Received: 2 August 2021 | Revised: 13 April 2022 | Accepted: 2 May 2022

DOI: 10.1111/jomf.12851

ORIGINAL ARTICLE

Journal of Marriage and Family

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

Kelsey Q. Wright

Department of Sociology, Center for Demography and Ecology, University of Wisconsin-Madison, Madison, Wisconsin, USA

Correspondence
Kelsey Q. Wright, Department of Sociology, Center for Demography and Ecology, University of Wisconsin-Madison, Madison, WI 53706, USA.
Email: kwright22@wisc.edu

Abstract

Objective: This study examines the schemas that women employed during the COVID-19 pandemic to make sense of their reproductive desires.

Background: Existing research on reproduction during epidemics suggests that there are variable population responses to periods of long-term social uncertainty. However, less is known about how individuals make sense of maintaining or adapting their reproductive desires during periods of social upheaval.

Method: Twenty-nine women aged 25–35 from a mid-sized Midwestern county in the United States were recruited and interviewed about their experiences during the first 8 months of the COVID-19 pandemic. They were asked about their daily lived experiences and their reproductive desires during in-depth interviews. These interviews were transcribed and analyzed using thematic coding.

Results: Participants used three normative schemas to describe their reproductive desires during the COVID-19 pandemic. Heteronormative schemas were used by many participants to articulate their commitment to a heteronormative aged-staged timeline of life events. Schemas of social support around being pregnant and giving birth were used by participants, primarily those who were currently or recently pregnant, to express grief and loss over the relational experience of having a new baby. Medicalized schemas were expressed by most participants to describe feelings of fear and risk at real or imagined encounters with medical institutions.

Conclusion: The schemas that participants used to make sense of their reproductive desires demonstrate how sense-making during a profound event that affects everyday realities allows participants to (re)articulate commitments to existing narratives that reinforce heterosexual, social, and medicalized hierarchies in reproduction.

KEYWORDS

decision making, family formation, fertility, gender roles, qualitative methodology, young adulthood

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 reveals how participants (re)articulate commitments to internalized schemas of heteronormative, social support, and medicalized 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" (p. 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 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.

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 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 United States, 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 grief, sadness, and feelings of being overwhelmed or isolated. 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 has not necessarily influenced how individuals are articulating their childbearing preferences, it has 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 understanding 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 and 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., 2011, pp. 2–8). Locating an individual's perceptions about reproductive experiences 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 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 typologies 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—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 and 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. (p. 9). Fallon and Stockstill (2018) also argue that these pressures are age-graded, gendered, and classed 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, 1989; McQuillan et al., 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 pandemic, 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 et al., 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 pandemic 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 "should" 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 United States. 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 and 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 and 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 United States may assume that their lives may be more standardized and predictable, on average, than a woman in Sub-Saharan Africa; however, Mills and 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 makeup 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 Iacovou & 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 (Sandberg, 2005; Trinitapoli & Yeatman, 2011).

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 an 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 relinquish their reproductive desires, is essential to better understand the psychosocial life course consequences of foregone, adapted, or maintained fertility.

Reproductive intentions in the United States

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 et al., 2016; Arteaga et al., 2019; Borerro et al., 2015; Luker, 1999). 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 toward pregnancy, and emotional orientations toward pregnancy, even though these are distinct concepts (Aiken et al., 2016; Borerro et al., 2015; Luker, 1999; McQuillan et al., 2015). For example, Iacovou and 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 et al. (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 have finished childbearing, etc. (Yeatman et al., 2020). These are distinct from intentions because intentions implicate intended behavior, that is, 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 et al., 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 et al., 2016; Arteaga et al., 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 United States, 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 toward the two-child average—that is, 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 United States, leading to a relatively high total fertility rate 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 20s 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 and Kefalas (2005) demonstrate that marriage is seen as a marker of financial stability and success among poorer Black women in the United States 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 on 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 and 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 United States 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 et al., 2020). 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 et al., 2021; Lindberg et al., 2020; Naya et al., 2021). Women who had no children were more likely to report changed plans about when to have children compared to those with children (Lindberg et al., 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 toward 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 et al., 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 6–7 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 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 these data were 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," that is, 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 reveals existing gender inequalities that have become exacerbated during the pandemic. 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 min to 2 h. 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, that is, 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 pandemic itself. All participants' names and names of anyone they mentioned in quotes are pseudonyms. Regarding my 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 eighth-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 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 (Saldana, 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

TABLE 1 Participant characteristics

Pseudonym	Age	Sexual orientation	Marital status	Education	Employment status	Children at time of interview	Pregnant during pandemic	Ascribed race/ethnicity	Ascribed income
Alicia	35	Heterosexual	Married	Any graduate	Part time, salaried	2, ages 4 and 1.5		White	High
Amber	29	Heterosexual	Married	Any graduate	Full time, salaried	None	√	White	High
Brittany	27	Bisexual	Single	Some college	Full time, non-salaried	None		White	Low
Christina	31	Heterosexual	Married	Any graduate	Full time, salaried	1, infant		White	Middle
Claire	29	Heterosexual	Married	Bachelor's	Full time, salaried	None	√	White	High
Danielle	30	Heterosexual	Single	Any graduate	Full time, salaried	None		White	High
Erica	32	Heterosexual	Married	Bachelor's	Full time, salaried	1, aged 2		White	High
Faye	29	Bisexual	Married	Bachelor's	Part time, salaried	None		White	Middle
Grace	25	Heterosexual	Relationship	Any graduate	Full time, salaried	None		White	High
Heather	30	Queer	Single	Any graduate	Full time, salaried	None		White	Low
Ines	35	Heterosexual	Relationship	Any graduate	Full time	None		Latina	Middle
Jenna	35	Queer	Married	Any graduate	Full time, salaried	None		White	High
Katherine	31	Heterosexual	Married	Bachelor's	Part time, non-profit	2, ages 5 and 3		White	High
Laura	31	Heterosexual	Married	Did not answer	Stay-at-home parent	1, aged 4		White	Middle
Lily	29	Heterosexual	Married	Any graduate	Full time student	None		White	Middle

(Continues)

TABLE 1 (Continued)

Pseudonym	Age	Sexual orientation	Marital status	Education	Employment status	Children at time of interview	Pregnant during pandemic	Ascribed race/ethnicity	Ascribed income
Liz	38	Heterosexual	Married	Any graduate	Full time, salaried	2, infants	√	White	High
Melanie	34	Heterosexual	Married	Any graduate	Stay-at-home parent	2, ages 2 and infant	√	White	High
Mia	32	Heterosexual	Married	Bachelor's	Part-time, hourly	2, ages 5 and 3	√	White	Middle
Natalie	35	Heterosexual	Single	Bachelor's	Full time, salaried	None	√	White	High
Olivia	27	Bi-sexual	Single	Bachelor's	Full time, salaried	None		Middle Eastern	High
Pheobe	25	Heterosexual	Single	Any graduate	Full time student	None		White	Low
Quinn	30	Heterosexual	Relationship	Bachelor's	Full time, salaried	None		White	High
Reese	25	Queer	Engaged	Any graduate	Full time student	None		White	Low
Sofia	33	Heterosexual	Single	Any graduate	Full time, salaried	1, aged 2	√	Latina	Middle
Stephanie	28	Heterosexual	Single	Bachelor's	Full time, non-salaried	None		White	Low
Tiffany	30	Heterosexual	Engaged	Did not answer	Stay-at-home parent	1, infant		White	Low
Vanessa	34	Heterosexual	Married	Bachelor's	Stay-at-home parent	2, ages 4 and 1		White	Middle
Whitney	33	Heterosexual	Single	Some college	Stay-at-home parent	3, ages 15, 8, and 2		White	Low
Yvette	33	Heterosexual	Married	Bachelor's	Stay-at-home parent	3, ages 5, 3, and infant	√	White	Middle

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 pandemic led participants to identify tacit knowledge around ages and stages in their lives that generally reflected 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, had important meanings to individuals as representations of idealized circumstances in which "perfect" reproductive experiences happen. When these perfect experiences were lost—through disruption or changes—participants had to deal with how to re-establish or relinquish their ideal. Examples of these events included 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 pandemic, this was an extremely important delimiter—our aging, physiological and social—was not put on hold during shelter-in-place orders, while much of the rest of "normal" life was.

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 could not 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 had never wanted children, talked about her partner stating that, although he did not 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 pandemic 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 pandemic 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 PhD 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 pandemic 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.

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 pandemic, 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 demonstrated the fluidity of reproductive decision-making in how participants adjust to the loss of or disruption of events. 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 typologies of heteronormative success and biological feasibility. Most participants who drew on the concept of age used it to ensure that they were maintaining their status as adherents to these typologies.

For participants who needed access to dating markets to accomplish these timelines (all women with no children currently), the COVID-19 pandemic 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 limited her fertility options. Interruptions of this type appealed 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 pandemic irredeemably altered Danielle's life course. Danielle and others relied on the "normal" progression of events and ideas about biological fertility to express frustration and unfairness at the consequences of the pandemic 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. Through continued appeals to heteronormative logics within these interruptions, Danielle and Stephanie faced 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 did so in response to the pandemic. The emotions expressed around reproduction within the pandemic 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 will not 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 did 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 influenced 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 adapt 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 pandemic 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 pandemic 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 pandemic. Natalie's example blended 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 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 wanted to try again ever. Miscarriage itself is a traumatizing event, but in the pandemic 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 pandemic 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 will not be at risk, and would not 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 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 was not 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, that is, 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 typologies of the life course. Participants use these typologies to measure their reproduction against themselves and others to decide whether they are "successes"—that is, 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 failure 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 change the relational experience of a profound social practice—reproduction. These changed experiences have the potential to effectively 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 painkillers and operations, increase the length of labor, and increase negative pregnancy outcomes (Jago et al., 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 pandemic 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 et al., 2021; Jago et al., 2020; Janevic et al., 2021; Javaid et al., 2021; Liu et al., 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 pandemic. 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 do not 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 pandemic. 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 the 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 pandemic 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 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 pandemic 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 pandemic is not sufficient to prevent the 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 pandemic may affect routine experiences of reproduction, and how reproduction can reinforce social hierarchies in routine ways.

ACKNOWLEDGMENTS

The author would like to thank Emily S. Mann, Ginger K. Berndt, Anna Chatillon, Jenna E. Nobles, Lisa Raeder, and the FemSem group at the University of Wisconsin, Madison, for their feedback and review of the earlier versions of this manuscript.

ORCID

Kelsey Q. Wright https://orcid.org/0000-0002-3182-151X

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. *Proceedings of the National Academy of Sciences of the United States of America*, *118*(36), e2105709118. https://doi.org/10.1073/pnas.2105709118

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

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. https://doi.org/10.1016/j.contraception.2018.08.012

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. https://doi.org/10.1016/j.srhc.2017.02.007

Barber, J. (2001). Ideational influences on the transition to parenthood: Attitudes toward childbearing and competing alternatives. *Social Psychology Quarterly*, *64*(2), 101–127. https://doi.org/10.2307/3090128

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

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

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. https://doi.org/10.1016/j.contraception.2014.09.014

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*, *48*, 524–533. https://doi.org/10.1111/birt.12559

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*, 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8

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. https://doi.org/10.1177/23780231211038783

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 A. E. Clarke, L. Mamo, J. R. Fosket, J. R. Fishman, & J. K. Shim (Eds.), *Biomedicalization: Technoscience, health, and illness in the U.S*. Duke University Press.

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

Conrad, P. (1992). Medicalization and social control. *American Review of Sociology*, *18*, 209–232. https://doi.org/10.1146/annurev.so.18.080192.001233

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

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

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.

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. https://doi.org/10.1093/humrep/del432

Fallon, K., & Stockstill, C. (2018). The condensed courtship clock: How elite women manage self-development and marriage ideals. *Socius*, *4*, 1–14. 10.1177%2F2378023117753485

Gemmill, A. (2019). From some to none? Fertility expectation dynamics of permanently childless women. *Demography*, *56*(1), 129–149. https://doi.org/10.1007/s13524-018-0739-7

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. https://doi.org/10.1111/jomf.12618

Halberstam, J. (2005). Queer temporality and postmodern geographies. In *In a queer time and place: Transgender bodies, subcultural lives* (pp. 1–22). NYU Press.

Hayford, S. (2009). The evolution of fertility expectations over the life course. *Demography*, *46*(4), 765–783. https://doi.org/10.1353/dem.0.0073

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

Herz, R. (2011). The father as an idea: A challenge to kinship boundaries by single mothers. *Symbolic Interaction*, *25*(1), 1–31. https://doi.org/10.1525/si.2002.25.1.1

Hochschild, A. (1989). *The second shift: Working families and the revolution at home*. Avon.

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. https://doi.org/10.1111/j.1728-4457.2011.00391.x

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. https://doi.org/10.1111/jmwh.13269

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

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. https://doi.org/10.1097/AOG.0000000000003946

Janevic, T., et al. (2021). Pandemic birthing: Childbirth satisfaction, perceived health care bias, and postpartum health during the COVID-19 pandemic. *Maternal and Child Health Journal*, *25*, 860–869. https://doi.org/10.1007/s10995-021-03158-8

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. https://doi.org/10.1016/j.midw.2021.102991

Johnson-Hanks, J. (2005). When the future decides: Uncertainty and intentional action in contemporary Cameroon. *Current Anthropology*, *46*(3), 363–385. https://doi.org/10.1086/428799

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.

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. https://doi.org/10.1001/jamanetworkopen.2021.24273

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. https://doi.org/10.1016/j.jad.2020.07.126

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. https://doi.org/10.1016/j.contraception.2021.02.001

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.

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*, 1–11. https://doi.org/10.1007/s00404-021-06310-5

Luker, K. C. (1999). A reminder that human behavior frequently refuses to conform to models created by researchers. *Family Planning Perspectives*, *31*(5), 248–249. https://doi.org/10.2307/2991574

Lupton, D. (1997). Foucault and the medicalisation critique. In R. Bunton & A. Petersen (Eds.), *Foucault, health, and medicine* (pp. 94–112). Routledge.

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

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

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

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. https://doi.org/10.31235/osf.io/3nqvy

Martin, L. J. (2017). Pushing for the perfect time: Social and biological fertility. *Women's Studies International Forum*, *62*, 91–98. https://doi.org/10.1016/j.wsif.2017.04.004

McCourt, C. (2017). Social support and childbirth. In C. Squire (Ed.), *The social context of birth* (3rd ed.). Routledge Publishing.

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. https://doi.org/10.1177/0731121414534393

Mills, M., & Blossfeld, H. P. (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.

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. https://doi.org/10.1111/j.1728-4457.2010.00319.x

Naya, C. H., Saxbe, D. E., & Dunton, G. F. (2021). Early effects of the COVID-19 pandemic on fertility preferences in the United States: An exploratory study. *Fertility and Sterility*, *116*(4), 1128–1137. https://doi.org/10.1016/j.fertnstert.2021.05.092

Nitsche, N., & Hayford, S. R. (2020). Preferences, partners, and parenthood: Linking early fertility desires, marriage timing, and achieved fertility. *Demography*, *57*, 1975–2001. https://doi.org/10.1007/s13524-020-00927-y

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. https://doi.org/10.1023/B:POPU.0000021074.33415.c1

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

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

Rocca, C. H., Prra, M., Munoz, I., Foster, D. G., Boscardin, W. J., & Ralph, L. (2021). Oral abstracts: O4 Impact of the COVID-19 pandemic on pregnancy preferences: A longitudinal interrupted time-series study. *Contraception*, *104*(4), 451.

Rutenberg, N., Biddlecom, A. E., & 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*, 124–130. https://doi.org/10.2307/2648301

Saldana, J. (2009). *Coding manual for qualitative researchers*. SAGE publications. 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*, 737–756. https://doi.org/10.1353/dem.2005.0035

Smith, D. E. (1993). The Standard North American Family: SNAF as an ideological code. *Journal of Family Issues*, *14*(1), 50–65. https://doi.org/10.1177/0192513X93014001005

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

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. https://doi.org/10.1177/0022146510395592

Trinitapoli, J., & Yeatman, S. (2011). Uncertainty and fertility in a generalized AIDS epidemic. *American Sociological Review*, *76*(6), 935–954. https://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. https://doi.org/10.1177/0022146510383501

Yeatman, S., Trinitapoli, J., & Garver, S. (2020). The enduring case for fertility desires. *Demography*, *57*, 2047–2056. https://doi.org/10.1007/s13524-020-00921-4

How to cite this article: Wright, K. Q. (2022). "It changed the atmosphere surrounding the baby I did have": Making sense of reproduction during the COVID-19 pandemic. *Journal of Marriage and Family*, *84*(4), 1105–1128. https://doi.org/10.1111/jomf.12851