social pathology metaphor) White family structures. This ignores expansive literature outlining diverse family formations throughout American and global history, ignores the social construction of racial groups in the

U.S., and ignores historical and structural inequalities, including with regards to reproduction, that the U.S. government has been and is complicit in. It also treats probabilistic population statistics as deterministic, a core function of governmentality's surveillance and internalization practices.

The solutions to out-of-wedlock pregnancy and moral decline of the nation offered in the "Contract with America" focus almost entirely on changing culture, which most speakers acknowledged that the government would not be capable of, solidly placing the solution outside of existing government efforts. However, other correctives suggested addressing moral decline focused on a neoliberal articulation of individual responsibility for behavior, along with concomitant rewards and punishments. Dave Camp (R-Representative, Michigan) argued that "a most fundamental principle of human behavior accepted by almost all reasonable people is that if you reward something, you get more of it. Federal policy now rewards the formation of never-married families. We intend to reduce the size of the reward" (1995). He goes on to frame this approach, removing cash benefits from the existing welfare program, as the "kindest policy of all" because it breaks the cycle of individual deficit by insisting on responsible behavior in exchange for citizenship benefits. Here he invokes the compassion of governmentality—with the devolution of responsibility for well-being from the state to the individual, the "kindest" policy appears to be the one convincing the individual to conform to the norms and interests of the state (Foucault, 1990). It is, as Mann & Grzanka (2018) describe, "agency-without-choice."

This idea that individual behaviors, rather than context, history, or power differentials, are responsible for cycles of poverty is echoed across both hearings and different speakers. June O'Neil, the Professor of Economics and Finance at Baruch CUNY echoes Camp's sentiment by arguing that those making policy should be talking about making teen mothers ineligible for

welfare. She says, “a change like that sounds very harsh, but I think that it may in the long run, really be the kindest approach because it would actually force people…to think about the consequences of their actions” (June O’Neil, Professor of Economics and Finance at Baruch CUNY, 1995). O’Neil, Camp, and others rhetorically call upon the concept of “kindness” to pursue goals of reduced cash welfare benefits. These policies are “kind” because they have an inherently responsibilizing function—they make poor mothers think about their behaviors and their consequences. The state must be less involved in order to be successful in its practice of governmentality, so rather than administrating welfare, it administrates paternalism (Foucault, 1990). Placing the locus of control for becoming pregnant squarely in hands of one person creates a tension of duality—young women are irresponsible because they are young women or teenagers; we cannot trust them to be responsible or accountable for their actions and must undertake initiatives to bring them into the fold of responsibility, through admonition, stigma, punishment, surveillance, or anything else that could work. On the other hand, these young women must be made responsible for their choices—again and again in these hearings a speaker will repeat a stylized version of “once a woman has chosen to engage in sexual intercourse, she becomes responsible for its outcomes.”

Paternity, Masculinity, and Social Responsibility

As part of the discourse on the decline of society, speakers at these hearings had explicitly gendered goals when defining the problem of out-of-wedlock birth. While for unmarried women, this definition focused on the moral decline represented by the fertility of poor women, for their male partners, the social decline was problematized as creating men who don’t know how to be fathers. Implicit in this definition is that normative masculinity in the United States is associated with fatherhood, as is responsibility and morality. In “Welfare

Reform Proposals," Representative Rick Santorum (R-Pennsylvania) summed up how many in this hearing framed the problem of young men and paternity as an issue of cultural racism: "There is a problem about getting fathers to face that responsibility, and it is one that is not necessarily solved by punitive measures, but more by trying to get them to sort of turn culturally, as a culture to accept that change" (1994). Most speakers in the first hearing highlighted the issue of getting fathers to financially support their children and attributed this difficulty to essentialized cultural norms. Anne Davis, the Executive Director of the Florence Crittenton Services of Baltimore (a non-profit group home for teen mothers in foster care) emphasized that there are mentoring programs for young men, but that they "do not emphasize the kinds of social responsibility we are talking about" (1994). She goes on to complete a binary differentiation between the basic life skills that girls get but boys do not, without explicitly mentioning any set of skills beyond "responsibility" (Anne Davis, Executive Director, Florence Crittenton Services of Baltimore, 1994).

In the hearing "Contract with America," I find similar definitions of irresponsible fatherhood attributable to community and cultural decline, although they are expressed more adamantly. Glenn Loury, the Professor of Economics at Boston University, characterized young men in the inner city, understood as Black, as causing

> …families to cower because of the fearsome behavior of young men who have not been civilized, which is to say they have not been properly socialized within a family context so as to have bred into them the values that will allow them to conduct themselves in such a way as to permit a decent life to take place in their communities. Such young men are really perpetrating a reign of terror (1995).

Here Loury has used cultural racism to set the foreground, not for the debate about the responsibilities of paternity, but for whom is being imagined as the absent father in these debates. The absent father is a young man in an inner-city environment, who is uncivilized, of

poor breeding (which calls upon eugenic notions), and who perpetrates terror in his community. This young man is in a triple bind—there is no way he is "civilized" enough to be a responsible, upright citizen-father who provides for his child, his only way to legitimate citizenship per these hearings is by becoming a regular and responsible financial provider, and he is constrained by his community-either by their hatred of his reign of terror or, more likely, by the limited opportunities for self-determination that history and structural racism have provided him.

In this line of defining pregnancy as a welfare problem, men are seen as the moral backbone of communities who cannot become men without other men to teach them. William Bennett, the conservative think tank speaker, articulated this idea as "every society has understood this. They have known that you cannot raise young boys to become responsible men unless there are other men, good men in their lives" (1995). Despite being the first Director of the National Drug Control Policy under George H.W. Bush, Bennett says nothing in his testimony about depriving a generation of young boys of their fathers by enmeshing them in the prison-industrial complex. The men he is talking about here are responsible for not only their own fates at the hands of discriminatory federal policies but also the decline of responsible masculinity in their communities via their absence. These speakers see this as an erosion of social control and order; where pregnant women represent unruly bodies to be controlled, absent men represent absent responsibility and absent accountability. James Wilson, the UCLA Professor of Management and Public Policy, states it in this way:

> Once you have created a neighborhood in which all or most of the children are growing up in single-parent, mother-only families, you are creating a neighborhood with men, but no fathers. As a result, the social control that all communities try to maintain is weakened, because the people who primarily provide that order, fathers who take responsibility for their children and their neighborhoods, are absent…A neighborhood that consists of one or two single-parent families will not have its social control threatened (1995).

Pam White, a previous recipient of welfare, moderates the way this problem is constructed by the men in the same hearing as her by framing it as a plea for the federal government to help mothers hold their sexual partners accountable. She felt "there ought to be something that will make both parents responsible…Mothers feel like why should I be carrying this load alone? It takes two to tango. Where is my partner? He should be made accountable" (1995). She shifts the narrative away from [Black] cultural decline of masculinity, but her solution is as punitive as it gets: "If you don't take care of your kids, you go to jail. If you don't take care of your kids, we garnish your check…We need to actually have something in line where there is a consequence for not taking care of your kids. It is just that simple" (Pam White, Property Manager, 1995). Her problem is constructed differently, that of a mother being left without a partner to share in raising her children, but her solution echoes many of the political and institutional perspectives relayed in these hearings—responsibility is a moral requirement of sexual citizenship in the modern neoliberal milieu and without it, you cannot be deserving of benefits and may be deserving of punitive measures.

The orientation towards punishment for fathers was widely contested across both hearings by academics and congressional representatives affiliated with the Democrat party. However, their concerns were not with the punishment of fathers themselves, "everyone" agreed that establishing paternity and holding fathers accountable for financially providing for their children was not only acceptable but necessary. These debates centered around the minutiae of the proposed reforms, which deprived women and children of certain benefits in the case where a father's identity was delayed in being established or failed to be established at all. These arguments mostly focus on protecting the innocent child from their morally fallible parents, while failing to address larger issues like why a woman may not want to identify a child's father,

for example, for fear of a partner who has perpetrated domestic violence in the past. In these narratives, both the mother and the father can only be responsible if they participate in efforts of productivity, which is if they agree to establish paternity, both genetically and symbolically as the requirement for legitimate sexual citizenship (Rose, 2007).

Child Welfare and Protection

Very little was said about the relationships between unintended pregnancy, welfare receipt, and child well-being in “Welfare Reform Proposals.” Two speakers, one Greg Duncan, the Professor of Economics from the University of Michigan, and the other Robert Greenstein, a representative from a progressive think tank, spoke about the evidence of the impact of poverty on children’s cognitive development, academic completion, and labor market success. Neither construct this as one of the main problems of welfare reform beyond advising that reducing or eliminating welfare assistance would result in aggravated child poverty, which they had already established as being harmful to children.

In the hearing “Contract with America,” the topic of child harm and child protection becomes a core rhetorical tool in political contests jockeying for preferred solutions. Protecting children acts as a bipartisan ideal that every speaker can get behind and endorse while arguing that their construction of the problem or solution is the correct one. Dave Camp, the Republic representative from Michigan, opened the hearing by invoking the fact that children living in households headed by a never-married mother are nearly eight times as likely to be poor as children living in a two-parent household (1995). This fact and framing bolster the solutions suggested by the Republican party in these proposals to focus on re-institutionalizing marriage and responsibility while ensuring that children are growing up in safe, two-parent, households. Here, they do not stray from identifying the problem as one of enjoined welfare and unmarried

pregnancies, rather, the speakers build off of this problem construction to add a negative effect, child harm, which can be deployed for political purposes. Harold Ford, the Democrat representative from Tennessee, adamantly and repeatedly throughout this hearing argues that the proposed foci of the Republican agenda harms children, which makes these proposals inherently unacceptable from his viewpoint:

> What this bill does is to take a group of American children and say that because of the circumstances of their birth, that they will be denied the assistance provided to other Americans. This is wrong and shortsighted. We as a Nation, have a responsibility to take care of every child in America, to ensure that every child in this country grows up healthy and ready to learn. I have heard that this bill would hurt children and that a generation of children might have to be sacrificed. This is not acceptable. In the wealthiest, most powerful Nation in the world, we should not sacrifice any child. While it is wrong to have a child you are not equipped to care for, it is morally bankrupt for a nation to turn its back on its children (1995).

Ford mischaracterizes components of the bill he is speaking about but succeeds in creating an extremely evocative statement that is re-established by other Democrat representatives on the committee multiple times. The idea and image of sacrificing a child, a symbol of innocence and potential, recalls an extensive legal history of child protection in the United States going back to the 18th century (Luker, 1996). Combining this with Ford's reference to notions of the superiority of the United States as a country powerfully influences his colleagues to repeatedly bring up protecting children. Charles Rangel (D-Representative, New York) repeats this idea twice: "we all agree that these are children that were created by God and irresponsibility. Lack of morality of the parents is an issue that we have to deal with but we also have to deal with that child," followed later by "[each] child is a creation of God, and whatever the mother did or didn't do, that child should not be punished for whatever immorality the mother had." Barbara Kennelley (D-Representative, Connecticut), in one of her few speaking

moments in this hearing, takes the time to emphasize that children shouldn't be stigmatized with the label of "illegitimacy" (1995).

Compared to the politicians speaking during the hearing, the academics testifying make sure to construct the problem of poor child outcomes as emerging very clearly from out-of-wedlock birth and poverty, rather than from welfare benefits. For example, James Wilson, the Professor of Management and Public Policy at UCLA, tells Representative Ford that he

> …wanted to focus my testimony not on the relationship between money and pregnancy or money and welfare, but rather on the relationship between out-of-wedlock births and behavior. Because even in these other countries…children born out of wedlock to a mother who never marries are increasingly at risk for delinquency…The problem is not whether we want to prevent teen pregnancy, the problem is whether we prevent it among young women who never get married, because in no matter what country you do that, you are putting the child at risk, and reducing the risk to the children out to be our primary goal (1995).

Here, Wilson is focused on a seemingly nuanced detail that remained incredibly important in defining pregnancies as a problem for welfare. Whereas academics and researchers testifying in "Welfare Reform Proposals" demonstrated that there is little, if any, evidence that welfare benefits are the driving force behind out-of-wedlock childbearing (which is supported in the literature, for example, see Roberts, 1997), in this later hearing, representatives from academia are taking a sideways route to derail this argument. If welfare cannot be conclusively linked to out-of-wedlock childbearing, then out-of-wedlock childbearing can be connected to poverty in general, and child harm in particular. Wilson characterizes children who grow up in single-mother households as getting suspended from school, having emotional problems, displaying antisocial behavior, and engaging in delinquency (1995). Glenn Loury, a Professor of Economics from Boston University goes on to agree with Wilson that the "consequences of illegitimacy, of out-of-wedlock births, of broken families for families and children are very

deleterious. I think there is an absolute consensus on that and there is not any doubt" (1995). Because they have been invited as experts, Wilson and Loury can characterize the construction of the problem relating out-of-wedlock births to poverty and child harm as unequivocally factual, however, it is not clear from their speech where their evidence is from and whether it differs from the evidence presented in "Welfare Reform Proposals." This ambiguity then allows Reverend Robert Sirico, the president of the Acton Institute for the Study of Religion and Liberty (a libertarian think tank), to re-iterate and align himself with their statements by claiming non-expertise while also claiming that clear, stylized, facts exist that relate single motherhood to child harm: "I am not [an expert]. Please allow me to simply point out the links are quite clear between a missing parent in a child's life and poverty, illegal drug use, failure in school, violent crimes, gang activities, and suicide" (1995). Although Sirico could be drawing on personal experience or expertise, he does not use this in his claim, rather he defers to the known experts' earlier statements and expands upon them to include drug use, violence, and suicide.

The construction of child harm or punishment as a side effect or result of either welfare use, or out-of-wedlock pregnancies is unique in this case because the solutions proposed are not specific interventions or interventions that call for moral or cultural change. Rather, they are components of proposed welfare reform that speakers have already politically aligned themselves with (for example, smaller government, not cutting back on existing programs, punishment for mothers failing to establish paternity). Because the idea of preventing harm to children holds universal appeal, particularly politically, its construction as a problem is used to forward explicit or implicit political agendas on behalf of the speakers, regardless of their political alliances. Whichever "solution" the speaker favors most is the one that will do the least harm to children.

Left Out and Unsaid

An important analytic strategy within historical discourse analysis is to examine what is left out or missing, as marginalized or unrepresented voices are constitutive of the underlying the surface level construction of the problems (Ingraham, 1994). Gring-Pemble (2009) argues that the discursive structures of welfare hearings in the 1990s specifically resulted in a discourse context that prioritized elite voices and excluded or minimized less powerful ones. This is particularly true for how the welfare subject is constructed in each of these hearings. Congressional representatives and experts are the primary actors who offer problem statements. The few welfare recipients asked to testify are primarily asked to clarify the specific motivations behind becoming pregnant or beginning to use welfare in the first place—they are asked to monolithically represent the welfare experience. They are also used by committee members as symbolic rhetorical devices, as only those welfare recipients who have graduated from welfare or who are currently demonstrating their commitment to being a good citizen—through education or employment—are asked to testify. The women's presence in the hearing works to assure committees that their proposed welfare solutions will work and that they are hearing the voices of those they are representing, despite extensive discursive denials of the testimonies offered by welfare recipients.

For example, Harold Ford (D-Representative, Tennessee), tacitly acknowledges the power differential between himself and a witness who is using welfare benefits, Lukisha Jackson, by telling her to give her testimony however she feels comfortable doing so (1994). However, when interacting with Jackson, Ford acts somewhat like a prosecutor, rapidly asking questions, interrupting Jackson if she is not responding in the way he intended, and reframing her responses to align with his preferred vision of teenage sexual behavior. As Gring-Pemble (2009)

argues, Ford, and others, render welfare recipients "incapable of speaking wisely on welfare reform" specifically because they refuse to accept testimony at face value when it does not align with their understandings of behavior.

Ford continues to question Jackson about the reasons behind her pregnancy, asking her if she became pregnant because she needed love, because she was a rebellious teenager, or because it made her feel grown-up. When Jackson responds in the negative to all of these and responds that the committee cannot prevent all teen pregnancy because "many see nothing wrong with it," (calling upon notions of non-hegemonic family formation), this violates the planning paradigm that committee members assume all people, as presumed rational actors, have for their reproduction (Barcelos, 2018; Halberstam, 2005). Ford follows up by asking who Jackson expected to financially provide for her children, also assuming an orientation towards the future central to a heterosexual bourgeois notion of productive reproduction (Mann, 2013). When Jackson replies that most young women don't think about this issue until after the baby is born, Ford's line of questioning essentially trails off—it appears as though he, and others, literally cannot comprehend the complexity or nuance of this standpoint and treat "non-rational" reasons for sex and pregnancy with disbelief (Bernardi, Mynarska, & Rossier, 2015). The idea of a rational actor, responsible for their reproduction and engaging in a risk-reduction paradigm that engages notions of planning and future-orientation is also reflected in many of the testimonies of experts. When proposing solutions to the "problem" of pregnancy and welfare, removing welfare assistance is often constructed as "logically" resulting in fewer births because rational actors will reduce pregnancies if there are fewer rewards. What this perspective does not account for is that the same rationality espoused by elite speakers is not the same rationality spoken into existence by Lukisha Jackson. By insisting on forging ahead with solutions that center on the hegemonic

rational actor rather than Jackson's lived experiences, the policies undertaken by the committee and subsequent reforms fail to address the realities of women using welfare.

Another important component of historical discourse analysis is examining who or what is left out of the dominant discourse. With very few exceptions, the academic experts present at these hearings were professors of economics or finance. This likely reflects the overarching mission of the Committee on Ways and Means as overseeing aspects of revenue but leaves out important expert perspectives that could have focused on the lived experiences of welfare recipients. Additionally, the non-profit representatives invited to testify represent family service organizations or religious organizations. Despite previous coalitions of women of color calling attention to reproductive injustices, representatives from these organizations were not invited to testify. What is left is a picture of White, upper-middle-class, expert-elites from academic or think tank backgrounds defining the problem of pregnancy and welfare in conjunction with congressional committee members.

Conclusion

The findings from this study reflect a long history of public discourse framing marginalized groups of citizens as undeserving of support, rights, and entitlements. By linking this construction of undeserving citizens to pregnancy, the onus of poverty alleviation transfers to individuals, couples, and communities through rhetorics of responsibilization, surveillance, and risk reduction. The focus of welfare solutions proposed in the case study hearings analyzed here focus on prevention or punishment for individual behavior. In making this political move, the government loosens its responsibility toward citizens while ignoring the need for systematic challenges to the structural forces underlying poverty (Naples, 2013). The discursive construction of the pregnant welfare subject in these hearings offers little, if any, challenge to

hegemonic rhetorics of dependency and heteronormative bourgeois family expectations and encourages and facilitates narratives of cultural racism and poverty essentialism. While Rose (2007) argues that the new politics of vitality should be imagined as holding many possible futures, rather than focusing on history as poly-contingent, it is difficult to imagine multiple futures for welfare recipients that offer many opportunities for the conditions of reproductive justice when reductionist discourses are deployed so thoroughly and with so much discursive power as to re-entrench tropes that have plagued our nation's history.

Tables and Figures

Table 1: List of Speakers in "Welfare Reform Proposals" hearing on July 29th, 1994

	Name	Title	Organization or Institution	Type of Institution	Political Affiliation, if relevant
Speakers giving testimony in 1994 hearing on " Welfare Reform Proposals"	Greg Duncan	Professor of Economics	University of Michigan	Academic	
	Robert Greenstein	Executive Director	Center on Budget and Policy Priorities	Think Tank	Progressive
	Lukisha Jackson	Teen Parent Participant	Guide Family Support Center, Maryland	Recipient of Welfare	
	Clifford Johnson	Director, Programs and Policy	Children's Defense Fund	Nonprofit	
	Rebecca Maynard	Professor of Education and Social Policy; Senior Fellow	University of Pennsylvania; Mathematica	Academic; Consulting	
	Robert Menendez	Representative	House of Representatives, New Jersey	Federal Government	Democrat
	Kweisi Mfume	Representative	House of Representatives, Maryland	Federal Government	Democrat
	Charles Murray	Bradley Fellow	American Enterprise Institute	Think Tank	Conservative
	Eleanor Norton	Delegate	House of Representatives, District of Columbia	Federal Government	Democrat
	June O'Neill	Professor of Economics	CUNY	Academic	
	Bill Orton	Representative	House of Representatives, Utah	Federal Government	Democrat
	Patricia Showell	Associate Executive Director of Programs	Families First and Family Service America	Nonprofit	
	Patricia Washington	Director	Guide Family Support Center, Maryland	Nonprofit	
	Constance Williams	Associate Professor of Social Policy	Brandeis University	Academic	
Speakers from Subcommittee	Dave Camp	Committee Member	House of Representatives, Michigan	Federal Government	Republican
	Benjamin Cardin	Committee Member	House of Representatives, Maryland	Federal Government	Democrat
	Harold Ford	Committee Chair	House of Representatives, Tennessee	Federal Government	Democrat
	Mike Kopetski	Committee Member	House of Representatives, Oregon	Federal Government	Democrat
	Sander Levin	Committee Member	House of Representatives, Michigan	Federal Government	Democrat
	Robert Matsui	Committee Member	House of Representatives, California	Federal Government	Democrat
	Rick Santorum	Ranking Minority Committee Member	House of Representatives, Pennsylvania	Federal Government	Republican

Table 2: List of Speakers in "Contract with America" hearing on January 20th, 1995

	Name	Title	Organization or Institution	Type of Organization or Institution	Political Affiliation, if relevant
Speakers giving testimony in 1994 hearing on " Contract with America"	William Bennett	Co-Director	Empower America	Nonprofit	
	Rebecca Blank	Professor of Economics	Northwestern University	Academic	
	Amy Hendricks	Former recipient of AFDC	Temple Hills, Maryland	Welfare recipient	
	Glenn Loury	Professor of Economics	Boston University	Academic	
	Rev. Robert Sirico	President; Member	Action Institute for the Study of Religion and Liberty; Michigan Civil Rights Commission	Nonprofit	
	Ruth Wasem	Specialist in Social Legislation	Library of Congress	Federal Government	
	Pam White	Former recipient of AFDC	District Heights, Maryland	Welfare recipient	
	James Wilson	Professor of Management and Public Policy	University of California, Los Angeles	Academic	
Speakers from Subcommittee	Dave Camp	Committee Member	House of Representatives, Michigan	Federal Government	Republican
	Mac Collins	Committee Member	House of Representatives, Georgia	Federal Government	Republican
	Jennifer Dunn	Committee Member	House of Representatives, Washington	Federal Government	Republican
	Philip English	Committee Member	House of Representatives, Pennsylvania	Federal Government	Republican
	John Ensign	Committee Member	House of Representatives, Nevada	Federal Government	Republican
	Harold Ford	Ranking Minority Committee Member	House of Representatives, Tennessee	Federal Government	Democrat
	Barbara Kennelly	Committee Member	House of Representatives, Connecticut	Federal Government	Democrat
	Sander Levin	Committee Member	House of Representatives, Michigan	Federal Government	Democrat
	Jim McCrery	Committee Member	House of Representatives, Louisiana	Federal Government	Republican
	Jim Nussle	Committee Member	House of Representatives, Iowa	Federal Government	Independent
	Charles Rangel	Committee Member	House of Representatives, New York	Federal Government	Democrat
	E. Clay Shaw	Committee Chair	House of Representatives, Florida	Federal Government	Republican

Table 3. Questions proposed by CDA and Situational Analysis for guiding coding and memo-ing (Clarke, Friese, & Washburn, 2018; Riesigl & Wodak, 2017; van Dijk, 2005)

What is the problem? How is the problem being defined? What types of power are represented (i.e., coercive power of force, persuasive power of experts based on knowledge, information authority, money power as secondary/proxy financial power)? What narratives are at stake? What is repeated? What are consequences of long-term narratives? What evaluations or characterizations are included in ALL versions of talk about pregnancy and motherhood?
Who are we concerned about and why? Who defines the overall situation? What groups, organizations, and institutions are represented? How are they represented vis-a-vis pregnancy and motherhood? What stories are silenced/omitted/not told? Who was invited to testify and who wasn't? Whose accounts do NOT become part of hegemonic institutional memory? How does one come to be a credible/trustworthy/reliable/authoritative source in this context? Who are authorized/reliable speakers?
What structures enact, confirm, legitimate, reproduce, or challenge relations of power and dominance in society? What social structures are being represented/constituted? How is the setting (time and place) decided? What group actions/social processes are being undertaken here? (i.e., reproduction of racism, legislation, etc.) Which are overt and which are insidious?
What are the discursive framings being used to talk about pregnancy and motherhood that fundamentally constrain the way we imagine pregnant people? What are discourses of gender, race, and class that are co-constituted? Are specific elements of talk proscribed/prescribed? How does such discourse control mind and action of (less) powerful groups and what are the social consequences of such control (like inequality)?

Appendix 1: Codebook

Discursive Action: Challenging

Speaker challenges another speaker or concept; examples include countering welfare stereotypes, challenging a speaker's right to speak or represent a topic, clarifying or elaborating on a topic to ensure that the challenged component becomes accepted; The speaker modifies through intensification or mitigation the purpose of the speech fragment to denounce its epistemic and hegemonic status. This can include hesitating, using diminutives to address actors/actants, indirect speech such as questions rather than assertions, and verbs of saying, feeling, or thinking.

Discursive Action: Confirming or Legitimating

Speaker uses a number of strategies to confirm their own or others' legitimacy to represent the concept of expertise at hand; this can include nomination and predication (naming and qualifying names to include titles like Ph.D. or laurels like "10 years of service"), appealing to expertise through nomination, predication, or data/research, or interactional components like self-deprecation, humility, putting another speaker at ease, etc. to control the direction and flow of discourse; Speakers' evaluative qualifications of social actors, objects, phenomena, actions, and processes through discourse. These can include negative or positive traits, situating other actors or actants relative to an idea, ideology, or person, making explicit comparisons, using metaphor, hyperbole, etc.

Discursive Action: Enacting

Speaker brings into being a fact, concept, claim, etc. Generally, this is done at the beginning of the hearing when the chair declares the problem statement to be undertaken at the hearing, but can also be undertaken by others seeking to shift the focus or reframe the problem statement; Claims made by speakers in hearings either representing "the truth" or claims representing "rightness," where rightness can be moral, ethical, fiscal, representative, or questioning of such claims

Discursive Action: Reproducing

Speaker reproduces discursive meaning by repeating an established "fact," anecdote, acknowledged truth or reproduces through alternative discourse to enmesh it in multiple constructions of reality

Discursive Frame: Child Protection

Speaker talks about pregnancy, welfare, "illegitimacy," or being unmarried in terms of protecting children

Discursive Frame: Behavior Change or Risk

Speaker talks about pregnancy, welfare, "illegitimacy," or being unmarried in terms of a public health framing of needing to change individual behavior among those most at risk of these phenomena

Discursive Frame: Neoliberal Responsibility
Speaker talks about pregnancy, welfare, "illegitimacy," or being unmarried in terms of individual responsibility; may either implicitly or explicitly draw on neoliberal language or concepts

Discursive Frame: Social Decline: Gendered
Speakers talk about gendered nature of poverty, often with reference to the idea that gendered poverty is the result of "illegitimate" pregnancies or single mothers, ignoring structural constraints and lived experiences, and speak about the responsibilities of young men or young women to solve the problems caused by their "irresponsibility"

Racism: Othering
Speakers establish welfare recipients as "different from us"; main tactic used is colorblind cultural racism (Bonilla-Silva), where culturally-based explanations are given for racism and poverty, but some also appeal to eugenic ideologies or "American" morality

Speech Context
Speakers or rules of spoken engagement control or structure context of speech

Terminologies of Unintended Pregnancy
Terms used to represent pregnancies that are assumed to be unintended, including unintended, unplanned, unwanted, out-of-wedlock, illegitimate, teen, or teenager, includes assumption that unintended pregnancies are unwanted

CHAPTER 2. Exposure to Extreme Heat and Inequities in Birth Outcomes Over Time

Introduction

The health and well-being of pregnant women and their infants is an important public goal in and of itself; however, these goals become even more important when theories and research demonstrate that early life and in utero shocks have long-term effects on infant development (Barker et al, 1990; Link and Phelan, 1995). Recently, many econometricians and epidemiologists have turned to quantifying the effects of climate shocks on gestational and birth outcomes (in addition to documenting other health effects of these shocks). Merging population changes in birth outcomes with environmental change could explain divergence from existing demographic theories of population change and examining birth outcomes provides researchers with easily identifiable periods of exposure for specific pregnancy outcomes (Grace, 2017; Grace et. al, 2021). Given the consensus in the scientific community that climate change will increase in its effects over the next century unless mitigated, this focus is especially relevant for understanding the health and well-being of future populations.

These environmental injustices overlap, geographically and conceptually, with other types of injustice, including reproductive injustice. Ross and Solinger (2017), in their primer on reproductive justice, argue that "the racialized geography of environmental degradation and the lack of resources in communities of color to resist and combat the impacts of environmental toxicities on reproductive health" are co-constitutive (pp 234). Sites of environmental degradation—landfills, toxic dumps, power plants—are frequently built where poor people and people of color live, creating compounding rates of reproductive health issues in communities that may have problems accessing adequate health services or resources to mitigate exposure (Roberts, 1997; Ross and Solinger, 2017). In this study, I examine whether intersectional

experiences of racial self-identification and economic disadvantage overlap with climate disadvantage to produce differential birth outcomes for women of color using Medicaid relative to White women using different insurances[2].

This analysis builds on critical calls to place the oppression of women of color—here operationalized as differential birth outcomes when exposed to extreme heat—as the starting point for analyses to consider "reciprocally constructing phenomena" between multiple sites of social oppression and health outcomes (Bilge, 2013; Choo & Ferree, 2010; Collins, 2015, pp. 2). The results are presented as interacted (i.e., multiplicative) probabilities of specific birth outcomes by race, trimester of exposure, and use of state-based insurance. This follows what McCall (2005) has termed an "intercategorical" methodological approach, which provisionally employs the adoption of existing social categories to identify relationships across such categories. However, the approach undertaken in this study diverges from her articulation of the focus of analysis (oppression vs. complexity) per critiques by subsequent reviews (Alexander-Floyd, 2012). My analysis tries and understand at what point in pregnancies medical institutions and social institutions that protect environmental sustainability may be reproducing birth inequalities for women of color (Choo & Ferree, 2010). Because this is a quantitative analysis, it does not necessarily respond to calls from critical intersectional scholars to examine meanings or give voice to the oppressed; rather it grounds itself in intersectionality theory emerging from Black Feminist scholars to "critique subordination" of pregnant women experiencing compounded oppressions within the structural power relations of the institutions in their lives (Tomlinson, 2013, pp. 996; Collins, 2015). Ergo, in this study the use of race as a variable is

---

[2] I use birth record data to identify women's exposure to extreme heat in this study. Racial information on birth certificates is self-identified by parents and intermixes race and Hispanic ethnicity. In this paper, any reference to racial categories is referring to these intertwined race and ethnicity categories, where anyone not self-identified as Hispanic is considered non-Hispanic.

meant to represent processes of racialization by which lived material experiences of race inscribe more or less advantage on specific groups of women and the process of giving birth is placed within institutional medical, class, and geographical contexts. (Alexander-Floyd, 2012). Finally, an important component of intersectional work is its ability to provide critique that can lead to action, whether by characterizing complex social inequalities, imagining alternatives, or proposing viable strategies for change (Cho, Crenshaw, & McCall, 2013; Collins, 2015). In examining intertwining systems of oppression, I hope to describe inequalities and offer potential guidelines for pursuing climate and reproductive justice in tandem with this work (Bilge, 2013).

The EPA and CDC estimate that extreme heat events[3] will become more common, more severe, and will last longer over the next 50 years based on projected greenhouse gas emissions; pregnant women and persons from socioeconomically disadvantaged backgrounds or those that live in urban centers may be particularly sensitive to the deleterious effects of extreme heat (EPA, 2016). Climate scientists often demonstrate disproportionate effects of climate change in areas with heightened disadvantage or inequality, suggesting that the intersections of race, class, geography, and historicity of place come together to create complex patterns of disadvantage. These disadvantages could be related to geographic climate, lagged intergenerational structural inequality, or to the limitations on some citizens to adapt to the detrimental effects of climate (i.e., via migration or technological investments). For example, Hsiang et al. (2017) predict that regions in the U.S. south, which experience disproportionate poverty and residential segregation, are likely to be most affected economically by climate change over the 21st century. It is imperative then not only to better understand how climate shocks affect gestational and birth

---

[3] Extreme heat can be measured in a number of different ways, using minimum, maximum, average or other measures of ambient temperature and/or other meteorologic metrics. In this paper, I define extreme heat events as those above the 98th percentile of the average yearly temperature for the state.

outcomes in the future but to understand how the increase in climate shocks combined with changing population composition may alter and exacerbate existing inequities.

Many scientists have theorized and demonstrated that well-being later in life is moderated by intrauterine or placental exposures (Barker, Eriksson, & Forsen, 2002; Behrman & Rosenzweig, 2004; Black, Devereux, & Salvanes, 2007; Case, Fertig, & Paxson, 2005; Elo & Preston, 1992; Heckman, 2012). A large literature also links environmental degradation and climate change to poor health outcomes, including birth outcomes (with a focus on early gestational age and low birth weight). Recent studies in high income contexts have shown that extreme heat shocks can reduce *fertility* 8-10 months following the shock and can affect *birth weights*; these same researchers estimate that in the absence of environmental adaptation, such as increased availability of air conditioning or cooling centers, high temperatures will result in the loss of over 35,000 gestational weeks for the entire population per year by 2100 (Barreca & Schaller, 2020). Existing research in sub-Saharan Africa has demonstrated that the biological ability to become pregnant and carry a pregnancy to term may be impacted by extreme heat directly, via exposure to heat stress and dehydration, and indirectly, via exposure to interruptions in food production (Davenport, Grace, Funk, & Shukla, 2017). While this research demonstrates that women exposed to high temperatures above certain thresholds are more likely to have miscarriages, stillbirths, low birth weights, or other adverse birth outcomes, the research in the U.S. context does not provide as clear of a picture (Bailey et. al, 1992; Grace et. al, 2005; Lam & Miron, 2005; Rayco-Solon, Fulford, & Prentice, 2005). This evidence implies that there may be a social and/or biological mechanism through which extreme heat can affect conception or a person's capacity to carry a pregnancy to term. Work undertaken in Sub-Saharan Africa suggests that effects on low birth weight occur via women's increased emotional and physical strain

during high ambient temperatures (Davenport, Grace, Funk, & Shukla, 2017). Additionally, heat stress is hypothesized to have negative impacts on the development of a fetus and on the placenta, where early exposure to high temperatures (during conception or the first trimester) may delay conception or increase the probability of miscarriage, which can lead to a survival bias towards heavier babies, while exposure during later stages of pregnancy is typically associated with increased risk of preterm birth, resulting in lower birth weights (Grace et., al, 2021; Rylander et. al, 2013). However, existing research on U.S. populations has primarily examined whether the amount of heat exposure above a certain temperature or temperature percentile using dispersed geographic measurements of temperature (for example, measurements spanning 100km areas) has a relationship with birth outcomes.

In this work, I adapt these approaches to examine the association between exposure to extreme relative heat (measured as exposure to temperatures over the 98th percentile for a state), which has been demonstrated to be of particular salience for health outcomes in the U.S. context (Kent et al., 2014). Other work, primarily undertaken in Sub-Saharan Africa, tests fine scale temperature data (<10km or finer) where the exposure of interest is a count or proportion of days where the maximum daily temperature exceeds a specific threshold (Davenport, Grace, Funk, & Shukla, 2017; Grace, 2017). This approach provides some challenges with U.S. data, where the ambient temperature sensors are more geographically dispersed, and multiple climate types are represented in a single country (rather than a single, seasonal climate being represented in a country which is smaller in size). However, future work should explore whether finer scale exposure data is available and whether sub-climates within the U.S. can be analyzed separately.

Additionally, I test whether exposure to extreme relative heat during the period one month prior to conception and during each of the three trimesters has different relationships with

different birth outcomes. In addition, I build on previous work by using higher-resolution georeferenced measures of temperature within 50km of the closest zip code centroid rather than measures that incorporate more dispersed temperature readings and by developing a study design that explicitly incorporates the intersection of race and socioeconomic status as central dimensions of the way environmental change shapes reproductive health in the United States.

This study first answers the question of whether a specific environmental phenomenon linked to climate change, extreme relative heat, alters birth weight (in grams), obstetric refined gestational age (in weeks), the proportion of births that are low weight, and the proportion of births that are preterm for women exposed at the county level. Because socially disadvantaged women, here operationalized as women of color and by participation in the Medicaid insurance program, are more likely to live in environments that are compromised by climate change (Ahmed, 2020), I then triple interact the variables on racial identities, Medicaid usage, and extreme relative heat to explore whether there is an intersectional relationship between extreme relative heat exposure and birth outcomes for socioeconomically disadvantaged women of color compared to White women.

Background

Environmental Justice and Reproductive Justice

Reproductive justice is a social justice-oriented framework rooted in intersectionality and human rights and focused on the definition that all humans have the "right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities" (Ross & Sollinger, 2017). Analyses that focus on achieving reproductive justice examine and address systemic power differentials and intersectional oppression to achieve self-determination and full access to human rights for the most

marginalized members of society. Environmental justice is a movement that examines and addresses the “inequitable exposure of communities of color and communities in poverty to environmental risks due primarily to their lack of recognition and political power” (Ageyman et al, 2016, pp. 321). Environmental justice has emerged from myriad activist mobilizations, including communities of color linking toxic dumping campaigns to housing, transportation, air quality, and economic development; indigenous activists addressing issues of land appropriation and loss of traditional food gathering rights; and Latina/o communities pioneering health and occupational safety issues (Ageyman et al, 2016). Environmental justice is a discourse developed by people of color which focuses on the idea that a sustainable society is one where an equitable ecosystem integrates social welfare, economic opportunity, and environmental justice (Ageyman et al, 2016).

In their book on reproductive justice, Ross and Solinger (2017) include a quote from Native American Midwife Katsi Cook demonstrating their vision of the interwoven relationship between reproductive and climate justice: “women are the first environment…from the bodies of women flow the relationship of the generations both to society and the natural world” (pp. 234). Because environmental degradation is patterned in similar ways to social inequality, reproductive justice is central to environmental justice, and vice versa (Ahmed, 2020; Liddell & Kington, 2021; Morello-Frosch & Lopez, 2006). Among a panel of environmental justice workers interviewed for a volume on Radical Reproductive Justice, the interviewees articulated the overlap between reproductive justice and environmental justice as focusing on collective liberation, centering the margins, and ensuring self-determination and community autonomy (Jiminéz, Johnson, & Page, 2017).

In particular, the “rupture” of community identities linked to environmental place “has marked effects, essentially taking away the capacity to “negotiat[e] a future for themselves and their children” (Broto et al, 2010, pp 9). In addition to being linked to liberation for current communities and future generations, overlaps between environmental and reproductive justice can be found in how anti-natalist sentiments primarily utilized by wealthy, white actors are used “as an actual theory and practice of genocide. This has been used to promote the fear of consumption and social dependency by blaming poor communities, communities of color, people with disabilities, women, and incarcerated and queer communities as people who will consume and burden our social systems and natural resources. This…denies the conditions of what’s truly happening… blaming “others” for being unsustainable when root of it is that capitalism and imperialism are unsustainable” (Jiminéz, Johnson, & Page, 2017, pp. 371). Anti-natalist sentiments fail to link climate change and environmental degradation with institutions of state violence, capitalism, and neoliberalism, instead placing the burden of reducing carbon footprints on specific women or communities—this creates regulatory and punitive practices towards specific women’s and communities’ fertility practices, rather than addressing structural causes of injustice. As climate change progresses, a new “race to the bottom” has begun, as actors rush to transport environmental injustices to locales with less bargaining power than their own. As Schlosberg and Collins (2010) suggest: “A poor environment is not only a symptom of existing injustice, rather a functioning environment provides the necessary conditions to achieve social justice” (pp 335).

Reproduction as a Site of Racialized Inequity

Throughout literatures on the social determinants of health, research increasingly suggests that health outcomes are unequally patterned across socially located sub-groups in ways that exacerbate inequalities and create opportunities for interactions with discrimination and psychosocial stressors (Colen et al, 2018). This occurs through a variety of mechanisms, including residential segregation, differential access to institutions and public goods, and lived experiences of discrimination (Orchard and Price, 2017). In the U.S. case, racial inequalities in reproduction are particularly pronounced and are strongly related to intergenerational drag (the theory that persistent disadvantages can be attributable to historical traumas through which ancestors pass on social assets and liabilities), particularly through geographic segregation (Gee & Ford, 2011). For example, Janevic et al. (2020) find that the intersection of class and race produces twice as many cases of severe maternal morbidity per 100 cases in poor Black women relative to wealthy White women. These differences in birth outcomes—in morbidity and mortality—are not caused by an imaginary biological difference in "race" categories (Meeker et al, 2021). Rather, they are related to the social construction of race and the experience of structural racism at the individual and community levels (Gee & Ford, 2011; Krieger et al., 2020; Meeker et al, 2021). Morello-Frosch & Lopez (2006) developed a bio-eco-social framework that connects spatial social inequality to health outcomes at the community and individual levels. This framework demonstrates that environmental exposures among communities that are already disadvantaged can expose communities of color to increased hazards and stressors, which in turn exacerbate individual and community vulnerabilities and result in persistent health disparities. In other words, the biological experience of increased emotional or physical stress which can affect birth outcomes is generated by social institutions and structures invested in maintaining power.

By examining how geographic racial distribution—a process that reflects histories of racism and environmental injustice—affects birth outcomes, what are generally considered to be biological processes, I further existing research that asks us to consider how the biological and social are intertwined and how they reflect society-wide inequities that cannot be resolved at an individual level.

Birth Outcomes, Race, & Socioeconomic Status

The relationships between race, social disadvantage, and birth outcomes have been explored in a variety of ways across myriad disciplines. There is widespread econometric literature on the long-term relationship between intrauterine exposures, birth weight, adult educational attainment, and human capital gains (for examples, see Behrman and Rosenzweig, 2004; Black, Devereux, & Salvanes, 2007; Wilde, Apouey, & Jung, 2017). These findings often highlight the short-term health and long-term economic costs of low birth weight for families and societies. Other work focuses on shocks to identify the timing and magnitude of effects of these shocks on birth weight. For example, Torche (2011) demonstrates that prenatal maternal stress due to exposure to an earthquake during the first trimester of gestation significantly decreases birth weight among a population in Chile (see also Brown, 2020). Many others use birth record data combined with census data to examine explicit or implicit measures of bias, racial segregation, or structural racism in the U.S. Orchard and Price (2017) found that county-level racial prejudice, measured as an implicit measure, results in larger Black-White gaps in low birth weight than in counties with lower levels of prejudice, and found even stronger results among explicit measures of prejudice. Chae et al. (2018) found that an increase in one-standard-deviation in area racism was associated with a 5% increase in the prevalence of low birth weight and preterm births among Black women, which they attribute largely to racial residential

segregation, environmental discrimination, and the experience of discrimination as a psychosocial stressor (see also Colen et al, 2018).

Studies examining racial and economic stratification in the U.S. also widely examine gestational age. Many find increased risk for very pre-term[4], preterm[5], or decreased gestational age[6] for Black women or infants who live in neighborhoods dominated by historical and institutional inequalities (Janevic et al, 2021a; Krieger et al, 2020; Mendez, Hogan, & Culhane, 2013). One study found that structural racism, as measured by a racial and economic Index of Concentration at the Extremes for home and hospital neighborhoods, influences very pre-term births, which are strongly associated with neonatal morbidity and mortality, through both home and hospital neighborhoods—infants whose mothers lived in neighborhoods with the greatest concentration of Black residents in New York City had 1.6 times greater risk of neonatal illness and death, with the hospital location explaining over half of this disparity (Janevic et al., 2021a). Janevic et al. (2021a) demonstrate that hospitals as neighborhood institutions, and neighborhoods themselves, are strongholds for economic and residential inequality, environmental exposures, and differential medical treatment. Mendez, Hogan, and Culhane (2013) use historical measures of redlining, or mortgage discrimination, to demonstrate that Black and Hispanic women living in areas with higher ratios of Black-White mortgage denials experience greater prenatal stress but had a moderate decline in the risk for preterm births (although self-reported neighborhood quality was associated with increased preterm births among Black women only) (Mendez, Hogan, & Culhane, 2014). Krieger et al (2020) found an elevated risk for preterm births in areas that had been graded "D" during redlining by banks (i.e., unsuitable for lending) compared to

[4] Very preterm births refer to those that are 28-32 weeks in gestational age.
[5] Preterm births are births that occur prior to 37 weeks in gestational age.
[6] Gestational age is the age, in weeks, from conception to delivery.

areas graded "A." However, this association was attenuated by adjustment for current census tract segregation by class and race.

Extreme Heat and Birth Outcomes Change

The available research on extreme heat events and reproductive outcomes in high income contexts demonstrates several key findings. First, exposure to extreme temperatures appears to adversely affect birth outcomes, including gestational age, birth weight, miscarriage, and neonatal stress (Bekkar, Pacheco, Basu & DeNicola, 2020; Kuehn and McCormick, 2017). Second, extreme temperatures affect birth rates. A 2018 study published in *Demography* examined the effects of temperature shocks on birth rates between 1931 and 2010 and found that days with mean temperatures above an absolute cut off of 80 degrees Fahrenheit caused a significant decline in birth rates 8-10 months later (Barreca, Deschenes, & Guldi, 2018). This paper also demonstrates that high temperatures are more likely to harm fertility via reproductive processes rather than via decreased sexual activity and that the availability of air conditioning can offset the effects (although this offset declines the more widespread air conditioning becomes) (Barreca, Deschenes, & Guldi, 2018). Additional work demonstrates that extreme temperatures may have stronger effects on birth outcomes among younger, Black, Hispanic, and underweight mothers, mothers who used tobacco or alcohol during pregnancy, and mothers who had pre-existing chronic illnesses (Basu, Chen, Li, & Avalos, 2017: Bekkar, Pacheco, Basu & DeNicola, 2020). While this literature shows that maternal exposure to extreme heat has a significant effect on some birth outcomes, it is not clear *when* exposure to extreme heat events can affect birth outcomes (although some research suggests exposure in the first trimester to be most important) or whether these differences are *stratified* by important social phenomena (Strand, Barnett, & Tong, 2011). Most of these studies operationalize extreme heat as exposure

to an absolute temperature cut off rather than as the relative change in average temperature, despite evidence that heat morbidity thresholds may vary regionally or be contingent on acclimatization (Basu, Malig, & Ostro, 2010; Kent et al., 2014; Kuehn and McCormick, 2017; Perkins & Alexander, 2013; Spangler & Wellenius, 2021). This is important because there is some evidence to suggest that maternal and infant morbidity associated with heat exposure in the U.S. is more likely to be related to the relative exposure rather than the duration, and few studies examine extreme heat events (which can vary by location and season) as opposed to using temperature cutoffs (Wang et al., 2013). Depending on the study methodology and variables accounted for, some authors find relationships between extreme heat and birth outcomes dominated by exposures in the first, second, or third trimester (Deschenes, Greenstone, & Guryan, 2009; Strand, Barnett, & Tong, 2011). Because this literature spans multiple disciplines, there is a notable absence of a unifying framework to explain birth outcome disparities by climate exposures—the existing literature spans statistical methodologies, preferred covariates, and standard sampling practices, that would lead to a clearer set of findings (Deschenes, Greenstone, & Guryan, 2009).

Deschenes, Greenstone, & Guryan (2009) find that exposure to extreme heat during pregnancy leads to lower birth weights in U.S. cohorts, particularly for exposures during the second and third trimester; however, their model is likely partially misestimated as there is no control for preterm births. The authors then use these findings, combined with climate change scenarios, to demonstrate that mean birth weights will decrease on average by 6% for White women and 5% for Black women by the end of the century (Deschenes, Greenstone, & Guryan, 2009). They note that increased exposure to extreme heat through altered and variable

temperatures related to the emission of greenhouse gases almost entirely predict these reductions in birth weight (Deschenes, Greenstone, & Guryan, 2009).

An important early finding in the literature on temperatures and births is that human fertility varies by season; failing to account for this seasonal variation in statistical models can completely alter apparent troughs or peaks by season (Lam & Miron, 1996). However, non-seasonal variation is substantial enough that if seasonality is controlled for, researchers may get closer to identifying relationships between temperature exposures and reproductive outcomes. Additionally, these trends vary by country and by intranational characteristics, suggesting that accounting for both the geographic and the social climate of a place is important to consider in these models (Lam & Miron, 1996). Different researchers find different effects of seasons and temperatures on birth outcomes; some find that higher absolute temperatures result in poorer birth outcomes while others suggest that relative temperatures in climates unused to extreme heat, for example, New England, have more substantive effects on health outcomes (Lam & Miron, 1996; Spangler & Wellenius, 2021). Many existing studies on high income contexts, with several notable exceptions (see Deschenes, Greenstone, & Guryan, 2009), focus on a specific city or state. One review of the epidemiological literature suggests that the existing evidence for a negative relationship between extreme heat exposure and birth outcomes is stronger for birthweight than for preterm birth rates and that the effects of high temperatures may depend on the stage of gestation (Strand, Barnett, & Tong, 2011).

Methods

Data

I drew from several data sources to construct these findings on the relationship between exposure to extreme relative heat and birth outcomes. To generate gestational and birth

outcomes, I utilized health outcomes data from restricted-use Vital Statistics Natality Birth Data from 2014-2016 (NVSS, 2022). These records include information on birth outcomes, including birth weight in grams and obstetric corrected estimations of gestational age. They additionally include information on maternal and birth county FIPS codes, maternal demographic characteristics, and gestational health factors. I used these data to generate additional binary measures on preterm births and low birth weights, as well as to estimate the dates and duration between conception date and birth date of the infant to match meteorological data. This data was restricted to women aged 16-49 in metro RUCA areas in the contiguous 48 states who were not missing any data on the key variables of interest, resulting in a set of 7,770,958 births from January 1, 2014, to December 7, 2016.

The data for extreme relative heat came from National Oceanic and Atmospheric Administration's Global Historical Climatology Network API interface , which provides the average ambient daily temperature at land-based stations for each date of interest (Menne et al, 2012a). I employed a dataset that included the average daily temperature as measured by a specific weather station, that weather station's distance in kilometers from the nearest zip code centroid, and the zip code itself. A research assistant integrated this data with American Community Survey (ACS) data to include the distance to the nearest zip code centroid in kilometers and the nearest zip code (Ruggles et al., 2021). Only those measurements within 50km of the nearest centroid were retained for this analysis, a much smaller radius than has been used previously in the U.S.

Variables

<u>Outcome variables: Birth and Gestational outcomes</u>

Prior to estimating how county-level race and extreme relative heat interactions may produce increased inequality as climate change continues to affect our built environments, I

estimated the association between extreme relative heat exposure, race, type of insurance used, and birth outcomes. Here I included two continuous outcomes of interest derived from the NVSS data: birth weight in grams and obstetric refined gestational age in weeks. Additional binary outcomes of interest included whether the birth was preterm (<37 weeks) and whether the birth weight was low (<2500g).

Predictor variables: Extreme Temperature

To calculate exposure to extreme heat during gestation, I first defined extreme relative heat for each zip code of birth as being at or over the 98th percentile of the average daily temperature at the state level. There are several reasons for this definition. The first is that the existing literature emphasizes the importance of relative rather than absolute measures of temperature, in particular for measuring health outcomes (Kent et al, 2014). It is important to use a relative measure that incorporates the daily minimum temperature (such as a percentile of the daily average temperature), as minimum temperatures can often indicate high nighttime temperatures, which limit the physiological ability to recover from hot days without adaptation (Kent et al, 2014). Finally, the 98th percentile is used, by state, but across the time examined, under the assumption that states with greater seasonal variability will have extreme relative heat days concentrated in summer months, while states with lower variability in seasons will capture extreme relative heat days in other seasons as well.

To generate the extreme relative heat indicators, I expanded the NVSS data to have daily rows for each respondent for each date from their imputed conception to the date of birth of their infant. To construct this indicator variable, I take the average temperature for each day by zip code of the birth. I then calculate the average temperature for that day for the entire state and generate an indicator for whether each day during the 10 months prior to each woman's birth was above or below the 98th percentile for the state. These daily observations were then matched with

daily temperature measurements and were then collapsed down to one observation per maternal birth, with indicator variables for exposure to extreme relative heat for 1 month leading up to conception, the first trimester, second trimester, or third trimester. This emerged from literature suggesting that improved inference about the timing of exposure by trimester will be important for better understanding the clinical or social mechanisms that are occurring when pregnant women are exposed to extreme heat.

Predictor variables: Race & Insurance Type

The NVSS birth record data provided the race and of the mother and father of the infant where available. To be able to assess whether exposure to extreme heat differentially impacts women of color, I used NVSS' 9-category race recode and reduced it to four main race categories: White, Black, Asian, and Hispanic. These groups represent over 95% of the sample (with the excluded groups consisting of multiracial, Native Hawai'ian or other Pacific Islander, and American Indian or Alaskan Native). The loss of racial-ethnic variation due to small cell sizes is due to the study being limited to two years of data; with more annual data, these groups could likely be included in the analyses. The inclusion of these groups will be important for future analyses as they represent many people indigenous to North America who are disproportionately and uniquely affected by climate change. These racial categories were then interacted with extreme heat exposure and a binary indicator of Medicaid usage to demonstrate whether and how socioeconomically disadvantaged people of color may be more affected by climate change currently as well as projected into the future. These variables act as representations of disadvantage in a country where intersectional structural and institutional racism, classism, nativism, and other prejudices shape the everyday lives of the people residing in it.

Individual-level control variables

Individual-level controls included variables related to demographic characteristics of the mother giving birth and gestational controls related to the pregnancy. Maternal characteristics included a categorical age variable; categorical education; whether the mother and father of the infant were of different race groups; the mother's marital status; whether the mother was born in the United States; and whether she was using WIC at the time of the birth. Gestational controls included whether the mother gave birth in a different FIPS code from her permanent residence (to account for geographical access); maternal gestational diabetes and hypertension; and the gravidity of the current birth. In the models for birthweight, I included controls for preterm births, while in models for gestational age or preterm birth I included controls for low birth weight (this inclusion does not entirely account for selection into survival to the third trimester as birthweight and gestational age only have a correlation of r=.69).

Fixed effects: Month and County

County-level fixed effects were included in the presented models to account for county-level variation in demographic characteristics like education, poverty, employment, and racial composition, as well as to account for county-level ability to mitigate the effects of extreme heat exposure. This helped to account for the potential effects of extreme heat at the county level that could confound the temperature associations (Brown, 2020). I also included a month fixed effect. This month fixed effect does not act as a time variable in the traditional sense, i.e., it does not render these traditional two-way fixed-effect models. The key estimates are identified here off of *cohort*-location variation, that is, they are adjusted for monthly seasonality. The specifications do *not* include cohort fixed effects, i.e., features of cohorts shared across locations are not removed from the estimation. The time series here is not long enough to support these; future work with a longer time series would make this addition possible. Instead, the month fixed-effect here

accounts for non-temperature related seasonality in birth outcomes—e.g., that every January is distinct from every July in a systematic way—making it so that the coefficients presented represent the associations between extreme heat exposure and birth outcomes net of seasonal variation, i.e., they are closer to the actual relationship between extreme heat and birth outcomes than they would be without the control. All models for different birth outcomes demonstrated seasonality of some kind, though these were not consistent across outcomes.

Analytic Strategy

I estimated the following linear and logistic regression equations:

$$Y_{i,c,m} = \gamma_c + \delta_m + \sum_{j=m-10}^{g} \beta_j T_{j,g} + \theta \boldsymbol{X}_{i,c,m,p} + \varepsilon_{i,c,m,j,g}$$

$$\ln (Y_{i,c,m)} = \gamma_c + \delta_m + \prod_{j=m-10}^{g} \beta_j T_{j,g} + \theta \boldsymbol{X}_{i,c,m,p} + \ln (\varepsilon_{i,c,m,j,g)}$$

Where $Y_{i,c,m,p}$ is the birth outcome of interest for individual i residing in county c, pregnant over the gestational period, g, which includes months, m, in a given year, p. γ_c is a fixed effect for the county of birth, and $\delta_m$is a fixed effect for the month of birth to control for non-temperature-related seasonality. The coefficients of interest are β_j for four variables of $T_{j,g}$, which correspond to whether an individual in county c, in gestational time g, was exposed or not to a temperature over the 98th percentile for the state at 1 month prior to conception, during the first trimester, the second trimester, or the third trimester. $\theta \boldsymbol{X}_{i,c,m,p}$ is a vector of control variables, and $\varepsilon_{i,c,m,p}$ is the term for unobserved error. These models address the first research question, that is, whether exposure to extreme temperatures during different periods of gestation is associated with changes in birth outcomes. To answer the second question of whether temperature differentially influences birth outcomes among disadvantaged women of color, I

interacted the categorical race variable and the Medicaid use variable with the β_j terms for trimesters one through three and plotted the interacted coefficients (see Figures 1.a-1.d).

Results

Population Characteristics

The data included in this study represent the entire universe of metro births in the United States to women aged 15-49 between 2014 and 2016. Table 1 demonstrates basic demographic characteristics of the births included in this study, as well as birth outcomes averaged across all included women. The study population includes 7,770,958 women representing 1,123 counties and 67% of all births in the continental United States for the years 2014-2016. On average, 2.3% of the included births were exposed to any extreme heat day during any trimester, and 0.5% were exposed during the month leading up to conception.

Close to 70% of the women included in this population subset were married at the time they gave birth. More than half of the included women were aged 25-34-years-old (59.6%); 22% had completed high school or their GED, while 23% had completed a bachelor's degree. The majority of the women represented in this population were White (54.1%), followed by Hispanic (26.3%), Black (11.7%), and Asian (8.0%). Almost three-quarters were born in the United States. Over one-third of included women were using WIC—the special supplemental nutrition program for women, infants, and children—a similar proportion were using Medicaid as the primary insurance for the birth observed. Black and Hispanic women were more than twice as likely to be using WIC *or* Medicaid than White or Asian women; Asian and Hispanic were more likely to be using WIC *and* Medicaid than White or Black women. Of the births represented in this sub-population, approximately one-third were reported as women's first births. Nine percent of births

were preterm and 7.4% of births were low weight; 5% of births were preterm and low birthweight.

Temperature, Race, & Medicaid Status & Selected Birth Outcomes

Table 2 shows the results from an un-interacted multivariate model with fixed county and month effects for the relationship between exposure to extreme relative heat and a selection of birth outcomes, including gestational age in weeks, birth weight in grams, and the proportion of births that are low birth weight or preterm. Exposure to extreme relative heat can be associated with select worse birth outcomes if the exposure occurs during the first or second trimester, or during the conception period; alternatively, relative extreme heat exposure is associated with improved birth outcomes if experienced during the third trimester, however, further investigation is required to assess whether this is a selection effect.

In a specification without interactions, exposure to extreme relative heat experienced only in the first trimester significantly predicts earlier gestational age, higher odds of preterm birth, lower birth weight, and higher odds of low-birth-weight births (see Table 2). Exposure to relative extreme relative heat in the first trimester is the equivalent of decreasing gestational age per birth by about one-third of a day, decreasing birthweight by .25% of the average birth weight in the sample, experiencing an additional 56,300 preterm births and an additional 17,200 low birthweight births (all significant at $p<.05$). Across the different birth outcomes, the coefficients for all but the odds of preterm birth tend to be much larger in terms of magnitude and precision of estimation for Black women and Asian women. For example, while exposure to extreme relative heat during the first trimester would reduce the average birth weight in the sample by about .25%, a counterfactual in which all women in the included population have the same outcomes as a Black woman would shift the average birthweight down 5% for the entire group.

Similarly, though exposure to a relative extreme heat would increase the number of births that are low weight by 17,200, shifting the population of births to be Black would increase low weight births by 476,600 (a 6% vs. .2% increase). Being exposed to extreme relative heat is significantly associated with worse birth outcomes if experienced during the first trimester (and with higher odds of preterm birth if also experienced during the 2nd trimester and higher odds of low weight birth if experienced one month leading up to conception). However, evidence from a model without interactions indicates that exposure to extreme heat has a modest effect size on birth outcomes relative to race associated disparities, particularly for Black and Asian women.

If only experienced in the 3rd trimester, extreme relative heat exposure is associated with significantly later gestational age, reduced odds of preterm birth, an increase in birth weight, and reduced odds of low birthweight. This is counter to some evidence from low- and middle-income contexts that find that third trimester exposure to high temperatures is typically associated with increased risks of preterm births (Grace et. al, 2021). These coefficients are equivalent to experiencing about one additional gestational day, on average, per birth, a reduction of 218,100 preterm births, and a 103,400 reduction of low birthweight births (the interpretation for birthweight in grams is a straightforward gain of 20 grams per birth). The magnitude of these improvements is, in general, greater than the losses in birth outcomes experienced if only exposed to extreme heat in the first or second trimester.

Across all included outcomes and racial-ethnic groups, with one exception, non-White racial-ethnic identification is a strong and significant predictor of experiencing worse birth outcomes. For low birth weight, Black women have the worst birth outcomes relative to White women, followed closely by Asian women, while Black and Asian women have similarly negative outcomes for gestational age (-.16 weeks, respectively CIs: [-.18--.14]; [-.17--.14],

p<.001). For birthweight, Asian women have worse outcomes than Black women (199 grams lower birth weight compared to 168 grams lower birthweight than Whites, on average). Hispanic women have significantly higher odds of preterm births than Black women, and both groups have significantly higher odds of preterm birth than White women. However, Asian women experience reduced odds for preterm births relative to all other racial-ethnic groups in the sample. Using Medicaid insurance for the birth, a variable I included as a proximate estimator of socio-economic need, predicts worse birth outcomes only for weight-related outcomes (see Table 2).

Interactions Between Temperature, Race, & Medicaid Status & Selected Birth Outcomes

To answer the question of whether socioeconomically disadvantaged women of color are differentially affected by exposure to extreme relative heat compared to non-Hispanic White women, I plot the predicted marginal values for the interacted models in Figures 1.a-1.d. In Table 1, we see that the base coefficients for each group of women of color—Black, Asian, and Hispanic—are extremely significant for each birth outcome. For all but one race group outcome, birth outcomes are worse for women of color, particularly for Black and Asian women. When these race categories interact with exposure to extreme relative heat at each of the trimesters, there are several key findings. One overarching finding is that Asian and Black women tend to have worse birth outcomes than White and Hispanic women. Depending on the outcome measured, having Medicaid as insurance can improve or worsen the outlook for Black and Asian births. Secondly, exposure to extreme relative heat in the first trimester variably worsens health outcomes across racial-ethnic-insurance groups, with differential findings based on the outcome, while exposure in the third trimester almost universally improves birth outcomes within racial-ethnic-insurance groups relative to exposure in the other trimesters or no exposure at all. Except

for the probability of pre-term births, exposure to extreme relative heat in the first trimester seems to have a particularly insidious association with birth outcomes for Black women. Figures 1.a-1.d. visualize these interactions as marginal effects on the specific outcomes, making it easier to understand how birth outcomes are patterned across racial groups for women born in the U.S.

For gestational age, measured in weeks, exposure to extreme relative heat in the first trimester significantly reduces the age of births to all Asians and Black women and to White women using Medicaid. Relative to no exposure, Asian and Black women using Medicaid lose approximately one gestational day per pregnancy, while Asian and Black women using other insurance and White women using Medicaid lose about 1/3 - ½ of a gestational day. \ It is not clear whether loss or gains of a gestational day are clinically relevant—these differences may make more of an impact for those at the margins of becoming preterm births. Using Medicaid has different patterns for different race -exposure groups. Using Medicaid relative to other insurance doesn't significantly alter the gestational age across exposure groups for White, Asian, or Black women; it significantly increases gestational age for Hispanic women only in the no exposure group. Exposure to extreme relative heat only in the second trimester generally increases gestational age when compared to the first trimester. Third-trimester exposure to extreme relative heat increases gestational age among all race -insurance groups, with Asians gaining the most. Across exposure categories, White women have older gestational ages in general, however, exposure to extreme relative heat in the third trimester has some equalizing relationship and improves gestational age across all race -insurance groups so the only significant difference is that Black women have lower gestational ages when exposed in the third trimester compared to all other race groups.

Among women exposed to extreme relative heat in the first trimester of their pregnancy, Hispanic women and Asian women experienced an increase in the probability of preterm births, with Hispanic women continuing to have a higher probability than all other race groups. For Hispanic women using Medicaid, exposure to extreme relative heat during the second trimester was related to a significant decrease in the probability of preterm birth relative to exposure in the first trimester. For women exposed to extreme relative heat in the third trimester, the probability of preterm birth is significantly decreased across all groups, on average reducing the probability of preterm birth by .009, and has an equalizing effect, i.e., the confidence intervals for all of the third trimester exposed births overlap.

Birthweight, as measured in grams, follows a general pattern where White and Hispanic women have higher birth weights than Black and Asian women, and White and Black women using Medicaid have significantly lower birth weights than their counterparts using different insurance. Going from no exposure to first-trimester exposure, Black women using Medicaid lose 25.3 grams relative to the 20.8 grams lost among those using different insurance. On average over this period and across insurance categories, Black women lose an additional 15 grams of birthweight relative to White women. For exposure during the first trimester, there is a slight increase in birthweight for Asian women, however, this increase is not significant. . Similar to other outcomes, exposure to extreme heat in the third trimester generally increases birthweight relative to no exposure, except for among Asian women using Medicaid. Across race -insurance groups, exposure to extreme relative heat in the third trimester increases birth weight by 19.7 grams.

Across all exposure periods, White and Hispanic women had a significantly lower probability of low birthweights than Black and Asian women. White and Black women using

Medicaid had significantly higher probabilities of low birth weights than their counterparts using other insurance. When exposed to extreme heat only in the third trimester, all race -insurance groups had lower probabilities of low birthweights relative to other exposure groups.

These results demonstrate differential birth outcomes if a woman was exposed to extreme heat *only* during the trimester or pre-conception period stated. For sensitivity analyses, I compared these estimates with other combinations of exposure for the birthweight (in grams) outcome. For Black women with non-Medicaid insurance, exposure to extreme heat in the first *and* second trimester reduced birthweight relative to White women with non-Medicaid insurance. For Hispanic women, exposure during the first and second trimester decreased birth weight, while exposure during the second and third trimester or all trimesters increased birthweight. For all other groups, there were no significant differences across combinations of exposure periods.

Discussion

These findings suggest that extreme relative temperatures experienced during the first trimester have an association with reduced birth weight and earlier gestational age. In un-interacted models, exposure to extreme relative temperatures worsen all of the birth outcomes examined here, as does being a woman of color relative to a White woman (with the exception of Asian pre-term births), while using Medicaid worsens birth weight. Once these models include the triple interactions between exposure, race, and insurance type, first trimester exposure to extreme relative heat leads to earlier gestational age for Black and White women using Medicaid, and to lower birth weight for Black women using Medicaid, while Asian and Hispanic women using Medicaid have increased odds for preterm birth. Exposure during the first trimester appears to have a particularly insidious association with early gestational age and low birth weight for Black women. I find no evidence that these associations are occurring through later

trimester selection (to confirm this I explore the association between extreme relative heat exposure and the sex ratio at the county level, which should indicate gestational selection geared towards female fetuses if exposure causes in utero stress after 20 weeks of gestation and find no associations). I propose that these relationships are primarily occurring by increasing the odds of preterm birth or low birth weight through stress-based selection for some criteria during the first trimester that later induces preterm or low birth weight.

Exposure during the third trimester improves birth outcomes, even when preterm birth and low birth weight are controlled for. Selection into the third trimester is partially accounted for in these models but further analyses are needed to understand whether this is as significant of a relationship as it appears in the data. Exposure to extreme relative heat in the third trimester improves birth outcomes across racial-insurance categories, with the exception of Asian birthweights. Exposure during this period These findings run counter to what Grace et. al (2021) have theorized in the Sub-Saharan African context, where they suggest that exposure during the first trimester selects for heartier fetuses with improved survival odds and exposure during the third trimester may increase the likelihood of preterm births and slow birth rates. One possible explanatory mechanism is that on particularly hot days, hospitals may be overcrowded, or pregnant women may delay going to delivery services until they are more physically comfortable.

These findings also suggest that different experiences of race, insurance usage, and extreme relative heat exposure may produce different birth outcomes. Asian and Black women have worse birth outcomes relative to White, and sometimes, Hispanic, women; however, it is interesting that there are variable relationships between Medicaid usage and these racial categories. For example, Black women using Medicaid and exposed to extreme heat in the first

trimester have lower birth weights than their counterparts using different insurance, while there is no difference for Asian women using Medicaid. Across all exposure categories, White women tend to have the best birth outcomes, but exposure to extreme relative heat in the third trimester seems to act as an equalizing effect across all race -insurance groups.

An unclear component of these results is whether they are clinically significant. The results reported, unless otherwise stated, are statistically significant at $p<.05$ or less, but this can translate into a difference of one gestational day lost or 5 grams of birthweight lost. At an individual level, it is not clear that these are significant in magnitude, however at the population level this is a significant loss of gestational duration. More research needs to be undertaken to establish what meaningful levels of change in birth outcomes are at the population level, as many results will show up as statistically significant because of the large population sizes included in studies like these.

This study has some limitations. Although it represents the universe of urban births among American women aged 15-49 from 2014-2016, a longer span of data that could represent variations in temperature related to climate change may be more appropriate. It may also be beneficial to test alternative iterations of temperature exposure, including absolute cutoffs, differentiated by climate zones in the U.S. in future iterations. Additionally, using race and Medicaid usage as proxy variables for racism and socioeconomic disadvantage has its own weaknesses. Social scientists have often been criticized for using individual-level characteristics to represent what is actually a structural or contextual phenomenon (i.e., substituting race for racism). Because I include fixed county effects in the presented models to better account for spatial variation, it becomes more difficult to measure structural or institutional phenomena like mortgage denials or the density of delivery centers close to the zip code centroid. Working with

emerging literature (see for example Chambers et al, 2018) to better operationalize spatial distributions that represent violent and denigrating histories and intergenerational drag and working to build better datasets that identify structural availability of characteristics relevant to climate change, like air conditioning coverage, will be instrumental in furthering research like this in the future. In the current models, I am primarily examining variation within locations (at the county level); future work may benefit from including explicit examinations of between county variation (Grace, 2017). Additionally, while climate change represents a global turning point for humans and non-humans alike, in this data it is only possible to establish the calendar age, but not the social age of respondents. While age is a moderately acceptable proxy for life stage, we know that in the U.S. different groups approach different life stages, like marriage, education, and careers, differently in ways that may be important for birth outcomes (see for example, Edin & Kefalas, 2005). Finally, I include only measures of gestational age and birth weight in these analyses. Other important indicators of birth health that are harder to measure, such as miscarriages, stillbirths, and those that measure postpartum outcomes, like admission to NICUs, may help to better specify the level and timing of when exposure to heat may be operating on birthing people's outcomes.

Conclusion

In this study, I attempt to investigate the relationships between exposure to extreme relative heat and several standard measures of birth outcomes, while also examining whether this indicator of climate change has relatively different associations for women of color compared to White women. In the first component of the study, I ask whether exposure to extreme relative temperature is associated with several measures of birth outcomes. This is not a new question, as demonstrated in the literature review above. So how is this work distinct from what others have

published? First, my estimations use a measure of extreme relative heat—defined as experiencing any day above the 98th average temperature percentile for the state of maternal county residence for relevant periods of a pregnancy. While some studies use this measure or measures like this, most do not disaggregate the percentile to a sub-national level, which can account for regional variation, and many still rely on absolute temperature cut-offs. Secondly, I use a finer measure of temperature (temperature measurement station within 50km of zip code centroid) than most existing U.S. studies, which would suggest that the results are better identified here than in other cases. Third, I operationalize exposure to extreme heat as occurring (or not) during the month leading up to conception, and during each of the three trimesters—most existing work examines exposure month-by-month or over an entire year. Considering the clinical relevance of trimesters, this specification offers insight into the timing of any relationship between extreme relative heat exposure and birth outcomes. Next, I interact race with exposure to extreme relative temperatures and I use a combined race measure of Hispanic and racial identification. This offers insight into whether there are differential relationships based on structural inequity for women of color compared to non-Hispanic White women exposed to extreme temperatures. These could be related to access to heat mitigation resources, built environments, family and community assets, or other components of individual and community health. Finally, based on calls from previous studies, I include race categories beyond just White and Black women, examining the results for Asian and Hispanic women.

The results demonstrate that there are intersectional differences in the experience of negative birth outcomes based on race, insurance status, exposure to extreme heat, net of variation at the county level, and net of maternal and gestational characteristics. By documenting these relative experiences with birth outcomes, I hope to provide evidence for the praxis

component of environmental and reproductive justice frameworks. This could include pointing to areas for future research (such as sub-national or sub-state analyses identifying particularly vulnerable geographic-social locations), suggesting specific interventions for, in particular, first trimester exposure to extreme heat, including informational materials for those trying to conceive, mitigation options presented at prenatal visits, or improved community health visits which include integrated information on environment and reproduction. Any potential intervention should center the voices of women of color and conceptualize environment within frameworks of community attachment to place within space. In doing this, interventions can be not only community driven (and thus more likely to be successful) but can also incorporate the leadership of women and people who have traditionally been marginalized in program and policy making and can center holistic approaches to sustainability and birth. These differences demonstrate the importance of considering how disadvantage and inequality are co-constructed through lived experiences of disadvantage and space to produce differential outcomes for people from marginalized communities. To achieve reproductive justice, we need to address not only racial and economic inequalities in birthing and reproductive practices, but also environmental inequality in access to safe communities and homes where one can become pregnant, be pregnant, give birth, and raise a child.

Tables and Figures

Table 1. Population Characteristics

	N	Percent
Maternal Characteristics		
Married	5,351,359	68.9
Mother and Father have same level of education	3,384,841	43.6
Mother and father are same race	6,657,773	85.7
Age		
15-19	319,131	4.1
20-24	1,404,179	18.1
25-29	2,254,488	29.0
30-34	2,375,682	30.6
35-39	1,160,738	14.9
40-44	240,177	3.1
45-49	16,563	0.2
Education		
8th grade or less	266,310	3.4
HS, no diploma	677,264	8.7
Completed HS or GED	1,715,790	22.1
Some college, no degree	1,572,886	20.2
Associates degree	644,808	8.3
Bachelor's Degree	1,801,461	23.2
Master's Degree	846,216	10.9
Doctorate or Professional degree	246,233	3.2
Race		
White	4,203,976	54.1
Black	908,017	11.7
Asian	620,481	8.0
Hispanic	2,038,484	26.3
U.S. born	5,740,238	73.9
WIC	2,839,091	36.5
Gestational Characteristics		
Using Medicaid as primary insurance	2,886,152	37.1
Preterm (<37 weeks)	703,544	9.1
Low birthweight (< 2500 grams)	574,195	7.4
Gestational Diabetes	462,595	6.0
Gestational Hypertension	423,075	5.4
Admitted to NICU	644,368	8.3
Female Births	3,790,410	48.8
First birth	2,465,836	31.7
N	7,770,958	7,770,958

Table 2. Exposure to Extreme Temperature and Birth Outcomes, Linear and Logistic Fixed Effect Regressions (non-interacted model)

	Obstetric Refined Gestational Age (in weeks)	Preterm Birth (OR)	Birthweight (in grams)	Low Birthweight (OR)
Exposure to temperature over the 98th percentile				
Preconception 1 month	-0.03	1.01	-11.91	1.11***
	(-0.09-0.03)	(0.97-1.06)	(-24.52-0.70)	(1.06-1.16)
1st trimester	-0.05*	1.08***	-8.29***	1.03*
	(-0.10--0.01)	(1.05-1.11)	(-12.36—4.22)	(1.01-1.06)
2nd trimester	-0.01	1.03**	-1.26	1.02
	(-0.02--.002)	(1.01-1.06)	(-3.61—1.10)	(1.00-1.05)
3rd trimester	0.17***	0.69***	20.00***	0.82***
	(0.15-020)	(0.67-0.70)	(15.69-24.25)	(0.80-0.84)
Race				
White (*Reference*)				
Black	-0.16***	1.02***	-0.16***	1.83***
	(-0.18--0.14)	(1.01-1.03)	(-172.42—163.98)	(1.81-1.85)
Asian	-0.16***	0.88***	-199.18***	1.74***
	(-0.17--0.14)	(0.87-0.89)	(-208.65—189.70)	(1.71-1.77)
Hispanic	-0.14***	1.08***	-36.81***	1.02**
	(-0.15--0.13)	(1.07-1.09)	(-40.16—33.45)	(1.01-1.03)
Medicaid Usage				
Private or other insurance (*Reference*)				
Medicaid	-0.01	0.99	-26.57***	1.12***
	(-0.01-0.003)	(0.98-1.00)	(-28.69—24.45)	(1.11-1.13)
Constant	39.26***	0.04***	3359.18***	0.02***
	(39.23-39.28)	(0.03-0.05)	(3350.84-3367.52)	(.02-.03)
County fixed effects	√	√	√	√
Month fixed effects	√	√	√	√
Maternal controls	√	√	√	√
Gestational Controls	√	√	√	√
Region##Temperature Controls	√	√	√	√
Model demonstrates seasonality?	Yes	Yes	Yes	Yes
N	7,770,958	7,770,958	7,770,958	7,770,958

P-values *p<.05, **p<.01, ***p<.001

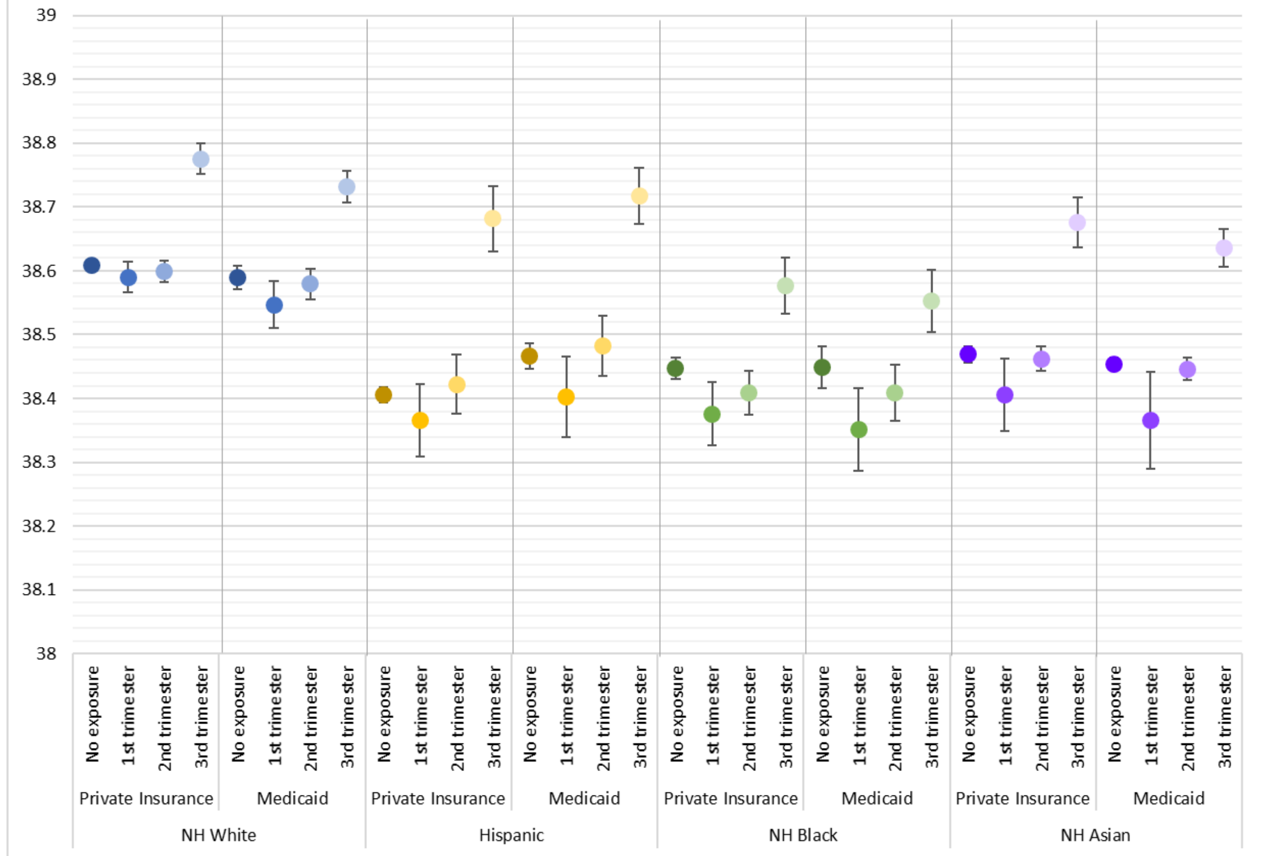
Figure 1.a: Gestational Age (in weeks), by race/ethnicity, Medicaid status, and exposure to extreme heat in each trimester
39
38.9
38.8
38.7
38.6
38.5
38.4
38.3
38.2
38.1
38
No exposure
1st trimester
2nd trimester
3rd trimester
Private Insurance
Medicaid
NH White
Hispanic
NH Black
NH Asian

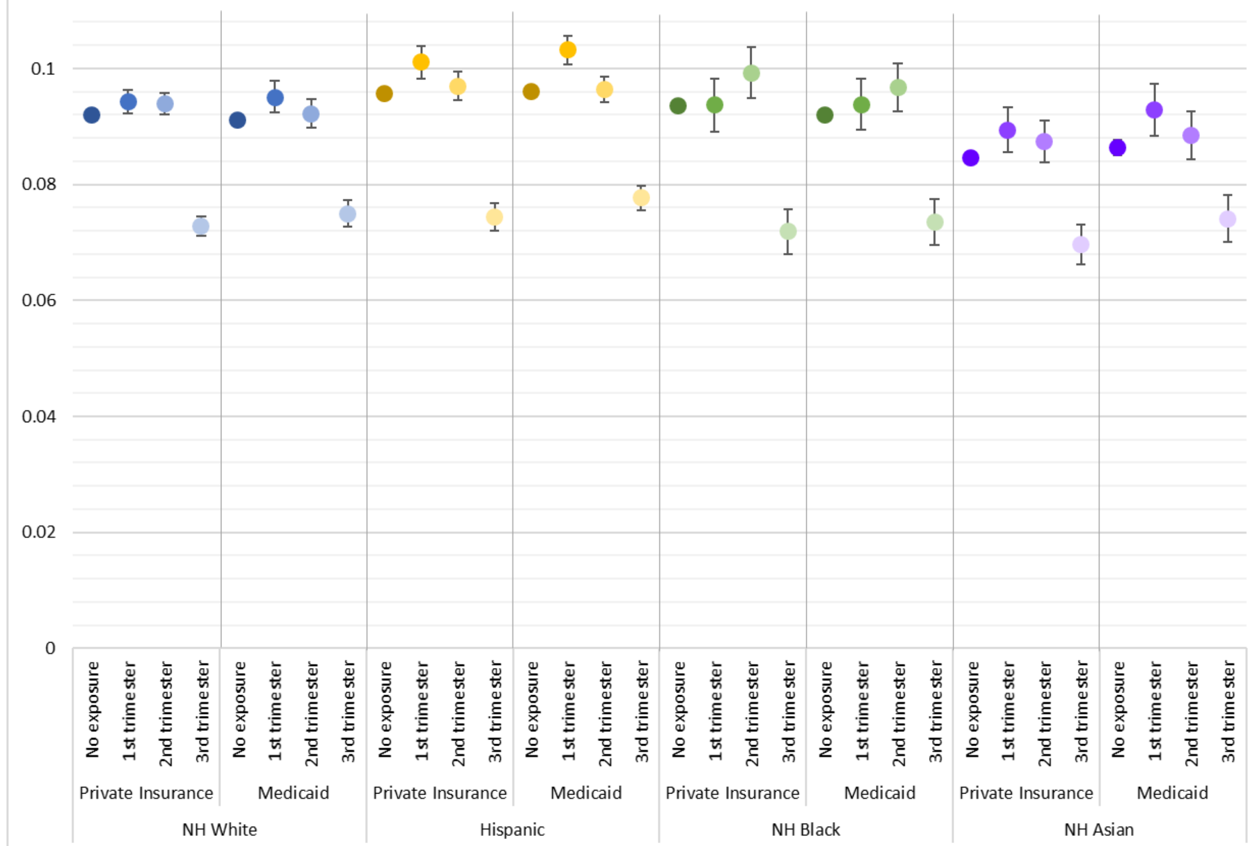

Figure 1.b: Predicted Probability of Preterm Birth, by race/ethnicity, Medicaid status, and exposure to extreme heat in each trimester
0.1
0.08
0.06
0.04
0.02
0
No exposure
1st trimester
2nd trimester
3rd trimester
Private Insurance
Medicaid
NH White
Hispanic
NH Black
NH Asian

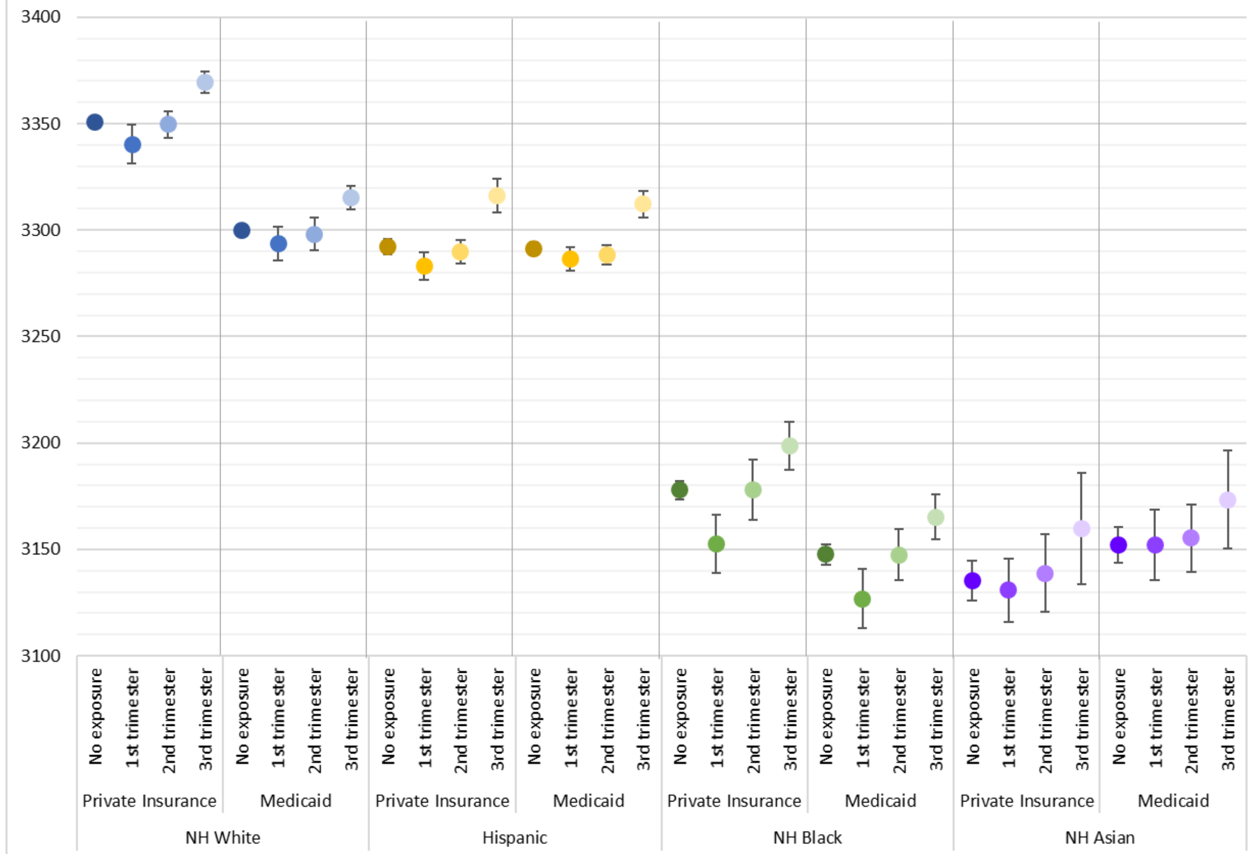
Figure 1.c: Birthweight (in grams), by race/ethnicity, Medicaid status, and exposure to extreme heat in each trimester
3400
3350
3300
3250
3200
3150
3100
No exposure
1st trimester
2nd trimester
3rd trimester
Private Insurance
Medicaid
NH White
Hispanic
NH Black
NH Asian

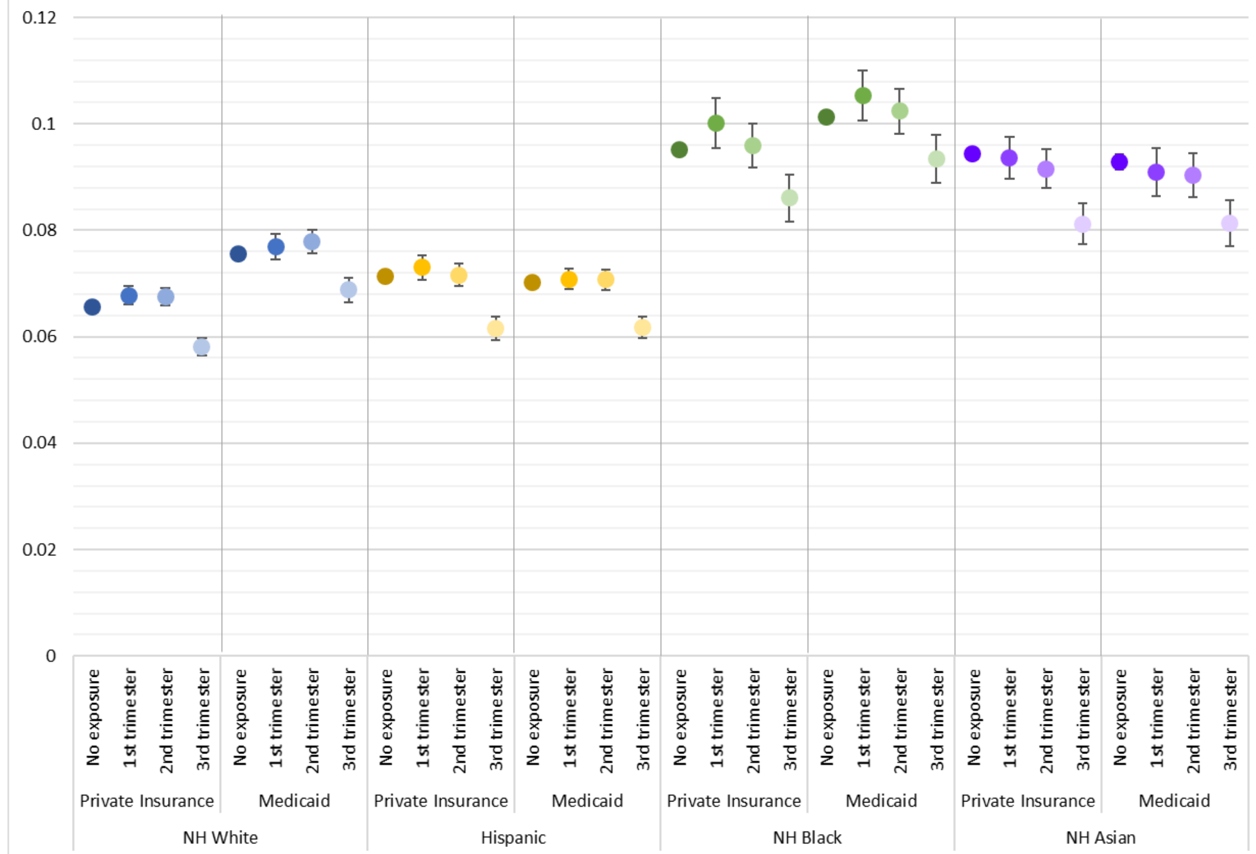
Figure 1.d: Predicted Probability of Low Birth Weight, by race/ethnicity, Medicaid status, and exposure to extreme heat in each trimester
0.12
0.1
0.08
0.06
0.04
0.02
0
No exposure
1st trimester
2nd trimester
3rd trimester
Private Insurance
Medicaid
NH White
Hispanic
NH Black
NH Asian

CHAPTER 3. "It changed the atmosphere surrounding the baby I did have": Making sense of reproduction during the COVID-19 pandemic

Introduction

In this study, I show how individuals use specific schemas during a time of prolonged social upheaval to understand how they maintain, reassess, or relinquish reproductive desires. Despite a robust body of literature that quantitatively describes fertility responses to crises at the population level, we know less about how individuals make sense of their reproductive desires within these scenarios. In this study, I use a unique qualitative dataset—29 in-depth interviews with women of reproductive age interviewed 7-8 months into the COVID-19 pandemic, prior to the development of a successful vaccine—to offer insights into the research question: "How do adult women *make sense* of their reproductive desires in the context of prolonged uncertainty?" In exploring women's accounts, I show how the experience of the pandemic lockdown from March-November 2020 reveals how participants (re)articulate commitments to internalized schemas of heteronormative, social support, and medicalization used to normatively make sense of their desires for reproduction.

This work examines how participants talk about the direct and indirect effects the COVID-19 pandemic had on their reproductive desires. To do this, I employ the "Theory of Conjunctural Action" (TCA) to examine relevant emergent schemas for assessing reproductive experiences within critical moments, or conjunctures (Johnson-Hanks et al., 2011). Johnson-Hanks et al. (2011) define schemas as stylized cultural models that social actors employ "to determine how to act to account for their actions, and to evaluate the action of others" (pp. 6). Schemas are generally learned inductively, through repeated and routine exposure, and are abstracted so that they can be transposed as decision-making apparatuses across a variety of social situations. When schemas are successfully repeated in social contexts, they are legitimated

and strengthened, which in turn makes them appear non-ideological and non-controversial—in this way, they become normative, hegemonic cultural rules for being and acting (Johnson-Hanks et al, 2011). In the framework of TCA, the COVID-19 pandemic lockdown represents a larger material context within which critical reproductive moments for reconfiguring or affirming reproductive desires can occur. Within these moments, individuals deploy specific schemas to articulate their commitment to a specific orientation toward reproductive desires (Johnson-Hanks et al., 2011). The schemas emerging from participants' narratives in this work—heteronormative, social support, and medicalized—offer archetypes against which participants evaluate their own reproductive experiences in the context of the pandemic lockdown.

By examining how participants both adhere to and challenge normative schemas, this research has broader implications for research on fertility and families. The participants' experiences during the COVID-19 pandemic lockdown demonstrate that internalized schemas representing taken-for-granted knowledge about how the world works can be articulated, adhered to, or reconfigured in intense social situations. Because these internalized schemas often represent implicit hierarchies, such as gendered expectations for reproduction, they reveal underlying commitments to powerful social scripts when participants discuss them. It is also clear from these accounts that health systems in the U.S., already spread thin by the COVID-19 pandemic, cannot meet the needs of women who are currently pregnant or who intend to become pregnant in the future without additional help or policy changes. Pregnant women are losing more than we initially believed—isolation at doctors' appointments or in delivery rooms causes intense emotional distress in addition to taking away resources for emotional, social, and informational support. The loss of "normal" rituals around pregnancy—ranging from baby showers to sharing a newborn with friends and family to being able to rely on extended networks

for support in the first months of a child's life—causes mental health problems, grief, sadness, and feelings of being overwhelmed or isolated (Yan, Ding, and Guo, 2020). Examining ways to bolster social support services, including support for post-partum mental health services, will be essential going forward. Finally, it is clear from these interviews that while the pandemic lockdown did not necessarily influence how individuals were articulating their childbearing preferences, it generated material constraints that may shift the timing of participants' childbearing activities. These material constraints, whether they be financial ability to support a new child, ability to take family or medical leave, access to supportive health services, or limitations on accessing extended family and friend support networks, have real relationships with concepts of biological fertility in the minds of participants. Many women in this study rhetorically juggle these material constraints with internalized timelines related to their understandings of reproductive physiology. By examining accounts of reproductive desires over time, even via retrospective accounts, we get a more holistic picture of the decisions that participants make within contexts that constrain their decision-making. The schemas that participants use to navigate these relational processes are an important issue to investigate further, as they offer insight into how individual reproductive decisions are made, broken, and reshaped.

Background

Theoretical Framework: Theory of Conjunctural Action & Schemas

Johnson-Hanks et al. (2011) describe a theory of conjunctural action (TCA) where fertility is perceived as a sequential decision-making process, and people operate on an autopilot system until a "conjuncture" (critical juncture)—a temporary but important node that combines specific schemas and materials—occurs. Within these conjunctures, individuals react in ways

that reconfigure or affirm existing structures (Johnson-Hanks et al., 2011, pp. 1-22). In TCA, this conjuncture is defined as a brief confluence of contexts that results in social action. In the case of my participants, this social action consisted of maintaining or changing preferences for whether and when to have children, for how to have children, or for making sense of reproductive desires (pp. 15-17). The authors use the term "schema" as an umbrella term for a variety of related social science ideas that describe our taken-for-granted schematics for evaluating the world, which allow us to translate behavior and understanding across time and contexts (Johnson-Hanks et al., pp. 2-8). Locating an individual's perceptions about reproductive experience in the context of conjunctures allows researchers to understand experiences of uncertainty, like an epidemic or quarantine, by making taken-for-granted schemas more explicit. With everyday life interrupted, people are forced to reckon with the mundane in entirely different ways (Becker, 1997; Swidler, 1986). These disruptions occur because the material foundations of daily life are interrupted by restrictions on movement, by household quarantines, or it can happen via the interruption of everyday schemas, such as perceiving there to be a higher-than-normal mortality risk in one's community (Sandberg, 2005).

Within TCA, we can consider the COVID-19 pandemic lockdown to be an emerging and ongoing material condition that creates critical junctures for reproductive sense-making in participants' lives. In combination with existing social schemas, the material reality of the pandemic allows participants to articulate idealized schemas and restrictions for social behavior (for example, when and how to have a child) that they must then re-establish or relinquish in the face of massive societal disruption. The experience of the pandemic lockdown —as a crisis, an ongoing event, and an upheaval—makes decisions about reproduction, whether real or imagined, unyieldingly salient as participants adjust or reorient their visions of their ideal life progressions

to fit within a disrupted world. Throughout this paper, I will consider important schemas that emerged from inductive thematic coding and demonstrate how participants used these schemas to maintain, reassess, or relinquish their existing reproductive experiences.

Schemas of heteronormativity refer to timelines (often linear) that adhere to strict social scripts around the timing and order of milestones within heterosexual, middle-class, White reference groups, despite these arrangements being historically atypical in terms of family life (Coontz, 1992; Halberstam, 2005; Mann, 2013). These schemas allow participants to tacitly or explicitly endorse gendered heteronormative timelines as ideal life courses against which they can either succeed or fall short. For example, marriage and reproduction follow standardized pathways that normalize certain ways of being—specifically those that prioritize heterosexual, married, procreative relationships (Halberstam, 2005; Mann, 2013). Herz (2011) similarly demonstrates that in situations where certain elements of these standardized pathways are absent—here, when women become single mothers by choice—mothers and family members still often reinscribe the importance of blood kinship with male donors rather than developing new explanations for family formations. When participants in this study talk about heteronormative timelines, they are aligning themselves with practices that make their own lives appear to conform to taken-for-granted respectability and legitimacy (Mamo, 2007). Many researchers have defined these heteronormative responsibilities and timelines, where certain actions or events preclude other events (i.e., getting married before buying a house), and where women's lives and priorities can be insidiously subsumed to priorities for their male partners, to explain women and couples' life course trajectories, thinking, and actions (for example, see Coontz, 1992; Halberstam, 2005; Smith, 1993). Even if research participants push back at the heteronormative experience as the standard or default, heteronormative practices still appear in

their talk as the inevitable standard against which they must justify their decision-making (Ingraham, 1994).

The events on these heteronormative timelines are one of the foundations upon which many women make and evaluate their choices around personal development and family formation. The consequences for going "off course" of these trajectories are dire—they include judgment and policing from family and friends, internalized judgment and guilt, and perception of few other options (Dow, 2016; Fallon & Stockstill, 2018). As Fallon & Stockstill (2018) find among their elite study participants, "the focus on women's failure to partner suggests that despite women's other achievements…marriage and childbearing remain presumed achievements that women need to complete in order to be seen as acceptable to others. (pp. 9). Fallon & Stockstill (2018) also argue that these pressures are age-graded, gendered, and classed so as to ensure that many women feel pressured to partner so that they can have children "naturally" within an "appropriate" two-parent family. The age-gradation of social expectations around childbearing is widely apparent in women's articulations of "risky" or "unsafe" pregnancies unaligned with biological clocks. These clocks take on such a mythos that alternatives to partnered biological reproduction, even in the face of social or physiological constraints, are rarely considered (Fallon & Stockstill; 2018; Martin, 2017). Dorothy Smith (1993) articulates this invisible referent as the "Standard North American Family"—a taken-for-granted ideological code reproduced via discourse, which consists of a legally married couple sharing a household where the adult male is employed and provides the economic basis for the family. She further elaborates that the adult female can earn income, but her primary responsibility is care work—aimed at the husband, children, and household (Smith, 1993). Smith (1993) argues that this standard is so normatively insidious that any deviations from it are

perceived as defective, and its ubiquity allows it to order everyday life. Other researchers have emphasized that idealized nuclear families that privilege Whiteness, middle-class values, heterosexuality, and married relationships remain dominant in American research, policy, and public thought (Blair-Loy 2003; Coontz, 1992; Hays 1996).

Other work on idealized heteronormative timelines has emphasized gendered stereotypes that disproportionately paint women as natural caregivers and women who are not mothers as incomplete beings. Although motherhood is a central and important identity to many women, these stereotypes lead mothers to role conflict between educational, career, or other aspirations and motherhood. This ideal, devoted motherhood acts as a type of gender essentialism which Hays (1996) argues requires mothers to demonstrate exemplary maternalism prior to being successful in any other aspect of life (Damaske, 2011; Hochschild, 2012; McQuillan, Greil, Shreffler, & Bedrous, 2015). Indeed, Damaske's (2011) work on class, gender, and family, demonstrates that many women justify workforce choices based on what they perceive is best for the family, rather than household economic needs. Additionally, during the COVID-19 lockdown , both mothers and fathers justified the disproportionate childcare and other labor performed by women as being practical and natural based on gendered assumptions about women as natural caretakers (Calarco, Meanwell, Anderson, and Knopf, 2021).

In this study, I refer to the expectations that participants have for social support during and after pregnancy as schemas of social support. The social support schema is used by participants to express grief and loss as motifs defining their pregnancy experiences when partners, family members, and friends are prevented from participating in the pregnancy process due to lockdown restrictions. Here, participants use the language of how things "should" have been to express their grief, loss, and fear about the changing social world represented by the

pandemic (Margolis, 1998). The “shoulds” almost always encompass the normative expectation for the presence of others—the expectation that a partner will be present for appointments or in the delivery room, the expectation that family members will be able to connect with a new child in the first year of its life or the expectation of being celebrated among family and friends as a new parent. The dissonance between what participants expected to occur and what did occur surrounding their own or others’ pregnancies caused emotional distress, feelings of loss and grief, and feelings of social isolation.

A medicalized schema hybridizes orthodox medicalization critiques to show how participants use feelings of fear, risk, and loss to characterize birth experiences to collude in the medicalization of birthing practices (Lupton, 1997). Participants simultaneously articulate a reliance on medical institutions for “safe” pregnancy and childbearing, while also experiencing fear and stress around encounters with medical personnel, potential risks of exposure, and potential isolation resulting from becoming pregnant. This schema builds on extensive literature demonstrating that the transformation of reproduction into a medical “problem” instills reliance on medical institutions that may not meet birthing people’s social, emotional, or physiological needs (Conrad, 1992; Rapp, 2001). Participants cannot imagine or articulate birth experiences—for themselves or others—outside of the context of the current medical institution in the U.S. The result is fear for present and future selves, dissatisfaction with medical encounters both in clinics and in hospitals, feelings of isolation, and behaviors in everyday life designed to avoid and reduce risk and exposure.

Defining Uncertainty and Reproductive Desire in Epidemics

In the context of this study, I define uncertainty using an expanded consideration of Trinitapoli and Yeatman’s concept of “existential uncertainty” (Trinitapoli & Yeatman, 2018). In

their work in Malawi, Trinitapoli & Yeatman (2018) demonstrate that existential uncertainty, defined as increased proximity to death and its correlates, increased participants' flexibility in reproductive decisions. This evidence suggests that the existential uncertainty posed by epidemics may result in a larger variety of strategies for adaptation of childbearing preferences than other uncertain circumstances. Notably, as both Trinitapoli & Yeatman (2018) and Johnson-Hanks (2005) have commented, the context of daily life in many Sub-Saharan African countries is characterized by uncertainty. Participants in the U.S. may assume that their lives may be more standardized and predictable, on average, than a woman in Sub-Saharan Africa; however, Mills & Blossfeld (2013) have characterized societies of modernity as being in constant economic upheaval. The uncertainty related to potential mortality and potential job loss most likely have distinct characteristics; however, existential uncertainty is not only associated with mortality—it also finds significant footholds in employment, education, and family. Our existence might become increasingly salient when faced with imminent or widespread mortality, but human existence is not just about living and dying; it is about living and dying *well* within the social structures that make up our worlds. Thus, in this study, I define existential uncertainty as both the proximity to the potential for increased mortality and as the proximity to fundamental disruptions in everyday life.

In this research, I used a broad definition of reproduction, which includes the biological components traditionally thought of as constituting reproduction—pre-conception, conception, pregnancy, and birth—and expands on these components to include the emotional and relational characteristics that make up reproduction as well. I focus specifically on making sense of reproductive desires, which I define as wants and preferences surrounding the experiences related to childbearing decisions. While I employ this expansive definition, most extant literature

elaborates on attitudes, intentions, or behaviors—these are the subjects I focus on in the following literature review. These concepts, although well-articulated theoretically (see Iacavou & Tavares, 2011), are often conflated with each other in research articles.

Existing literature that examines the relationships between epidemics, uncertainty, and fertility is focused primarily on generalized HIV/AIDS epidemics in Sub-Saharan Africa. Young adults who experienced epidemics or situations of high mortality may be motivated to either accelerate or decelerate childbearing (Rutenberg et al., 2000; Sandberg, 2005; Trinitapoli & Yeatman, 2011). Some research finds that individuals infected with HIV want to stop having children out of concern about transmission to theoretical offspring and because women perceived pregnancy as "quickening" the HIV infection (Rutenberg et al., 2000). At the same time, some people wish to accelerate fertility in response to perceived uncertainty about their lifespans (Trinitapoli & Yeatman, 2011; Sandberg, 2005).

An emerging modality of work examines the effect of the Zika epidemic in South America on participants' reproductive preferences and practices. Marteleto et al. (2017) used focus group data collected in Brazil to demonstrate that many women did not desire to become pregnant during the Zika outbreak due to intrauterine consequences of infection. However, this finding was moderated by respondents' socioeconomic status. Women with higher levels of socioeconomic advantage were able to mediate the potential for infection, while less-advantaged women had more difficulty avoiding both infection and pregnancy during the epidemic (Marteleto et al., 2017). Marteleto et al. (2021) expanded upon this work during the COVID-19 pandemic to examine whether prior exposure to the Zika epidemic predicted women's fertility intentions during the COVID-19 outbreak. Using survey data, they found that social proximity to the Zika virus, regardless of infection status, was positively associated with increased perceived

risk of COVID-19 infection and concerns about intrauterine complications from pregnancy during the COVID-19 outbreak (Marteleto et al., 2021).

This work suggests several key findings: individuals or couples may engage in childbearing in circumstances of uncertainty to reduce the uncertainty they feel within their lives, individuals in epidemic circumstances may demonstrate increased flexibility specifically in response to existential threats, or could be scarred by exposure to previous, similar threats, and adjust their childbearing preferences accordingly. This work also suggests that epidemics or pandemics may have transformative influences on the social and economic conditions of everyday lives and individuals' reproductive preferences and experiences. While these are intriguing findings that warrant further investigation, understanding the schemas that individuals use to navigate these situations, for example, to maintain, to re-assess, or to re-linquish their reproductive desires, is essential to better understand the psychosocial life course consequences of foregone, adapted, or maintained fertility.

Reproductive Intentions in the U.S.

Conceptually, reproductive intentions are the subject of wide critique based on assumptions underlying their construction. These include women holding clear timing-based intentions, unintended pregnancies being universally negative, or pregnancy planning being a realistic goal for all women (Aiken, Borrero, Callegari, & Dehlendorf, 2016; Arteaga, Catan, & Gomez, 2019; Borerro et al, 2015; Luker, 1999; Potter et al, 2019; Rocca, Ralph, & Wilson et al., 2019). Despite the falsity of these assumptions, fertility intentions remain one of the most widely used measures in studying reproduction. This is further complicated by researchers' conflation of the concept of intendedness with other constructs, like reproductive desires, pregnancy acceptability, attitudes towards pregnancy, and emotional orientations towards

pregnancy, even though these are distinct concepts (Aiken, Borrero, Callegari, & Dehlendorf, 2016; Borerro et al, 2015; Luker, 1999; McQuillan, Greil, Shreffler, & Bedrous, 2015). For example, Iacavou & Tavares (2011) distinguish between expected fertility as the number of children people expect to have while intended fertility accounts for factors beyond individuals' control, like personal circumstances or partner desires. Yeatman, Trinitapoli & Garver (2020) note that while much of the extant literature discusses intentions, what most survey data is capturing should be thought about as reproductive desires. Here, reproductive desires refer to wants related to reproduction, for example, whether a respondent would like to have any or more children, how long they would like to wait before having a child or getting pregnant, and whether they have desires about their total number of children by the time they've finished childbearing, etc. (Yeatman, Trinitapoli, & Garver, 2020). These are distinct from intentions because intentions implicate intended behavior, i.e., there is some kind of plan, cognitive or otherwise, in place to achieve stated intentions. Comparatively, desires represent individuals' understandings of what their ideal reproductive futures would entail. These desires, while imperfect predictors of fertility behavior, offer probabilistic (rather than deterministic) insights into subsequent reproduction, particularly in the shorter term (Yeatman, Trinitapoli, & Garver, 2020). In the following paragraphs, I refer to fertility or reproductive desires, rather than intentions, to align better with this conceptualization.

Recent work on fertility desires increasingly recognizes fertility as a dynamic life course process, where desires are mutually constituted with various domains of life experience, including but not limited to, emotional orientations, religious identity, finances, career stage, partnership status, characteristics of a partnership, and the readiness to parent (Aiken, Borrero, Callegari, & Dehlendorf, 2016; Arteaga, Catan, & Gomez 2019; Barber, 2001; Borerro et al,

2015; Gemmill, 2019; Guzzo & Hayford, 2020; Hayford, 2009). This multidimensional conceptualization of fertility allows researchers to think about how fertility desires evolve over the life course and in concert with life events. In the U.S., there is a strong normative assumption that the ideal family has two children within a heterosexual married couple. Indeed, young adults gradually adjust their desired family size as they age to regress towards the two-child average—i.e., young women who wanted more than two children tend to "underachieve" their desired fertility while young women who wanted less than two tend to "overachieve" (Hayford, 2009; Iacavou & Taveres, 2011; Morgan & Rackin, 2010; Nitsche & Hayford, 2020; Quesnel-Valleé & Morgan, 2004). While these individual adjustments tend to offset each other at the population level in the U.S., leading to a relatively high total fertility rate (TFR) historically, these adjustments are not equal and opposite (Nitsche & Hayford, 2020). Rather, they respond to early and later life-course events and pressures in different ways.

For example, early pregnancy and early marriage tend to increase achieved fertility, while non-marriage, divorce, and childlessness in the early 20's tend to decrease achieved fertility (Hayford, 2009; Iacavou & Taveres, 2011; Morgan & Rackin, 2010; Nitsche & Hayford, 2020; Quesnel-Valleé & Morgan, 2004). Researchers have found that, rather than being due to biological constraints on fecundity, these trends are largely due to individuals revising their expectations over time to adapt to the social constraints they face, like tradeoffs between childbearing and a high paying or high-status career or restricted access to suitable partners (Gemmill, 2019; Hayford, 2009; Morgan & Rackin, 2010; Nitsche & Hayford, 2020). Overall, this work suggests that underachieving fertility desires for women is often the result of repeated postponement over time, which in turn is related to the social context of childbearing (Gemmill, 2019; Hayford, 2009; Morgan & Rackin, 2010; Nitsche & Hayford, 2020). Many white, middle-

class women (who are the majority of respondents in this sample) also expect to have a child based on access to a stable, long-term (if not married), partner. This is in contrast to other populations, where childbearing may be decoupled from marriage due to the importance of childbearing for identity, the mismatch in male-female marriage markets, and the differential meanings of marriage (for example, Edin & Kefalas (2005) demonstrate that marriage is seen as a marker of financial stability and success among poorer Black women in the U.S. rather than as a prerequisite to childbearing). The current literature suggests that competition between childbearing and educational or career achievement, alongside unsatisfactory marriage markets, accounts for much of the underachievement of fertility desires (Gemmill, 2019; Hayford, 2009; Morgan & Rackin, 2010; Nitsche & Hayford, 2020). This is important in the context of the current research as the pandemic can interrupt both achievement of educational or career goals and access to satisfactory dating markets, which in turn could create further postponement experiences for women. These trends, in turn, can have consequences for whether and when individuals become parents, which can affect identities, well-being, and population age structure in the affected societies (Guzzo & Hayford, 2020).

Reproductive Desires & Behavior During COVID

Existing research on reproductive desires and behavior during the COVID-19 pandemic is limited in two main ways: first, methodologically, many researchers, including myself, have been restricted to cross-sectional, retrospective reports by convenience samples. Second, because the pandemic is ongoing, any research measuring changes offers only a partial glimpse into overarching trends in reproduction. Thus, the research presented here should be thought of as an incomplete, but informative picture of pandemic reproduction trends.

Studies in both Europe and the U.S. indicate that a large proportion of people intending or planning on having a child in 2020 delayed or abandoned these plans (Aassave et al, 2021; Lindberg, VandeVusse, Mueller, and Kirstein, 2020; Rocca et al., 2022). One-third of women surveyed by Guttmacher reported wanting to delay childbearing or have fewer children because of the pandemic—this trend was exacerbated among Black, Hispanic, low-income, and queer respondents, among respondents who experienced increased mental health symptoms, and among respondents who reported worsened finances, food insecurity, and housing insecurity due to the pandemic (Lin, Law, Beaman, and Foster, 2021; Lindberg, VandeVusse, Mueller, and Kirstein, 2020; Naya, Saxbe, and Dunton, 2021). Women who had no children were more likely to report changed plans about when to have children compared to those with children (Lindberg, VandeVusse, Mueller, and Kirstein, 2020). Using ongoing longitudinal data collected in Arizona, New Mexico, and Texas, Rocca et al. (2021) demonstrate that the pandemic onset was associated with a stall in a trend towards greater openness to pregnancy over time. Others found that 49% of study participants who had been actively trying to become pregnant stopped, and 37% who had been planning to become pregnant were no longer planning to try (Kahn et al, 2021). Interestingly, some respondents across studies reported wanting to have a child sooner or to have more children due to the pandemic; these respondents were less likely to report a COVID diagnosis and to have fewer children in the home (Kahn et al, 2021; Lindberg, VandeVusse, Mueller, and Kirstein, 2020). These findings are consistent with the pandemic having a diffuse impact on fertility desires and behaviors, through experiences of insecurity, fear, and limited social interaction (Cohen, 2021).

Methods

Sample

The data presented in this article came from a study on lived experiences during COVID-19 pandemic "stay-at-home" orders and were collected in September-October 2020, when participants had been experiencing the pandemic for around six to seven months, but prior to the announcement of the development of a successful vaccine. This time period also overlapped both the school year and summer break for participants who had children of school age. This study focused on how participants used the experience of the pandemic lockdown to make sense of their own reproductive lives. I purposively recruited 25–35-year-old woman participants who were year-round residents of a mid-sized Midwestern County to participate in semi-structured in-depth interviews via several mutual-aid community Facebook groups. The Facebook group administrator agreed to let me post a recruitment ad on the wall for the large mutual aid group, whose users occupy a broad range of social strata, and whose membership represented approximately 3% of the county's population. In the county where this data was collected, stay-at-home orders were issued relatively early compared to the rest of the region but were marred by political conflict around the state's right to enact such orders and non-compliance from many citizens.

Potential participants responding to the recruitment ad were asked to fill out a screening questionnaire using google forms—this form screened for normal residence in the county of interest, age, and whether the participant had access to an online platform or phone to conduct the interview. It also asked participants to provide a preferred form of contact for setting up the interview. I focused on recruiting women from the 25-35-year-old age group because it is a period that is considered "demographically dense," i.e., many normatively important life events,

such as education, employment, marriage, or reproduction, often occur within this age range (Rindfuss, 1991). Participants varied in terms of where they were in completing or seeking out education, marital statuses, and starting, completing, or avoiding childbearing. The interruption of this period of "dense" life experiences represented by the COVID-19 pandemic lockdown reveals existing gender inequalities that have become exacerbated during lockdown. This study was approved by the University of Wisconsin, Madison Institutional Review Board.

Data Collection Procedures

After filling out a pre-interview screening questionnaire, I invited participants to interview over the phone or through a web-based video chatting platform. All participants chose to participate in interviews over a web-based video platform, and these interviews lasted from 45 minutes to 2 hours. In each interview, I asked participants for informed consent and to describe their average day on a typical day in January 2020, in March-May 2020 (when the county-initiated responses to COVID-19), and in September-October 2020, when participants were being interviewed. Importantly, participants were asked about time points prior to the news that a successful vaccine had been developed. The timing of these interviews thus allows us to think about participants' responses within a framework of long-term, sustained uncertainty, both about the present and future, i.e., a long-term "conjuncture." These temporally anchored accounts primed participants to be thinking about their reproductive lives in the context of how their lives may have been changing before the COVID-19 pandemic occurred and how they changed or stayed the same during the lockdown itself. All participants' names and names of anyone they mentioned in quotes are pseudonyms. Regarding my own positionality, many participants likely identified with me as a non-Hispanic White woman in her early 30s with graduate-level education. To minimize any influence based on cues from my environment, I maintained a

neutral background that gave no indications as to my class status. Some participants may have experienced a differential in terms of socioeconomic status or race; however, I took great strides to follow a similar script with each participant (which read at an 8th-grade reading level) and to primarily listen and allow participants to direct the conversation to topics of import to them.

Following descriptions of a typical day, I asked participants to describe how the experience of the COVID-19 pandemic lockdown has affected their fertility desires—what may be traditionally labeled as wanting no children, no more, any, more, or being "ambivalent" about childbearing, and which I expand to include their experiences of reproduction. I did so by asking participants whether they currently had any children, whether they wanted any or more children in the future, and what meanings they attached to having or not having children. If participants had trouble understanding the questions I would offer prompts, such as "some people think it is important to have children in order to have a legacy, can you think of reasons that you feel it is important to have or not have children?" Participants could often name one or more of these categories as most relevant to their situation; however, their actual reproductive desires rarely completely fit into one of these categories. Rather, most preferences articulated by participants were conditional on a relational or affective aspect of life. This section of the interview guide is where I draw most of the inductive findings for this study.

Table 1 demonstrates the distribution of the 29 women who participated in this study. This is a small, selective sample of primarily highly educated, partnered, and employed women. I did not ask participants to disclose other identities in an intentional strategy to allow participant-driven priorities to emerge. Because of this, I include participants' race as ascribed by myself as the interviewer. I additionally designated each participant as low, middle, or high-income based on the number of income-earners in the household and homeownership status, taking into

account whether participants mentioned financial struggles or not during COVID-19. These "ascribed" race-ethnicity and class categories are presented in Table 1. Although there were very few participants of color, I did not find differences along racial-ethnic lines, rather, participants' responses were more closely aligned with each other based on parental and partnership statuses. However, it is important to note that the county itself is majority White and middle-class.

Analytic Methods

A third-party transcription service transcribed all interviews. After the interviews had been transcribed, I went through the following analytic process: first, I listened to participants' interviews while reading along with their transcripts. Through this process, I constructed timelines (from January to March-May to September-October) of each participant's employment, family life, socialization, childcare, worries, and fears, and I wrote a summary of each participant's responses about their reproductive desires. While going through this process, I wrote memos about emerging themes alongside memos that fit into themes originating in my initial interview guide (Saldanda, 2009). Based on this initial process, participants used several major schemas to make sense of their reproductive decisions from the data. I focus on three of these schemas, which I have termed heteronormative, social support, and medical. These themes respond to my original research question: "How do adult women make sense of their reproductive experiences in the context of prolonged uncertainty?" Here, I draw on multiple queer and feminist theorizations of heteronormativity to define it as a way of making sense of the world that equates heterosexuality with legitimacy, and which operates as taken-for-granted knowledge that undergirds relations of respectability, class, and power (Halberstamm, 2005; Ingraham, 1994; Mamo, 2007; Mann, 2013).

To explore patterns and findings across these two categories, I completed attribute coding (deductively derived from the interview guide) and thematic coding on the three defined themes by hand (Saldana, 2009). For each schema, I delineated important conjunctures that led to the use of these schemas and identified which participants fell into these themes. Below I discuss these findings.

Results

Heteronormative Schemas: Sense-making through heteronormative ages and stages

The experience of the lockdown led participants to identify tacit knowledge around ages and stages in their lives that generally reflect a heteronormative, structured timeline for engaging in reproduction. These ages and stages, reflected in discourse and talk around specific landmark ages or significant life events, have important meanings to individuals as representations of idealized circumstances in which "perfect" reproductive experiences happen. When these perfect experiences are lost—through disruption or changes—participants must deal with how to re-establish or relinquish their ideal. Examples of these events include using marriage, buying a house, or chronological age to delimit a stage in reproduction processes (such as "starting to try"). Although most participants spoke about achieving career, educational, travel, or personal growth in their lives, almost all spoke about and focused on the age at which one enacts their reproductive desires as being deeply linked to heteronormative timelines. In the context of the lockdown, this is an extremely important delimiter—our aging, physiological and social—is not put on hold during shelter-in-place orders, while much of the rest of "normal" life is.

One participant, Stephanie, a 28-year-old professional caregiver, articulated the importance of why these ages, stages, and events have such salient meanings for women's reproductive lives in particular: "The 30 milestone. People are expecting you to be married, have

been married for years, starting the family. If that comes and goes, it's more the idea of what are people going to think about me…I'm worried about them thinking I'm an old maid. That my eggs are dried up and I'm no longer a potential partner." Stephanie had just moved into her own apartment right before the pandemic began, after living with her parents since graduating from university to support them financially. Stephanie talked about focusing on finding the right apartment in January 2020, assuming she would have time to go to bars and participate in social sports leagues to meet potential partners over the next several years, giving her ample time to find a partner and start a family prior to turning 30. However, her efforts at dating were halted, not only because she couldn't find anyone suitable through dating apps, but also because meeting up in person gave her intense anxiety about being exposed to COVID.

Participants across this study referred to these events routinely and in ways that reified a heteronormative life course progression. Even participants who did not wish to participate in these schemas articulated them as known archetypes against which to measure their lives. Jenna, a 35-year-old IT professional, who has never wanted children, talked about her partner stating that, although he didn't want to have children, he felt left out of everything that's happening to their friends and peers: "From the beginning, it's like you go to school and you graduate, and then you go to college and you graduate, and then you get married, and then you have kids, and there's just big milestones where, unless you do those big milestones, people don't really pay that much attention to you." For Jenna and her partner, the lockdown re-emphasized all the reasons they did not want children—they saw their friends suffering from lack of social support, being unable to go outside or out in public, and being forced to make career or educational tradeoffs for childbearing that they themselves were unwilling to make. Although the experience of the lockdown re-established this preference, it also gave them pause and allowed them to

articulate the staged timelines in others' lives around them; and by doing so, how they were left out of them. Lily, a 30-year-old Ph.D. student, who, throughout her interview wavered back and forth on whether she wanted children at all, reiterated the conflicts that Jenna and her husband were seeing in their friends and family. She stated, "the children thing feels related to work in some way…the professional effects that I'm reading about and seeing from mothers, it just feels like a concern…I'm worried that this is almost certainly going to ruin my career." For Lily, seeing evidence that the lockdown reinforced gendered divisions in parenting and the tradeoffs between childbearing and careers emphasized her ultimate articulation of not wanting to have children.

Amber, a 29-year-old tech professional who became pregnant after the COVID-19 pandemic had begun, justified her pregnancy in terms of her biological age (this was common among participants). She and her partner had planned a trip that was interrupted by the outbreak; this trip was the marker for them to initiate trying to become pregnant:

> We had a big international trip planned for the end of this year. We were going to go to Japan together, which I've never been to Japan. And I was like, 'I'm not going to be pregnant when we go to Japan, I want to eat sushi and I want to have a good time.' But we knew pretty quickly that that trip was not going to happen. So that kind of threw off our schedule a little bit. And I was like, 'If we wait until after that to start trying to have a kid, then I'm going to be 32 by the time or 31 by the time I actually have a child.' And I was just like that's such a long time to wait, and he felt the same way. So, we decided to throw the original plan out the window and start trying.

Here, we can see that Amber and her partner relied on their vacation to inform when they started trying to get pregnant. We can also see that by having this event disrupted by the lockdown, Amber linked waiting until they can go on their vacation to the age-graded idea that she should not be 31 or 32 years old when having her first child. So, she and her partner decided to become pregnant during COVID-19. This example demonstrates the fluidity of reproductive decision-

making in how participants adjust to the loss of or disruption of events. As we saw above, Amber and her partner used an implicitly medicalized and gendered way of reasoning to let go of their vacation milestone and move on with their reproduction—that Amber's reproductive body will be "too old" to have a child if they wait too much longer. When women appealed to the concept of limits on biological fertility, age acted as a referent against which to assess oneself against idealized schemas of heteronormative success and biological feasibility. Most participants who draw on the concept of age use it to ensure that they are maintaining their status as adherents to these schemas.

For participants who needed access to dating markets to accomplish these timelines (all women with no children currently), the COVID-19 pandemic lockdown interrupted planned timelines. Danielle, a 30-year-old public health professional, almost perfectly captured these interrupted trajectories when she delineated 2020 as a year that was "supposed to" elicit several outcomes in her life:

> I have been single since summer 2019…I was supposed to try and find my prince, as my mother put it…2020 was supposed to be the time when I would finally find the right guy...And not having been able to do that, that dramatically pushes back my even vague timelines of wanting to hopefully know someone for a few years before committing to creating a kid. Then that starts pushing towards higher risk for pregnancy and pre-existing conditions. And then you get towards limits of the number of kids, and everything becomes more complicated.

Danielle spoke about how 2020 was "supposed to" be the year she would find "the right guy"—a prince. Finding the right guy must happen before she committed to creating a child with them, and by this time, Danielle's biological age has limited her fertility options. Interruptions of this type appeal to the logic that partnership must occur for a certain amount of time prior to engagement or marriage, which must occur prior to childbearing. By interrupting the progression

of this process, the lockdown irredeemably altered Danielle's life course. Danielle and others rely on the "normal" progression of events and ideas about biological fertility to express frustration and unfairness at the consequences of the lockdown on their dating lives. Stephanie, the 28-year-old professional caregiver, stated, "It's the fact that things are changing and I can't go out to the bar and prowl with my friends, looking for that Mr. Right or even Mr. Right Now. I can't find somebody…is it safe to meet up with people?...dating may [go on until] maybe 29, maybe 30, who knows?" Stephanie, despite trying to counter social norms and pressures, often reverted to heteronormative expectations and phrases to describe how others will think of her as "an old maid" if she is not married with children by 30. What COVID-19 has done, then, is to disrupt timelines that represent an idealized confluence of events and imagined futures. By continuing to appeal to heteronormative logics within these interruptions, Danielle and Stephanie face a lose-lose situation: they cannot satisfy society's expectations in the time in which they have been given, which in turn generates feelings of failure for themselves.

Social Support Schemas: Grief, relational loss, and changing experiences

Experiences of social support encompass a wide range of expectations around events and interactions, both mundane and sublime, and participants often used these expectations to make sense of their reproduction experiences, and particularly do so in response to the lockdown. The emotions expressed around reproduction within the lockdown period were often negative—themes of loss and grief prevailed as participants lost relational and "normal" experiences surrounding births they expected to have.

Although the pregnant women (see Table 1) in this sample were all excited about their pregnancies (including the unplanned ones), they, along with participants who recently had babies, universally expressed grief about the loss of the experience of having a baby due to

COVID-19. This experience was relational and involved "showing off" one's baby or receiving support from community and family—as Claire, a 29-year-old teacher, aptly put it, "no one will be able to see me pregnant or hold my baby." The loss of the whole package of having a baby generated poignant statements, particularly among women who knew this would be their final child. For example, Yvette, a 33-year-old stay-at-home mother who became pregnant before the pandemic started, talked about losing the experience of her baby's birth "forever" because she was unable to share it:

> The influence that COVID had with it was just... Made it a lot more sad? That this is my last baby. It's my last hurrah. And I'm not even able to share it with my family. I was restricted with how much I could share with my family and friends. And for being somebody who enjoys sharing experiences, to lose that was really, really, hard. And it's going to make me sad. There's going to be an element of sadness surrounding her birth forever because of what we've lost. I still look at her birth and I'm happy… But it changed. It definitely was a drastic, drastic change from what I had with [my first two children] to what I did with Diana. I was planning on having it all over again…I was planning on doing it all again with Diana. And I couldn't because of COVID. It didn't really change the number of babies that I was going to have. But it definitely changed the atmosphere surrounding the baby that I did have.

Before this, in her interview, Yvette had emphatically talked about how she had to have at least three children and how she went through lengthy negotiations and therapy with her partner to have a third. In a sense, having Diana, her third child, was a triumph—she had convinced her husband and was getting the reproduction experience she had wanted. However, the advent of the COVID-19 pandemic for Yvette meant that the triumph was transmuted into loss and grief. "Of course" she was joyous about her new baby, but she had lost many of the relational experiences that gave the new baby meaning in her social world. Although several participants talked about desiring another child to achieve a better pregnancy experience, this is not an experience Yvette can re-do—her husband won't agree, and she had severe gestational diabetes

during her last pregnancy. So, she feels as if the loss will stay with her forever, and her experience of reproduction is tinged with grief. While Yvette's experience may not affect her prospective childbearing, it does affect her perception of her own reproductive experiences, and according to her, will do so for a long time to come.

The pregnant participants in this study often used the word "sad" to describe how they were thinking about the period following the birth of their children. Sadness became the dominant motif because these participants could not have the same things friends and family had previously—baby showers, hospital visits, mothers and in-laws staying and helping out. Not only did this elicit grief, for example, Amber stated that when she thinks about this part of the reproductive process she is "usually crying by the end," but it also elicited uncertainty as the women tried to come to terms with what this post-partum experience would look like for them. During the fear and risk that the COVID-19 pandemic presented, many were worried for the safety of their infants, themselves, and extended families. Melanie, a 34-year-old stay-at-home mom, described it in this way:

> There were a number of people who were supposed to come and see us and see our new baby. My kid's going to be one year old before the people who matter most to me will ever see him. That's disappointing. That's not the vision I had for my child's life. He was supposed to meet these people, even if he didn't know it.

Participants' babies were supposed to have a specific and standard experience following their births. They were supposed to be able to travel or to have family and friends come to them, to be able to introduce their babies to the world in a positive and exciting way, in the same way, that they had previously experienced. To these new parents, they, and their children, were robbed of this re-inscription of social ties. It is not clear that the loss of social support around having a new baby influences reproductive desires in a particular numerical direction; however, what is clear is

that these lost experiences took a significant mental and emotional toll on mothers and their families.

Finally, participants without children talked about being exposed to the intensity of parenting and childcare through new forms of communication with colleagues. As most workers moved to online formats, many participants without children talked about seeing a window into the lives of their coworkers with children. Olivia, a 27-year-old university employee stated:

> Then, also just seeing how…disruptive feels like a mean word, but I mean, disruptive…the pandemic has been to the lives of my coworkers with kids in a way that it hasn't been with me. They had to adopt and change so many things about their daily routines in a way that didn't ever have to even occur to me. Just kind of drove home the 'Yeah, it's a really serious commitment,' and it's not something I'm looking to do.

Olivia went on to emphasize that she felt empathy and a desire to be adaptable to support her coworkers who had children at home. Being able to visualize and sympathize with the "disruptive" experience of colleagues with children gave participants without children a heuristic to feel more surety about not wanting children.

Medical Schemas: Imagining Lockdown Medical Encounters

Many participants spoke about reproduction by recalling or imagining encounters with medical institutions for prenatal visits or delivery services. They talked about medical encounters as sites of uncertainty, stress, and loss. These were related to their own experiences trying to see a doctor for themselves or their children during the lockdown or hearing stories from family or friends about isolating and scary labor and delivery services. For currently pregnant women, there was significant anxiety around what their delivery experience would look like—as Claire asked, "what is the hospital going to look like when I give birth?" Women often related this to news stories they had seen about women delivering alone in the early months of the pandemic

and emphasized the need for their partner, in particular, to be in the room with them during their delivery process.

Natalie, a 35-year-old government worker, described experiencing a miscarriage during the lockdown. Natalie's example blends the loss of social support with her experience at a medical institution. In Natalie's statement, she described the physical barriers of the institution (the hospital) and the protocols of the pandemic lockdown that kept her from the relational support that would have eased her loneliness and sadness.

> It was my first pregnancy, I don't have any other children, so just going through that alone is a new experience. Then having COVID on top of that, I was having to attend doctors' appointments by myself and kind of learn and navigate and do all these things by myself. Then learning that there was no heartbeat at the ultrasound, and my partner is at the entrance of the hospital not knowing what was going on. Then needing, because unfortunately my body did not naturally miscarry, I had to have a surgical procedure done to remove the baby. The sense of just feeling completely alone and going through something like that alone was awful.

Later in her interview, Natalie talked about her miscarriage as an emotional delineator between how she viewed having a child prior to the miscarriage and after. For her, the experience of losing her baby, emphasized by the isolation from COVID, has made her re-evaluate whether she wants to try again ever. Miscarriage itself is a traumatizing event, but in the lockdown context, Natalie's isolation and the infection control procedures at the hospital made her trauma even worse.

Many women considered how it would be to be pregnant in the lockdown and talked about their worries and concerns in terms of imagining pregnancy care during COVID. Erica, a 32-year-old government employee, talked about getting pregnant and thinking about how she and her husband would handle medical appointments and the delivery, characterizing it as "completely changing the experience from the way it was my first time." Laura, a 31-year-old

stay-at-home parent, talked about waiting to have another child until she knows she and her infant won't be at risk, and wouldn't have to be "birthing a baby without [her] husband there." Sofia, a 33-year-old teacher, was in the process of adopting her second child during the pandemic lockdown at the time of the interview. She was adopting out of state and needed to attend the birth, an event to which she had originally planned on bringing her mother and 2-year-old daughter. She decided she wasn't comfortable with them flying with her to meet the new baby because of infection risk. Several women talked about doctors canceling pre-natal or ultrasound appointments and emphasized the relational change in care. Melanie, a currently pregnant 34-year-old stay-at-home parent, spoke about how, at her recent doctors' office visits, staff just "want you out the door, they don't even want you to come in the door because of COVID. You miss that face-to-face, so you just want to get out, you don't even want to be there." These experiences with medical institutions—clinics, hospitals, and staff—and participants' ability to project these experiences into their own reproductive futures, gave them pause about the timing of their pregnancies.

In many cases, women articulated their fear about medical isolation and infection risk as specifically related to their pregnant state, i.e., women articulated counterfactuals where the anxiety surrounding infection and concerns about exposure would have been mitigated had they not been pregnant. I observed the women who were pregnant at the time of the interview struggling morally with the risks and benefits of seeing people socially during their pregnancy. Because the amount of information on how COVID could affect fetuses was limited, women felt the burden of risk reduction was on them. As Claire and others articulated, she considered herself to be "young and healthy" and at low risk from a COVID infection…until she found out she was pregnant. She then began to avoid grocery stores, going out in public, or gathering with groups

of people inside. Her pregnancy status changed her from a young, healthy person, to a body at risk of contagion, which resulted in changed daily behaviors and routines.

Discussion

The prevalence of heteronormative schemas found in this study echo existing work that demonstrates that these norms are the foundation upon which many women make and evaluate their life choices, even if they are defining themselves in opposition to them (Dow, 2016; Fallon & Stockstill, 2018). Through these women's experiences, I demonstrate that normative heterosexual timelines are important for making sense of reproduction because they represent idealized schemas of the life course. Participants use these schemas to measure their reproduction against themselves and others to decide whether they are "successes"—i.e., whether they are normal, legitimate, and respectable (Halberstam, 2005; Ingraham, 1994). These timelines are clearly articulated by participants—almost shockingly so—demonstrating that individuals can be aware of the social norms that guide and constrain their actions while still feeling compelled to participate in them or frame their actions against the archetypes they represent (Damaske, 2011). Failing to fit into these prescribed timelines, especially for individuals who deeply ascribe to them, may result in feelings of failing to belong to the social standards. This could have significant effects on an individual's mental health as well as their self-efficacy to achieve preferred life goals, particularly if a social shock, like the COVID-19 pandemic, interrupts a structured plan to achieve those goals.

Additionally, these heteronormative timelines ask women to understand their reproduction through age-graded understandings of biology and the life course (Halberstam, 2005; Martin, 2017). These understandings constrict the time frame in which women can both become self-actualized adults and accomplish their life course goals and can result in a deep

pressure to know about desires, reproductive or otherwise before one is ready (Fallon & Stockstill, 2018). Many of these women cited the age of 30 as a kind of deadline for knowing whether they wanted to have children or not and for beginning to try if they had not already. This appeal to a specific age reflects deeply ingrained "knowledge" about perceived biological limitations on fertility. As seen in the results, Stephanie repeated phrases like "old maid" and "dried up eggs" to indicate both the social and biological construction of limitations on her own and others' fertility. These ticking clocks require women to accomplish their cultivation of self, and adhere to traditional timelines for partnering, marriage, and childbearing, or face underachieving or not achieving their reproductive desires (Gemmill, 2019; Morgan & Rackin, 2010; Nitsche & Hayford, 2020). This pressure has consequences for reproductive experiences—the inability to balance stages while feeling the pressure of age-based restrictions, can lead women to different reproductive paths than they intended, or indeed, might prefer. They can also experience intense role conflict and double binds when trying to meet societal expectations for educational and career achievement while also trying to adhere to "traditional" family norms pervading ideology (Hays, 1996; Smith, 1993).

Women described the loss of the social aspects of birth—the visits, the community support, the parties—as deeply affecting, and dismantling their experiences of childbirth during the COVID-19 restrictions. Extensive research suggests that social support can improve physiological and psychological well-being by increasing a sense of control and by reducing stress and arousal (Thoits, 2011; Umberson & Karas Montez, 2010). Specifically, social support received by expectant mothers reduces their risk of adverse birth outcomes, postpartum depression, and mental health outcomes (Bäckström et al, 2017; Elsenbruch et al, 2007; Lebel et al, 2020; McCourt, 2017). The grief and loss around the absence of these support systems

changes the relational experience of a profound social practice—reproduction. These changed experiences have the potential to affectively alter subsequent pregnancies or reproduction within participants' networks, although their effects may be limited to the duration of the pandemic. Current work indicates that pregnant women have experienced substantively elevated anxiety and depression, PTSD, confusion, and anger, primarily related to changes in care and perceptions of risk for the mother and the baby due to COVID (Brooks et al, 2020; Lebel et al, 2020). Isolation, concerns over not getting necessary care, and limited support in labor and delivery can exacerbate psychological symptoms, increase the need for pain killers and operations, increase the length of labor, and increase negative pregnancy outcomes (Jago, Singh, & Moretti, 2020; Lebel et al, 2020).

Although months-long stay-at-home orders are not routine in our everyday world, crisis and separation are, and stay-at-home orders have the potential to become more commonplace in the context of globalization and climate change. Here, the women I interviewed demonstrated that separation from social networks had significant effects on how they viewed their reproductive experiences. This type of grief—one of separation and loss of relationality—can apply across social contexts to alter individuals' and couples' perceptions of myriad life course experiences. Here, grief and loss have real consequences for reproduction—the absence of others reveals the importance of the relationality of the birth process. Offering increased social support—whether through formal follow-up programs, relaxed visitor restrictions, or alternative formats for delivery of care, is essential for ensuring that pandemic mothers maintain the safety of their pregnancies and their own mental health.

In this study, the ways in which both pregnant and non-pregnant women experienced medical encounters may have long-lasting effects on when people choose to start becoming

pregnant after the lockdown and on how people utilize hospitals for deliveries. As suggested by researchers, underachievement or non-achievement of reproductive desires can be primarily linked to ongoing postponement of fertility via social constraints (Morgan & Rackin, 2010). As the women in this study have articulated, these social constraints can consist of competition with careers or education, limited access to suitable dating markets, or can be related to fear and concern about interactions with medical institutions. All these constraints can defer parenthood to a more or less concrete later date. Participants in this study articulated the power that medical institutions had over them by imagining reproduction experiences only in the context of these institutions—none of the women interviewed talked about alternative birth plans or fighting the restrictions put in place by hospitals or clinics. In this way, they established classical authority of the medical institution over their reproductive lives but also participated in the production of this authority by describing medical sites as sites of normality and regulation (Lupton, 1997).

Research on birthing experiences during the COVID-19 pandemic has indicated that the fears articulated by the women in this study have held in many cases. Researchers report that pre-and post-natal visits have been rushed or canceled in the name of infection reduction, emotional and physical distancing efforts are in effect by medical professionals, restrictions on the number of support people available during labor and delivery include limitations or no support person, and hospitals have tried to reduce postpartum stays to limit exposure, all of which can lead to patient emotional distress, anxiety and postpartum depression, and potential long term or intergenerational effects from poor perinatal experiences (Breman et al, 2021; Ibrahim, Kennedy, & Combellick, 2021; Jago, Singh, & Moretti, 2020; Janevic et al, 2021b; Javaid et al, 2021; Liu, Koire, Erdei, & Mittal, 2021). When faced with emergent infectious diseases, it makes sense that providers and institutions engage in risk reduction tactics (Clarke et

al., 2010). However, pregnant people still expect to participate in a highly biomedicalized setting, commensurate with the medical technologies and analgesic interventions they are familiar with. The removal of procedures, visits, and providers that participants have come to rely on as standardized representatives of medical authority leaves them filled with worry and anxiety about their reproductive experiences (Clarke et al, 2010). These characteristics of medical encounters encompass what participants have experienced or imagined for their current or future reproductive experiences, and the long-term impact of these pandemic restrictions on maternal mental health and outcomes is unknown (Javaid et al, 2021).

Finally, women in this study reported that pregnancy shifted their perception of risk and health from being "young and healthy" to being in a risky body where they were required to mitigate exposure and possible infection. Clarke et al. (2010) in their volume on biomedicalization, argue that the shift from medicalization to biomedicalization represents a move from enhanced control over external nature to heightened abilities to transform our internal nature. As part of biomedicalization processes, health becomes transformed into an individual moral responsibility which is performed publicly and privately to manage and surveil risk (Clarke et al, 2010). As identified by participants in this research, the limited information on how COVID affected pregnant women and their fetuses led women to take on the responsibility of risk reduction. Javaid et al. (2021) also reported behavior changes in pregnant women to increase self-monitoring for pregnancy danger signs and to reduce exposure to medical facilities.

Although this research provides insights into how women make sense of reproduction during times of extensive social upheaval, this analysis is limited in several important ways. First, the sample is limited in size, primarily due to feasibility and recruitment concerns during the COVID-19 lockdown. Second, the sample is limited in terms of its representativeness of

different reproductive experiences. This sample was, on average, highly educated, partnered, and employed. These circumstances don't represent the majority of all people who are capable of reproduction, and further research on meaning-making in reproduction should focus on diversifying samples to attain intersectional perspectives. For example, many of the women in this sample reported concerns about accessing their social support networks during the intense restrictions of the initial waves of the COVID-19 lockdown. In families of color, where intergenerational co-residence is more common, these concerns may be more or less salient. Women of color may be less worried about having additional support systems if they live in multigenerational households but may be more worried about the risks posed to elders or children by movement outside the household. Similarly, women in rural communities may have intensified concerns about accessing safe medical care considering they may have to travel further to get to the nearest available provider. While much work on reproductive desires focuses on timing and quantity of ideal children, the participants in this study did not often make definitive statements about changes in either timing or quantity of children. Rather, we can infer that the structural constraints induced by the lockdown could lead to timing delays in childbearing but cannot necessarily make inferences about the ideal number of children for respondents. Finally, this work is meant to historically situate reproduction intra-pandemically to offer insight into practices and experiences that are taken-for-granted, and which often reflect dominant and ingrained social scripts. This historical moment of the pandemic lockdown allowed the participants in this study to articulate these taken-for-granted schemas by talking through how they made sense of their own reproductive experiences. However important this cross-sectional view of reproduction is, it is still cross-sectional. Future work should focus on

following people who are reproducing prospectively to identify whether their meaning-making schemas have substantive outcomes on their reproductive life courses.

Conclusion

I found that participants often appealed to heteronormative life course norms to define their reproductive experiences. Participants' responses to the disruption of such events due to the lockdown engaged with heteronormative ideas about biological limits on fertility for women, getting on with having children, and wanting to complete childbearing before a specific age- or stage-graded points. I also demonstrate that experiences of social support and interactions with medical institutions have real consequences on the experience of reproduction. These take on the form of grief, loss, fear, and anxiety, and suggest that the support and care currently in place for pregnant women during the lockdown is not sufficient to prevent a large psychological burden of disease. This work contributes to the existing literature on reproductive desires by identifying internalized ways of making sense that White, middle-class women rely on in times of crises. It is no mistake that these meaning-making schemas echo the hierarchical power of gendered life course expectations, social roles, and reliance on medical institutions among the women interviewed—reproduction, as is the case for many other facets of life, is a site for the formulation of taken-for-granted relations in society. By unearthing these relations, and the influence they exercise in everyday life, we are better able to understand both how interruptions like the lockdown may affect routine experiences of reproduction, and how reproduction can reinforce social hierarchies in routine ways.

Table 1a: Participant Characteristics

Pseudonym	Age	Education	Employment Status	Ascribed Race/ Ethnicity	Ascribed Income
Alicia	35	Any graduate	Part time, salaried	White	High
Amber	29	Any graduate	Full time, salaried	White	High
Brittany	27	Some college	Full time, non-salaried	White	Low
Christina	31	Any graduate	Full time, salaried	White	Middle
Claire	29	Bachelor’s	Full time, salaried	White	High
Danielle	30	Any graduate	Full time, salaried	White	High
Erica	32	Bachelor’s	Full time, salaried	White	High
Faye	29	Bachelor’s	Part time, salaried	White	Middle
Grace	25	Any graduate	Full time, salaried	White	High
Heather	30	Any graduate	Full time, salaried	White	Low
Ines	35	Any graduate	Full time	Latina	Middle
Jenna	35	Any graduate	Full time, salaried	White	High
Katherine	31	Bachelor’s	Part time, non-profit	White	High
Laura	31	Didn’t answer	Stay-at-home parent	White	Middle
Lily	29	Any graduate	Full time student	White	Middle
Liz	38	Any graduate	Full time, salaried	White	High
Melanie	34	Any graduate	Stay-at-home parent	White	High
Mia	32	Bachelor’s	Part-time, hourly	White	Middle
Natalie	35	Bachelor’s	Full time, salaried	White	High
Olivia	27	Bachelor’s	Full time, salaried	Middle Eastern	High
Pheobe	25	Any graduate	Full time student	White	Low
Quinn	30	Bachelor’s	Full time, salaried	White	High
Reese	25	Any graduate	Full time student	White	Low
Sofia	33	Any graduate	Full time, salaried	Latina	Middle
Stephanie	28	Bachelor’s	Full time, non-salaried	White	Low
Tiffany	30	Didn’t answer	Stay-at-home parent	White	Low
Vanessa	34	Bachelor’s	Stay-at-home parent	White	Middle
Whitney	33	Some college	Stay-at-home parent	White	Low
Yvette	33	Bachelor’s	Stay-at-home parent	White	Middle

Table 1b: Participant Characteristics

Pseudonym	**Sexual Orientation**	**Marital Status**	**Children at time of Interview**	**Pregnant during Pandemic Lockdown**
Alicia	Heterosexual	Married	2, ages 4 and 1.5	
Amber	Heterosexual	Married	None	√
Brittany	Bisexual	Single	None	
Christina	Heterosexual	Married	1, infant	
Claire	Heterosexual	Married	None	√
Danielle	Heterosexual	Single	None	
Erica	Heterosexual	Married	1, aged 2	
Faye	Bisexual	Married	None	
Grace	Heterosexual	Relationship	None	
Heather	Queer	Single	None	
Ines	Heterosexual	Relationship	None	
Jenna	Queer	Married	None	
Katherine	Heterosexual	Married	2, ages 5 and 3	
Laura	Heterosexual	Married	1, aged 4	
Lily	Heterosexual	Married	None	
Liz	Heterosexual	Married	2, infants	√
Melanie	Heterosexual	Married	2, ages 2 and infant	√
Mia	Heterosexual	Married	2, ages 5 and 3	√
Natalie	Heterosexual	Single	None	√
Olivia	Bi-sexual	Single	None	
Pheobe	Heterosexual	Single	None	
Quinn	Heterosexual	Relationship	None	
Reese	Queer	Engaged	None	
Sofia	Heterosexual	Single	1, aged 2	√
Stephanie	Heterosexual	Single	None	
Tiffany	Heterosexual	Engaged	1, infant	
Vanessa	Heterosexual	Married	2, ages 4 and 1	
Whitney	Heterosexual	Single	3, ages 15, 8, and 2	
Yvette	Heterosexual	Married	3, ages 5, 3, and infant	√

CONCLUSION

This dissertation examines intersectional experiences of different facets of reproduction to explore the internal and external nexuses of oppression that shape reproduction in the specific contexts presented here. By examining reproductive desires, birth outcomes, and policymaking framed around pregnancy through an intersectional lens, I demonstrate the importance of considering multiple sites of advantage and disadvantage across myriad outcomes to better understand normative and structural constraints on reproduction. I show that interwoven gendered, heteronormative, racial, classed, medical, and climate perspectives all have relevance for understanding whether and how individuals and communities can access and apply the conditions of reproductive justice, moving beyond a framework of neoliberal "choice" that fails to recognize the situatedness and complexities of lived reproduction.

In each situation presented here, we can see the preservation and protection of White population renewal in the U.S. born out in hugely different contexts—to monitor and control population renewal in this way is to maintain racialized social orders across generations. Too, we see the trajectories of different rights movements calling for racial, economic, gender, and climate equality, all placed at different pivotal moments of time within subjects' and the state's histories. Although human agency is exerted in different ways in each of the cases considered—whether it be Lukisha Jackson pushing back against having her narrative narrated to her, or Stephanie struggling with the social label of "old maid"—this agency is constrained by historically contingent contexts. In these cases, the emergence of a neoliberal social order, long-term man-made climate change, and a sudden and ravaging pandemic that is the result of both of the previous conditions, changed subjects' environments, closed or opened opportunities, or offered chances for changes in perceptions of self, others, or beliefs (Rutta, 1996). These micro

and macro crises created time-appropriate and off-timed events in subjects' lives that have and will likely produce long term shifts in their life course trajectories. The conditions for truly achieving reproductive justice exist only by mitigating the constraining aspects of these structural and normative constraints on reproductive self-determination. To paraphrase Alexis Pauline Gumbs, "raising children who are not supposed to exist is a radical act in and of itself." Where equality seeks integration, justice seeks fundamental systemic changes where raising such children is part of everyday communal construction of family and reproduction, rather than a radical act.

In Chapter 1, I demonstrate that long-held classed, racialized, and gendered public discourses are spoken into existence in a central discursive site: congressional hearings. Actors in these hearings employ a variety of strategies to ensure that hegemonic constructions of pregnant welfare recipients are maintained, including individualizing blame for poverty, drawing upon expert testimony to confirm problem statements or solutions, interrupting or ignoring the testimony of prior welfare recipients, and engaging in political jockeying using appeals to nationalism, social decline, child harm, and immorality. In these discourses, the perspectives of individuals who use welfare are erased and elite perspectives are privileged, which allows actors with power to re-entrench racist, sexist, heterosexist, and classist tropes of "normal" families (Gring-Pemble, 2001). These tropes allow speakers in these hearings to construct welfare recipients as irresponsible, immoral, "others" who are harming the social order, which, in turn, allows for punitive policies that disregard underlying structural forces that shape poverty (Naples, 2013). By revealing these processes, new and additional political work can be done to advocate for changes in the hearing witness selection process, to resist these constructed tropes, and to identify the conditions of reproductive justice.

Although these hearings occurred almost 20 years ago, the substantiated ghosts of their discourse, including abject denial of evidence that doesn't fit with a specific worldview, haunt our political climate. As reproductive politics become more and more fraught and decentralized to the state level in the U.S., I propose that the most productive research going forward would not be to necessarily identify more instances of discursive oppression but to explore and explain events of discursive resistance. In other words, where, when, and how are the conditions of reproductive justice being enacted? With this knowledge, new forms of resistance can become possible in a landscape that seeks to hyper-regulate women's bodies. Additionally, this work demonstrates that the positive right for the conditions of reproductive justice and the negative right for freedom from reproductive interference are both routinely violated by the state. These violations occur by utilizing neoliberal discursive and political approaches to minimize state intervention in unequal conditions and through racial dog whistle politics in response to the inclusion of Black people in welfare rights emerging from the Civil Rights movement. The repeated and extreme use of terminologies of individual responsibility and choice eliminates the liability of the state, and state actors, to deal with structures that cause social ills by using language that evokes anti-patriotism, fear and terror, and intensely moral statements about survival and civilization linked to the pregnancies of poor women. Finally, this study critiques social injustice by revealing techniques of cultural and colorblind racism utilized by congressional representatives and expert witnesses to make pregnancy, welfare, and poverty appear to be related without "any doubt."

Chapter 2 explores how population distribution and climate change represent several aspects of intersectional lived oppression by exploring the differential relationships between race-ethnicity groups, insurance status, and exposure to extreme heat events during pregnancy.

Across all heat exposure categories (one-month preconception, first trimester, second trimester, and third trimester), non-Hispanic White women tend to have better birth outcomes than all other racial groups, regardless of insurance status. However, exposure to extreme heat in the third trimester has an equalizing association across all race-ethnicity-insurance groups. While this could be a true effect, what is more, likely is there is an unidentified selection mechanism where infants of women of color are more likely to be born preterm and/or low birth weight (which is at least somewhat associated with exposure to extreme heat in the first trimester), so that fetuses who survive to the third trimester are more alike in their outcomes. This suggests a fundamental differential in intrauterine survival opportunities for infants of color. These differences demonstrate the importance of considering how disadvantage and inequality are co-constructed through lived experiences of disadvantage and space to produce differential outcomes for people from marginalized communities. To achieve reproductive justice, we need to address not only racial and economic inequalities in birthing and reproductive practices, but also environmental inequality in access to safe communities and homes where one can become pregnant, be pregnant, and stay pregnant. This study also demonstrates that population scientists need to be thinking of elements of disadvantage as co-constitutive and multiplicative (rather than additive), and we need to be thinking about how climate change maps onto demographic changes that can produce or attenuate existing inequalities.

To expand this work, I suggest increased exploration of measures of structural racism and geographic and spatial variation that may better represent the underlying mechanisms being played out. Although complicated and difficult to obtain, data on local climate adaptation measures may better reflect how structure and oppression play out at the individual, community, and neighborhood levels. I also propose to conduct additional statistical tests to better understand

how the timing of extreme heat exposure may be related to birth outcomes. This involves improving the current estimations for third-trimester exposure to ensure that selection is being accounted for (while still describing this selection effect as racialized and classed). Finally, I suggest including additional birth outcomes focusing on the postnatal period to strengthen our understanding of the timing of the association between race-insurance-exposure and birth outcomes. Any such work should take a reproductive justice approach in offering practical strategies for application, including specific interventions, mitigation initiatives, improved healthcare networks, and the conceptualization of community attachment to place within measurements of space. Such efforts should be community driven in order to be successful and to integrate leadership from persons who have historically been marginalized in both reproductive and climate justice arenas.

In Chapter 3, I extend findings on the relationship between social shocks and reproductive desires to problematize how women, primarily from “unmarked” social categories (such as middle class or White race), understand their desires and plans in their own words. While prior work has focused on population shifts in fertility after epidemics, wars, or recessions, this work focuses on women’s articulation of how shifting and uncertain social context affects their understanding of their reproductive desires. I found that participants drew heavily on three normative schemas when talking about reproductive desires, regardless of their reproductive intentions or current parity. Women often used schemas of heteronormativity to adhere to strict social scripts around the timing and order of reproductive events; these events strongly conform to a heterosexual, middle-class, White norm of childbearing. Even if they would prefer not to have children, participants recognize motherhood as a “master status” that arranges how they live in relation to time and space. These arrangements have important

meanings to individuals as representations of idealized circumstances in which "perfect" reproductive experiences happen. When these perfect experiences are lost—through disruption or changes—participants can either succeed or fall short at adhering to gendered heteronormative life course timelines. Participants additionally draw on schemas of social support that focus on the loss of social networks during and following birth due to restrictions on movements during the COVID-19 pandemic lockdown. These relational losses symbolize a loss of the ability to re-inscribe social ties within networks and feel significant and depressing to the women in this study. Finally, participants take on, more than usual, the internalization of risk-reduction within a medicalized system where they are uncertain about the possible effects of COVID-19 on pregnancies. They cannot imagine birth experiences outside the context of the medical institution and so collude with it in continued self-surveillance and risk management, regardless of whether they are currently pregnant or not.

These existing schemas deeply reinforce existing hierarchies of reproduction that reflect patriarchal, racialized, gendered, and medicalized social arrangements. For example, many participants in this study talked about the power that medical institutions held over their lives in the context of COVID by shifting their self-perceptions from being young and health to occupying bodies which could constantly be at-risk for pregnancy, and thus at risk for COVID pregnancy, which required risk mitigation and individual (rather than institutional) responsibility for themselves and their yet-to-be-conceived children. Women additionally articulated intense role conflict and double binds while trying to live up to the gendered, heteropatriarchal norms of relationships and childbearing and the educational and employment conditions required to be a productive citizen. These conflicts cause distress and can cause women to feel as if parts of their lives are "off-timed," resulting in deeply consequential changes in life trajectories.

Future work examining individuals' articulations of their reproductive desires should focus on a more diverse sample. I was limited to a homogenous sample by my geographic location and recruitment mechanism, but there would likely be varied responses and framings among different sub-populations. For example, the few queer participants included in my study were among the few to recognize the strength of the heteronormative schema in structuring the lives of themselves and those around them. With a more diverse sample based on sexuality, other narratives of reproductive desires that form in resistance to heterogendered norms may be more possible and prevalent. Similarly, among communities where intergenerational coresidence is more common, the experience of relational loss may be lessened. If the study had included a more diverse racial sample, the articulations of conformity to a medicalization schema may have been more tenuous, as medical racism has been prevalent for people of color throughout American history.

REFERENCES

Aassave, A., Cavalli, N., Mencarini, L., Plach, S., & Sanders, S. (2021). Early assessment of the relationship between the COVID-19 pandemic and births in high-income countries. *PNAS*, 118(36), e2105709118.

Abramovitz, M. (1988). *Regulating the lives of women: Social welfare policy from Colonial Times to the Present*. South End Press. Boston, MA.

Ahmed, O. (2020). *Integrating a reproductive justice framework in climate research. Center for American Progress.* Retrieved on October 17 2021, from https://www.americanprogress.org/issues/women/news/2020/03/06/481359/integrating-reproductive-justice-framework-climate-research/

Agyeman, J., Schlosberg, D., Craven, L., & Matthews, C. (2016). Trends and Directions in Environmental Justice: From inequity to everyday life, community and just sustainabilities. *Annual Review of Environment and Resources*. 41, 321-40.

Aiken, A. R. A., Borrero, S., Callegari, L. S., & Dehlendorf, C. (2016). Rethinking the pregnancy planning paradigm: Unintended conceptions or unrepresentative concepts? *Perspectives on Sexual and Reproductive Health*, 48(3), 147–151. https://doi.org/10.1363/48e10316

Alexander-Floyd, N. 2012. Disappearing acts: Reclaiming intersectionality in the Social Sciences in a Post-Black Feminist Era. *Feminist Formations*, 24(1), 1-25.

Armstrong, E. M. (2003). *Conceiving risk, bearing responsibility: Fetal Alcohol Syndrome and the diagnosis of moral disorder.* Johns Hopkins University Press. Baltimore, MD.

Arteaga, S., Catan, L., & Gomez, A. M. (2019). Planned, unplanned, and in-between: The meaning and context of pregnancy planning for young people. *Contraception*, 99(1), 16-21.

Azocar, M. and Ferree, M. (2015). Gendered expertise. *Gender & Society*, 29(6), 841-62.

Bäckström, C., Larsson, T., Wahlgren, E., Golsäter, M., Mårtensson, L. B., & Thorstensson, S. (2017). 'It makes you feel like you are not alone': Expectant first-time mothers' experiences of social support within the social network, when preparing for childbirth and parenting. *Sexual & Reproductive Healthcare*, 12:51-57.

Barber, J. (2001). Ideational influences on the transition to parenthood: Attitudes toward childbearing and competing alternatives. *Social Psychology Quarterly*, 64(2), 101-127.

Barcelos, C. (2018). Culture, contraception, and colorblindness: Youth sexual health promotion as a gendered racial project. *Gender and Society*, 32(2), 252-273.

Barker D. (1990). The fetal and infant origins of adult disease. *BMJ: British Medical Journal*. 301(156):1111.

Barker, D., Erikkson, Forsen, T., and Osmond, C. (2002). Fetal origins of adult disease: Strength of effects and biological basis. International Journal of Epidemiology. 31(6):1235-1239.

Barreca, A. & Schaller, J. (2020). The impact of high ambient temperatures on delivery timing and gestational lengths. Nature Climate Change, 10:77-82.

Barreca, A., Deschenes, O., & Guldi, M. (2018). Maybe next month? Temperature shocks and dynamic adjustments in birth rates. *Demography*, 55:1269-1293.

Basu, R. Chen, H., Li, D., & Avalos, L. A. (2017). The impact of maternal factors on the association between temperature and preterm delivery. *Environmental Research*, 154:109-154.

Basu R., Malig B., Ostro B. High ambient temperature and the risk of preterm delivery. *Am. J. Epidemiol*. 2010;172:1108–1117. doi: 10.1093/aje/kwq170

Becker, G. (1997). *Disrupted lives: How people create meaning in a chaotic world*. University of California Press. Berkeley, CA.

Behrman, J. R., & Rosenzweig, M. R. (2004). Returns to birthweight. *Review of Economics and Statistics*, 86, 586–601.

Bekkar, B., Pacheco, S., Basu, R., & DeNicola, N. (2020). Association of air pollution and heat exposure with preterm birth, low birth weight, and stillbirth in the US: A systematic review. *JAMA Network Open*, 3(6):e208243.

Bennett, S. & Sullivan, K. S. (1993). Disentitling the poor: waivers and welfare 'reform.' *University of Michigan Journal of Law Reform*. 26(4),741-784.

Bernardi, L., Mynarska, M. & Rossier, L. (2015*). Uncertain, changing, and situated fertility intentions: A Qualitative Analysis.* In: Philipov, D., Liefbroer, A. C., & Klobas, J. E. (eds) Reproductive decision-making in a Macro-Micro Perspective. Springer, NY.

Bilge, S. (2013). Intersectionality undone: Saving intersectionality from Feminist Intersectionality Studies. *Du Bois Review*, 10(2), 405-524.

Black, S. E., Devereux, P. J., & Salvanes, K. G. (2007). From the cradle to the market? The effect of birth weight on adult outcomes. *Quarterly Journal of Economics*, 122, 409–439.

Blair-Loy, M. (2003). *Competing Devotions: Career and family among women executives*. Cambridge, MA: Harvard University Press.

Bonilla-Silva, E. (2006*). Racism without Racists: Color-blind racism and the persistence of racial inequality in the United States*. 2nd Edition. Rowman and Littlefield. Lanham, MD.

Borerro, S., Nikolajski, C., Steinberg, J. R., Freedman, L., Akers, A. Y., Ibrahim, S., & Schwarz, E. B. (2015). 'It just happens': a qualitative study exploring low-income women's perspectives on pregnancy intention and planning. *Contraception*, 91, 150-156.

Böschen, S., Kastenhofer, K., Rust, I., Soentgen, J., & Wehling, P. (2010). Scientific nonknowledge and its political dynamics: The cases of agri-biotechnology and mobile phoning. *Science, Technology, & Human Values*, 35(6), 783-811.

Breman, R. B., Neerland, C., Bradley, D., Burgess, A., Barr, E., Burcher, P. (2021). Giving birth during the COVID-19 pandemic, perspectives from a sample of the United States birth persons during the first wave: March-June 2020. *Birth*, 00:1-10.

Brenner, J. (1989). Towards a feminist perspective on welfare reform. *Yale Journal of Law and Feminism*. 2, 99-129.

Brooks, S. K., Webster, R. K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*, 395:912-20.

Broto, V. C., Burningham, K., Carter, C., & Elghai, L. (2010). Stigma and attachment: performance of identity in an environmentally degraded place. *Soc. Nat. Resour.* 23, 952–68.

Brown, R. (2020). The intergenerational impact of terror: Did the 9/11 tragedy impact the initial human capital of the next generation. *Demography*, 57:1459-1481.

Calarco, J. M., Meanwell, E., Anderson, E. M., Knopf, A. S. (2021). By default: How mothers in different-sex dual-earner couples account for inequalities in pandemic parenting. *Socius*, 7, 1-15.

Caracasson, M. (2006). Ending welfare as we know it: President Clinton and the rhetorical transformation of the anti-welfare culture. *Rhetoric and Public Affairs*, 9(4), 655-692.

Carbado, D. W. (2013). Colorblind Intersectionality. *Signs*, 38(4), 811-45.

Case A, Fertig A, Paxson C. The lasting impact of childhood health and circumstance. Journal of Health Economics. 2005;24(2):365–389.

Chae D. H. et al. (2018). Area racism and birth outcomes among Blacks in the United States. *Social Science and Medicine*, 199,49-55.

Chambers, et al. (2018). Testing the association between traditional and novel indicators of county-level structural racism and birth outcomes among Black and White women. *Journal of Racial and Ethnic Health Disparities*, 5(5), 966-977.

Cho, S., Crenshaw, K. W., & McCall, L. 2013. Toward a field of intersectionality studies: Theory, Applications, and Praxis. *Signs*. 38(4), 785-810.

Choo, H. Y. & Ferree, M. (2010). Practicing Intersectionality in Sociological Research: A critical analysis of inclusions, interactions, and institutions in the study of inequalities. *Sociological Theory*, 28(2), 129-149.

Clarke, A. E., Shim, J. K., Mamo, L., Fosket, J. R., & Fishman, J. R. (2010). Biomedicalization: Technoscientific transformation of Health, Illness, and U.S. Biomedicine. In: Clarke, A. E., Mamo, L., Fosket, J. R., Fishman, J. R., & Shim, J. K. (eds). *Biomedicalization: Technoscience, Health, and Illness in the U.S*. Duke University Press.

Clarke, A. E., Friese, C., & Washburn, R. S. (eds.) (2018). *Situational Analysis: Grounded Theory After the Interpretive Turn, 2nd edition*. Thousand Oaks, CA. Sage.

Cohen, P. (2021). Baby Bust: Falling fertility in US counties is associated with COVID-19 prevalence and mobility reductions. https://doi.org/10.31235/osf.io/qwxz3

Colen, C. G., Ramey, D. M., Cooksey, E. C., & Williams, D. R. (2018). Racial disparities in health among nonpoor African Americans and Hispanics: The role of acute and chronic discrimination. *Social Science & Medicine*, 199, 167-180.

Collins, P.H. (2000). *Black feminist thought: knowledge, consciousness, and the politics of empowerment*. (2nd edition). Routledge. NY, NY.

Collins, P. H. (2015). Intersectionality's Definitional Dilemmas. *Annual Review of Sociology*, 41, 1-20.

Committee on Ways and Means. (2022). Subcommittee on Human Resources. House of Representatives, U.S. Congress. Retrieved on April 29, 2022 from: https://waysandmeans.house.gov/about/committee-history/appendix-ii-historical-note-committee-ways-and-means

Conrad, P. (1992). Medicalization and Social Control. *American Review of Sociology*, 18, 209-32.

Coontz, S. (1992). *The way we never were: American families and the nostalgia trap*. New York, NY: Basic Books.

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics. *University of Chicago Legal Forum*, 1(8), 139-167.

Crenshaw, K. (1991). Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color. *Stanford Law Review*, 43(6), 1241-1299.

Damaske, S. (2011). *For the Family? How class and gender shape women's work*. Oxford University Press. New York, NY.

Davenport, F., Grace, K., Funk, C., & Shukla, S. (2017). Child health outcomes in sub-Saharan Africa: A comparison of changes in climate and socio-economic factors. *Global Environmental Change*. 46, 72-87.

Davis, D.A. (2019). *Reproductive Injustice: Racism, pregnancy, and premature births*. New York, NY. New York University Press.

Deschenes, O., Greenstone, M., & Guryan J. (2009). Climate change and birth weight. *American Economic Review: Papers and Proceedings*, 99, 211-217.

Diermeier, D. & Feddersen, T.J. (2000). Information and Congressional Hearings. *American Journal of Political Science*, 44(1), 51-65.

Dow, D. M. (2016). Integrated motherhood: Beyond hegemonic ideologies of motherhood. *Journal of Marriage and Family*, 78(1), 180-196. https://doi.org/10.1111/jomf.12264

Edin, K, & Kefalas, M.J. (2005). *Promises I can keep: Why poor women put motherhood before marriage*. University of California Press.

Elo, I. T., and Preston, S. H. (1992), Effects of Early-Life Conditions on Adult Mortality: A Review. *Population Index*, 58:186–212.

Elsenbruch, S., Benson, S., Rucke, M., Rose, M., Dudenhausen, J., Pincus-Knackstedt, M. K., Klapp, B. F., & Arck, P.C. (2007). Social support during pregnancy: effects on maternal depressive symptoms, smoking and pregnancy outcome. *Human Reproduction*, 22(3), 869-877.

Environmental Protection Agency. (2016*). Climate Change and Extreme Heat: What you can do to prepare.* Environmental Protection Agency and the Centers for Disease Control. EPA 430-R-16-061.

Fairclough, N. & Wodak, R. (1997) Introduction: Critical Discourse Analysis. In: Van Dijk, T. A. (ed) *Critical Discourse Analysis.* London. Sage.

Fallon, K. & Stockstill, C. (2018). The Condensed Courtship Clock: How elite women manage self-development and marriage ideals. *Socius*, 4, 1-14. https://doi.org/10.1177%2F2378023117753485

Fineman, M. (1995). Masking Dependency: The political role of family rhetoric. *Virginia Law Review.* 81(8), 2181-2215.

Foucault, M. (1991). Governmentality. In: Burchell, G., Gordon, C., & Miller, P. (eds). *The Foucault effect: Studies in governmentality*. University of Chicago Press. Chicago, IL.

Foucault, M. (2004). *The Birth of Biopolitics: Lectures at the College de France 1978-1979.* Translated by Graham Burchell. New York, NY. Picador.

Fraser, N. & Gordon, L. (1994). A genealogy of dependency: tracing a keyword of the U.S. Welfare State. *Signs*. 19, 309-315.

Frickel, S. & Moore, K. (eds). (2006). *The new political sociology of science: Institutions, networks, and power.* University of Wisconsin Press. Madison, WI.

Frickel, S., Gibbon, S., Howard, J., Kempner, J., Ottinger, G., & Hess, D. (2010). Undone science: Charting social movement and civil society challenges to research agenda setting. *Science, Technology & Human Values*. 35(4), 444-473

Fried, M. G. (1990). *From Abortion to Reproductive Freedom: Transforming a Movement.* South End. Boston, MA.

Funicello, T. (1993). *Tyranny of Kindness: Dismantling the welfare system to end poverty in America.* Atlantic Monthly Press. NY, NY.

Gee, G.C. & Ford, C.L. (2011). Structural racism and health inequities. *Du Bois Rev*, 8(1), 115-132.

Gemmill, A. (2019). From some to none? Fertility expectation dynamics of permanently childless women. *Demography*, 56(1), 129-149.

Geronimus, A. T. (2003). Damned if you do: Culture, identity, privilege, and teenage childbearing in the United States. *Social Science and Medicine*, 57(5), 881-93.

Ginsburg, F. D. & Rapp, R. (1995). Introduction: Conceiving the New World Order. In: Ginsburg, F. D. & Rapp, R. (eds) *Conceiving the New World Order: The Global Politics of Reproduction*. University of California Press, Berkeley.

Gordon, L. (1994). *Pitied but not entitled: Single mothers and the history of welfare*. Free Press. New York, NY.

Grace, K., Davenport, F., Hanson, H., Funk, C., & Shukla, S. (2015), Linking climate change and health outcomes: Examining the relationship between temperature, precipitation and birth weight in Africa. *Global Environ Change*. 35,125–137.

Grace, K. (2017). Considering climate in studies of fertility and reproductive health in poor countries. *Nat Clim Chang*, 7, 479-485.

Grace, K., Billingsley, S., & Van Riper, D. (2020). Building an interdisciplinary framework to advance conceptual and technical aspects of population-environment research focused on women's and children's health. *Social Science and Medicine*, 250, e112857.

Grace, K. et al. (2021). Exploring strategies for investigating the mechanisms linking climate and individual-level child health outcomes: An analysis of birth weight in Mali. *Demography*, 58(2), 499-526.

Gring-Pemble, L. M. (2001). 'Are we going to now govern by anecdote?': Rhetorical constructions of welfare recipients in congressional hearings, debates, and legislation, 1992-1996. *Quarterly Journal of Speech,* 87(4), 341-365.

Gubrium, A. C., Mann, E. S., Borrero, S. et al. (2016). Realizing reproductive health equity needs more than Long-Acting Reversible Contraception (LARC). *Am J. Public Health*, 106(1), 18-19.

Gumbs, A. P. (nd). m/other ourselves: a Black queer feminist genealogy for radical mothering. *Revolutionary Mothering*. 20.

Guzzo, K. B., & Hayford, S. R. (2020). Pathways to parenthood in social and family context: Decade in Review, 2020. *Journal of Marriage and Family*, 82(1), 117-144.

Halberstam, J. (2005). "Queer Temporality and Postmodern Geographies." In: *In a queer time and place: Transgender bodies, subcultural lives*. NYU Press. NY, NY. Pages 1-22.

Hatch, A. R. (2016). *Blood Sugar: Racial Pharmacology and Food Justice in Black America*. University of Minnesota Press. Minneapolis, MN.

Hayford, S. (2009). The evolution of fertility expectations over the life course. *Demography*, 46(4), 765-783

Hays, S. (1996). *The cultural contradictions of motherhood*. New Haven, CT. Yale University Press.

Heckman, J. J. (2012), The developmental origins of health. *Health Economics* 21: 24–29.

Hess, D. (2007). *Alternative pathways in science and industry: Activism, innovation, and the environment in an era of globalization*. MIT Press. Cambridge, MA.

Herz, R. (2011). The father as an idea: A challenge to kinship boundaries by single mothers. *Symbolic Interaction*, 25(1), 1-31.

Hochschild, A. (1989). *The Second Shift: Working Families and the Revolution at Home.* Avon, New York.

hooks, b. (1984). *Feminist Theory: From margin to center*. South End Press. Boston, MA.

Hsiang, S., Kopp, R., Jina, A. et al. (2017). Estimating economic damage from climate change in the United States. Science. 356(6345):1362-1369.

Iacovou, M. & Tavares, L. P. (2011). Yearning, learning, and conceding: Reasons women and men change their childbearing intentions. *Population and Development Review*, 17(1), 89-123.

Ibrahim, B. B., Kennedy, H. P., & Combellick, J. (2021). Experiences of quality perinatal care during the US COVID-19 pandemic. *Journal of Midwifery & Women's Health*, 66(5):579-588

Ingraham, C. (1994). The heterosexual imaginary: Feminist sociology and theories of gender. Sociological Theory, 12(2), 203-219. https://doi.org/10.2307/201865

Intergovernmental Panel on Climate Change (IPCC). (2018). Chapter 3: Frequently Asked Questions. Eds. Connors, S. & Pidcock, R. Special Report on Global Warming of 1.5 degrees Celsius. Intergovernmental Panel on Climate Change. Geneva.

Jago, C. A., Singh, S. S., & Moretti, F. (2020). Coronavirus Disease 2019 (COVID-19) and Pregnancy: Combating isolation to improve outcomes. *Obstetrics and Gynecology*, 136(1), 33-36.

Janevic, T., Zeitlin, J., Egorova, N., Hebert, P. L., Balbierz, A., & Howell, E. A. (2020). Neighborhood Racial And Economic Polarization, Hospital Of Delivery, And Severe Maternal Morbidity: An examination of whether racial and economic neighborhood polarization is associated with severe maternal morbidity rates and whether the delivery hospital partially explains the association. *Health Affairs*, 39(5), 768-776.

Janevic, T., Zeitlin, J., Egorova, N. N., et al. (2021a). Racial and Economic Neighborhood Segregation, Site of Delivery, and Very Preterm Neonatal Morbidity and Mortality. *The Journal of Pediatrics*.

Janevic, T. et al. (2021b). Pandemic birthing: Childbirth satisfaction, perceived health care bias, and postpartum health during the COVID-19 pandemic. *Maternal and Child Health Journal*. Online.

Jasanoff, S. (1990). *The Fifth Branch: Science advisers as policymakers.* Harvard University Press. Cambridge, MA.

Javaid, S., Barringer, S., Compton, S. D., Kaselitz, E., Muzik, M., Moyer, C. A. (2021). The impact of COVID-19 on prenatal care in the United States: Qualitative analysis from a survey of 2519 pregnant women. *Midwifery*, 98:102991.

Jiminéz, L., Johnson, K, & Page, C. (2017). Beyond the trees: Stores and Strategies of Environmental and Reproductive Justice. In: Ross, L., Roberts, L., Derkas, E., Peoples, W., & Bridgewater, P. (eds*). Radical Reproductive Justice: Foundation, Theory, Practice, Critique*. The Feminist Press. NY, NY.

Johnson-Hanks, J. A. (2005). When the future decides: Uncertainty and intentional action in contemporary Cameroon. *Current Anthropology*, 46(3), 363-385.

Johnson-Hanks, J. A., Bachrach, C. A., Morgan, S. P., & Kohler, H. P. (2011). Understanding family change and variation: Toward a Theory of Conjunctural Action. In J. Stillwell (Ed.), *Understanding Population Trends and Processes* (pp. 1-59). Springer, New York, NY.

Kahn, L. G., Transande, L., Liu, M. L., Mehta-Lee, S. S., Brubaker, S. G., & Jacobson, M. H. (2021). Factors associated with changes in pregnancy intention among women who were mothers of young children in New York City following the COVID-19 outbreak. *JAMA Network Open*, 4(9), e2124273.

Kent S.T., McClure L.A., Zaitchik B.F., Smith T.T., Gohlke J.M. (2014). Heat waves and health outcomes in Alabama (USA): The importance of heat wave definition. *Environ. Health Perspect*. 2014;122:151–158. doi: 10.1289/ehp.1307262.

Krieger N., Van Wye G., Huynh M., et al. (2020). Structural racism, historical redlining, and risk of preterm birth in New York City, 2013–2017. *American journal of public health*, 110(7), 1046-1053.

Keuhn. L. & McCormick, S. (2017). Heat exposure and maternal health in the face of climate change. Int. J Environ Res. Public Health. 14(8):853.

Lam, D. & Miron, J. (1996). The effects of temperature on human fertility. Demography, 33, 291-305.

Lebel, C., MacKinnon, A., Bagshawe, M., Tomfohr-Madsen, L., & Giesbrecht, G. (2020). Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. *Journal of Affective Disorders*, 277, 5-13.

Lentsch, J. & Weingart, P. (2011). *The politics of scientific advice: Institutional design for quality assurance.* Cambridge University Press. Cambridge, MA.

Liddell, J. & Kington, S. (2021). "Something was attacking them and their reproductive organs": Environmental reproductive justice in an indigenous tribe in the United States Gulf Coast. Int J Environ Res Public Health. 18(2): 666.

Littlejohn, K. E. (2013). "It's those pills that are ruining me": Gender and the Social Meaning of Hormonal Contraceptive Side Effects. *Gender & Society,* 27(6), 843-863.

Lin, T. K., Law, R., Beaman, J., & Foster, D.G. (2021). The impact of the COVID-19 pandemic on economic security and pregnancy intentions among people at risk of pregnancy. *Contraception*, 103, 380-385.

Lindberg, L. D., VandeVusse, A., Mueller, J. & Kirstein, M. (2020). *Early impacts of the COVID-19 pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences*. Guttmacher Institute. New York, NY.

Link, B. G. and J. Phelan (1995). Social Conditions As Fundamental Causes of Disease. Journal of Health and Social Behavior 35: 80.

Liu, C. H., Koire, A., Erdei, C., Mittal, L. (2021). Unexpected changes in birth experiences during the COVID-19 pandemic: Implications for maternal mental health. *Archives of Gynecology and Obstetrics*, Online.

Longo, G. M. (2018). Keeping it in 'the Family': How gender norms shape U.S. Marriage Migration Politics. *Gender & Society*, 32(4), 456-475.

Luker, K. C. (1996). *Dubious Conceptions: The politics of teenage pregnancy.* Cambridge, MA. Harvard University Press.

Luker, K. C. (1999). A reminder that human behavior frequently refuses to conform to models created by researchers. *Family Planning Perspectives*, 31(5), 248.

Luna, Z. & Luker, K. (2013). Reproductive Justice. *Annual Review Law Soc. Sci*., 9, 327-52.

Lupton, D. (1997). Foucault and the Medicalisation Critique. In R. Bunton & A. Petersen (Eds.) *Foucault, Health, and Medicine.* (pp. 94–112). Routledge. London

Lupton, D. (2013). *Risk, 2nd edition*. New York, NY. Routledge.

Mamo, L. (2007). *Queering reproduction: Achieving pregnancy in the age of technoscience*. Duke University Press. Durham, NC.

Mann, E. S. (2013). Regulating Latina sexualities through Community Health Centers: Discourses and practices of sexual citizenship. *Gender & Society*, 27(5), 681-703. https://doi.org/10.1177/0891243213493961

Mann, E. S. & Grzanka, P. R. (2018). Agency-without-choice: The visual rhetorics of Long-Acting Reversible Contraception Promotion. *Symbolic Interactionism*, 41(3), 334-356.

Margolis, D. R. (1998). *The fabric of self: A theory of ethics and emotion.* Yale University Press. New Haven, CT.

Marteleto, L., Weitzman, A., Zanatta Coutinho, R., & Valongueiro Alves, S. (2017). Women's reproductive intentions and behaviors during the Zika epidemic in Brazil. *Population and Development Review*, 43(2), 199-227. https://doi.org/10.1111/padr.12074

Marteleto, L. J., Dondero, M., & Koepp, A. E. (2021). Scars from a previous epidemic among White and Black women: Social proximity to Zika and fertility intentions during the Covid-19 pandemic. *PNAS*. Preprint. https://doi.org/10.31235/osf.io/3nqvy

Martin, E. (2001). *The woman in the body: A cultural analysis of reproduction*. Boston, MA. Boston Press.

Martin, Lauren Jade. 2017. Pushing for the perfect time: Social and Biological Fertility. *Women's Studies International Forum*, 62, 91-98.

McCall, L. 2005. The complexity of intersectionality. *Signs*, 30(31), 1771-1800.

McCourt, C. (2017). Social support and childbirth. In: Squire, C. (ed). *The Social Context of Birth*, 3rd Edition. Routledge Publishing. New York, NY.

McGoey, L. (2007). On the will to ignorance in bureaucracy. *Economy & Society.* 36(20), 212-235.

McQuillan, J., Greil, A. L., Shreffler, K. M., & Bedrous, A. V. (2015). The importance of motherhood and fertility intentions among U.S. women. *Sociological Perspectives*, 58(1), 20-35.

Meeker, J. R., Canelón, S. P., Bai, R., Levine, L. D., & Boland, M. R. (2021). Individual-level and neighborhood level risk factors for severe maternal morbidity. *Obstetrics & Gynecology*, 10,1097.

Menne, M.J., Durre, I., Korzeniewski, B., et al. (2012a): Global Historical Climatology Network - Daily (GHCN-Daily), Version 3. Average Daily Temperature. NOAA National Climatic Data Center. doi:10.7289/V5D21VHZ Accessed on March 5, 2022.

Menne, M.J., Durre, I., Vose, R.S. et al. (2012b). An Overview of the Global Historical Climatology Network-Daily Database. J. Atmos. Oceanic Technol., 29, 897-910.

Mills, M., and H. P. Blossfeld. (2013). The Second Demographic Transition meets Globalization: A comprehensive theory to understand changes in family formation in an era of rising uncertainty. In A. R. Evans & J. Baxter (Eds.), *Negotiating the life course: stability and change in life pathways.* (pp. 9-33). Springer, Netherlands.

Mink, G. (1994). *Welfare reform in historical perspective*. Connecticut Law Review, 26, 879-891.

Mink, G. (1995). *The wages of motherhood: Inequality in the welfare state: 1917-1942*. Cornell University Press. Ithaca, N.Y.

Morgan, S. P. & Rackin, H. (2010). The correspondence between fertility intentions and behavior in the United States. *Population and Development Review,* 36(1), 91-118.

Morello-Frosch, R. & Lopez, R. (2006). The riskscape and the color line: examining the role of segregation in environmental health disparities. *Environmental Research*, 102(2), 181196.

Naples, N.A. (2013). “It’s not fair!”: Discursive politics, social justice, and feminist praxis SWS Feminist Lecture. *Gender and Society*, 27(2), 133-157.

National Vital Statistics System. (2021). Linked Birth and Infant Death Data 2014-2016.National Center for Health Statistics.

Naya, C. H., Saxbe, D. E., & Dunton, G. F. (2021). Early effects of the COVID-19 pandemic on fertility preferences in the Univer States: An exploratory study. *Fertility and Sterility,* 116(4), 1128-1137.

Nitsche, N. & Hayford, S. R. (2020). Preferences, partners, and parenthood: Linking early fertility desires, marriage timing, and achieved fertility, *Demography*, 57, 1975-2001.

Onyebuchi Eze, M. (2010). *Intellectual history in contemporary South Africa*. Palgrave Macmillan. NY, NY.

Orchard, J. & Price, J. (2017). County-level racial prejudice and the black-White gap in infant health outcomes. *Social Science & Medicine,* 181,191-198.

Pape, M. (2019). *Inclusion and exclusion: Institutional reproductions of sex and gender.* University of Wisconsin Madison ProQuest Dissertations Publishing. Order 22621431.

Perkins, S. E. & Alexander, L. V. (2013). On the measurement of heat waves. *Journal of Climate*, 26(13):4500-4517.

Perna, L.W., Orosz, K., & Kent, D. C. (2019). The role and contribution of academic researchers in congressional hearings: A critical discourse analysis. *American Educational Research Journal*, 65(1), 111-145.

Piven, F. F. & Cloward, R. A. (1971). *Regulating the Poor: The functions of public welfare.* Pantheon, NY, NY.

Potter, J. E., Stevenson, A. J., Coleman-Minahan, K., Hopkins, K., White, K., Baum, S. E., & Grossman, D. (2019). Challenging unintended pregnancy as an indicator of reproductive autonomy. *Contraception*, 100, 1-4.

Proctor, R. & Schiebinger, L. (eds). (2008). *Agnotology: The making and unmaking of ignorance*. Stanford University Press. Stanford, CA.

Quadagno, J. (1994). *The Color of Welfare: How Racism Undermined the War on Poverty*. Oxford University Press. New York, NY.

Quesnel-Valleé, A. & Morgan, S. P. (2004). Missing the target? Correspondence of fertility intentions and behavior in the U.S. *Population Research and Policy Review,* 22, 497-525.

Rapp, R. (2001). Gender, Body, Biomedicine: How some feminist concerns dragged reproduction to the center of social theory. *Medical Anthropology Quarterly*, 15(4), 466-477. https://doi.org/10.1525/maq.2001.15.4.466

Rayco-Solon, P., Fulford, A. J., & Prentice, A. M. (2005) Differential effects of seasonality on preterm birth and intrauterine growth restriction in rural Africans. *Am Journal of Clinical Nutrition*. 81,134–139.

Reed, L. & Saukko, P. (eds) (2010). *Governing the female body: Gender, health, and networks of power.* State University of New York Press, Albany.

Reisigl, M. & Wodak, R. (2017). *Chapter 4: The Discourse-Historical Approach (DHA).* In: Flowerdew, J. & Richardson, J. E. (eds). The Routledge Handbook of Critical Discourse Studies.

Rindfuss, R. (1991). The young adult years: Diversity, structural change, and fertility. *Demography*, 28, 493–512. https://doi.org/10.2307/2061419

Roberts, D. E. *Killing the black body: Race, reproduction, and the meaning of liberty.* Vintage; 1997.

Roberts, R. (2015). Reproductive Justice, Not Just Rights. Dissen., *Special Issue: Arguments on the Left*, 79-82.

Rocca, C. H., Ralph, L. J., Wilson, M., Gould, H. &, Foster, D. G. (2019). Psychometric evaluation of an instrument to measure prospective pregnancy preferences: The Desire to Avoid Pregnancy Scale. *Medical Care,* 57(2), 152-158.

Rocca, C. H., Parra, M., Muñoz, I., Foster, D. G., Boscardin, J., & Ralph, L. J. (2022). Comparison of pregnancy preferences preceding vs Year 1 of the COVID-19 pandemic. *JAMA Network Open*, 5(7), e2220093.

Rose, N. (2007). *The politics of life itself: Biomedicine, power, and subjectivity in the Twenty-First Century*. Princeton University Press. Princeton, NJ.

Ross, L., & Solinger, R. (2017). *Reproductive justice: An introduction.* University of California Press, Berkeley.

Ross, L. (2017). Conceptualizing Reproductive Justice Theory: A Manifesto for Activism. In: Ross, L., Roberts, L., Derkas, E., Peoples, W., & Bridgewater, P. (eds*). Radical Reproductive Justice: Foundation, Theory, Practice, Critique.* The Feminist Press. NY, NY.

Ruggles, S., Flood, S., Foster, S. et al. (2021). IPUMS USA: Version 11.0. American Community Survey. Minneapolis, MN: IPUMS, 2021

Rutenberg, N., Biddlecom, A. E., and Kaona, F. A. D. (2000). Reproductive decision-making in the context of HIV and AIDS: A qualitative study in Ndola, Zambia. *International Family Planning Perspectives*, 26, 124–30.

Rutter, M. (1996). Transitions and turning points in developmental psychopathology: As applied to the age span between childhood and mid-adulthood. *International Journal of Behavioral Development*. 19, 603-626.

Rylander, C., Øyvind Odland, J., & Manning Sandanger, T. (2013). Climate change and the potential effects on maternal and pregnancy outcomes: An assessment of the most vulnerable–the mother, fetus, and newborn child. *Global Health Action*, 6, 19538.

Saldana, J. (2009). Coding Manual for Qualitative Researchers, SAGE Publications. ProQuest Ebook Central. Retrieved on August 1, 2021, from: https://ebookcentral.proquest.com/lib/wisc/detail.action?docID=585421.

Sandberg, J. (2005). The influence of network mortality experience on nonnumeric response concerning expected family size: Evidence from a Nepalese mountain village. *Demography*, 42, 737–56. https://doi.org/10.1353/dem.2005.0035

Schlosberg, D. & Collins, L. B. (2014). From environmental to climate justice: climate change and the discourse of environmental justice. *WIREs Climate Change*. 5, 359–74

Skocpol, T. (1992). Protecting soldiers and mothers: The political origins of social policy in the United States. Harvard University Press. Cambridge, MA.

Smith, D.E. (1993). The Standard North American Family: SNAF as an ideological code. *Journal of Family Issues*, 14(1), 50-65.

Spade, D. (2013). Intersectional resistance and law reform. *Signs*, 38(4), 1031-55.

Spangler, K. R. & Wellenius, G. A. (2021). Spatial and intraseasonal variation in changing susceptibility to extreme heat in the United States. *Environmental Epidemiology*, 5(2):e136.

Strand, L. B., Barnett, A. G., & Tong, S. (2011). The influence of season and ambient temperature on birth outcomes: a review of the epidemiological literature. Environ. Res., 111, 451-462.

Suryanarayanan, S. & Kleinman, D. (2013). Be(e)coming experts: The controversy over insecticides in the honey bee colony collapse disorder. *Social Studies of Science.* 43(2), 215-40.

Swidler, A. (1986). Culture in action: Symbols and strategies. *American Sociological Review*, 51, 273-286. https://doi.org/10.2307/2095521

Swidler, A. & Arditi, J. (1994). The new Sociology of Knowledge. *Annual Review of Sociology.* 20, 305-329.

Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*, 52(2):145-161.

Torche, F. (2011). The effect of maternal stress on birth outcomes: Exploiting a natural experiment. *Demography*, 48:1473-1491.

Trinitapoli, J. & Yeatman, S. (2011). Uncertainty and fertility in a Generalized AIDS Epidemic. *American Sociological Review*, 76(6), 935-954. https://dx.doi.org/10.1177%2F0003122411427672

Trinitapoli, J. & Yeatman, S. (2018). The flexibility of fertility preferences in a context of uncertainty. *Population and Development Review,* 44(1), 87-116. https://doi.org/10.1111/padr.12114

Umberson, D. & Karas Montez, J. (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behavior*, 51(5): S54-S66.

Van Dijk, T. A. (2005) Chapter 18: Critical Discourse Analysis. In: Schiffrin, D., Tannen, D. & Hamilton, H.E. (eds) *The Handbook of Discourse Analysis.* Blackwell Publishers.

Waggoner, M. R. (2017). *The zero trimester: Pre-pregnancy care and the politics of reproductive risk.* Oakland, Ca. University of California Press.

Wang J., Williams G., Guo Y., Pan X., Tong S. Maternal exposure to heatwave and preterm birth in Brisbane, Australia. *BJOG*. 2013;120:1631–1641. doi: 10.1111/1471-0528.12397.

Whittier, N. (2016). Carceral and intersectional feminism in Congress: The Violence Against Women Act, Discourse, and Policy. *Gender and Society*, 30(5), 791-818.

Wilde, J., Apouey, B., & Jung, T. (2017). The effect of ambient temperature shocks during conception and early pregnancy on later life outcomes. European Economic Review, 97, 87-107.

Wright, K. Q. (2020). Contraceptive selection and practice: Associations with self-identified race and socioeconomic disadvantage. *Social Science and Medicine.* 266, 113366.

Yeatman, S., Trinitapoli, J., & Garver, S. (2020). The enduring case for fertility desires. *Demography*, 57, 2047-2056.

Yun, H., Ding, Y., & Guo, W. (2020). Mental health of pregnant and postpartum women during the Coronavirus Disease 2019 Pandemic: A systematic review and meta-analysis. *Frontiers in Psychology*, 11, 617001.