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Making Sense of Memorable Messages About Infertility: Examining Message Valence by Theme and Sender

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ABSTRACT

Fertility problems, often called infertility, have been defined as the inability to conceive or maintain pregnancy throughout one year of trying (World Health Organization, 2020). Because fertility problems can present unique medical, emotional, relational, and identity challenges, they are often difficult to talk about, and even well-intentioned messages can be perceived negatively. This study uses Communicated Sense-Making (CSM; Kellas & Kranstuber Horstman, 2015), particularly its mechanism of memorable messages, to explore what types of support-related messages people experiencing infertility find memorable. Results from semi-structured interviews ($N = 54$) indicate five supra-themes of memorable messages: (a) communicating solidarity; (b) attempting to minimize participants' stress; (c) communicating investment or interest in the patient's experience; (d) sharing expertise; and (e) absolving the patient of responsibility; we identify several sub-themes within each. We also explore patterns between message types, senders, and message valence: message themes were perceived as either positive, negative, or neutral based on the combination of sender and perceived intention. Theoretical and practical implications are discussed.

Fertility problems,[1] often referred to as infertility, are defined as the inability to conceive or maintain pregnancy after attempting to conceive for 1 year if over the age of 35, or for 6 months if age 35 or younger (World Health Organization [WHO], 2020), and affect roughly 12% of American women ages 15 to 44 (Centers for Disease Control and Prevention [CDC], 2021). Those who pursue medical treatment for fertility problems often face considerable financial costs (Katz et al., 2011), lifestyle changes (Clark et al., 1998), and significant emotional challenges, including depression (Peterson et al., 2013), loneliness, and social deprivation (Hess et al., 2018). Because childbearing is culturally linked with gender norms and pronatalism (Medved, 2015), individuals and couples often see fertility problems as a threat to their identities, values, and goals (Horstman et al., 2023; Mamo, 2013; Palmer-Wackerly & Krieger, 2015). In addition to navigating the social pressures and expectations of fertility problems, medical treatments often create physical and financial challenges and barriers for individuals involved (Mamo & Alston-Stepnitz, 2015). Because of this, fertility problems are considered both a medical issue and a social experience, so individuals faced with fertility problems must often navigate complex interactions with medical professionals and people in their social networks (Bute, 2009; Greil et al., 2010).

Extant research on infertility-related communication has focused on multiple interpersonal communication processes, including supportive communication (Willer, 2014), painful self-disclosure (Bute, 2009), privacy management (Steuber & Solomon, 2012), narratives of loss (Horstman et al., 2021), metaphors (Palmer-Wackerly & Krieger, 2015; Palmer-Wackerly et al., 2022), and identity change (Palmer-Wackerly et al., 2019; Willer, 2021). Taken together, past research has investigated communication from and with a variety of sources (e.g., health care providers, romantic partners, friends, online support providers), as well as master narratives of *motherhood* (Horstman & Morrison, 2021) and *womanhood* (Gunning et al., 2023). Although previous research has examined the kind of messages that people facing fertility problems find helpful and hurtful (Basinger & Quinlan, 2023), less is known about how people interpret those messages differently based on the message content, context, or source. In the current study, we examine how individuals who have experienced fertility problems make sense of a complex web of messages from various sources and explore why the same message may be perceived differently depending on its source. In what follows, we summarize the current findings regarding communication about fertility problems before situating our study within the theoretical framework of Communicated Sense-Making (CSM; Koening Kellas & Kranstuber Horstman, 2015), particularly its focus on memorable messages.

Communicating about fertility problems

People experience fertility problems within a larger macro-level societal context about reproductive values, norms, and

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expectations, which are often communicated through specific micro-level messages (Bute et al., 2019). For example, messages about fertility and reproduction are often gendered, with women raised hearing messages about how "becoming a mother is expected and that getting pregnant is easy" (Willer, 2014, p. 409), and men hearing messages that "they should be able to gush sperm all over the place" (Barnes, 2014, p. 4). Moreover, Bute et al. (2019) identified three larger societal rules around (in)fertility-related communication, based on messages participants had received about miscarriage and pregnancy loss: (a) fertility problems should be kept secret, (b) they should not be discussed between men, and (c) pregnancies should not be announced too soon. Given these larger societal messages about procreation, a diagnosis of infertility is often uniquely stressful for many individuals (Palmer-Wackerly & Krieger, 2015), making them feel isolated as they cope with treatment decision-making, psychological health concerns, and a decrease in self-esteem (Willer, 2014).

Considering this, communication about fertility problems can be complicated. For example, (in)fertility-related communication from healthcare providers has been shown to be both patronizing and invalidating of grief, even if well-meaning (Willer, 2021). Medical treatment for fertility issues still embodies a paternalistic tone, and because doctors are treated as infallible experts, patients often strive to be "perfect," thus assuming responsibility (and stress) for the success of both their patient-provider interactions and their overall treatment outcome (Johnson & Quinlan, 2016). Barnes (2014) found that doctors were sensitive to men's perceptions of fertility problems as a threat to masculinity, yet medical norms largely focus on women's bodies and ignore treatments for and the informational needs of men, thus perpetuating gender inequalities in infertility treatment. Sometimes, patients use economic metaphors to explain the stress and depersonalization of infertility-related healthcare interactions – referred to in one article as "Fertility, Inc." – likening hospitals "factories" and providers as "handlers" (Johnson et al., 2018). Even messages of support from loved ones may not be received as the sender intends, such that support is less helpful when it does not match the recipient's particular needs and preferences (Cutrona & Russell, 1990). For example, some women coping with fertility problems receive less emotional support than they desire from their spouses/partners, friends, family members, and medical professionals (High & Steuber, 2014), whereas others perceive a distressing sense of *over*protection from their mothers (Skvirsky et al., 2018).

Infertility and related treatments may last for years, and communicative preferences can shift over time. Bute and Vik (2010) found that some women who experienced fertility problems became more open over time as their fertility problems were resolved or once they received an official diagnosis, but other women became less open due to others' reactions, including unsupportive responses and perceptions of violating *others*' privacy boundaries. Palmer-Wackerly et al. (2022) determined that individuals and couples prefer different types and amounts of communication from their healthcare professionals as they transitioned between identities, from "infertility as temporary" to "infertility as enduring" and finally "infertility as integrated." Palmer-Wackerly et al. (2022) also found that individuals negotiated their fertility treatment roles and decision-making that could shift over time, depending upon their goals and level of desired collaboration with each other.

In sum, communication around fertility problems is uniquely complicated due to social norms, differences in privacy boundaries, evolving communication preferences, and specific support needs. Extant research on fertility-related communication tends to focus on either one type of message source (i.e., health care providers *or* romantic partners) or the overall impact of all messages, instead of the differences in meanings based on who said them. This gap in the research prevents an understanding of message complexity in the context of infertility. A more nuanced approach that examines how people interpret communication about fertility problems differently from various senders could equip practitioners and care providers with knowledge about helpful support for those struggling with fertility problems. The current study focuses on the specific infertility-related messages from a variety of senders and the meanings derived from these messages based on message content, source, and perceived valence. To investigate this, we used the framework of Communicated Sense-Making, including its focus on memorable messages.

Communicated sense-making

Communicated Sense-Making (CSM) is a framework that organizes "the ways people communicate to make sense of their relationships, lived experiences, identities, and difficulties, and how the content and process of communicated sense-making affect and reflect health and well-being" (Koenig Kellas & Kranstuber Horstman, 2015, p. 81). As a synthesizing framework, CSM provides an overview of six primary processes by which people communicate to make sense of their lives, particularly in the context of difficulty where sense-making is most often rendered necessary. These include memorable messages, accounts, communicated narrative sense-making, storytelling, attributions, communicated perspective-taking (CPT), and metaphors (see Flood-Grady et al., 2019; Horstman et al., 2020). In the context of reproductive health difficulties, scholars have utilized CSM to explore how people make sense of infertility and miscarriage, through metaphors (Horstman et al., 2020; Johnson et al., 2018; Palmer-Wackerly & Krieger, 2015), storytelling (Holman & Horstman, 2019), CPT (Kranstuber Horstman & Holman, 2018) and memorable messages (Basinger & Quinlan, 2023; Basinger et al., 2022; Horstman et al., 2020). Because we are interested in how people make sense of communication about fertility problems differently from various members of their social networks, CSM's tenet of memorable messages is a useful theoretical heuristic.

Memorable messages

Memorable messages are defined as statements that people remember for long periods of time and perceive as having a lasting impact or influence on their lives (Knapp et al., 1981). These messages need not be grandiose or particularly unique; Stohl (1986) clarified that the only real requirement of

being a memorable message is that an individual can precisely recall it retrospectively and feels that it is significant. Recent theorizing has suggested that memorable messages are lasting, but changeable, have an interpretive valence (i.e., positive, negative, neutral), and are best understood in terms of their impact (versus content, form, or delivery; see Cooke-Jackson & Rubinsky's Theory of Memorable Messages, Cooke-Jackson & Rubinsky, 2021). Memorable messages are part of CSM's *retrospective storytelling* heuristic, and they help individuals and families understand and create identities, as well as process or prepare for difficult situations (Koenig Kellas, 2018). Over the decades, communication scholars have emphasized memorable messages' role in socialization of identity and behavior (Cooke-Jackson & Rubinsky, 2018, 2022), and a growing body of research examines the memorable messages individuals receive about sexual and reproductive health (e.g., Gunning et al., 2020; Holman & Koenig Kellas, 2018; Rubinsky & Cooke-Jackson, 2017a, 2017b; Rubinsky et al., 2018). However, little research has focused on the nature or impact of memorable messages about *infertility*. From the little that has been done, Gunning et al (2020, 2023). identified fears of infertility as an internalized response to family members' expectant messages about childbearing (e.g., "you'll want children later"); and, using a memorable messages framework, Basinger and Quinlan (2023) found that healthcare providers' communication to fat women experiencing fertility problems, were predominantly negatively-valenced. This research, along with the personal and emotional nature of fertility problems and the potential dilemmas around communicating effectively about it, make it reasonable to believe that others' attempts to inquire about, discuss, or support people facing fertility problems may result in both positive and negative lasting, or memorable, messages.

For example, Bute (2009) used the "multiple meanings" framework (Goldsmith, 2004) and found that women experiencing fertility problems ascribe different meanings (e.g., ranging from caring, insensitive, threatening) to requests for information that come from different sources, including strangers, new acquaintances, and social network members. Within that study, participants described the communicative dilemma of wanting to share one's situation with others, but also wanting to protect one's privacy and avoid being perceived as a "biological failure" (p. 754). Bute's study, grounded in normative rhetorical theory (NRT; Goldsmith, 2019), focused on how interactants' task, identity, relational purposes (i.e., social practices), and specific context of a conversation play a role in how a message was perceived. NRT helps explain why we may interpret a comment from a physician during a checkup as helpful (e.g., "Have you thought about joining a gym to control your weight?") but find the same comment insulting when it comes from a romantic partner during an intimate moment. Although research on health communication and fertility problems often employs NRT, the theory focuses on the dilemmas (i.e., conflicts among two or more purposes; Goldsmith, 2019) within ongoing, situated conversations in relationships, and strategies to relieve those dilemmas. Because we are interested in identifying memorable messages about fertility problems with the goal of increasing more helpful messages while avoiding hurtful ones, we used memorable messages as the sensitizing framework for the current study. In summary, although research on communication surrounding fertility problems has grown in the past decade, there is a lack of understanding about what types of messages are most memorable, which messages are perceived as helpful or hurtful, and how individuals interpret messages based on who communicates them. Therefore, we use CSM, specifically its tenet of memorable messages, to ask the following questions:

RQ1: What types of messages do people who have experienced fertility problems find most memorable?

RQ2: With whom do individuals with fertility problems remember having those conversations?

Practically, it is important to not only understand what types of messages are memorable, but also help social network members avoid communicating potentially harmful messages. Since "harmful messages can paralyze an individual … and even create multiple layers of intrapersonal trauma" (Cooke-Jackson & Rubinsky, 2021, p. 95), it is important to understand how harmful messages can be interpersonally disrupted. By noting that the same message from two different senders may be interpreted differently (Goldsmith, 2019), we employ Communicated Sense-Making, and specifically memorable messages, to understand the interconnected relationship between the content, sources *and* valence to then understand the impact of the memorable messages recalled during fertility problems, and how they interact with one another (see Holman & Koenig Kellas, 2018). In order to investigate potential patterns in infertility-related memorable messages and their impact, we asked:

RQ3: What patterns, if any, exist between types of memorable message, message valence, and the sender, in the context of communication about fertility problems?

Method

Participants and procedures

In order to participate in this IRB-approved study, individuals were 19 years of age or older and experienced fertility problems for six months or longer. There were no constraints on gender, duration of fertility problems, eventual conception, or medical diagnoses, in order to allow for a diversity of perspectives. Recruiting efforts included: sharing the study information within our personal and professional networks via direct requests and social media; posting on infertility-specific subforums on Reddit (Hintz & Betts, 2022); and initiating respondent-driven ("snowball") sampling by asking these audiences to share recruitment language with others.

Data collection involved in-depth interviews with individuals who experienced fertility problems. Prior to individual interviews, participants completed a questionnaire regarding demographics and quantitative scales not relevant to the

current study.[2] Participants ($N = 54$) were between the ages of 28 and 54 ($M = 36.69$); this sample contained 11 romantic couples ($n = 22$), which was a result of snowball sampling and was not intended as an attempt at dyadic analysis. Partners were interviewed individually and their responses analyzed and coded separately. Participants were predominantly female ($n = 41$, 76%), and most identified as white ($n = 41$, 73%), with five identifying as Hispanic (10%), five as Asian or Pacific Islander (10%), four as African American (7%) and one as "other" (2%).[3] The vast majority ($n = 51$, 94%) were married or in a domestic partnership. The average duration of fertility problems was 4.8 years. Participants were geographically dispersed around the U.S. with one participant living in Canada.

Participants voluntarily participated in face-to-face or phone interviews, which lasted between 45 and 90 minutes. They responded to open-ended questions about fertility problem-related communication and social support, including any stories, messages, or questions they considered particularly memorable. Researchers audio-recorded each interview and memoed throughout the data collection process to help identify, record, and clarify emergent findings. Interviews were transcribed word-for-word by an IRB-approved transcription service; identifying information was removed and each participant was given a pseudonym.

Data analysis

First, transcripts were unitized to identify memorable messages during their fertility problem journey. We defined and coded memorable messages as any remembered verbal (oral or written) communication from another person. Given the retrospective nature of the data (see Koening Kellas & Kranstuber Horstman, 2015) and the prompt to report on vivid, important, and *memorable* communication, communication from others about fertility problems recalled in the context of the interview were considered significant and memorable messages using Stohl's (1986) definition. That is, we unitized utterances that participants could recall clearly in retrospect and felt were significant (acknowledging that word-for-word recollection is less important than remembering the message's content, per Holladay, 2002). The first and second authors individually reviewed approximately 10% of the transcripts and unitized instances of memorable messages, with phrases, sentences and full paragraphs as units. The first and second authors met to discuss identified units and their valence. We coded valence as positive, negative, or ambivalent by using participants' evaluations of reported speech (e.g., "that was the worst possible thing she could have said").

Next, during the *focused coding* phase (Charmaz, 2014; Saldaña, 2014), the first author created a codebook of 25 recurring themes of memorable messages, including positive, negative, and ambivalent: (a) received memorable messages; and (b) anticipated or imagined messages. The fourth author was trained on the codebook, and they continued unitizing, identifying valence of each unit, meeting weekly for 10 weeks for training. Following the calculation of acceptable unitizing reliability between coders using Guetzkow's index (.109, indicating 90% agreement), the fourth author unitized the remaining transcripts.

During the final stage of coding, *axial coding* (Charmaz, 2014; Saldaña, 2014), the first and second authors reviewed the 25 themes, combined themes together when appropriate, created sub-themes, and made theoretical connections between overarching ideas repeatedly expressed by participants. After this process, 19 themes remained which, after a data conference with the larger team, were condensed into five overarching supra-themes, each with corresponding sub-themes that describe the content of memorable messages (see Table 1).

To answer RQ3 on the possible patterns between message content, valence, and sender, we employed case-oriented analysis strategies (Miles et al., 2014). Specifically, we conducted a cross-case analysis (see Holman & Koenig Kellas, 2018) to identify patterned relationships between memorable message types (RQ1), sender (RQ2), and perceived message valence. During this analysis, we treated each memorable message as a case. We analyzed cases by grouping them according to: (a) message supra-theme (e.g., communicating solidarity) and sub-theme (e.g., acknowledgment that infertility is difficult); (b) the valence of the message (positive, negative, ambivalent); and (c) its reported sender (i.e., spouse/partner; family, including parents, in-laws and siblings; friends; medical providers; and "generalized others," which indicates a message the participant heard from one or more senders outside of their close personal network). Finally, we calculated the number of positive, negative, and ambivalent messages and the number of messages that came from various sources in order to display message types according to – when possible – majority frequencies for valence and sender (see Results and Table 1).

Results

Participants in this study recalled receiving a variety of messages throughout their infertility journey. Some messages comforted participants, while others made them feel isolated, blamed, or criticized. Participants noted that despite prosocial and supportive motivations, many of the messages were unintentionally insensitive, judgmental, or otherwise hurtful (see Cooke-Jackson & Rubinsky, 2018).

Type and source of memorable messages (RQ1 & RQ2)

Addressing RQ1, messages remembered by participants ($N = 281$) were organized into five supra-themes: (a) communicating solidarity; (b) attempting to minimize participants' stress; (c) communicating investment or interest in the participants' experience; (d) sharing expertise; and (e) absolving the participant of responsibility. Within each of these themes, we identified several sub-themes; See Table 1 for descriptions and exemplars of each. In response to RQ2, participants said they received these messages from loved ones, friends, healthcare providers, and generalized others (including coworkers, acquaintances on social media, and fellow church members, among others) throughout their fertility problem journey. In Table 1, we provide a summary of message frequency by sender.

Table 1. Supra- and sub-themes of memorable messages during infertility.

Theme	Message Type	N	Family	Friend	Romantic Partner	Generalized Other	Medical Provider	Exemplar
Communicating Solidarity n = 75 (26.7%)	**Stories of Theirs or Others' Fertility Successes**	20	1 positive 2 ambivalent 2 negative	1 positive 1 negative	–	6 ambivalent 6 negative	1 positive	"Yeah, people always tell you stories, like 'Oh yeah, you're doing that? Well, my cousin's brother's ex-roommate's girlfriend did it and they are now parents.' So people like to tell you stories like that. . . Which are, I don't know, depending on my mood are welcome or unwelcome." -Allison, Lines 219–222
	Stories of Infertility Struggles	27	1 ambivalent	10 positive 2 ambivalent	2 positive	8 positive 1 negative	2 positive 1 ambivalent	"That was actually really cathartic, because my boss had shared with me that she had had, like, 5 miscarriages, including a second-trimester loss. . .. And there was another senior attorney there and she told me that she had a second-trimester loss with twins, and it was rough. So, that kinda, it helped me realize that miscarriage and pregnancy loss is really, really common." -Amber, Lines 108–113
	"I Love You, Regardless"	9	—	1 positive	5 positive 1 negative	1 positive	1 positive	"I've had breakdowns where I'm like, 'just marry someone else!' Like, super dramatic. And he's like, 'No, I care way more about you and, like, having a life with you than having kids with what, someone else? No, I'd rather this.' So, he's been, he's been awesome." -Anika, Lines 78–85
	Offers of Tangible Support or Prayers	7	1 positive	4 positive	–	1 negative	1 positive	"When we were struggling so much to get pregnant the second time, I had two girlfriends that actually said that, like, they would seriously do a surrogate for me . . . . And that just stood out. Like, it was just really, I think, emotional for me to see somebody actually understands how painful this is for me." -Pamela, Lines 188–192
	Acknowledgement that Infertility is Difficult	12	2 positive 1 ambivalent	1 positive	1 positive	4 positive 2 ambivalent	1 positive	"My aunt, who had undergone some infertility treatments and wound up adopting, she – I don't know if I'm allowed to use profanity, but – she said it was like, 'This is a shit sandwich.' And sometimes somebody saying, 'Sometimes you get a side of shit to go along with that,' [laugh], like, 'Just when you think you haven't had enough!' That was sort of helpful at times, just to have people say things like, yes that's sort of how it is." -Denise, Lines 696–706
Attempting to Minimize Stress n = 74 (26.3%)	**"Relax"**	11	—	—	—	11 negative	—	""Go on a vacation, go on a cruise, take your mind of it" – that's absolutely the worst thing to say, because it's consuming you. It's all around you . . . . It's not easy. You can go outside and hear a baby cry or see someone walking with a baby, and it's a constant reminder." -Hector, Lines 210–214
	Trivializing Infertility	28	5 negative 2 ambivalent	2 negative	2 negative 1 ambivalent	11 negative 1 ambivalent	3 negative 1 ambivalent	"So the message from our parents was, 'Oh, I'm sure it'll all work out' kind of thing. Which was kind of frustrating, because you feel like they don't really understand, or if they're taking it seriously." -Maria, Lines 195–197
	Positivity or Hope	23	1 positive 1 ambivalent 2 negative	2 positive	2 positive	2 positive 1 ambivalent 3 negative	4 positive 1 ambivalent 3 negative	"My parents were always saying, you know, 'It's gonna work, you're gonna have that grandchild, you're gonna have that pregnancy.'" -Caliope, 212–213
	Thoughtless Joking or Comments	12	2 negative	8 negative	—	1 ambivalent 1 negative	—	"We were with a married couple visiting in September and they had just had a kid, so their son was 6 months or something. We were sitting around talking and the husband, who is my old high school friend, he's like, 'Are you guys planning to have kids?' And we're like, 'Oh, we are doing IVF because we have a fertility problem,' and he's like, 'Oh wow, that's really tough. Anyway, can you hold Andy for a second? I have to go to the bathroom.' Then he just hands his kid off to us and we're like . . . ! . . . He doesn't realize how horrible it is to hand his newborn infant to my wife as she's just telling him that we're having fertility problems." -Elliot, Lines 385–392

(*Continued*)

Table 1. (Continued).

Theme	Message Type	N	Family	Friend	Romantic Partner	Generalized Other	Medical Provider	Exemplar
Communicating Investment or Interest in Participants' Experience n = 59 (21%)	**Wanting Constant Updates**	16	4 ambivalent 5 negative 1 positive	1 ambivalent 1 negative	—	1 ambivalent 3 negative	—	"I made the mistake of telling my mom when we might start trying, like, in winter of 2014 or whatever? And that was just a, 'Maybe we might start.' And by 3 months later, she was making vague comments about, 'Oh, when are you going to have kids, or adopting?' or whatever. She was, like, implying stuff like that. She casually mentioned that my sister said she would be a surrogate for me, if I wanted to." -Elle, Lines75–80
	"When are You Having Kids?"	25	2 ambivalent 4 negative	3 negative	—	13 negative	3 ambivalent	"That's how my parents knew I was going through infertility treatments the first time, because I had *had* it with my mother asking me, 'Are you guys trying? Are you guys trying? Are you, when are you having a baby? You're getting too old. Oh, so-and-so had a grandchild, I'm never going to have grandchildren.' So, you know, one day, I just had enough." -Julie, Lines 702–706
	Asking What the Participant Needs	3	—	1 positive	—	2 positive	—	"I've been really lucky in that 99.99% of people have done exactly the right thing, which is, 'Let us know how we can help' and then shut up about it." -Tracy, Lines 354–356
	Listening	8	2 positive	3 positive 1 ambivalent	—	1 positive 1 ambivalent	—	"I think my sister-in-law definitely sees that. She's, like, super sensitive to it and will . . . I don't know what makes her good at communicating. She's like, 'so how are you guys doing?' And I let it all out." -Anika, Lines 558–560
	Perspective-Taking	7	2 positive	—	4 positive	—	1 positive	"My mom was really good because she had a miscarriage, but never went through infertility. But a lot of times she would say, 'I don't know how to relate to you, but I want to try. I know what it's like to feel like you want a baby so bad and it's not fair that someone like you doesn't get that.'" -Madison, Lines 975–978
Sharing Expertise n = 49 (17.4%)	**Unsolicited Advice**	7	1 ambivalent 1 negative	2 negative	—	1 ambivalent 2 negative	—	'"Don't get stressed," ""just be positive"" and "try acupuncture," and "eat pineapple cores." It's all of this [inaudible] that they want you to try and – I don't know. It's like, I don't want to be rude to them, but at the same time, like, I don't think the problem is that I've just been chronically stressed for two years.' -Elle, Lines 124–127
	Questioning/ Judging Decisions	26	1 ambivalent 11 negative	5 ambivalent	1 ambivalent 1 negative	1 ambivalent 5 negative	1 negative	"Her family wasn't so comfortable with it. You know, they thought, well, you know, 'We think you're giving up too early, too easily.'" -Jake, Lines 234–236
	Validation of Treatment Choices	7	—	4 positive	1 positive	—	2 positive	"She said several times, 'you made the right choice, going with Dr. [name]. You've made the right choice.' She said that a few times and I was just, like, waterworks in there. Like, I just, like, oh my god, thank you." -Lu, Lines 566–572
	Being Realistic	9	—	1 positive	—	2 positive 1 ambivalent	1 positive 4 negative	"They're more along my lines like 'okay what did the doctor say, okay, you're going to do this next, and then what follows that? Or what can you do?' You know, like they were very analytical like me. Yeah, they were great. They didn't offer any of the BS people have to deal with." -Maria, Lines 199–203
Absolving the Patient of Responsibility n = 24 (8.5%)		24	2 positive 1 ambivalent 1 negative	1 positive 3 ambivalent 3 negative	1 ambivalent	3 ambivalent 8 negative	1 negative	"My mom is, like, super, super religious, and she's all like, 'God has plans' and, you know, 'Things happen when they're supposed to' or 'What's meant to be is meant to be.' I just can't hear that crap right now." -Samantha, Lines 328–330

Intersection of memorable messages, message valence, and sender (RQ3)

To address RQ3 regarding connections between message theme, sender, and perceived valence, our cross-case analysis found that certain message themes were valenced differently when they came from different senders: a message coming from one's mother, for example, may not be perceived as positive as if that same message came from a trusted friend. Below, we identify and analyze what type of memorable messages were perceived as negative, positive, or neutral from each type of sender.

Messages from spouses/romantic partners

Messages from romantic partners mostly fell into the supra-theme Solidarity ($n = 20$) and were perceived positively, if they demonstrated that partners were invested in the infertility journey and were taking it seriously. Partners did this in several ways, including Perspective-Taking ($n = 4$) and communicating that they valued the relationship irrespective of its ability to produce a child, as in the theme of "I Love You, Regardless" ($n = 5$). Participants reported appreciating it when their romantic partner communicated a sense of commitment, demonstrated in Mary-Elizabeth's comment: "I think a turning point for me was when my husband said out loud, 'If you can't have kids, then *we* can't have kids.'"

A few messages from partners were perceived as negative ($n = 2$) or neutral ($n = 3$), including messages that trivialized the participant's feelings or attempted to make light of fertility problems. For example, Julie said it was hurtful when her husband didn't seem to take a miscarriage as seriously as she did, because his dismissal indicated that he was neither engaging in perspective-taking nor as emotionally invested in the experience as she was: "He didn't understand. He was like... like 'You're only, you know, five weeks along. Who cares?... It's really nothing.' And to me, it was everything."

Messages from family

The most common themes of messages from family members ($n = 61$) – parents, siblings, and other blood or legal relatives – included Judging Participants' Choices ($n = 11$), Wanting Constant Updates ($n = 10$), Trivializing Fertility Problems ($n = 6$), and Positivity/Hope/Keep Going ($n = 4$) (see Table 1). Participants noted that family members felt entitled to ask personal questions about their fertility status or treatments and to share their opinions about the participants' choices. These types of messages were almost always negatively valenced, as they seemed to break privacy boundaries and imply that the participant's personal medical experiences were public business (Bute, 2009). Such messages created a feeling of being surveilled and judged, which added an unnecessary layer of stress. As Allison noted:

> My mother has, at times, gotten very intrusive about really following up with every doctor's appointment: "How did it go? What did they say?" And I find that that's—I find that obnoxious. When I want to share something, that's one thing. But for somebody to demand, kind of, information, I'm—I'm more bothered by that.

Similarly, family members often felt comfortable expressing negative opinions about participants' reproductive choices; these messages were always negatively valenced. In particular, participants' decision to start IVF treatment was often met with judgmental comments from family members as being too expensive or unnecessary. Jake said, "Her family wasn't so comfortable with it. You know, they thought, 'We think you're giving up too early, too easily.'"

Alternatively, positively valenced messages from family members fell into the themes of Listening, Demonstrating Empathy, Acknowledging that Fertility Problems are Difficult, and Perspective-Taking. Although all of these themes fall within the realm of communicated perspective-taking, in which the message sender made a genuine attempt to acknowledge and understand the feelings of the participant, the final theme of Perspective-Taking was distinctly identified as including communicative behaviors such as re-phrasing the participant's statements and normalizing the participant's emotions. Positively valenced messages demonstrated that the family member understood the difficulty of the situation but did not feel the need to insert themselves into the experience, allowing the participant to retain their sense of agency and feel supported. Denise's aunt, who had undergone fertility treatments herself and eventually adopted, did not mince words when recognizing how stressful fertility problems can be:

> She said it was like, "This is a shit sandwich." And sometimes, somebody saying... "Sometimes you get a side of shit to go along with that." [laugh] Like, "Just when you think you haven't had enough." That was sort of helpful at times, just to have people say things like, "Yes that's sort of how it is."... it just sort of felt sustaining, I guess, in that it helped with the coping piece of it.

Rather than offering hollow platitudes or telling Denise to stay positive, Denise's aunt acknowledged the negative aspects of the situation, which created a situation where Denise felt safe expressing a variety of emotions and avoided the emotional labor of painting a positive picture.

Messages from friends

Messages from friends ($n = 55$) most commonly fell into the sub-themes of Showing Solidarity ($n = 12$), Seeming Thoughtless or Clueless ($n = 7$), "This is God's Plan" or "This was Meant to Be" ($n = 6$). Showing Solidarity was positive in all but two instances, in which the messages were neutrally valenced; in these cases, the messages were received with a supposition of good intent but didn't actually provide informational or emotional support. Other positive messages from friends were Offers of Tangible Support ($n = 4$), such as financial assistance or serving as a surrogate, or when friends simply listened to participants vent their frustrations and worries ($n = 3$).

Messages from friends that indicated they were not paying attention to the participants' experiences or feelings were always *negatively* valenced, whether or not they were intentional. For example, Elliot relayed an uncomfortable situation with a friend who had a newborn:

> We were sitting around talking and the husband, who is my old high school friend, he's like, "Are you guys planning to have kids?" We're like, "Oh we are doing IVF because we have a fertility problem." And he's like, "Oh wow, that's really tough. Anyway, can you hold Andy for a second? I have to go to the bathroom,"

> then he just hands his kid off to us. We're like, *that's* why we don't tell people, right?

Because he did not account for Elliot and his wife's feelings of sadness or discomfort holding his child, the friend's seemingly innocuous behavior was perceived negatively.

Participants said that messages of "This is God's Plan" were often offered with good intentions, but were almost always perceived negatively or ambivalently because they removed the participant's agency. Though these comments were often intended to comfort the participant by alleviating them of the "responsibility" or "fault" for fertility problems, they usually backfired because they implied that the participant was helpless – or worse, that some higher power intentionally wanted the participant to struggle.

Messages from generalized others

Many messages ($n = 104$) came from "generalized others," meaning they were common phrases, questions, or opinions participants remembered hearing from one or more people within their network, such as casual acquaintances, people in church or social groups, coworkers, or "society" in general, and they did not necessarily pinpoint one specific person as the source of the message. (Participants often explained these messages saying, "People were always saying . . . " or "People said stuff like . . . "). The majority of messages from generalized others were perceived as negative ($n = 64$; 61.5%). Common sub-themes from this group include Sharing Stories of Others' Fertility Successes ($n = 12$), "This is God's Plan" or "This was Meant to Be" ($n = 11$), "Relax" ($n = 11$), and Trivializing Fertility Problems ($n = 10$). Though many participants acknowledged that these comments were given with good intentions, they felt that these messages either took away their control of the situation (such as for "This was Meant to Be") or, alternately, blamed them for their infertility (such as "Relax").

Stories of Others' Fertility Successes de-personalized the fertility journey and stereotyped everyone's diagnosis, treatment, and outcomes as the same. Further, these messages were perceived as a tactic to minimize the participants' feelings by implying that other people have been through the same thing with successful results, so fertility problems shouldn't be a cause for alarm. As Erin said, "Whenever I meet someone that says, "Oh, don't worry, you'll have the baby [in] time. Look at me, I have two kids," I'm like 'Well, yes, it's easy for you to say that "cause you have the two kids right now." You know?" These success stories communicated that infertility is something that can, and has been, overcome, so it shouldn't be taken too seriously – even though it feels very serious to participants.

Similarly, messages of Trivializing Fertility Problems were all negatively valenced, even if the participants felt that the comments were an attempt to be helpful. Sometimes, the comments were an attempt to ease the participant's stress, such as this comment, shared by Jane:

> I know you're trying to be nice but like, that's, that's really upsetting that you're telling me, "Oh, you'll be a mother, just not in the traditional way," or whatever. I'm just like, but I want... that's what I *want*. That's what I deserve and why don't I deserve that, you know?

Similar to messages from friends, messages that indicated that fertility problems were up to some higher power, such as God or Fate, were all negatively valenced. On the other hand, messages that Demonstrated Solidarity ($n = 9$) were always *positively* valenced. Participants valued hearing from others who had experienced fertility problems, even if it was just to acknowledge that the others understood the situation. This made participants feel less alone. As Madison, said, "Find those few people who you can relate to that are gonna show perspective-taking and empathy . . . find those people so you don't feel alone."

Messages from healthcare providers

Messages from medical providers ($n = 29$) included those from nurses, doctors, and specialists. The most common sub-themes were Positivity/Hope/Keep Going ($n = 8$) and Being Realistic ($n = 5$). Messages of Positivity or Hope were mixed in valence: only half were considered positive. Sometimes, participants saw their doctors' or nurses' positivity as a glib, inappropriate response to their emotional turmoil, as if the medical professionals weren't taking the situation seriously. For example, Maria noted, "Some of the other doctors we worked with, like the urologist, were very much sunshine and rainbows and 'oh I just *know* this is just going to work this time.'" At other times, medical professionals' optimism was positively valenced. Blake valued his doctor's measured positivity because it suggested an ultimate positive outcome while also acknowledging the challenges of the current situations:

> It was the whole, "be patient, it will happen, you guys just don't have great factors in your favor." So that was always kind of in the back of my mind and kind of, you know, even when negative things were happening, that's kind of what kept the hope in me.

From providers, all but one message of Being Realistic were perceived as *negative*. Erin noted that one of the lowest points of her fertility journey was when she experienced bleeding during a pregnancy and visited her usual clinic for some bloodwork. Perhaps trying to comfort her, a nurse said to Erin, "Well, you're used to this," implying that a blood draw should not be a scary or uncertain ordeal. However, Erin interpreted the comment differently:

> I was very fragile at that point and when she said that to me, I took it as "Well, you're used to failing at this whole pregnancy thing." Or "You're used to this whole disappointment of the bleeding and having to get the ultrasound and all that.

In these instances, even when participants appreciated a straight-forward, cliché-free conversation with their medical providers, the bluntness of medical providers' comments came across as harsh or insensitive. This may be due, in part, to the reality that patients may feel vulnerable in their providers' offices, as they're often there because of medical complications or highly awaited test results.

Discussion

The goal of the current study was to uncover what types of messages people experiencing fertility problems find

memorable, from whom people remember hearing those messages, and whether participants made sense of the message (valence) differently depending on the sender. Our analysis identified five supra-themes of memorable messages: Demonstrating Solidarity, Minimizing Stress, Communicating Investment or Interest in Participants' Experience, Sharing Expertise, and Absolving the Patient of Responsibility. These messages came from a variety of sources, including romantic partners, family members, friends, generalized others, and healthcare providers. Messages were negatively, neutrally, or positively valenced, often depending on the sender. Also within our dataset, communicated perspective-taking (CPT) emerged as an important sub-theme within Communicating Investment or Interest in Participants' Experience. CPT, an important tenet of Communicated Sense-Making, refers to how individuals interactively acknowledge, attend to, and confirm one another's perspectives during an interaction (Koenig Kellas & Trees, 2006). In times of difficulty, CPT can facilitate sense-making and relational wellbeing through (non)verbal demonstrations of understanding, including attentiveness, agreement, coordination, identity affirmation, making relevant contributions, using positive tone, and making space for others to communicate (Koenig Kellas et al., 2017). CPT behaviors have been shown to be beneficial in communication about spousal difficulties, such as navigating marital conflict (Koenig Kellas et al., 2013, 2017) and miscarriage (Kranstuber Horstman & Holman, 2018). In the current study, CPT was embodied by seven memorable messages, and was always positively valenced.

The current study's findings mirror previous findings that individuals ascribe different meanings to communication from different sources (e.g., Bute, 2009), that messages offered with positive intentions can sometimes be perceived negatively (Cooke-Jackson & Rubinsky, 2021), and that communicated perspective-taking is almost always interpreted positively (e.g., Butauski & Horstman, 2020; Kranstuber Horstman & Holman, 2018). However, previous studies have not explored how the combination of message and sender within a fertility problem context affects the perceived valence of previous, *remembered* messages. Our study is the first of our knowledge to identify and evaluate the valence of memorable messages, based on source and content, within the fertility problem context, which has been suggested as an important part of understanding memorable messages' influence on health outcomes (Crook & Dailey, 2016). The current study helps create a more nuanced understanding of how various fertility problem messages are received and remembered in a stressful and emotionally complex situation. Thus, the study extends our understanding of fertility-related communication, which is fraught with challenges (e.g., Basinger & Quinlan, 2023; Bute, 2009; Palmer-Wackerly et al., 2022; Willer, 2021), and sheds much-needed light on how romantic partners, family members, friends, acquaintances, and healthcare providers can more effectively support someone who is having difficulty conceiving a child.

Theoretical implications

In the current study, we employed the Communicated Sense-Making (CSM) model, particularly its tenet of memorable messages, to better understand how people make sense of communication surrounding infertility. Our results support the possible links proposed between CSM and well-being and further emphasize the importance of message impact. We also drew from the Theory of Memorable Messages (ToMM; Cooke-Jackson & Rubinsky, 2021), which addresses the inherent retrospective and changing nature associated with making sense of memorable messages over time. Although ToMM is more concerned with message impact than with source and message content, the current study contributes to the theory by examining the impact of memorable messages as they intersect with source and theme. For example, as depicted in Table 1, spouses/partners' Solidarity messages of "I love you regardless" were perceived positively, whereas Minimizing Stress messages, such as "Relax," came from mostly generalized others and were perceived negatively; this indicates that the notion of relaxing in order to "cure" infertility may be a cultural master message.

Additionally, within our dataset, the valence of the messages did not simply depend on the message itself, but upon the receiver's relationship with the sender and the sender's perceived intentions. Thus, our results support Goldsmith's (2019) argument in Normative Rhetorical Theory (NRT), which posits that context and relational dimensions add an important and nuanced dimension to message interpretation. Although there is overlap between the impact of memorable messages and the evaluation of normative communication, NRT tends to focus on message provision, whereas CSM tends to focus on how people receive and process memorable messages. The current study did not explore the communicative strategies participants used to navigate the dilemmas created by these emotionally complex interactions, which is an important facet of NRT. However, our analysis suggests that there are ways that family members, friends, healthcare providers, and generalized others can more successfully communicate their support to people facing fertility problems, thereby avoiding such dilemmas entirely. That being said, future infertility research should continue to explore the common and distinct features of CSM and NRT and how they might inform one another. As Goldsmith (2019) advises, "Look for interesting questions at a point of friction . . . the places where different intellectual traditions rub up against one another . . . or where it appears that scholars are studying 'the same' thing but from different approaches" (p. 226).

Practical implications

The Theory of Memorable Messages (ToMM) states that we should strive to disrupt the influence of harmful messages (Cooke-Jackson & Rubinsky, 2021), and the current study operates within that process by identifying what types of messages, from which senders, are perceived as helpful or harmful. Though there is no "one-size-fits-all" approach to positive or negative communication during the infertility experience (Goldsmith, 2019), we have identified overall patterns that can guide the loved ones, friends, acquaintances, and healthcare providers of those facing infertility in "what not to say," (or realize the relational risks inherent in certain statements), thereby helping people provide more effective support and

reducing one form of interpersonal stress that many people experiencing fertility problems face. Eventually, this work could lead to prescriptive, evidence-based guidelines for effectively supporting those struggling to conceive a child. Below, we discuss specific implications of our research by message sender in relation to message type and valence.

Romantic partners

Participants remembered messages as positive when partners communicated solidarity with them, especially by taking their perspective and expressing their love for them regardless of the fertility outcome. In contrast, participants remembered partners' messages as negative or neutral when they indicated that partners weren't invested in the fertility process and/or did not view fertility as challenging as participants did. These results mirror previous research, which shows that part of the difficulty in experiencing fertility problems can be collaborating with a partner, who may not feel as equally invested in the fertility process or may have different parenthood goals (Palmer-Wackerly et al., 2022). Infertility is a unique medical condition in that both partners can be considered patients and share decisional ownership, regardless of whose body undergoes treatment. Couples who can cooperatively navigate their shared stress and grief while also considering each other's unique emotional needs and communicating their relational bond seem to have more relational satisfaction (Palmer-Wackerly et al., 2022). Practically, partners of individuals undergoing medical treatment for fertility problems should communicate emotional investment in the process, yet also acknowledge that the relationship itself is larger than the ability to procreate. While admitting that they can't share the same physical and mental burden of medical treatments, they can clearly communicate their shared desire for a positive outcome (i.e. successful pregnancy) – while also prioritizing their commitment to their *partner*: "I am right beside you in this, and I will stay by your side no matter what happens."

Family members

Messages from family members tended to come across as intrusive when they overstepped participants' privacy boundaries. Family members' requests to be updated on fertility treatments or questions about the participants' decisions were perceived as judgmental, invasive, or unrealistically hopeful. Though family members may have attempted to communicate concern by asking for medical information (Bute, 2009) or urging participants to remain hopeful, participants communicated that these comments increased their stress and showed a lack of empathetic understanding of their challenges. In contrast, when family members used more person-centered communication tactics, such as active listening and perspective-taking, their messages were received as positive and supportive. This implies that participants want loved ones to be available and invested but need clear boundaries. Families often have diffuse privacy boundaries (Petronio, 2017), so family members may feel entitled to weigh in on each other's personal choices and lifestyle, even without being asked or having all the details. But perhaps because fertility problems are culturally seen as a personal and private issue (Bute, 2009), participants in the current study wanted to control how involved their family members were in their experience. Thus, our findings suggest that family members in particular should be mindful of individuals' desire for privacy: asking about someone's test results or treatment plans can indicate investment in their situation, but repeatedly asking or expecting automatic updates may be perceived as overstepping boundaries – no matter how close the relationship. Our analysis suggests that family members wanting to offer support should first keep questions to a minimum, avoid judging the person's response, and then demonstrate that they are willing and able to actively listen when the other person is ready to talk.

Friends

In general, messages from friends were perceived as negative when they were perceived to demonstrate thoughtlessness or lack of genuine concern. In contrast, participants remembered messages positively if friends communicated solidarity through either sharing stories of personal struggles with fertility, offering tangible assistance, and/or actively listening. Our findings suggest that participants wanted mostly emotional and tangible support from friends, with a focus on understanding the difficulties of fertility. Fertility problems can be a source of relational distress as they upset the biographical and social milestones that people anticipate reaching at a certain age along with their peers. When peers begin moving past those milestones, those with fertility problems may feel left behind (Palmer-Wackerly & Krieger, 2015). Thus, when friends focus on their own needs (e.g., requests to hold their baby while they go to the bathroom), participants experienced relational and emotional distancing because their challenges were different from their friends' (fertility problems versus new parenthood challenges), perhaps for the first time in their relationships. Pragmatically, we advise friends of people experiencing fertility problems to first and foremost be active listeners, and offer practical assistance when possible (this need not be as dramatic as offering to serve as a pregnancy surrogate: even volunteering to bring someone a meal or accompany them to a medical appointment can communicate solidarity and support). Friends who have directly experienced fertility problems can be a unique source of comfort and guidance, but should avoid making explicit comparisons between theirs and their friends' situations, and should remember that no two infertility journeys are exactly alike.

Generalized others

Most messages participants recalled from generalized others were negatively valenced, as they seemed to de-personalize the participant's experience (e.g., sharing stories of others' fertility successes) and dismiss their feelings, despite participants noting that most of these messages had positive intentions. *Positively* valenced messages were those that demonstrated solidarity, making the participant feel like others truly understood their situation. Communicated perspective-taking (CPT) goes beyond simply listening and requires actively acknowledging someone else's situation and validating their feelings, and can be demonstrated by allowing space for the other person to speak and making relevant comments during the conversation to demonstrate your engagement (Koenig

Kellas et al., 2013). Perhaps most messages from generalized others were remembered as negative because this group of individuals were not strongly connected to the participant, therefore their messages felt generic and patronizing, rather than personalized and genuine. It could also be that negative messages are more memorable. Acquaintances of people experiencing fertility problems should avoid maxims that take control out of others' hands, such as "Don't worry, God has a plan for you," as these messages, even when given in an attempt at optimism, come across as dismissive. Similarly, they should avoid sharing third-hand stories of others' fertility successes, as these messages strip away peoples' individuality and insinuate that their emotions and struggles are unwarranted. Generalized others hoping to support people with fertility problems would be well advised to simply listen, because other attempts to offer support may not be effective given the personal and private nature of fertility.

Health care providers

Participants had mixed preferences for communication from their medical providers. Because specialists, doctors, nurses, and medical technicians deal with people at all points of the fertility journey, they may say things that are honest and true – but aren't what the patients are necessarily ready to hear. Our analysis suggests that a practical, straightforward communicative approach is typically perceived as negative and cold, but too much positivity or (false) hope is also negatively valenced. Participants welcomed messages that demonstrated their medical providers had a first-hand understanding of their situation. Even if providers haven't personally experienced fertility problems, sharing messages of their experience treating a variety of patients in a variety of situations demonstrates that providers have a realistic view of the treatment process, yet are capable of creating a desirable outcome. This finding mirrors Palmer-Wackerly et al.'s (Palmer-Wackerly et al., 2019) inference that patients prefer providers to be "cautiously optimistic" (p. 102) when discussing potential outcomes, especially when patients had been trying to conceive for some time and had accepted the limitations of treatments.

Future directions and limitations

A noteworthy limitation of this study is the homogeneity of the participants. Our sample consisted of mostly white females in long-term romantic relationships, and the types of messages they perceive as memorable may vary widely from males, People of Color, or individuals trying to conceive without a romantic partner. Previous studies have indicated that the medicalization of reproduction normalizes fertility treatment without considering structural inequalities, systemic biases, and cultural considerations that discourage People of Color from accessing fertility-related care (Bell, 2016). Even social media algorithms prioritize fertility-related stories from white individuals, making white voices the default for how fertility problems are experienced (Jarvis & Quinlan, 2022). Because different cultural expectations, socioeconomic situations, systemic challenges, and types of relationships bring about different expectations of support, future research should focus on memorable messages within diverse populations. By focusing on individuals who experience different constraints within national and global healthcare systems than heterosexual, cisgender, white women and men, studies may bring to light different memorable messages that speak to other themes, such as discrimination, exclusion, and resistance (Mamo & Alston-Stepnitz, 2015). For example, LGBTQ individuals may receive different messages from health care providers about fertility problems, especially if transgender, with regard to (not) exploring a full range of treatment options (Campo-Engelstein & Quinn, 2021). Future studies should also focus on specific cultural and ethnic/racial contexts, which may identify different memorable messages related to family expectations and structure, access to fertility treatments, and success rates (e.g., Basnyat & Dutta, 2012; Craig et al., 2018; Jain, 2020). The valence of these messages, as well as the content of these messages, may also likely depend on the source of these messages, thereby creating different patterns than we found here.

Conclusion

The current study uses the framework Communicated Sense-Making, and in particular Memorable Messages, to explore how people experiencing infertility interpreted messages from others, based on the message content and sender. As illustrated in Table 1, our results indicate that the same message from different senders may be valenced differently, indicating that message receivers consider the sender's intention and relationship quality when perceiving a message as either negative or positive. People experiencing infertility, their spouses/partners, families, friends, acquaintances, and medical providers could benefit from the current findings by helping them to identify helpful and hurtful messages according to source and circumstance.

Notes

1. This clinical definition of infertility by the WHO assumes a cisgender identity (i.e., one's gender matching one's sex at birth) and a heterosexual relationship (i.e., unprotected sex as the only way to conceive). Reproductive health needs are experienced by patients with diverse gender identities and sexual orientations, thus we often refer to infertility as "fertility problems" to be more inclusive of these experiences (Bute, 2009; Palmer-Wackerly et al., 2022).
2. A separate data set from the present study has been published (Palmer-Wackerly et al., 2022).
3. Participants could select more than one racial/ethnic background.

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References

Barnes, L. W. (2014). *Conceiving masculinity*. Temple University Press.

Basinger, E. D., & Quinlan, M. M. (2023). "She didn't think fat women deserved to have children": Memorable messages from healthcare providers in the context of fat pregnancy. *Women's Reproductive Health*, Advance online publication. https://doi.org/10.1080/23293691.2023.2174823

Basinger, E. D., Quinlan, M. M., & Rawlings, M. (2022). Memorable messages about fat bodies before, during, and after pregnancy. *Health Communication*, 1–11. Advance online publication. https://doi.org/10.1080/10410236.2022.2131982

Basnyat, I., & Dutta, M. J. (2012). Reframing motherhood through the culture-centered approach: Articulations of agency among young Nepalese women. *Health Communication*, *27*(3), 273–283. https://doi.org/10.1080/10410236.2011.585444

Bell, A. V. (2016). The margins of medicalization: Diversity and context through the case of infertility. *Social Science & Medicine*, *156*, 39–46. https://doi.org/10.1016/j.socscimed.2016.03.005

Butauski, M., & Horstman, H. K. (2020). Parents' retrospective storytelling of their child's coming out: Investigating contributions of communicated perspective-taking in relation to well-being. *Journal of Family Communication*, *20*(4), 345–359. https://doi.org/10.1080/15267431.2020.1794872

Bute, J. J. (2009). "Nobody thinks twice about asking": Women with a fertility problem and requests for information. *Health Communication*, *24*(8), 752–763. https://doi.org/10.1080/10410230903265920

Bute, J. J., Brann, M., & Hernandez, R. (2019). Exploring societal-level privacy rules for talking about miscarriage. *Journal of Social and Personal Relationships*, *36*(2), 379–399. https://doi.org/10.1177/0265407517731828

Bute, J. J., & Vik, T. A. (2010). Privacy management as unfinished business: Shifting boundaries in the context of infertility. *Communication Studies*, *61*(1), 1–20. https://doi.org/10.1080/10510970903405997

Campo-Engelstein, L., & Quinn, G. P. (2021). Culturally humble fertility care: Education and advocacy. *Fertility and Sterility*, *115*(5), 1177–1178. https://doi.org/10.1016/j.fertnstert.2021.02.021

Centers for Disease Control and Prevention. (2021). *Infertility FAQs*. https://www.cdc.gov/reproductivehealth/infertility/index.htm

Charmaz, K. (2014). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage Publications.

Clark, A. M., Thornley, B., Tomlinson, L., Galletley, C., & Norman, R. J. (1998). Weight loss in obese infertile women results in improvement in reproductive outcome for all forms of fertility treatment. *Human Reproduction*, *13*(6), 1502–1505. https://doi.org/10.1093/humrep/13.6.1502

Cooke-Jackson, A., & Rubinsky, V. (2018). Deeply rooted in memories: Toward a comprehensive overview of 30 years of memorable message literature. *Health Communication*, *33*(4), 409–422. https://doi.org/10.1080/10410236.2016.1278491

Cooke-Jackson, A., & Rubinsky, V. (2021). Theory of memorable messages: Theorizing message disruption. In A. Cooke-Jackson & V. Rubinsky (Eds.), *Communicating intimate health* (pp. 89–98). Rowman & Littlefield.

Cooke-Jackson, A., & Rubinsky, V. (2022). Extending the roots of memorable messages: A comprehensive review and forecast of memorable messages literature and theory. *Health Communication*, 1–11. Advance online publication. https://doi.org/10.1080/10410236.2022.2105620

Craig, L. B., Weedin, E. A., Walker, W. D., Janitz, A. E., Hansen, K. R., & Peck, J. D. (2018). Racial and ethnic differences in pregnancy rates following intrauterine insemination with a focus on American Indians. *Journal of Racial and Ethnic Health Disparities*, *5*(5), 1077–1083. https://doi.org/10.1007/s40615-017-0456-8

Crook, B., & Dailey, R. M. (2016). Memorable messages about the misuse of prescription stimulants. *Health Communication*, *32*(8), 921–930. https://doi.org/10.1080/10410236.2016.1196411

Cutrona, C. E., & Russell, D. W. (1990). Type of social support and specific stress: Toward a theory of optimal matching. In B. R. Sarason, I. G. Sarason & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 319–366). John Wiley & Sons.

Flood-Grady, E., Kellas, J. K., & Chernin, K. A. (2019). Communicated sense-making: A theoretical compass for exploring family communication and sense-making about mental health and illness. In L. R. Lipper, R. D. Hall, A. E. Miller-Ott & D. C. Davis (Eds.), *Communicating mental health: History, contexts, and perspectives* (pp. 27–51). Rowman & Littlefield.

Goldsmith, D. J. (2004). *Communicating social support*. Cambridge University Press.

Goldsmith, D. J. (2019). Normative rhetorical theory. In S. R. Wilson & S. W. Smith (Eds.), *Reflections on interpersonal communication research* (pp. 211–230). Cognella.

Greil, A. L., Slauson-Blevins, K., & McQuillan, J. (2010). The experience of infertility: A review of recent literature. *Sociology of Health & Illness*, *32*(1), 140–162. https://doi.org/10.1111/j.1467-9566.2009.01213.x

Gunning, J. N., Rubinsky, V., & Cooke-Jackson, A. (2020). Negotiating shame, silence, abstinence, and period sex: Women's shift from harmful memorable messages about reproductive and sexual health. *American Journal of Sexuality Education*, *15*(1), 111–137. https://doi.org/10.1080/15546128.2019.1669511

Gunning, J. N., Rubinsky, V., & Cooke-Jackson, A. (2023). Sex, blood, and redefining "womanhood:" Intervening early intimate health messages. In B. Taverner (Ed.), *Sex education research: A look between the sheets* (pp. 18–26). Routledge.

Hess, R. F., Ross, R., & Gililland, J. L., Jr. (2018). Infertility, psychological distress, and coping strategies among women in Mali, West Africa: A mixed-methods study. *African Journal of Reproductive Health*, *22*(1), 60–72. https://doi.org/10.29063/ajrh2018/v22i1.6

High, A. C., & Steuber, K. R. (2014). An examination of support (in) adequacy: Types, sources, and consequences of social support among infertile women. *Communication Monographs*, *81*(2), 157–178. https://doi.org/10.1080/03637751.2013.878868

Hintz, E. A., & Betts, T. (2022). Reddit in communication research. *Annals of the International Communication Association*, *46*(2), 116–133. https://doi.org/10.1080/23808985.2022.2064325

Holladay, S. (2002). "Have fun while you can," "You're only as old as you feel," and "Don't ever get old!": An examination of memorable messages about aging. *Journal of Communication*, *52*(4), 681–697. https://doi.org/10.1111/j.1460-2466.2002.tb02568.x

Holman, A., & Horstman, H. K. (2019). Similarities and dissimilarities in spouses' narratives of miscarriage: A dyadic analysis of communicated narrative sense-making and well-being. *Journal of Family Communication*, *19*(4), 293–310. https://doi.org/10.1080/15267431.2019.1628763

Holman, A., & Koenig Kellas, J. (2018). "Say something instead of nothing": Adolescents' perceptions of memorable conversations about sex-related topics with their parents. *Communication Monographs*, *85*(3), 357–379. https://doi.org/10.1080/03637751.2018.1426870

Horstman, H. K., Holman, A., & McBride, M. C. (2020). Men's use of metaphors to make sense of their spouse's miscarriage: Expanding the communicated sense-making model. *Health Communication*, *35*(5), 538–547. https://doi.org/10.1080/10410236.2019.1570430

Horstman, H. K., & Morrison, S. (2021). Interpersonal communication surrounding infertility and miscarriage: Considerations under the gaze of the master narrative of motherhood. In A. Cooke-Jackson & V. Rubinsky (Eds.), *Communicating intimate health* (pp. 157–170). Rowman & Littlefield.

Horstman, H. K., Morrison, S., McBride, M. C., & Holman, A. (2023). Memorable messages embedded in men's stories of miscarriage: Extending communicated narrative sense-making and memorable message theorizing. *Health Communication*, *38*(4), 742–752. https://doi.org/10.1080/10410236.2021.1973718

Jain, T. (2020). Racial disparities and in vitro fertilization (IVF) treatment outcomes: Time to close the gap. *Reproductive Biology and Endocrinology*, *18*(112). https://doi.org/10.1186/s12958-020-00672-2

Jarvis, C. M., & Quinlan, M. M. (2022). IVF so white, so medical: Digital normativity and algorithm bias in infertility on Instagram. *Human-Machine Communication*, *5*, 133–149. https://doi.org/10.30658/hmc.5.6

Johnson, B., & Quinlan, M. M. (2016). For her own good: The expert-woman dynamic and the body politics of REI treatment. *Women & Language*, *39*(1), 127–131.

Johnson, B., Quinlan, M. M., & Marsh, J. S. (2018). Telenursing and nurse-patient communication within Fertility, Inc. *Journal of Holistic Nursing*, *36*(1), 38–53. https://doi.org/10.1177/0898010116685468

Katz, P., Showstack, J., Smith, J. F., Nachtigall, R. D., Millstein, S. G., Wing, H., Eisenberg, M. L., Pasch, L. A., Croughan, M. S., & Adler, N. (2011). Costs of infertility treatment: Results from an 18-month prospective cohort study. *Fertility and Sterility*, *95*(3), 915–921. https://doi.org/10.1016/j.fertnstert.2010.11.026

Knapp, M. L., Stohl, C., & Reardon, K. K. (1981). "Memorable" messages. *Journal of Communication*, *31*(4), 27–41. https://doi.org/10.1111/j.1460-2466.1981.tb00448.x

Koenig Kellas, J. (2018). Communicated narrative sense-making theory: Linking storytelling and wellbeing. In D. O. Braithwaite, E. A. Suter & K. Floyd (Eds.), *Engaging theories in family communication* (2nd ed, pp. 63–74). Routledge. https://doi.org/10.4324/9781315204321-6

Koenig Kellas, J., Castle, K. M., Johnson, A., & Cohen, M. Z. (2017). Communicatively constructing the bright and dark sides of hope: Family caregivers' experiences during end of life cancer care. *Behavioral Sciences*, *7*(2), 33. https://doi.org/10.3390/bs7020033

Koenig Kellas, J., & Trees, A. R. (2006). Finding meaning in difficult family experiences: Sense-making and interaction processes during joint family storytelling. *Journal of Family Communication*, *6*(1), 49–76. https://doi.org/10.1207/s15327698jfc0601_4

Koenig Kellas, J., Willer, E. K., & Trees, A. R. (2013). Communicated perspective-taking during stories of marital stress: Spouses' perceptions of one another's perspective-taking behaviors. *Southern Communication Journal*, *78*(4), 326–351. https://doi.org/10.1080/1041794X.2013.815264

Koening Kellas, J. K., & Kranstuber Horstman, H. K. (2015). Communicated narrative sense-making: Understanding family narratives, storytelling, and the construction of meaning through a communicative lens. In L. H. Turner & R. West (Eds.), *The Sage handbook of family communication* (pp. 76–90). Sage Publications.

Kranstuber Horstman, H., & Holman, A. (2018). Communicated sense-making after miscarriage: A dyadic analysis of spousal communicated perspective-taking, well-being, and parenting role salience. *Health Communication*, *33*(10), 1317–1326. https://doi.org/10.1080/10410236.2017.1351852

Mamo, L. (2013). Queering the fertility clinic. *The Journal of Medical Humanities*, *34*(2), 227–239. https://doi.org/10.1007/s10912-013-9210-3

Mamo, L., & Alston-Stepnitz, E. (2015). Queer intimacies and structural inequalities: New directions in stratified reproduction. *Journal of Family Issues*, *36*(4), 519–540. https://doi.org/10.1177/0192513X14563796

Medved, C. E. (2015). Work-family communication research: Contemplating possibilities of undoing gender. *Electronic Journal of Communication*, *25*(1), 2. http://www.cios.org/getfile/025105_EJC

Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis. A methods sourcebook* (3rd ed.). Sage Publications.

Palmer-Wackerly, A. L., & Krieger, J. L. (2015). Dancing around infertility: The use of metaphors in a complex medical situation. *Health Communication*, *30*(6), 612–623. https://doi.org/10.1080/10410236.2014.888386

Palmer-Wackerly, A. L., Voorhees, H. L., D'Souza, S., & Weeks, E. (2019). Infertility patient-provider communication and (dis) continuity of care: An exploration of illness identity transitions. *Patient Education and Counseling*, *102*(4), 804–809. https://doi.org/10.1016/j.pec.2018.12.003

Palmer-Wackerly, A. L., Voorhees, H. L., Koenig Kellas, J., Marsh, J. S., Baker, J. T., Housh, B. C., & Hall, R. D. (2022). How individuals use metaphors to negotiate fertility treatment decision-making with their romantic partners. *Health Communication*, 1–11. https://doi.org/10.1080/10410236.2022.2096984

Peterson, B. D., Sejbaek, C. S., Pirritano, M., & Schmidt, L. (2013). Are severe depressive symptoms associated with infertility-related distress in individuals and their partners? *Human Reproduction*, *29*(1), 76–82. https://doi.org/10.1093/humrep/det412

Petronio, S. (2017). Communication privacy management theory: Understanding families. In D. O. Braithwaite, E. A. Suter & K. Floyd (Eds.), *Engaging theories in family communication* (pp. 87–97). Routledge.

Rubinsky, V., & Cooke-Jackson, A. (2017a). "Tell me something other than to use a condom and sex is scary": Memorable messages women and gender minorities wish for and recall about sexual health. *Women's Studies in Communication*, *40*(4), 379–400. https://doi.org/10.1080/07491409.2017.1368761

Rubinsky, V., & Cooke-Jackson, A. (2017b). "Where is the love?" Expanding and theorizing with LGBTQ memorable messages about sex and sexuality. *Health Communication*, *32*(12), 1472–1480. https://doi.org/10.1080/10410236.2016.1230809

Rubinsky, V., Gunning, J. N., & Cooke-Jackson, A. (2018). "I thought I was dying": (Un)supportive communication surrounding early menstruation experiences. *Health Communication*, *35*(2), 242–252. https://doi.org/10.1080/10410236.2018.1548337

Saldaña, J. (2014). Coding and analysis strategies. In P. Leavy (Ed.), *The Oxford handbook of qualitative research* (pp. 581–598). Oxford University Press.

Skvirsky, V., Taubman–Ben-Ari, O., Shlomo, S. B., Azuri, J., & Horowitz, E. (2018). Are mothers a source of support for women entering fertility treatment? *Health Care for Women International*, *39*(7), 1–15. https://doi.org/10.1080/07399332.2018.1424170

Steuber, K. R., & Solomon, D. H. (2012). Relational uncertainty, partner interference, and privacy boundary turbulence: Explaining spousal discrepancies in infertility disclosures. *Journal of Social and Personal Relationships*, *29*(1), 3–27. https://doi.org/10.1177/0265407511406896

Stohl, C. (1986). The role of memorable messages in the process of organizational socialization. *Communication Quarterly*, *34*(3), 231–249. https://doi.org/10.1080/01463378609369638

Willer, E. K. (2014). Health-care provider compassionate love and women's infertility stressors. *Communication Monographs*, *81*(4), 407–438. https://doi.org/10.1080/03637751.2014.940591

Willer, E. K. (2021). Running-in(to) transition: Embodied practice under the load of infertility, baby loss, and motherhood. *Health Communication*, *36*(10), 1176–1187. https://doi.org/10.1080/10410236.2020.1748830

World Health Organization. (2020). *Infertility: Key Facts*. [Fact Sheet]. https://www.who.int/news-room/fact-sheets/detail/infertility