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# Social Emotions and the Legitimation of the Fertility Technology Market

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Using the sociology of emotions, we investigate the role of social emotions as a legitimating force in the market. In a longitudinal study of the media coverage surrounding US fertility technologies, we find that legitimation involves the establishment of hierarchies among feeling rules, which dictate what social emotions are expressed toward markets, consumers, and technologies. We delineate three mechanisms (polarizing, reifying, and transforming social emotions) that are affected by trigger events such as product innovations and historical developments. These mechanisms work to (re)shape regulatory, normative, and cultural-cognitive legitimacy pillars, influencing the overall cultural attention paid to a market. Consequently, legitimation is ongoing and fragmented as the dominance of feeling rules varies across multiple entities and over time, with negative social emotions and controversies at times aiding this process rather than exclusively hindering it.

**Keywords:** emotion, legitimation, feeling rule, assisted reproductive technology, innovation, controversy

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In the fall of 2019, news media reported more than 60 deaths from poisoning by e-cigarettes, as well as a fear of a “vaping crisis among youth” and that manufacturers were “luring young people into addiction” (Bokat-Lindell 2019). This widespread reporting launched a “vape panic” (Bokat-Lindell 2019), followed by a swift banning of flavored e-cigarettes in some US states and the strong recommendation by federal agencies against all vaping products (Sullum 2020). These events severely affected the legitimacy of the e-cigarette market; in addition to increased regulatory, law enforcement, and cultural scrutiny, leading brands (e.g., JUUL) were forced to ban teen-friendly flavors (Centers for Disease Control and Prevention 2020) redefining the boundaries of the market. Emotion-laden developments such as these, then, can affect the cultural attention paid to market entities and exemplify that “emotions are a powerful force in the structure and change of societies” (Scheff 2000, 84).

This study focuses on the intersection of emotions and market legitimation, defined as the social process by which the legitimacy of a market entity (e.g., product, practice, market) is accepted by its stakeholders (Humphreys 2010b). Legitimacy is “a generalized perception or assumption that the actions of an entity are desirable, proper,

or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman 1995, 574). Market legitimation is crucial to grasp how markets emerge and evolve (Giesler 2012) and how consumption practices and ideologies are constructed, adopted, and reproduced (Dolbec and Fischer 2015; Humphreys 2010a, b; Sandikci and Ger 2010; Scaraboto and Fischer 2013). We explore the following question: How do emotions affect the legitimation of potentially controversial markets?

In extant literature, emotions play a limited role in market legitimation, despite recent calls for more attention to this intersection (Deephhouse et al. 2017; Valor, Lloveras, and Papaoikonomou 2021). Thus, this process remains mostly conceptualized as cognitive, rational, and systematic (Deephhouse et al. 2017; Voronov 2014). This oversight has two main implications for our current understanding of market legitimation. First, an understanding of the broader impact of emotions on market legitimation beyond the agentic, strategic actions of adversarial consumers is lacking. For example, Valor et al. (2021) show that emotions in activists’ public condemnation of villains can drive the delegitimation of a particular consumption practice. By contrast, we argue that emotions can encourage legitimation, complicate it, or change its course. Thus, we investigate the multiple roles of emotions in market legitimation as historical, sociocultural, and product changes take place.

Second, we complement and expand literature by considering the heterogeneous impact of emotions on market entities such as consumers and technologies. Indeed, prior research has only investigated the uniform impact of emotions on the (de)legitimation of a homogeneous group, such as Valor et al.’s (2021) study on villains. Understanding the role of emotions in legitimation could be significant in many contexts. For example, recent research shows that, by activating a threat of contagious disease, new vaccines induce fear and disgust that limit their acceptability and adoption (Galoni, Carpenter, and Rao 2020). Beyond technologies, Haack, Pfarrer, and Scherer (2014) show that scandals can weaken the legitimacy of governance schemes by inducing negative emotions.

We use the sociology of emotions (Hochschild 1983; Scheff 1994) and theorize *social emotions* as “both an outcome of and inherent to the process of negotiating and settling on an institutional order” (Voronov 2014, 171). We also integrate *feeling rules*, or the “implicit and informal guidelines to what emotions we are expected to feel and in what social context” (Illouz, Gilon, and Shachak 2014, 224). Feeling rules highlight the interactions between structural emotional norms and explain how emotions are experienced and expressed.

We conduct a longitudinal examination of the US fertility technology (FT) market from 1987 to 2017. This is an appropriate context because constant technological innovations and controversies involving scientific, ethical, moral, legal, political, and economic issues (Ben-Asher 2009)

regularly reopen the question of FT legitimacy (Patala et al. 2019). FT-associated events can cause extreme and explicit emotional displays related to the high uncertainty and risk associated with products, technologies, users, and expectations (Grodal and Granqvist 2014; Patala et al. 2019). While prior studies on FT (e.g., Fischer, Otnes, and Tuncay Zayer 2007; Tuncay Zayer, Otnes, and Fischer 2015) have studied how people persist in and manage the risky endeavor of consuming FT, little is known about the cultural and socioemotional structures that are available to support these choices or how these structures have changed the market over time.

While most processes of market legitimation involve emotions, we chose to focus on the FT market because it is representative of markets in which emotions play a key role—that is, markets whose legitimacy is often challenged. These may be emerging markets in which legitimation is ongoing (Grodal and Granqvist 2014) or mature markets in which new products and technological innovations go hand in hand with controversies (Deephhouse and Suchman 2008; Giesler 2012; Patala et al. 2019). Our study relies on a media data set comprising 3,078 articles from three US newspapers and nine US magazines. We analyzed this data set to capture how changes in emotions are constructed and expressed in public discourse associated with the evolution of technologies and the historical and sociocultural environment. We contextualized this data set with background data from fertility clinics, health organizations, and consumer blogs to provide information on the institutional environment, the timeline of innovations, and the sociocultural context and its emotional resonance.

We find that emotions affect legitimation through three social emotion-driven mechanisms underscored by feeling rules: polarizing, reifying, and transforming. When polarizing emotions, news media counterpose two antagonistic feeling rules that coexist as moral batteries and create two equal power emotional extremes that market actors are motivated to defend. When reifying emotions, news media reveal and reinforce dominant feeling rules associated with an entity, making emotional assessments more comprehensible and accessible to a broader audience. When transforming emotions, news media update the feeling rules associated with an entity through exception-triggered transforming or precarious transforming.

Our work contributes to the literature on market legitimation by evidencing how changes in emotions and feeling rules (re)shape the legitimacy of a market throughout the legitimation process. First, we show that market legitimation takes place through the emergence, maintenance, and change of hierarchies of feeling rules and their associated emotions, which increases cultural attention to the market and influences legitimacy pillars. Second, by showing that the applicability of feeling rules is not homogeneous to all consumers and all technologies in a market, we reveal the heterogeneity of market legitimation within a market.



In doing so, we also answer the calls for further research on collective emotional dispositions (Gopaldas 2014, 1008) and greater integration of “emotions to the study of legitimacy” (Deephhouse et al. 2017, 38). We provide a nuanced understanding of emotional multiplicity in legitimization by recognizing how negative emotion, contestation, and controversy can aid legitimization processes rather than exclusively hindering them.

## THEORETICAL FRAMEWORK

### Market Legitimation

Market legitimation is the process that brings changes to the legitimacy of a market entity (e.g., market, industry, brand, consumer segment, consumption practice) as it becomes accepted by its stakeholders as congruent with dominant social norms and values. In other words, the entity “has demonstrated its appropriateness and goes unchallenged regarding societal rules, norms, values, or meaning systems” (Deephhouse et al. 2017, 32). Consumer research has mobilized institutional theory, in particular new institutional theory (DiMaggio and Powell 1983; Meyer and Rowan 1977), to explain how market entities’ legitimacy emerges and changes (Dolbec and Fischer 2015; Giesler 2012; Humphreys 2010a, b; Scaraboto and Fischer 2013). Market legitimacy is attained when producers, consumers, and other involved market actors “come to certain shared understandings of what is being exchanged and why” (Humphreys 2010a, 2). We examine the FT market’s legitimacy, which involves the legitimacy perceptions of market actors (e.g., buyers, sellers) who surround multiple technological products. Legitimacy has implications for how these actors access FT, develop goods and services related to FT, set prices, and advertise their offers.

This alignment of shared understanding occurs through legitimacy pillars; pillars are “bases” (Scott 1995, 74) or “dimensions” (Suchman 1995, 573) of legitimacy. The regulatory pillar includes “a stable system of rules, whether formal or informal, backed by surveillance and sanctioning power” (Scott 1995, 64) that defines what is legal or not. The normative pillar stands for the collective consensus on whether the entity is appropriate in relation to norms, values, and morality. The cultural-cognitive pillar involves a collective consensus on whether the entity is comprehensible and taken for granted (Scott 2008). These manifestations of legitimacy are not mutually exclusive or completely distinct from one another (Deephhouse et al. 2017).

Broadly speaking, changes to market legitimacy (i.e., the legitimization or delegitimation of market entities) are brought forward by nonemotional mechanisms that emphasize cognitive and strategic aspects that affect one or multiple legitimacy pillars. These include changes in institutional structures (e.g., emergence of new institutional actors), shifts

in semantic associations (e.g., introduction of new frames), and material changes (e.g., deployment of new physical structures) (Dolbec and Fischer 2015; Humphreys 2010a, b; Scaraboto and Fischer 2013). For example, shifts in semantic associations can include the deployment of rhetorical strategies to bridge frames (Dolbec and Fischer 2015), change frames (Humphreys 2010b), and introduce new frames (Scaraboto and Fischer 2013) to increase legitimacy. Rhetorical strategies are complemented by material and institutional changes often requiring the coordination of multiple actors. These mechanisms work through the accumulation of small, incremental individual changes, and/or the large-scale mobilization of multiple, powerful actors (Dolbec and Fischer 2015; Humphreys 2010a, b; Scaraboto and Fischer 2013).

While this body of research has expanded the field’s understanding of how legitimization takes place, an emerging stream of organizational research shows that the emotional dimensions of this process are neglected. Organizational scholars note that emotions “are connected to and are an intrinsic part of cognitions, beliefs, and moral judgments” (Voronov and Vince 2012, 75) and are essential to “produce, sustain and disrupt institutional practice” (Friedland 2018, 515). Yet “[r]esearch has only just begun incorporating emotions to the study of legitimacy” (Deephhouse et al. 2017, 38). It is, therefore, not surprising that scholars have called for further investigation of such emotional dynamics and emotional experiences (Deephhouse et al. 2017; Voronov and Vince 2012). This is an important gap to address given that emotions can motivate and/or be antecedents to changes in pillars and thus affect legitimization.

### An Emotional Turn for Market Legitimation Studies

To understand the place of emotions in studies of legitimization, we rely on the sociology of emotions (Hochschild 1983; Illouz et al. 2014). This approach understands emotions “in the context of cultural repertoires, social practices, rituals, institutions, and discourses, or what we can call language games” (Illouz et al. 2014, 237). Accordingly, emotions and social structures are interdependent, as emotional experience and expression “are constrained in [human] interaction by culture and social structure” (Stets and Turner 2008, 32). This means that “emotions are shaped by cultural models of the self, moral codes and forms of sociality” (Illouz et al. 2014, 222). Thus, this view supports calls for understanding emotions as structured by and, at the same time, structuring social phenomena, beyond their individual, collective, and/or embodied-level implications (Barbalet 2001; Hareli and Parkinson 2008; Lupton 1998). Appendix A provides a comparison of individual and social emotions, and appendix B shows differentiation within individual and social emotions.

Relying on the works of [Hochschild \(1983\)](#) and [Scheff \(1994\)](#), we define “social emotions” (hereinafter “emotions”) as cultural products aligned with norms and expectations originating in social settings. We need to study emotions to understand legitimacy dynamics as “social solidarity, group bonds, attachments, legitimation of social structures, and social control depend far more on emotions than culture or language” ([Turner 2014](#), 21). We highlight three ways that emotions play a role in legitimation and institutional change. First, emotions can be *indicators* of legitimacy. For example, the emotions disseminated by news media or brands indicate the legitimacy of a market entity when positive and its lack of legitimacy when negative ([Gopaldas 2014](#); [Humphreys 2010b](#)). Though useful, this view does not unpack the role of emotions in legitimacy dynamics. Second, emotions can *moderate* legitimation by amplifying or diminishing the impact of cognitive or strategic legitimation mechanisms. Specifically, [Grodal and Granqvist \(2014\)](#) indicate that emotions can amplify the impact of rhetorical strategies on actions, thus fostering institutional change. Third, recent studies suggest that emotions can be present in *legitimation mechanisms*, either at the individual level by driving legitimacy judgments ([Haack et al. 2014](#); [Jakob-Sadeh and Zilber 2019](#)) or at the market level as a subcomponent of cognitive processes ([Friedland 2018](#); [Toubiana and Zietsma 2017](#)). Specifically, at the market level, emotions can affect the pillars of legitimacy and the overall cultural attention paid to the market ([Valor et al. 2021](#); [Voronov 2014](#)). For example, by stigmatizing consumption practices, vilifying emotions can engender a loss of regulatory legitimacy ([Valor et al. 2021](#)), contempt for institutional actors stereotyped as villains can negatively affect normative legitimacy ([Gopaldas 2014](#); [Kuruoğlu and Ger 2015](#)), and love and hatred can discredit the cultural-cognitive legitimacy of institutional bodies ([Toubiana and Zietsma 2017](#)). While research has advanced the understanding of the interplay of emotions and legitimacy, more work is necessary to delineate exactly how emotional mechanisms participate in the legitimation and delegitimation of market entities.

To address this gap, we use feeling rules, defined as “guidelines for the assessment of fits and misfits between feeling and situation” ([Hochschild 1979](#), 566) and as “implicit and informal guidelines to what emotions we are expected to feel and in what social context, or what emotions are to be expressed and when” ([Illouz et al. 2014](#), 224). This concept provides a direct link between emotions and a structural mechanism. That is, feeling rules constrain the expression and experience of emotions by market actors ([Hochschild 1983](#)). For example, [Higgins and Hamilton \(2019\)](#) show that feeling rules in wellness servicescapes require extreme displays of therapeutic emotions, such as public crying. Furthermore, feeling rules and actors’ emotional responses to them can and do change

over time ([Lupton 1998](#)). For example, news media can participate in the construction and dissemination of both old and updated feeling rules as new developments in a market emerge. Consumers in wellness servicescapes can also engage in emotional work or emotional reflexivity ([Hochschild 1983](#)), as they attempt to obey feeling rules regarding what, when, where, for how long, and how strongly to feel.

## Linking Emotions and Pillars at the Market Level

An understanding of emotions in legitimation must also account for the mechanisms through which emotions affect legitimacy of and within a market. We argue that emotions play a role in legitimation through legitimacy pillars, notably by shaping regulatory, normative, and cultural-cognitive legitimacy. Specifically, elaborating on the relationship between emotions and pillars can provide a deeper assessment of “how institutional forces and emotional dynamics reciprocally influence each other, at times reinforcing each other and at times generating tensions and contradictions” ([Voronov and Vince 2012](#), 75). [Valor et al. \(2021\)](#) lay the foundation for this link by showing how consumer-driven emotional discourse creates broad stigmatized categories (e.g., villains) that delegitimize consumption practices. What remains unanswered, however, is the impact of emotions on market legitimation beyond the agentic, strategic actions of adversarial consumers and the mechanisms through which emotions exert a heterogeneous impact on consumers and their practices.

Thus, we propose that the link between emotions and legitimacy pillars needs to account for how and when changes in feeling rules and emotions relate to the overall legitimation process. For example, news media reports of the increasingly divided emotions around gun control in the United States have spurred regulatory action to protect each side of the debate (e.g., ban of assault rifles vs. protection of the right of citizens to bear arms) ([Clayton and Beckett 2021](#)). Likewise, the consistent link of strong emotions with entities in public discourse (e.g., Apple and consumer love) can enhance their taken-for-grantedness. These examples suggest that legitimacy pillars can be affected by changes in feeling rules and emotions in markets in which legitimation is ongoing—that is, where the institutional infrastructure (i.e., regulatory, normative, and cultural-cognitive pillars) is subject to change and legitimacy outcomes are unstable ([Deephouse et al. 2017](#); [Giesler 2012](#); [Humphreys 2010a, b](#)). These can include both nascent markets with emerging legitimacy ([Grodal and Granqvist 2014](#)) and more mature markets with frequent challenges, such as updates to regulations, norms, and taken-for-granted associations due to changes in politics, products, technologies, and consumer culture ([Deephouse and Suchman 2008](#); [Patala et al. 2019](#)). In such markets, extreme and explicit

emotional displays may be linked with higher levels of uncertainty and risk that threaten the legitimacy of the market and its products, technologies, and users (Grodal and Granqvist 2014).

Feeling rules are “essential in producing fairly uniform and shared notions of what is appropriate behavior within a referent group, because they allow people to determine how they and others align with the group expectations” (Voronov 2014, 174). Because “actors instantiate, reproduce, and modify institutionalized practices through habit, tacit knowledge, culture, routines, motivations and emotions” (Jarzabkowski, Matthiesen, and Van de Ven 2009, 289), feeling rules can shape institutional arrangements and legitimacy. That is, feeling rules coalesce as organizing principles at the macro level (Barbalet 2001) while providing links to individual emotions. This requires departing from, but also linking, the symbolic-interactionist framework of emotions as performed and expressed with a perspective on emotions as social constructions that have a structuring effect. By showing how changes in emotions, feeling rules, and legitimacy pillars are associated, we can further weaken the assumption of a “dispassionate and disembodied ideal of public debate” (Wahl-Jorgensen 2019, 78). By contrast, we concur that “emotions are central to our social and political lives, and the ways in which we make sense of ourselves and the collectivities and communities we inhabit” (Wahl-Jorgensen 2019, 1).

In summary, while extant literature suggests that emotions matter in legitimation, the conceptualization of emotions as a central dimension of market-level legitimation remains understudied. Building on Valor et al.’s (2021) study, we propose that emotions must be investigated as a central force of legitimation, both separated from more cognitive constructs (e.g., institutional logics) and tied to foundational legitimacy pillars. Thus, we need to treat emotions as a central and structuring force in market legitimation dynamics. We now describe the context in which we conducted our study and explain why it is appropriate to answer our research question of how emotions affect the legitimation of potentially controversial markets.

## THE FT MARKET

We focus on the US FT market and adopt an archival approach by collecting data from 1987 to 2017. FTs (also called assisted reproductive technologies) are “techniques where egg and sperm are not brought together (or an embryo is not created) by sexual intercourse, but rather through medical techniques. . . [and] also include research and social issues related to the application of these techniques” (Goggin et al. 2004, 3). FTs include a wide array of constantly evolving services, technologies, and techniques (e.g., in vitro fertilization [IVF], egg and embryo freezing [and the derived embryonic stem cells], egg and

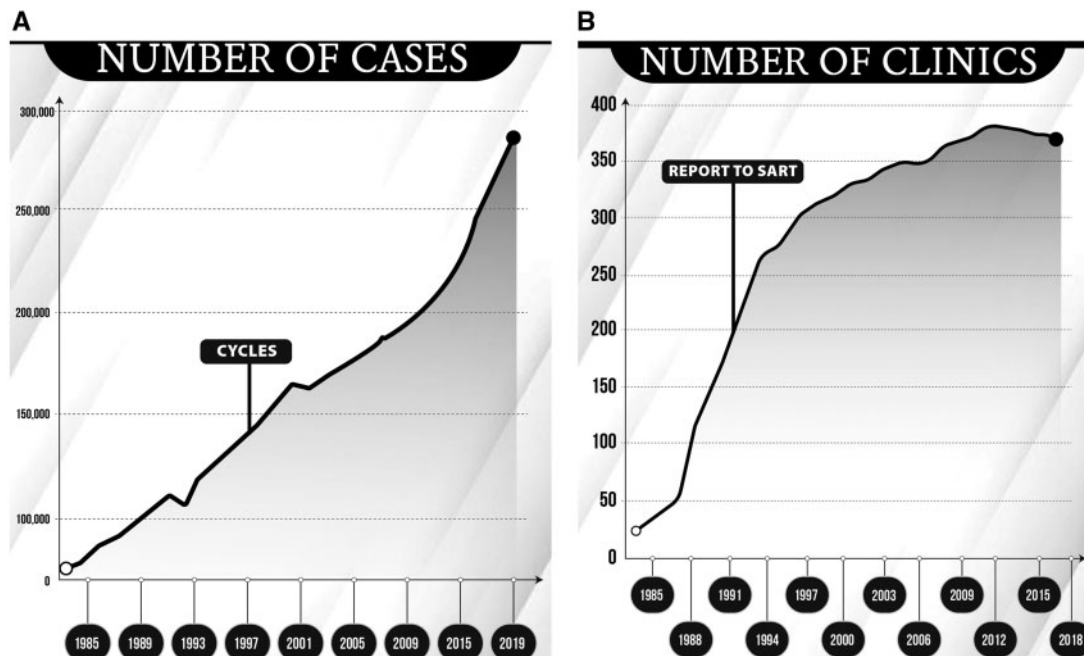
sperm donation, preimplantation genetic diagnosis [PGD], mitochondrial transfer, surrogacy, artificial insemination) (see [web appendix 1](#) for definitions). FTs have revolutionized the way reproductive problems are solved, introducing fertility services that facilitate biological parenthood for various consumer segments (Fischer et al. 2007; Takhar and Houston 2019). Since the first successes, FT use has steadily grown and now represents a significant and mainstream phenomenon (see [figure 1](#)). The current market averages 2.4 billion USD (IBISWorld 2020).

## Appropriateness of the Context

The FT market is an ideal context in which to investigate our research question for two reasons. First, the FT market is socially constructed at the intersection of several well-established feeling rules. Indeed, the FT market is positioned at the intersection of several fundamental moral imperatives in US society (Fischer et al. 2007; Sobande, Mimoun, and Trujillo Torres 2020). In particular, the need for biological parenthood, considered a cornerstone of the family unit and of a “normal life” (Becker 2000), and scientific rationalism (Fischer et al. 2007) supports the use of FT.

Applying the concept of feeling rules (Hochschild 1983) to prior research on the FT market, we identify three feeling rules that dictate how emotions are experienced and performed in relation to FT. The first pertains to the imperative of biological parenthood (hereinafter bio-parenthood feeling rule). This feeling rule arises from the pronatalist expectation that women are (should feel) naturally maternal and should want to have children (Becker 2000; Fischer et al. 2007). It requires public experience and displays of the desire to pursue biological parenthood, of joy in relation to the experience of biological parenthood, of delight in relation to pregnancy and childbirth (e.g., scans, changing body), of hope when pursuing biological parenthood, and of grief if this desired outcome (i.e., biological baby) is unattainable (Fischer et al. 2007; Takhar and Houston 2019; Tuncay Zayer et al. 2015). Next, FTs are subject to the paradoxical tension between two feeling rules related to technology consumption. The technophilic feeling rule dictates the experience and display of positive emotions (e.g., hope, gratitude, excitement) toward new technologies as scientific advance, progress, power, knowledge, access to new opportunities, and superior abilities (Kozinets 2008; Mick and Fournier 1998). By contrast, the technophobic feeling rule dictates the experience and performance of negative emotions (e.g., disgust, rejection, anger, fear) in reaction to technology as dangerous, harmful, and physically and morally threatening (Giesler 2012; Kozinets 2008). Feeling rules are “the side of ideology that deals with emotion and feeling” (Hochschild 1979, 551); that is, feeling rules translate ideologies into emotional imperatives that dictate how to feel and how to manage emotions. The promotion of or resistance to an ideology can happen at the level of feeling rules as imposing certain guidelines of emotion experience, and display can ensure that the

FIGURE 1  
EVOLUTION OF THE US FT MARKET



A: Historical use of IVF in the United States. B: Fertility Clinics in the US FT Market.  
Source: [Society for Assisted Reproductive Technology \(2020\)](#).

associated ideology dominates. While all ideologies are related to feeling rules, the same feeling rule can also be associated with several ideologies. For example, the Luddite ideology (Kozinets 2008) (conservatism in our context) is associated with the technophobic feeling rule, while the transhumanist ideology (Bostrom 2003) (pronatalism in our context) is also associated with the technophilic feeling rule.

Second, the FT market is a rich context to examine legitimization patterns because frequent controversies challenge its appropriateness and desirability (Takhar and Houston 2019). The FT market is characterized by ongoing cycles of FT innovations that are associated with recurrent and multilayered controversies, creating high uncertainty and risks (Tuncay Zayer et al. 2015). For example, ongoing FT innovations can generate technological and regulatory discontinuities as well as ambiguities and contradictions within the institutional field, which trigger the questioning of established and taken-for-granted orders (Suddaby and Greenwood 2005).

### A Brief Historical Summary of the FT Market

The legitimization of the FT market begins with the birth of Louise Brown, the world's first successful IVF baby, in

1978 (Thompson 2016). In the United States, the first IVF baby was born in 1981, and the first birth from egg donation occurred in 1983. At this stage, FTs were highly experimental and resulted in a limited number of births. Owing to the unavailability of all contemporary print media reports in electronic format, we do not cover this initial stage and only collect media reports since 1987. Nonetheless, the 30-year period we cover (1987–2017) captures enough transformations of the FT market for us to theorize the role of emotions in legitimization. Given the extensive archival analysis, we divided the data set into four periods: 1987–1996 (emergent institutionalization), 1997–2000 (systematization of market practices and technologies), 2001–2011 (expansion and national debate around the scientific use of stem cells), and 2012–2017 (market maturation despite remaining challenges). Each period corresponds to specific innovations, political events, and associated controversies, the impact of which we explore in our findings. By 2000, the market had institutionalized under the structuring influence and federal mandate of Society for Assisted Reproductive Technology and Centers for Disease Control and Prevention. By the end of the third period, the overall FT market had attained legitimacy, as revealed by major legal advances (e.g., revision of



Uniform Parentage Act) and normative and sociocultural recognition (e.g., Nobel Prize) (Thompson 2016). Legitimacy is confirmed in the last period with an increase in taken for grantedness and comprehensibility of FT (i.e., cultural-cognitive legitimacy). For example, 1.9% of all US babies are born through FT (Centers for Disease Control and Prevention, American Society for Reproductive Medicine, and Society for Assisted Reproductive Technology 2018), and one-third of US adults have used or know someone who has used FT, according to a Pew Survey (Livingstone 2018), reflecting its increased cultural acceptance. Yet normative and regulatory legitimacy are not homogeneously attained across states and sociocultural backgrounds (e.g., income, race). This is visible in the lack of insurance coverage of FT in most US states and the remaining, if lessened, stigma associated with FT consumption for some consumer segments (Sternke and Abrahamson 2015).

Most notably, examining only the overall FT market limits our understanding of legitimacy. We note that the legitimacy of the market is highly integrated with the legitimacy of FTs themselves and that, by studying the legitimation of specific technologies, we are also evaluating market legitimation. Thus, the overall market legitimacy can be threatened when the legitimacy of a specific technology is disputed. We study these legitimacy dynamics by elaborating on the relationship between the legitimacy of specific FT and the overall market.

## METHOD

### Data Collection

We examined the role of emotions in the legitimation of FT in the United States by relying primarily on archival news media data. News media have long served as a key legitimacy source, as they both mirror and shape public opinion (Humphreys 2010b). The key influence of news media in the formation of public opinion stems from the usually close alignment between the content produced and public opinion (Gamson et al. 1992). However, we acknowledge that other actors (e.g., consumers, marketers, brands, legislators) play a role in the legitimation of a market entity (Dolbec and Fischer 2015; Giesler 2012; Humphreys 2010b). We thus contextualize our news media data by accounting for the dialogical relationship between these and other sources of legitimacy. To do so, we collected background material, including social media posts, website pages, blog posts, brochures, and advertisements from fertility clinics; organizations related to the promotion, denouncement, and regulation of FT; and consumer-bloggers (see table 1 for the data set summary). Background material helped us gain a deeper understanding of the feeling rules and their management by consumers in the FT market and of the institutional environment, timeline of innovations, and sociocultural context.

The news media data include newspaper and magazine articles dealing with the FT market. We collected articles about FT published between 1987 and 2017 from three newspapers: *The New York Times* (NYT), *The Wall Street Journal* (WSJ), and *USA Today* (UT). This resulted in 2,349 articles (NYT: 1,392; WSJ: 416; UT: 541). We chose these publications for their high readership and coverage of science-related news. For example, NYT is the second most circulated newspaper in the United States (Associated Press 2013). While these newspapers might be viewed as targeting elite public audiences, their coverage is also essential in shaping public awareness and opinion (McAdam 1982). In combination, these newspapers' target audiences may reflect the general demographics of FT consumers.

To counteract any ideological bias and contestation of our focus on prestige media outlets (Carter and Deephouse 1999), we also collected articles about FT published between 1987 and 2017 in nine representative US magazines with a variety of ideological positioning and intended audiences that all regularly cover FT. These included 739 articles from three women's magazines, *Cosmopolitan* (20), *Redbook* (50), and *Good Housekeeping* (23); three popular magazines, *People* (62), *Time* (138), and *Newsweek* (119); and three scientific news magazines, *Scientific American* (41), *New Scientist* (228), and *Science News* (58). The starting year varies depending on magazines' starting date and digitized articles' availability. Digital unavailability meant that at times, we substituted original articles with abstracts for the earliest years.

We used different databases to ensure maximum access to articles related to FT within the selected publications. To limit search biases, we used multiple keywords (Humphreys and Wang 2018) chosen to cover a broad array of FT without capturing general parenthood topics (IVF, egg don!, don! egg, don! sperm, sperm don!, frozen embryo! don!, embryo!, artificial insemination, intrauterine insemination, egg freez!, frozen egg!, freez! egg, oocyte cryopreservation, assisted reproductive technology!, and embryo cryopreservation).

### Data Analysis

We combined two approaches to integrate the depth and breadth of our analysis: automated content analysis (ACA) to evaluate trends and relationships between constructs (Humphreys and Wang 2018) and hermeneutic analysis to contextualize these numerical conclusions (Thompson 1997). We first approached our news media data set with a qualitative analysis of a subsample of the data (Humphreys and Wang 2018) using an iterative, hermeneutic approach (Thompson 1997). To ensure rigor, the three authors coded the data individually before comparing the emerging themes. We returned to this interpretive approach throughout the data analysis to embed our emerging understanding, illustrate our findings, and confirm our quantitative findings.



TABLE 1  
DESCRIPTION OF DATA SET

| Description   | Purpose   |
|---|---|
| Media Material—Newspapers<br>2,349 articles; 3,096 single-spaced pages; word count: 2,042,967.<br><i>NYT</i> [1987–2017] (source: Lexis Nexis); <i>The WSJ</i> [1987–2017] (source: ABI/ProQuest); <i>UT</i> [1987–2017] (source: Lexis Nexis)  | To examine how emotions structure legitimation over time and how this process is shaped and reflected in the media                                |
| Media Material—Magazines<br>739 articles; 940 single-spaced pages; word count: 629,011<br><i>Cosmopolitan</i> [1990–2017]; <i>Redbook</i> [1989–2017]; <i>Good Housekeeping</i> [1992–2017]; <i>Scientific American</i> [1994–2017]; <i>New Scientist</i> [1990–2017]; <i>Science News</i> [1987–2017]; <i>Newsweek</i> [1987–2017]; <i>People</i> [1994–2017]; <i>Time Magazine</i> [1987–2017] (source: Master File Premier/ProQuest) |   |
| Background Material—Consumer Blogs<br>9 blogs with data from 2007 to 2018. Shortest blogs include posts from [2007 to 2009]; longest blogs include posts from [2012 to 2018]. 822 double-spaced pages   | For triangulation and a deeper understanding of the feeling rules and their emotional management by consumers in the FT market                    |
| Background Material—Fertility Clinics<br>416 documents. Ads, brochures, websites, newsletters, and social media posts from highly rated clinics (e.g., Reproductive Associates of Delaware, New Hope Fertility Center, Baystate Reproductive Medicine, Advanced Reproductive Medicine & Gynecology of Hawaii, HRC Fertility)  | For triangulation and to provide further information on the institutional environment, the timeline of innovations, and the sociocultural context |
| Background Material—Health Organizations<br>74 documents. Websites, brochures, and reports from vocal and influential organizations (e.g., Personhood, American Society for Reproductive Medicine, Resolve: The National Infertility Association, Society for Assisted Reproductive Technology)   |   |

The initial step of our ACA was a systematic random sampling of a subsample of the data, following established guidelines (Humphreys and Wang 2018). With this qualitative analysis, we combined the existing internal 2015 Linguistic Inquiry and Word Count (LIWC) dictionary, which counts valence, verb tense, and categories developed from common emotion rating scales, and custom dictionaries constructed using established methods (Humphreys and Wang 2018; Pennebaker, Booth, and Francis 2007) for legitimacy pillars, emotions, FT, and consumer segments (see web appendix 2 for details on the coding, dictionaries' construction, word lists, and alphas).

Next, we conducted a quantitative ACA of the whole set of articles using LIWC for trends over time (Pennebaker et al. 2007) and then SPSS for Pearson correlations and *t*-tests (see web appendix 3 for word frequencies overall and by publication). We analyzed the newspapers by publication and in an aggregated manner. For the magazines, we did not reach the necessary cap of 50 articles per publication per year (Humphreys and Wang 2018), so we only analyzed at the aggregated level by period (see tables 1 and 2). The correlations reported here are based on the degree of consensus across publications (see web appendices 4.1–4.4 for results per publications). We focus primarily on variables that at least two data sources qualify as statistically significant (two individual newspapers, one newspaper and aggregated data from newspapers or magazines, or

aggregated data from newspapers and magazines). In other words, we present our correlation data based on “agreement” across at least two data sets to reflect that a theme has a broad sociocultural presence. Thus, we stress patterns that reflect a systemic influence and overall public discourses, rather than more narrow trends matching a single outlet. When appropriate, we group different emotions by valence (positive vs. negative) to highlight agreement and/or disagreement across publications.

After conducting the ACA, we returned to our qualitative analysis, moving back and forth between data and theory to iteratively refine emerging themes (Spiggle 1994) and construct our understanding of the emotion-driven mechanisms that structure FT legitimation. Building on our previous analyses, we interpreted and abstracted emerging themes to develop theoretical inferences (Spiggle 1994; Thompson 1997). We focused on FT representations, emotions generated from interactions with these technologies, explicit and implicit references to feeling rules, and how these technologies were processed, accepted, challenged, or internalized.

## SOCIAL EMOTION-DRIVEN LEGITIMATION MECHANISM

We introduce three social emotion-driven mechanisms that contribute to the legitimation of the FT market:

polarizing, reifying, and transforming. These interrelated mechanisms affect FT legitimacy by counterposing antagonistic feeling rules in moral batteries, revealing and reinforcing hierarchies of feeling rules, and significantly updating the feeling rules associated with entities in this market, respectively. We focus on exemplary FT and consumer segments to illustrate the mechanisms. In [web appendix 5](#), we provide a comprehensive view of how the mechanisms are interrelated and correspond to different FT across periods.

## Polarizing Emotions

When polarizing emotions, news media counterpose two antagonistic feeling rules that coexist as moral batteries around highly controversial entities. Through a moral battery, “[a]n emotion can be strengthened when we explicitly or implicitly compare it to its opposite, just as a battery works through the tension between its positive and negative” ([Jasper 2011](#), 291). Polarizing plays a crucial role in legitimation because (1) it creates two emotional extremes and (2) it energizes action in market actors to ensure their emotional extreme prevails.

*Creating Emotional Extremes.* When polarizing, the juxtaposition of two equally strong antagonistic feeling rules and their associated emotions toward an entity creates two emotional extremes that divide public discourse. This is evidenced in the stem cells controversy 2001–2011, which involved the scientific use of stem cells from discarded embryos produced, usually with IVF, in fertility clinics. The centrality of this debate is clear in the rise of stem cell media coverage, which became the highest among coverage of all aspects of FT, increasing from 0.09% of all words in *NewsComb* in 1997–2000 to 0.42% in 2001–2011 ( $t = -3.105$ ,  $p < .05$ ) (see also [figure 2A](#)). This turbulent period for the FT market saw a heightened national moral debate that counterposed two antagonistic feeling rules around the use of stem cells, as evidenced here:

To hear those on either side of the debate over stem-cell research tell it, President Bush must choose between adorable infants adopted by loving parents and people tormented by debilitating diseases such as Alzheimer’s and Parkinson’s. The ethical dilemma Bush faces is complex.... The emotional debate was presented in human terms Tuesday on Capitol Hill. Opponents of stem-cell research pointed to toddler Hannah Strege, who was born as a result of [IVF]. Rep. Chris Smith, R-N.J., said she began life in a “frozen orphanage,” or lab where her embryo was stored. Meanwhile, disease victims joined lawmakers at a news conference endorsing stem-cell research. The president and Congress “hold our lives in their hands,” said Joan Samuelson, a California lawyer who has Parkinson’s disease. (*UT* 2001)

In this excerpt, news media juxtaposes incompatible emotions (hope and fear, joy and despair, condemnation and

acclaim) in moral batteries, which frame the stem cells issue as an “emotional debate” and “convey the emotional climate of public discourse” ([Wahl-Jorgensen 2019](#), 2). The moral battery built around stem cells is due to the counterposing of two antagonistic feeling rules: technophilic and technophobic. On the one hand, the technophilic feeling rule dictates positive emotions toward new technologies, such as scientific advancement, progress, power, knowledge, access to new opportunities, and superior abilities ([Kozinets 2008](#)). Stem cells were regarded as beneficial to society as a potential cure for a wide number of diseases and conditions, such as Parkinson’s disease, as mentioned in the quote. According to the technophilic feeling rule, stem cells should be welcomed by experiences and displays of positive emotions. For example, a 2001 *NYT* article indicates such positive emotions: “Stem cells . . . are generating great excitement in science because they can, in theory, grow into any of the body’s cell types. And so scientists hope one day to use them for replacement tissue and organs for patients with a variety of diseases, including Parkinson’s and diabetes.” Thus, in 2001–2011 (see [web appendix 4.3](#)), stem cells are positively correlated with hope (*NYT*, *WSJ*, *NewsComb*), celebratory emotions (*NYT*, *UT*, *NewsComb*), and therapeutic emotions (*NewsComb*, *MagsComb*) and negatively associated with anxiety (*NYT*, *NewsComb*, *MagsComb*).

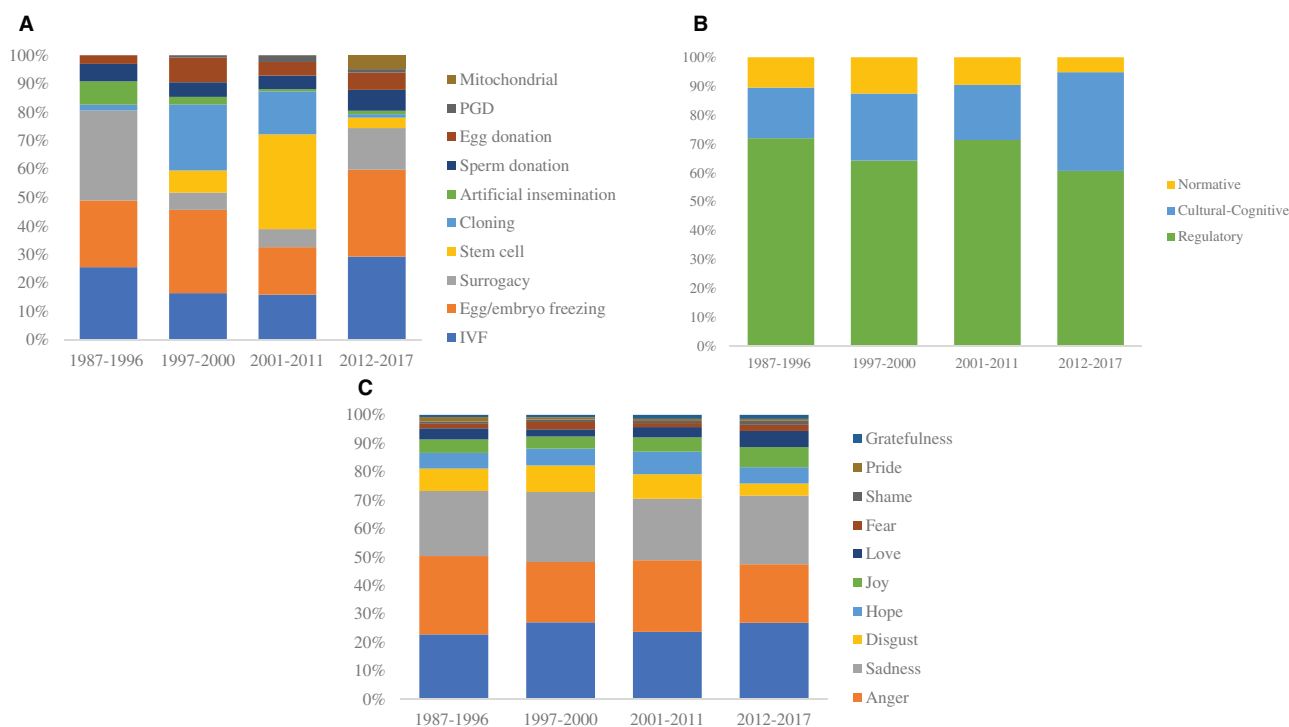
On the other hand, the technophobic feeling rule dictates the arousal and performance of negative emotions in reaction to the perception of stem cells as a new “weapon(ized)” technology that is dangerous, unknown, powerful, and harmful ([Kozinets 2008](#)) and a morally threatening entity, given its association with aborting embryos for the sake of obtaining stem cells. The references to abortion fanned the flames of this enduringly divisive social issue, which is associated with political and ideological polarization across the United States ([DiMaggio, Evans, and Bryson 1996](#)). A *WSJ* (2005) excerpt exemplifies the vilification of stem cell research from the technophobic camp, “because of religious beliefs that harvesting stem cells destroys human embryos and thus is the moral equivalent of murder.” As a result, we find that stem cells are also positively correlated with controversy (*NYT*, *UT*, *WSJ*, *NewsComb*) and experimental sentiments (*NYT*, *UT*, *NewsComb*) and negatively correlated with positive outcomes (*NYT*, *WSJ*, *NewsComb*) (see [web appendix 4.3](#)). *Web appendix 6* shows a cartoon depicting the moral battery associated with stem cell debates.

As the stem cell controversy proves, news media can create moral batteries around new technologies. By juxtaposing antagonistic feeling rules, they mobilize a range of incompatible emotions. The use of moral batteries explains why previous studies show that public opinion toward technological innovations often oscillates between fear and hope ([Nabi and Prestin 2016](#)). Our findings contrast with the view that legitimacy struggles occur between an emotionally poor and an emotionally rich side

**TABLE 2**  
NUMBER OF ARTICLES PER PUBLICATION PER PERIOD

| Newspaper articles  | 1987–1996 | 1997–2000 | 2001–2011 | 2012–2017 | Total |
|---------------------|-----------|-----------|-----------|-----------|-------|
| NYT                 | 350       | 163       | 513       | 366       | 1392  |
| UT                  | 230       | 66        | 204       | 41        | 541   |
| WSJ                 | 81        | 44        | 189       | 102       | 416   |
| Total               | 661       | 273       | 906       | 509       | 2349  |
| Magazine articles   | 1987–1996 | 1997–2000 | 2001–2011 | 2012–2017 | Total |
| Good Housekeeping   | 3         | 5         | 12        | 3         | 23    |
| Redbook             | 12        | 10        | 21        | 7         | 50    |
| Cosmopolitan        | 2         | 5         | 7         | 6         | 20    |
| People              | 2         | 3         | 50        | 7         | 62    |
| Newsweek            | 32        | 23        | 60        | 4         | 119   |
| Time                | 20        | 8         | 22        | 88        | 138   |
| Scientific American | 2         | 5         | 26        | 8         | 41    |
| New Scientist       | 28        | 24        | 129       | 47        | 228   |
| Science News        | 27        | 7         | 13        | 11        | 58    |
| Total               | 128       | 90        | 340       | 181       | 739   |

**FIGURE 2**  
SHARE OF VOICE OF KEY CONSTRUCTS PER PERIOD



A: Fertility Technologies. B: Legitimacy Pillars. C: Emotions.

(Toubiana and Zietsma 2017). We do not find some emotional displays being framed as rational and others as irrational (Voronov 2014); rather, we find that legitimacy struggles can unfold by leveraging moral batteries charged with antagonistic emotions. We elaborate on

prior works (Toubiana and Zietsma 2017; Voronov 2014) and show that the opposition between polarized emotions can be framed in terms of norms such as moral versus immoral emotional displays (rather than rational versus irrational).



Moreover, polarizing allows for the simultaneous coexistence of antagonistic legitimacy evaluations of an entity. There was no clear hierarchy of feeling rules and emotional strength in the stem cell controversy. Indeed, the stem cell moral batteries divide public discourse, consumers-citizens, politicians, and scientists between two extreme emotional poles. This finding contrasts with other legitimization perspectives in which the acceptance of an entity depends on the prevalence of one particular discourse. For example, [Humphreys \(2010b\)](#) shows that legitimacy depends on the prevalence of wealth over poverty and purity over filth discourses. [Gopaldas \(2014\)](#) also finds a consensus between brands', consumers', and activists' expressions of emotions, in that they all blame villains, celebrate heroes, and express concern for victims. With moral batteries, not only do we find greater heterogeneity of emotions being experienced and displayed, but we also find that emotions actors mobilize can be critical to legitimation by fostering more active engagement. This suggests that polarizing builds sociocultural ambivalence with moral batteries that simultaneously juxtapose antagonistic emotions around the same issue. In doing so, polarizing supports the simultaneous normative and cultural-cognitive legitimation and delegitimation of entities, which creates coexisting but incompatible normative expectations of action, as in instances of emotional performance and conflict (see [Hochschild 1983](#)).

*Energizing Action.* We also find that polarizing energizes market actors into action to ensure their emotional extreme prevails. In doing so, polarizing enables contestation cycles that affect regulatory, normative, and cultural-cognitive legitimacy. For example, between 2001 and 2016, polarizing in news media fostered two contestation cycles that influenced legitimacy perceptions of the FT market. The energizing actions are visible in a major rise in regulatory discourses from 0.97% of all words in *NewsComb* in 1997–2000 to 1.42% in 2001–2011 ( $t = -2.185, p < .05$ ). In the period 2001–2011, we also find a strong positive correlation between stem cells and regulatory (*NYT*, *WSJ*, *NewsComb*, *MagsComb*) and moral (*NYT*, *UT*, *WSJ*, *NewsComb*) and a negative correlation with social (*WSJ*, *NewsComb*) (see [web appendix 4.3](#)).

We find that the two cycles of contestation, where the moral batteries around stem cells are observed, involve regulatory (e.g., congressional bill), political (e.g., executive order), and scientific (e.g., academic publications) actions (see [web appendix 7](#) for a summary). The first cycle of regulatory and political action (2001–2008) took place during the Bush administration, which was aligned with a conservative political and religious base favoring the technophobic feeling rule and portraying stem cell research as threatening. These efforts resulted in a series of regulatory actions (i.e., a 2001 executive order and 2005 and 2007 vetoes of congressional bills) to prevent the use of federal

funding for embryonic stem cell research, actions that limited scientific work to a few existing stem cell lines derived from fertility clinics. Emphasizing his alignment with the technophobic moral battery pole, President Bush stated:

We recoil at the idea of growing human beings for spare body parts or creating life for our convenience. ... I also believe human life is a sacred gift from our creator. I worry about a culture that devalues life, and believe as your president I have an important obligation to foster and encourage respect for life in America and throughout the world. Embryonic-stem-cell research offers both great promise and great peril, so I have decided we must proceed with great care. (*UT* 2001)

In this quote, displays of care, concern, fear, and disgust are performed in accordance with the technophobic feeling rule, illustrating the entanglement of emotions, media, and politics ([Roberts and Wahl-Jorgensen 2021](#)). Bush's executive actions tilted the regulatory legitimacy scale away from stem cell research, despite intense and heated congressional hearings and the fervent advocacy pro-stem cell research by the scientific community, individuals (e.g., celebrities Christopher Reeve and Michael J. Fox), and disease advocacy institutions.

The second contestation cycle ensued in 2009–2016, when President Barack Obama reversed the stem cells research bans (2009 executive order; 2016 21st Century Cures Act), tilting the scale toward the other moral battery pole and generating a major turnaround in regulatory legitimacy. Obama displayed hope and support in accordance with the technophilic feeling rule by stating: “As a person of faith, I believe we are called to care for each other and work to ease human suffering. I believe we have been given the capacity and will to pursue this research—and the humanity and conscience to do so responsibly” (*NYT* 2009). Senator Edward M. Kennedy of Massachusetts praised this action by stating: “With today's executive order, President Obama has righted an immense wrong done to the hopes of millions of patients” (*NYT* 2009). Furthermore, in 2009 (*Sherley v. Sebelius*), emboldened scientists sued federal government agencies to open federal funding for research ([O'Quinn 2011](#)), which concluded with a series of favorable rulings from 2011 to 2013. Collectively, these actions again drew fierce opposition from the anti-stem cell research camp. Despite these later changes and wins, the legitimacy of human embryonic stem cell research was somewhat damaged. For example, a study of federal funding in 2009–2017 found that funding for human embryonic stem cell research consistently trailed behind that of non-human embryonic stem cell research, as the latter was deemed more “ethical” and as showing “more real progress” ([Tarne 2018](#)).

This situation offers three key insights into the temporality of social emotion-driven legitimation. First, emotional mechanisms remain crucial for legitimation in mature

markets, extending the perspective that emotions are necessary to stimulate legitimation processes primarily in emerging markets (Grodal and Granqvist 2014). As the stem cell debate shows, the polarization of emotions associated with the introduction of new products can position existing central products such as IVF, and possibly the FT market as whole, on the edge of legitimacy, despite the growing acceptance of FT in society as appropriate ways to achieve biological parenthood (Fischer et al. 2007). That is, emotional mechanisms can act as change catalysts in legitimation, promoting stability as well as instability despite the maturity of the market. Second, by energizing actors to act and support one side of the moral battery, polarizing can reignite regulatory structures (executive, congressional, and legal) that remain highly active for long periods (see figure 2B). For example, the stem cell debates took place two decades after the FT market emerged and spanned 16 years (2001–2016). This contrasts with previous works (Humphreys 2010b; Scott 1995) that show that regulatory legitimation is less present in mature markets. Third, these findings demonstrate how legitimation occurs even if normative structures, in particular those related to moral norms, remain highly polarized. Contrary to Humphreys' (2010a, 4) findings, regulatory structures in particular are needed and can help rather than "hinder perceptions of legitimacy at advanced stages of industry development." The debate around stem cells represented a turning point for the FT market as it also became culturally cognitively consecrated by two Nobel Prizes in 2010 (to Shinya Yamanaka and John Gurdon for stem cell research and to Robert Edwards for IVF). This is despite the presence of multiple, ongoing controversies beyond stem cells, such as those related to IVF cost, surrogacy, designer babies, cloning, increased maternal age, and prisoners' rights to use FT. Together, these controversies may collectively be associated with the significant decrease in U.S. IVF live birth rates between 2002 and 2008 and the recovery of these rates between 2008 and 2010 (Gleicher, Kushnir, and Barad 2019).

In summary, we find that news media polarize emotions when they counterpose two antagonistic feeling rules that coexist as moral batteries (Jasper 2011) around highly controversial entities. Polarizing with moral batteries plays a crucial role in legitimation for two reasons: (1) it creates two emotional extremes with equal power and (2) it energizes market actors into action to ensure their emotional extreme prevails. This results in increased cultural attention and institutional work, which can bring new or renewed attention to the legitimacy or illegitimacy of a market. A key instance of polarizing in our data set occurs in the coverage of the stem cell debate, when news media created a moral battery opposing the technophilic and technophobic feeling rules. Polarizing emotions around stem cells demanded attention and energized actors into action, as illustrated in the amount of institutional work, particularly around regulatory

legitimacy, unfolding at the time. In this case, over time, polarizing resulted in an increase in regulatory and cultural-cognitive legitimacy of the FT market.

## Reifying Emotions

When reifying emotions, news media reveal and reinforce dominant feeling rules associated with an entity, establishing which emotions are most relevant to assess an entity's legitimacy. Unlike polarizing, reifying supports the establishment and maintenance of a hierarchy among feeling rules, making emotional assessments of the entity more accessible and comprehensible to a broader audience. Thus, via reifying, dominant feeling rules can support and/or undermine an entity's legitimation, by shaping normative and cultural-cognitive legitimacy.

A compelling instance of reifying is evident in the coverage of the "multiples" consumer segment (hereinafter multiples)—that is, parents who want to use multiple-embryo IVF, which tends to lead to multiple births (i.e., twins, triplets). The persistent association between disgust and multiples reveals the reifying of the technophobic feeling rule as dominating the bio-parenthood feeling rule. We find a stable positive correlation of multiples and disgust across all four periods and most publications (1987–1996: *NYT*, *WSJ*, *UT*, *NewsComb*, *MagsComb*; 1997–2000: *WSJ*, *NewsComb*; 2001–2011: *NYT*, *UT*, *WSJ*; 2012–2017: *NYT*, *WSJ*, *UT*, *NewsComb*, *MagsComb*) (see web appendices 4.1–4.4). This strong association is more consistent than other negative emotions (1987–1996: *WSJ*, *NewsComb*, *MagsComb*), anxiety (1987–1996: *WSJ*, *MagsComb*; 1997–2000: *UT*; 2012–2017: *WSJ*), and negative outcomes (1987–1996: *UT*, *NewsComb*, *MagsComb*; 1997–2000: *WSJ*, *NewsComb*; 2001–2011: *NYT*, *UT*, *NewsComb*) and positive emotions such as joy (1987–1996: *MagsComb*; 1997–2000: *MagsComb*).

Reifying allows the long-standing technophobic feeling rule, which requires the expression of negative emotions toward technologies, to dominate over the bio-parenthood feeling rule, which requires the expression of positive emotions toward any means allowing for biological births. The technophobic feeling rule and the associated emotion of disgust are consistent with cultural-cognitive representations of technology as threatening and amoral (Giesler 2012; Kozinets 2008) and of mad scientists and their monstrous creations (Dinello 2005), galvanized in Shelley's *Frankenstein* and reproduced in public discourse since the book's publication in 1818. Such taken-for-granted associations make sense, given that, over time, news media have tied the implantation of multiple embryos and the birth of multiple children to several risks: mothers of multiples are associated with pregnancy problems (e.g., preeclampsia), multiples have been linked to potential physical and developmental delays and effects due to underweight and prematurity, and the actions of prospective parents have been

tied to potential drains on society and government resources to support the financial and emotional needs of babies who are called “monstrous creations.” For example, a 2009 *Newsweek* article states:

With the increase in fertility treatments, the U.S. birthrate of twins has more than doubled in the past 30 years. Overlooked in the happy news, though, are the troubling surges in neonatal deaths, developmental disabilities and other long-term problems.

In other words, the technophobic feeling rule that surrounds multiples conjures a familiar cultural narrative of persistent mad creators (the assemblage of prospective parents, FT clinics, and reckless doctors) and the monstrous but innocent creatures they create (the high number of embryos used and high number of children born). This narrative, just like the scientist Victor Frankenstein and his monster, goes against moral and biological norms and should be condemned by the performance of negative emotions, in particular disgust.

Reifying hierarchies with dominant negative feeling rules is an important finding, given that scholars have paid more attention to the reifying of hierarchies in which positive feeling rules dominate, particularly as markets become legitimate. For example, we contrast our emotion-driven legitimation perspective with that of Fischer et al. (2007) on consumers' goal striving in the IVF market, in which positive emotions trump negative emotions and experiences associated with IVF. Applying our framework, we infer that IVF in Fischer et al. is legitimized through reifying the bio-parenthood feeling rule hierarchy, which requires public displays of delight involved in pregnancy and childbirth and of hope when pursuing parenthood.

Furthermore, as Fischer et al. (2007, 427) state, the bio-parenthood feeling rule in the United States dictates “the set of cultural assumptions about why and how people should become parents.” Yet our findings around multiples suggest that other feeling rules, such as the technophobic feeling rule, prescribe what type of biological parent one should *not* become. This qualifies the dominance of the bio-parenthood feeling rule found in previous studies. That is, reifying supports existing norms to pursue parenthood (normative legitimacy) but creates boundaries around them by invoking counternarratives that limit and ease the comprehension of entities (cultural-cognitive legitimacy). As a result, reifying can both legitimize and delegitimize FT. We show that the FT market comprises multiple technologies with different degrees of legitimation. For example, at the end of the third period (2001–2011), some technologies, such as IVF and artificial insemination, had become legitimate and mainstream paths to parenthood. By contrast, multiple-embryo IVF was becoming illegitimate, and cloning never acquired legitimacy. Our analysis is consistent with prior research that shows that a market can thrive

even if some of its elements are delegitimized (Giesler 2012).

Reifying also creates an opposite effect to that found by Humphreys (2010b), in which negative emotions turn from hot to cold as the casino gambling market becomes legitimized. By contrast, we find that, from 1987 to 2017, the hot negative emotion of disgust remains consistently correlated with elements of the FT market, even as cold negative emotions such as anxiety increase within the market (see figure 2C), as Humphreys predicted (anxiety: from 0.29% in 1986–1997 to 0.38% of all words in 2012–2017;  $t = -1.572$ ,  $p > .05$ ). This qualifies the breadth and range of emotional transformation that can occur as markets become legitimate. This finding also suggests that markets can be legitimized despite the consistent presence of hot negative emotions. This is consistent with our previous observation that markets can have fragmented legitimation because they encompass different types of entities (e.g., technologies, consumers, markets categories) whose legitimacy does not always align uniformly.

In summary, we find that news media reify emotions by revealing and reinforcing dominant feeling rules associated with a market entity. In doing so, news media establish which emotions are most relevant to assess the legitimacy of an entity. We also highlight how, through reifying, a dominant feeling rule can support and/or undermine the legitimation of an entity. Reifying makes emotional assessments of the entity more accessible and comprehensible to a broader audience, thus directly shaping cultural-cognitive legitimacy. Reifying also supports or undermines existing normative narratives, thus influencing normative legitimacy. For example, news media reify the dominance of the technophobic feeling rule around multiple-embryo IVF, leading to its persistent association with disgust and its progressive loss of legitimacy. By 2012, multiple-embryo IVF had lost its legitimacy and now is rarely used except for the oldest, least-responsive-to-treatment consumer segments (Society for Assisted Reproductive Technology 2020).

## Transforming Emotions

When transforming emotions, news media update the hierarchy of feeling rules associated with a market entity, leading to increased acceptability. This is evidenced by a change in the emotions associated with FT over time. A change in feeling rules results in a change in institutional structures and existing understandings and meanings related to that entity. We find two types of transforming: exception-triggered transforming and precarious transforming.

*Exception-Triggered Transforming.* This type of transforming introduces a new feeling rule to evaluate an entity's legitimacy, thereby altering an existing hierarchy of feeling rules, as a new exceptional event occurs. Such



events might include scandals, health crises, or political changes. Exception-triggered transforming occurs in the dissemination of the story of Nadya Suleman, labeled “octomom” by news media after she became a single mother of 14 children and the second person in history to successfully deliver octuplets with the assistance of donated sperm and multiple-embryo IVF in January 2009:

[S]he is the first to have emerged from childbirth ready for the world’s cameras with what looks . . . like plastic surgery facial modifications, it would seem, designed to approximate the visage of that other notably avid producer and acquirer of children, Angelina Jolie. . . . Rumors flew that she had I.V.F. treatments in Mexico and then crawled across the border to give birth on American soil. Others said that the conception of the octuplets was nothing but a publicity stunt. As a recipient, between 2000 and 2008, of more than \$169,000 in disability payments, Suleman, who is now 34 and spent much of her adult life living with her parents, was cited as proof of everything that is wrong with American culture, single mothers, California and the welfare state. (NYT 2009)

Exception-triggered transforming reveals a deviance feeling rule. Deviance is always constructed in opposition to conventional, expected behaviors (Goffman 1975)—here, the expectations of good and responsible biological parenthood. Deviant behaviors engender strong sanctions and rejection from mainstream society. They are associated with negative emotions, ranging from disapproval and coldness to disgust, fear, and anger (Goode 2017).

The deviance feeling rule adds to the existing technophobic feeling rule to further dominate and discourage the reliance on the bio-parenthood feeling rule. Consequently, in terms of public opinion, the deviance feeling rule ignites a moral panic (McLuhan 1971), defined as the “intense, heightened sense of exaggerated concern about a threat or supposed threat posed by deviants or ‘folk devils,’ a category of people who, presumably, engage in evil practices and are responsible for menacing the physical safety or the culture or way of life of society or sectors of society” (Goode 2017, 1). Here, transforming highlights the intersectional nature of feeling rules. Suleman is judged in public opinion based on a deviance feeling rule, given her low socioeconomic class, single-parent status and perception as a celebrity-wannabe. Her use of FT ignites a moral panic expressed in a mix of indignation, fear, contempt, and disgust for her moral, economic, and biological transgressions that threaten social norms and taken-for-granted associations of a good person and a responsible parent.

This instance of transforming threatens the legitimacy of an industry, given that societal transgressions are often accompanied by punishment (e.g., jail for those who break the law). Suleman’s case created new negative discourses around consumers who aggressively seek children through FT, as she became the butt of late-night television jokes

and grotesque images of excess in tabloids and mainstream news media (see figure 3). Punishment was also extended and/or threatened by regulatory bodies: her fertility doctor’s medical license was revoked by the State of California’s medical board for implanting her with 12 embryos—three times as many as the maximum recommended by the American Society for Reproductive Medicine—and legislators in Georgia, Missouri, and California considered issuing legal restrictions on the number of implanted embryos. Regulatory intent was aimed at blocking future “she-devils” in society, as Georgia senator Hudgens states: “Nadya Suleman is going to cost the state of California millions of dollars over the years; the taxpayers are going to have to fund the 14 children she has. . . . I don’t want that to happen in Georgia” (WSJ 2009).

Exception-triggered transforming extends the prior views of emotions in the market by providing a more dynamic view of collective experiences and displays of emotions. Gopaldas (2014), for example, proposes that certain market actors (villains) are blamed while others (victims) are shown compassion. With exception-triggered transforming, we show that these positions and the emotions with which they are associated are unstable. For example, through neoliberal responsabilization (Giesler and Veresiu 2014), victims could turn into villains. That is, after a triggering scandal, they can shift from being targets of concern to recipients of blame. We show that this happens when transforming introduces a new feeling rule that destabilizes an existing hierarchy of feeling rules. Applying our perspective to Toubiana and Zietsma’s (2017) study of the delegitimation of a non-governmental organization (NGO), we infer that this entity loses legitimacy from its lack of emotional conformity with the caring feeling rule that is progressively introduced to the field.

Furthermore, our example of exception-triggered transforming raised concerns about the lack of regulation of the growing FT market, already tarnished with associations of other moral and scientific transgressions, such as the selective reduction of embryos in utero, cloning, and the use of stem cells. Indeed, a *UT* (2009) article highlighted John Robertson, a University of Texas law professor, who issued a warning that octuplets “peeled back the [fertility] industry’s claim that everything is fine and dandy.” In other words, this type of transforming acted as a regulatory vector, undermining the legitimacy of the self-regulated FT market and leading to a consensus across regulatory, scientific, and commercial actors to curb consumer demand and sciento-commercial practice of multiple-embryo transfers during IVF (Jones and Allen 2010).

In summary, the octomom scandal threatened the FT market legitimacy. The deviance feeling rule encouraged condemning emotions and moral judgments that challenged the market normative legitimacy and discredited multiple-embryo IVF, a commonly used and iconic FT at the time. As a result, market actors engaged in institutional

FIGURE 3

PARODIC REPRESENTATION OF NADYA SULEMAN



Creative Commons "Kinetic Sculpture 09" by mcnallyterrence.

work by adopting policies that strongly discouraged the use of multiple-embryo IVF. At the same time, these actors embraced the more legitimate single-embryo IVF, stabilizing the legitimacy of the FT market by turning this type of IVF into a taken-for-granted FT and the new symbol of the FT market in public opinion. These dynamics exemplify how polarizing affects the regulatory, normative, and cultural-cognitive legitimacy of several interconnected technologies. While the octomom scandal was a delegitimizing instance, counterintuitively, exception-triggered transforming also reinforced the normative legitimacy of other FT users, such as those pursuing single-embryo IVF, who became nondeviant or less extreme in their quest for biological parenthood.

*Precarious Transforming.* This type of transforming updates a hierarchy of feeling rules, but the updated

institutional structures remain precarious and subject to controversies. Precarious transforming is observed in the evolution of the lesbian, gay, bisexual, transgender, and queer (LGBTQ+) consumer segment across the entire span of our data set. In the octomom case, the deviance feeling rule became more salient in the evaluation of the multiples consumer segment decades after FT became available for its use. By contrast, the deviance feeling rule was the primary lens through which society evaluated the legitimacy of FT by the LGBTQ+ segment, weakening the bio-parenthood feeling rule while supporting the technophobic feeling rule. The following quote describes the public moral argument raised by opponents of LGBTQ+ and the quest for recognition and legal rights in the early years of the FT market:

No numbers are available, but the potential pool is high among four million gays and lesbians with children. While some experts and religious leaders are dismayed by the practice, many communities have reacted with quiet support. But that hasn't stopped some from out-spoken opposition. "It's parental malpractice," says Robert Knight of the conservative Family Research Council. "This is an attempt to hijack the moral capital of the mom-and-dad family. Children need moms and dads. They don't need two moms or two dads" . . . The reasons for becoming a legal co-parent "become clear when you look at everyday life," says Greg King of the Human Rights Campaign Fund. "This is an issue that affects everything from inheritance and medical benefits to things like who can sign a child's report card or take them to the hospital if they break their arm during a Little League game." Another reason co-parent adoptions are increasing is that gay and lesbian parents have grown more visible. In the past, many hid their homosexuality, says Tim Fisher of Montclair, N.J. (*UT* 1993)

This excerpt shows the rising social visibility of LGBTQ+ parents in families at a time when homosexuality was considered dangerous and associated with HIV and immoral behavior, which threatened the safety and way of life of US society (Goode 2017). It is not surprising, then, that negative emotions were directed to these individuals, the FT they used (e.g., artificial insemination, surrogacy, sperm donation, IVF), and their offspring and that these emotions coexisted with discourses about legal, social, and moral issues. This is evidenced in web appendix 4.1 in 1987–1996, when LGBTQ+ was correlated with fear (*NYT*, *NewsComb*), controversy (*MagsComb*), and legal (*MagsComb*) discourses. It was also negatively correlated with bravery (*NYT*) and negative emotions (*NYT*). It was both negatively and positively correlated with celebratory emotions (*NewsComb* and *MagsComb*, respectively). At the level of legitimacy pillars, LGBTQ+ was positively correlated with regulation (*MagsComb*) and social (*NYT*, *UT*). Collectively, these data suggest that there were more negative emotional associations in news media during this

period. The strong presence of fear captures the experiences of LGBTQ+ families with a “crazy quilt of rights being given and taken away,” as stated by a lesbian mother in *UT* (1993), to assert their parenting in judiciary contexts that used heterosexual unions as the moral standard for what parents and parenthood looked like.

In the next period, 1997–2000 (see [web appendix 4.2](#)), transforming slowly begins to put the wheels of the deviance feeling rule in reverse, as news media increasingly emphasize the more positive bio-parenthood feeling rule, in particular, the discourse that LGBTQ+ families are raising well-adjusted children. Indeed, in this period, there is increased coverage by news media of scientific reports countering the myth that LGBTQ+ families may turn children into “deviants.” Coverage like this, along with some legal gains, is seen in the positive correlation of LGBTQ+ with joy (*NewsComb*, *MagsComb*) and bravery (*MagsComb*), along with hate (*MagsComb*). Hate in this period is also associated with the good job LGBTQ+ families appear to be doing to protect their growing children from discrimination, stigmatization, and bullying in schools and other social spaces. These stories capture changing normative and taken-for-granted legitimacy, but LGBTQ+ is still “open to criticism.” These stories invite readers to learn about LGBTQ+ families’ struggles, hopes, and fears and emphasize the precarious standing of this consumer segment in the FT market and US society in general.

Lesbians who become parents through artificial insemination are raising emotionally healthy and well-adjusted children, according to three new studies. . . . Most of the children in the lesbian families were conceived at fertility clinics. Some of the children of heterosexual parents were also conceived at fertility clinics, but the studies compared these groups with children born from natural conception. Though the studies found no differences between the groups, . . . “the existing body of research is relatively sparse and open to criticism.” (*UT* 1997)

In the last two periods, 2001–2011 and 2012–2017 (see [web appendices 4.3 and 4.4](#)), precarious transforming becomes more evident in the broader and significant changes to regulatory, normative, and cultural-cognitive institutional structures for LGBTQ+ consumers. We find statistically significant changes in the percentage of words associated with LGBTQ+ from 1987–1996 to 2012–2017 ( $t = -2.13, p < .05$ ) and from 1997–2000 to 2012–2017 ( $t = -2.07, p < .05$ ). For example, LGBTQ+ consumers gain more normative and cultural-cognitive legitimacy as the bio-parenthood feeling rule dominates in news media. This is evident in the abundance of feel-good stories about children of LGBTQ+ parents seeking, meeting, and establishing relationships with their sperm donor fathers and in increasing reports of surrogacy use by famous gay men (e.g., Elton John, Ricky Martin). In 2001–2011, this results

in a significant, positive correlation between LGBTQ+ and joy (*WSJ*), pride (*UT*, *NewsComb*), and social (*WSJ*, *UT*, *NewsComb*) and a significant, negative correlation with negative emotion (*UT*, *NewsComb*). Paradoxically, LGBTQ+ families are also significantly correlated in 2001–2011 with divorce and custody (*UT*, *NewsComb*) and legal (*UT*, *NewsComb*) discourses and in 2012–2017 with divorce and custody (*MagsComb*) and legal (*UT*, *NewsComb*) discourses. This shows that LGBTQ+ consumers are subject to changes in family status and composition just like any other family, while signaling a resurgence of the deviance feeling rule that surrounds them. The coverage of transgender parents also increases from 0% in 2001–2011 to 0.01% in 2012–2017 ( $t = -0.204, p < .01$ ).

The last period, 2012–2017, brings significant regulatory legitimacy gains to FT use by LGBTQ+ consumers. Yet this legitimacy remains contested and fragile, emphasizing the precarity of transforming. For example, in 2015, the legalization of LGBTQ+ marriage in the United States set a major precedent for the social acceptance of LGBTQ+ FT consumers. Yet news media also show how LGBTQ+ families struggle in states with strong antigay marriage sentiments. Consequently, LGBTQ+ has a significant, positive correlation not only with controversy (*NYT*, *UT*, *NewsComb*) and regulation (*NewsComb*) but also with bravery (*UT*, *NewsComb*), gratefulness (*NYT*, *NewsComb*), and pride (*UT*, *NewsComb*).

Importantly, precarious transforming highlights the interrelationship of transforming with reifying and polarizing. For example, news media reveal and reinforce the deviance and biological feeling rules at different periods. News media also show that regulatory events, such as the legal sanctioning of LGBTQ+ marriage, divide a nation along moral batteries, with the anti-LGBTQ+ marriage camp remaining active and threatening to the legitimacy of FT for LGBTQ+ consumers and their families. Unlike exception-triggered transforming, this interrelationship between emotion-driven mechanisms is more complex. Indeed, the LGBTQ+ segment has a more extensive breadth of entities toward which feeling rules and their associated emotions are oriented. For example, in the LGBTQ+ segment, news media have reported stories related to individuals and couples who are lesbian, gay, or transgender and their different roles as, for example, biological parent versus adoptive parent earlier and as coparents later. Different technologies are also associated with different types of LGBTQ+ consumers (e.g., artificial insemination, sperm or egg donation, IVF). However, similar to exception-triggered transforming, regulatory events can play a central and ongoing role even as a market matures, providing more evidence of an opposite effect to that found by [Humphreys \(2010b\)](#) and [Scott \(1995\)](#). This is certainly the case at the overall market level, at which similar temporal aspects and breadth of entities are associated with



several FT, including IVF, stem cells, and PGD, affecting the association of particular feeling rules and emotions in nonlinear, nonfinite legitimation. Last, precarious transforming highlights the range of emotions (positive and negative, hot and cold) that can be directed to different entities across different points in time. This includes the dominance of certain types of emotions, their coexistence and interrelationships, and the differences in the contexts in which they arise.

In summary, news media transform emotions by updating the feeling rules associated with a market entity. Exception-triggered transforming shows that exceptional events can foster the introduction of a new feeling rule, such as the deviance rule after the octomom scandal, which can destabilize legitimacy pillars. In this example, the normative and cultural-cognitive legitimacy pillars changed, which resulted in a profound transformation of the market (i.e., the delegitimation of the central technology multiple-embryo IVF and reconfiguration of the market around single-embryo IVF). Precarious transforming stresses that transforming may not be definitive and can be susceptible to continuing contestation. We also show that transforming can legitimize market entities both directly (e.g., FT use by LGBTQ+) and indirectly (e.g., single-embryo IVF vs. multiple-embryo IVF). Finally, we show the fragility of transforming, as our longitudinal data set allows us to analyze the impact of various trigger events.

## DISCUSSION

The legitimation of market entities is a crucial consumer research concern (Dolbec and Fischer 2015; Humphreys 2010b; Scaraboto and Fischer 2013). We expand current literature by providing a new understanding of emotion-driven legitimation. We define emotions as cultural products that are aligned with norms and expectations originating in social settings (Hochschild 1983; Wahl-Jorgensen 2019). Doing so helps us move beyond the analysis of legitimation as a cognitive and rational process by emphasizing the centrality of emotions as a structuring force within their sociocultural contexts. Accounting for emotions gives a more complete picture of how market legitimation takes place and answers calls for empirical research on the role of emotions in legitimation (Friedland 2018; Valor et al. 2021).

We demonstrate social emotion-driven legitimation by delineating three mechanisms (polarizing, reifying, and transforming) that are (1) underscored by feeling rules, (2) affected by trigger events in the broader environment that surrounds a market (e.g., product and technological innovations, historical and sociocultural developments), and (3) connected with legitimacy pillars (see figure 4). By conceptualizing this process, we show that legitimation takes place through the emergence, maintenance, and change of

hierarchies of feeling rules and their associated emotions throughout the legitimation process. We also show that emotion-driven market legitimation is dynamic and changes across time and space.

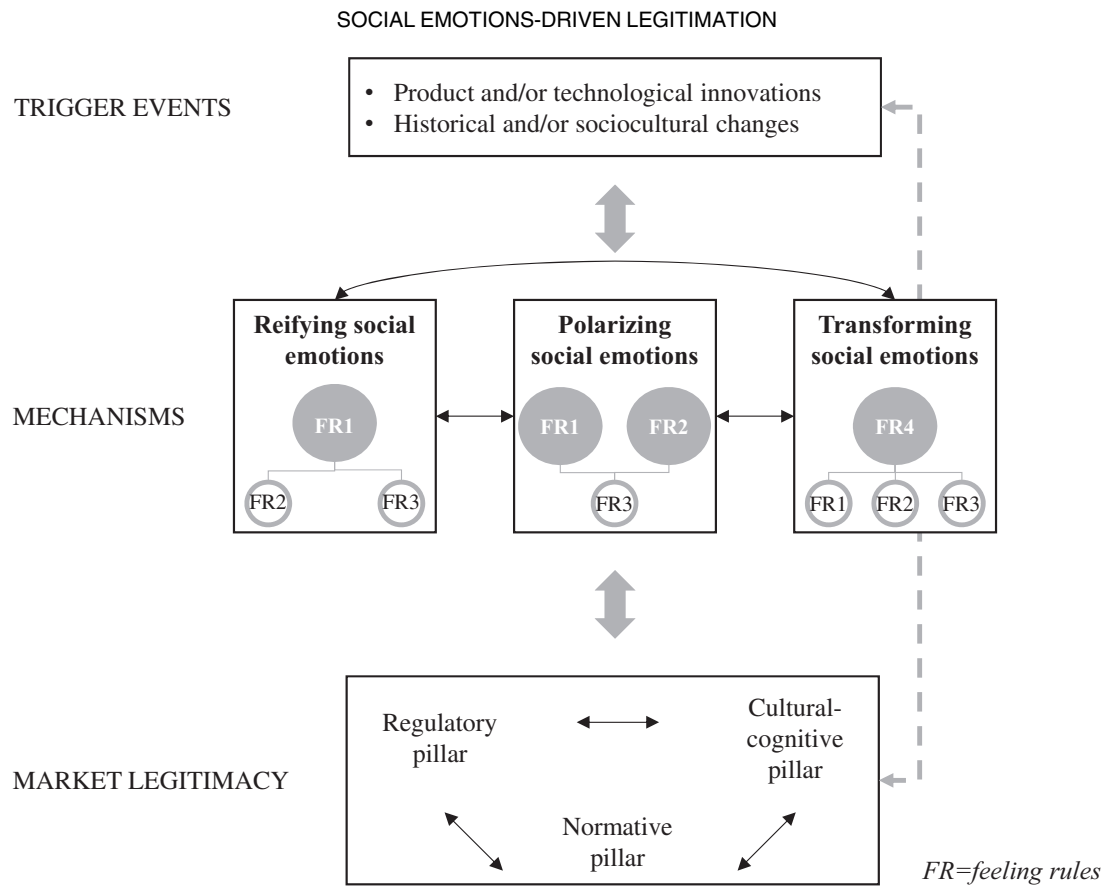
## Social Emotion-Driven Legitimation

*Linking Feeling Rules to Legitimation.* We extend the literature on market legitimation by showing that feeling rules dictate what emotions can be associated with market entities, associations that can lead to the support or erosion of legitimacy judgments around these entities. Social emotion-driven mechanisms are fundamental to legitimation, as they explain how emotions are deeply linked to existing rules, norms, and taken-for-granted associations. We build on the research that positions emotions or affect as outcomes of legitimation or in direct opposition to cognitive processes or rules (Gopaldas 2014; Humphreys 2010a; Toubiana and Zietsma 2017). The link between feeling rules and legitimation has two theoretical implications.

First, social emotion-driven mechanisms capture the crucial role of hierarchies among feeling rules. This implies that it is not just the presence of emotions in the market but also the dominance (or attempted dominance) of certain emotions, including the way they are expressed in news media and political spheres (Wahl-Jorgensen 2019), that shape legitimacy judgments about an entity. For example, we find both instances in which a hierarchy is consistently reified and maintained and transforming instances in which a new hierarchy is established. Even in cases of equal power among feeling rules, the temporary counterposing of these rules can energize actors to act to ensure their own feeling rules prevail. In other words, the creation of two emotional extremes drives actors to impose a hierarchy. Our study supports calls to move beyond the dichotomy between reason and emotion, which too often constrains research (Friedland 2018), by showing that legitimation is not a result of the dominance of reason over emotion, or vice versa (Toubiana and Zietsma 2017), but of hierarchies within emotional forces.

Second, our study introduces variability across feeling rules, emotions, and legitimation within a market and emphasizes the need to study legitimation at multiple levels. This view allows for more heterogeneity of emotional expressions and evidences how multiple and overlapping legitimation processes take place in parallel in a market. In doing so, it complements perspectives in which only a single emotion is directed to an entity (e.g., fear, love) or a specific type of emotion is present (e.g., positive or negative, hot or cold) (Gopaldas 2014; Grodal and Granqvist 2014; Humphreys 2010b). Our study also shows that a market consists of a variety of entities, including consumer segments, practices, and products, each of which may be associated with different feeling rules that dictate specific emotions toward those entities. Thus,

FIGURE 4



legitimacy judgments about some of these entities can affect the overall market legitimization positively and/or negatively. This can also occur in other industries, such as the gambling market, in which the introduction and expansion of gambling practices (e.g., gaming machines) have threatened the overall legitimacy of gambling in some locales (Banks 2017). Furthermore, the presence of social emotion-driven mechanisms for multiple entities in a market implies that feeling rules both reflect and (re)shape distinct regulatory, normative, and cultural-cognitive structures. For example, we demonstrate that different feeling rules stimulate different types of emotions (i.e., disgust, anxiety, love) that are associated with different regulatory rules of supra organizations (e.g., executive, congressional, legal), societal norms (e.g., moral, biological), and taken-for-granted associations (e.g., science as evil, single mothers as deviants). In summary, we suggest that the establishment or maintenance of feeling rules can introduce variabilities across legitimacy pillars and legitimization outcomes. A hierarchy in feeling rules, then, explains why some emotions prevail over others in the market.

*Dynamic Legitimation Pillars across Space and Time.* We contribute to the understanding of market legitimization as dynamic by showing that crucial macro- and industry-level triggers can destabilize legitimization and introduce new hierarchies of feeling rules, which can result in changes in regulatory, normative, and cultural-cognitive structures across space (i.e., different entities) and time (i.e., short term and long term). Our study follows recent work in organizational literature that paints legitimization as dynamic (Deephhouse et al. 2017). In doing so, it complements consumer research by evidencing specific dynamics of legitimization and legitimacy pillars. This provides an alternative to the more linear processual perspective, from illegitimacy to legitimacy, which is often driven by cognitive and strategic actions (Dolbec and Fischer 2015; Humphreys 2010b). We evidence that trigger events such as technological and historical innovation can influence feeling rules associated with market entities through three different mechanisms. Trigger events can encourage polarizing, which involves two feeling rules acting as moral batteries with two strong emotional extremes and energizing

actors to ensure their extreme prevails. Thus, trigger events can be productive and create a cascade of events, such as new innovations or new moral panics. Trigger events can also influence reifying, which reveals and reinforces dominant feeling rules and determines which emotions are most relevant to assess the legitimacy of an entity in that new environment. Finally, trigger events can influence transforming, which updates the feeling rules associated with an entity. In other words, depending on their breadth and depth, trigger events can make feeling rule mechanisms more complex and interconnected. Consequently, the legitimacy pillars and the process of legitimation itself can be more difficult to manage or predict across multiple entities and over time.

Furthermore, these insights contrast with the processual stability of legitimation as markets mature, in particular around regulatory legitimacy (Humphreys 2010b; Scott 1995). Our findings qualify this perspective by evidencing that trigger events and feeling rule mechanisms can make regulatory legitimacy structures highly active, such as in instances of polarizing or transforming, by affecting norms and taken-for-granted associations. The extent of legitimacy instability can depend on the type of trigger events, the entity such events apply to, and the feeling rules associated with the entity. As we show with exception-driven transforming, a single entity in the media spotlight can foster profound and long-lasting regulatory changes around practices and technology acceptance. In precarious transforming, a series of cumulative events can affect an entire consumer segment in a profound but precarious way. Thus, emotion-driven legitimation can be fluid and nonfinite. This has implications for other industries, both controversial and not. For example, trigger events such as product scandals occur in most industries and can affect the feeling rules and legitimacy structures associated with market entities. For example, Elizabeth Holmes became a villain after it was revealed that her firm Theranos did not really have its promised blood test and instead was endangering consumer health (Solon 2018). Our findings, then, qualify the notion that legitimation only deals with unchallenged societal rules, norms, values, and meaning systems (Deephouse et al. 2017).

Beyond FT, we observe some parallels in other markets in which innovation cycles trigger recurrent controversies and renewed legitimation efforts. For example, news media coverage of self-driving cars polarizes public opinion along moral batteries and reifies the technophobic feeling rule. Our findings offer a new view on brand-centric processes of market change associated with controversies around innovation cycles (Giesler 2012).

Exploring how these market-level processes destabilize (or not) brand images could shed more light on how brands manage doppelgänger brand images that emerge with new innovations.

## Avenues for Future Research

This study suggests new avenues for research on market legitimation and emotions. First, the intersection between market-level feeling rules and consumers' emotional experiences needs more study. Hochschild (1983) suggests that consumers struggle to internalize and comply with the feeling rules pushed by the market. They become conscious of feeling rules only when they interrogate their own emotional experience or when it is challenged by others. Consumers are thus likely to depart from market-produced emotional scripts at times. Future research could theorize the dialogical divergence between consumers and the media and complement prior studies on consumers' institutional work (Dolbec and Fischer 2015) by highlighting the emotional work at play. Research could also explore how marketers navigate these dynamics.

Second, future research could examine the intersectional nature of feeling rules. Feeling rules are differentially distributed by structural characteristics (Illouz et al. 2014). Thus, focusing, for example, on the interrelated nature of issues regarding gender, race, and social class could be useful to assess the relationship among sociodemographic characteristics, societal inequalities, and emotional institutional work.

Finally, our study is set in the United States, where emotions are expected to be publicly and emphatically expressed (Lupton 1998). Because "[e]motions are the dimension of culture which represents most clearly the cultural specific model of selfhood and sociability, ethics and morals" (Illouz et al. 2014, 229), future research could examine other contexts (e.g., countries, consumption experiences, servicescapes) where public emotion display is normatively constrained and explore whether emotions similarly affect legitimation.

## DATA COLLECTION INFORMATION

The data were collected by all three authors using ABI/ProQuest, Lexis Nexis, and Master File Premier/ProQuest for the media data and direct online search for the blogs and fertility clinic material between January 2017 and April 2019. The data were analyzed by all three authors using LIWC, NVivo, and KHCoder. The data are currently stored in a project directory on the Open Science Framework.



## APPENDIX A. A COMPARISON OF INDIVIDUAL AND SOCIAL EMOTIONS

|                                     | Individual emotions  | Social emotions   |
|-------------------------------------|--|---|
| Definition of emotions              | Affective action-oriented tendencies experienced by individuals in response to a stimulus and expressed through bodily responses   | Cultural products that are aligned with norms and expectations originated in social settings  |
| Who                                 | Individuals  | Collectives/groups  |
| Nature of emotions                  | May be universal or depend on the culture of the individual  | Always socioculturally and historically dependent   |
| Emerge from                         | Depending on the perspective: emotions are associated with patterns of bodily responses, appraisal, or cultural norms  | Emotions are associated with systems of culturally specific rules   |
| Key perspectives (exemplar authors) | <ul style="list-style-type: none"> <li>• Evolutionary approaches: focus on emotions as an individual's adaptive responses (e.g., <a href="#">James 1984</a>)</li> <li>• Cognitive approaches: focus on the factors (e.g., an individual's history or personality) that shape emotional appraisal (e.g., <a href="#">Arnold 1960</a>)</li> <li>• Sociological approaches: focus on how individuals' experience and expression of emotions are constrained by cultural norms (e.g., <a href="#">Heise 1979</a>)</li> </ul> | <ul style="list-style-type: none"> <li>• Normative approaches: focus on the interaction between structural emotional norms and their experience and expression (e.g., <a href="#">Hochschild 1983</a>)</li> <li>• Performative approaches: focus on emotions as produced by symbolic public action (e.g., <a href="#">Reddy 1997</a>)</li> <li>• Ritual approaches: focus on emotions as produced within public and collective occurrence (e.g., <a href="#">Collins 2004</a>)</li> </ul> |
| Examples in consumer research       | <a href="#">Goldberg and Gorn 1987</a> ; <a href="#">Pham 1998</a>   | <a href="#">Gopaldas 2014</a> ; <a href="#">Higgins and Hamilton 2019</a>   |

Note: Each key perspective on emotions has its own definition of emotions and assumptions about the nature of emotions and how to study them. This table represents a consolidated view of the extensive literature on emotions to facilitate the comparison of individual and social emotions ([Turner 2014](#)).

## APPENDIX B. DIFFERENTIATING EMOTION-RELATED CONCEPTS

| Emotion-related concept | Definition   |
|-------------------------|--|
| (Individual) Affect     | Refers broadly to the experience of feeling or emotion ( <a href="#">Bagozzi, Gopinath, and Nyer 1999</a> )  |
| (Individual) Emotion    | Intense, short-lived affective reaction related to a particular stimulus. Emotions are linked to actions ( <a href="#">Bagozzi et al. 1999</a> )   |
| (Individual) Feeling    | Affect mediated by cognitive processes that arises after emotions ( <a href="#">Shiv and Fedorikhin 1999</a> )   |
| (Individual) Mood       | Diffuse and lasting affective state ( <a href="#">Bagozzi et al. 1999</a> )  |
| Social emotion          | Emotions as cultural products that are aligned with norms and expectations originating in social settings ( <a href="#">Hochschild 1983</a> ; <a href="#">Scheff 1994</a> ); also called collective emotions |
| Group emotion           | Emotions that are simultaneously experienced by a group and directed to entities that are not group members ( <a href="#">Goodwin, Jasper, and Polletta 2000</a> )   |
| Marketplace sentiment   | Lasting and active collective emotional dispositions directed to a market entity (e.g., product, brand) ( <a href="#">Gopaldas 2014</a> )  |

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