*Journal of Social Issues and Development (JSID)*
(Himalayan Ecological Research Institute for Training and Grassroots Enhancement (HERITAGE)
ISSN: 2583-6994 (Vol. 3 & 4)
Special Combined Issue (September 2025 — April 2026. pp. 15-24)

# Epistemology of IVF and the Changing Meaning of Parenthood

**Rajni Jassal***

## ABSTRACT

This paper examines the epistemological and sociological implications of In Vitro Fertilization (IVF) as a transformative technology that reshapes the meaning of parenthood, kinship, and the human body. IVF, as a cornerstone of Assisted Reproductive Technologies (ART), not only revolutionizes biological reproduction but also challenges long-held cultural, ethical, and philosophical understandings of family and identity. Drawing upon the theoretical insights of Michel Foucault, Anthony Giddens, and Donna Haraway, this paper situates IVF within broader debates on biopower, reflexive modernity, and feminist epistemology. It argues that IVF exemplifies a shift from "natural" to "technological" reproduction—one that reconfigures how societies know, regulate, and experience parenthood. The study adopts a qualitative, interpretive framework grounded in content analysis of scholarly works, policy documents, and sociological theory. The analysis reveals that IVF operates as both a site of empowerment and control, offering new forms of agency while deepening structural inequalities. In the Indian context, IVF reflects tensions between modernity and morality, gender and technology, and science and ethics. The paper concludes that IVF represents not merely a medical technique, but a new epistemic paradigm that transforms what it means to be human, to

* Assistant Professor, Department of Sociology, CDOE, Panjab University, Chandigarh.

reproduce, and to parent in the 21st century, normalising and rationalising family formation via IVF.

**Keywords:** IVF, epistemology, parenthood, family and woman.

## Introduction

Epistemology encompasses various aspects, including what knowledge is, how it is acquired, and under what conditions it is known. Epistemology deals with foundational issues in knowing, including who knows, under what conditions, using what criteria, with what challenges and counter-claims, and whether certain or absolute knowledge of the social world can be gained. A concern with epistemology has significantly impacted the sociological agenda in recent decades, stimulating the exploration of the relationship between epistemology and sociological research, as well as the development of social epistemology (Stanley, L., 2018). In consequence, sociological work concerned with epistemology has developed around practical concerns, with key areas concerning: the craft and claims of sociology; constructions of reality in different historical and present-day contexts; epistemologies of the infertility, IVF and other "Other" epistemologies; and the production of scientific knowledges.

The emergence of In Vitro Fertilization (IVF) in the late twentieth century signifies one of the most profound changes in human reproduction, family structure, and social imagination. The first successful IVF birth in 1978 (Louise Brown, UK) symbolized the beginning of a new reproductive era—one in which science, rather than nature or divine will, could orchestrate life itself. The phrase "test-tube baby," though scientifically simplistic, became a metaphor for a world where biological reproduction was mediated through technological expertise. The failure is also a part of treatment; couples who fail to achieve pregnancy after the treatment suffer emotional and psychological reactions, which both undergo further, and they devote themselves to psychological well-being to overcome the short-term impacts.

Sociologically, IVF marks a transformation in the *epistemology of reproduction*—the ways in which knowledge about fertility, life, and kinship are constructed, validated, and controlled. Michel Foucault's (1978) notion of *biopower* provides an analytical entry point: IVF exemplifies the modern state's capacity to govern life through medical and scientific institutions. Anthony Giddens (1992) situates IVF within the conditions of *reflexive modernity*, where individuals continuously reconstruct their identities and life projects through knowledge. Donna Haraway (1991), through her "cyborg feminism," challenges the binary of nature and technology, offering a feminist epistemology to understand the hybrid condition of reproductive modernity.

In this context, IVF is not merely a medical technology but a cultural text—a site where science, gender, and family institution intersect. It calls for a deep epistemological inquiry into how new reproductive knowledges are produced and whose realities they serve.

## Objectives of the Study

1. To analyze the epistemological foundations of IVF within sociological and feminist theoretical frameworks.
2. To examine how IVF redefines the meanings of parenthood and kinship in modern societies.
3. To contextualize the transformation of parenthood through IVF within the Indian socio-cultural landscape.

## Methodology

This paper adopts a qualitative and interpretive methodology, combining content analysis with conceptual sociology. It synthesizes key ideas from Foucault, Giddens, Haraway, and other critical theorists to build an epistemological framework. The analysis draws upon:

- Theoretical literature: canonical and contemporary sociological writings on biopower, modernity, and gender.
- Policy documents: particularly India's *Assisted Reproductive Technology (Regulation) Act, 2021* and *Surrogacy (Regulation) Act, 2021*.

The paper employs *thematic interpretation*, emphasizing how IVF transforms not only social structures but epistemic assumptions about reproduction and family. The methodology is hermeneutic in spirit—concerned with meaning-making and knowledge construction rather than numerical generalization.

## Epistemology and Reproductive Knowledge

Epistemology concerns the nature, scope, and limits of knowledge. In the realm of reproduction, it interrogates who produces reproductive knowledge, how it is legitimized, and what social consequences it entails. Traditionally, reproduction was governed by natural, religious, and familial epistemes—modes of knowing that placed procreation within divine or moral order. The rise of reproductive science, however, displaced this authority, installing the *clinic* and the *laboratory* as new sites of truth.

Foucault's (1978) analysis of *biopower*—the management of life and population through medicalized knowledge—helps us understand IVF as an

epistemic apparatus. The power of doctors, embryologists, and biotechnologists lies not only in treating infertility but in defining what constitutes a legitimate life. IVF thus creates a new *regime of truth* around reproduction, where life is quantified, monitored, and optimized.

At the same time, this scientific epistemology obscures the social dimensions of reproduction—emotion, care, identity, and morality. Haraway (1991) critiques such objectivity, arguing that all knowledge is *situated*—produced from particular bodies, locations, and power relations. The epistemology of IVF, therefore, is not neutral; it reflects the social hierarchies and cultural narratives that underlie its practice.

## IVF as Technological and Social Practice

Technically, IVF involves fertilizing an ovum outside the body and implanting the embryo into the uterus. Yet sociologically, IVF functions as a *social practice* that reconfigures kinship and gender. Sarah Franklin (2013) describes IVF as a process that not only creates embryos but "biological relatives," reshaping the cultural logic of kinship itself.

IVF clinics are institutional spaces of *reproductive governance* (Morgan & Roberts, 2012)—where medical expertise, commercial transactions, and moral discourses converge. The process of IVF involves layers of emotional labour, gendered expectation, and technological mediation. Women, in particular, experience the double burden of biological pressure and medical surveillance. The "success rate" of IVF becomes a metric of both technological prowess and feminine worth.

In many societies, including India, IVF transforms reproduction from a private act to a public performance of modernity. Couples undergoing IVF participate in what Giddens (1991) calls *reflexive projects of the self*—they plan, monitor, and rationalize reproduction as a life decision, symbolizing control and progress.

The demand for IVF treatments in India has been surging, as the starting costs for IVF treatments in India are at least US $1,200 (approximately Rs. 1 lakh), which remain out of reach for many families (Sunder, 2024). For couples who do seek medical attention, expenses might rise from the cost of treatments as well as from additional costs (e.g., travel expenses), including lost wages due to missed work (Katz et al., 2011). The lack of government-run IVF clinics deprives many of the opportunity for parenthood, while the absence of diagnostic facilities and basic infertility investigations in primary health centres (PHCs) further limits access to essential fertility care (ET Health World, 2024). The high cost of in vitro fertilization (IVF), lack of state-funded fertility centres,

and absence of assisted reproductive technology (ART) coverage under national health schemes make infertility care inaccessible for many, pushing families into financial distress.

## The Changing Meaning of Parenthood

Horton and Hunt (2010) stated that every society depends upon married couples/families for producing children through socialization. The requirement and importance of biological children have travelled from ancient times to the present. Thus, IVF via ART has redefined the reproductive function of the family. It normalizes the donor eggs and sperm, donor embryos, a gestational carrier (surrogate), and pre-implantation genetic testing (PGT), intracytoplasmic sperm injection (ICSI) for male factor infertility and uses of fresh or frozen eggs, sperm, or embryos. In Indian society, the onus is largely on the woman's womb. The baby must come out of the womb of the mother only. A lady with a baby bump has an appearance and place in society. Backstage doesn't matter (donor eggs and sperm).

The meaning of parenthood in the age of IVF is both pluralized and destabilized. Traditional parenthood was a biological, marital, and social unity. IVF fragments this unity into *genetic*, *gestational*, and *social* dimensions—creating new categories such as sperm donors, egg donors, surrogate mothers, and intended parents. Marilyn Strathern (1992) notes that reproductive technology dissolves the natural links between kinship and biology, requiring new forms of social negotiation.

Giddens (1992) interprets this transformation as part of the "democratization of intimacy," where personal life becomes reflexive, negotiated, and open to change. Parenthood becomes a conscious choice—a technological project of identity rather than a biological inevitability.

This redefinition, however, is not universally emancipatory. In patriarchal and pronatalist cultures like India, IVF often reinforces the social expectation that women must bear biological children. The "failure" of IVF is frequently read as the woman's failure, not the system's limitation. Hence, the epistemology of IVF embodies both modern freedom and ancient constraint.

## Feminist Epistemologies and the Question of Agency

Feminist epistemology offers a powerful critique of reproductive technologies. Haraway's (1991) concept of the *cyborg*—a hybrid of organism and machine—symbolizes women's position in the technological reproduction process. Through IVF, women become both subjects and objects of science: empowered to reproduce yet instrumentalized as biological machines.

Feminist theorists distinguish between *technological empowerment* and *technological colonization*. On one hand, IVF grants reproductive autonomy to women who were previously excluded by infertility, age, or social norms. On the other, it subjects women's bodies to invasive procedures, hormonal control, and commercial exploitation. In global surrogacy markets, the female body becomes a site of labour extraction—what Sharmila Rudrappa (2015) terms the "outsourcing of motherhood."

From a feminist epistemological lens, knowledge production in IVF is male-dominated and institutionally biased. The clinic, as an epistemic authority, constructs women as patients or donors rather than co-creators of life. Feminist scholars argue for an *embodied epistemology*—one that recognizes women's experiential knowledge as legitimate scientific and ethical input.

## Power, Knowledge and Biopolitics: A Foucauldian Analysis

Foucault's notion of *biopolitics* illuminates how power operates through reproductive governance. IVF represents a microcosm of biopower—managing fertility, regulating sexuality, and controlling population under the guise of health and science. The "success rate" discourse exemplifies the quantification of life; embryos become statistical data, bodies become productive sites.

Yet, power in Foucault's view is not purely repressive; it is also productive. IVF generates new possibilities—nontraditional families, same-sex parenting, and cross-border reproductive cooperation. At the same time, these developments invite new forms of surveillance, normalization, and exclusion. Regulatory mechanisms like India's ART Act embody what Foucault calls "disciplinary power"—ensuring social conformity through bureaucratic control.

Biopolitically, IVF blurs the line between the biological and the political. The capacity to create life becomes entangled with the capacity to govern it.

## IVF, Parenthood, Biological Child and the Indian Context

In India, IVF occupies a unique socio-cultural space. It embodies *scientific modernity* while reinforcing traditional family values. The cultural obsession with motherhood, lineage (*vansh*), and patrilineal inheritance drives demand for IVF, especially among the urban middle class. In Indian philosophy, a child is viewed not only as a biological being but also as a spiritual entity that bridges the earthly and heavenly domains. The *sisu* symbolizes hope, regeneration, and the cyclical essence of existence, containing both karma (action) and dharma (duty) (Buhler, 1886). Children were regarded as carriers of lineage (*kuladhara*), especially valued as they were believed to carry forward the gotra (clan identity) and were essential for completing familial and societal

obligations. Children of the own family were particularly esteemed for conducting shraddha ceremonies to facilitate the release (moksha) of their ancestors (Muller, 1886; Prabhu, 1991). Indian mythology gives significant importance to marriage and having a child, to achieve moksha (salvation) (Prabhu, 1991). Death is the supreme penalty, whereas pregnancy represents the paramount reward for overcoming this punishment, so the anticipation of parenthood is associated with immortality. Almost every infertile couple chases the blood tie, which denotes the desire of infertile couples to have a child who is biologically related to them, despite the availability of alternative paths to parenthood. This pursuit is driven by deep-seated personal, cultural, and social factors (Ragone, 2000; Schneider, 2014).

Leela Dube highlights that across northern, central, and eastern India, human reproduction is culturally framed through the seed (male) and earth (female) metaphor, emphasizing fertility as both a biological process and a social necessity. Childbirth plays a crucial role in lineage, inheritance, kinship, and social status, shaping familial and societal structures (Dube, 1956; Fruzzetti et al., 1984; Madan, 1989; Böck & Rao, 2000; Inden & Nicholas, 2005).

Bharadwaj (2016) documents how Indian couples perceive IVF as both a moral duty and a spiritual journey, often combined with religious rituals. Simultaneously, India's fertility industry thrives on economic disparities. Poor women participate as surrogates or egg donors, turning reproduction into labour. Tiwari (2020) describes this as "bio-economy"—where the female body becomes a site of economic exchange.

Caste, class, and gender profoundly shape IVF experiences. Access to technology is stratified, and the moral discourse around it remains conservative. While IVF promises liberation from infertility, it often reproduces social hierarchies under the guise of medical progress.

## Policy and Ethical Implications

The Assisted Reproductive Technology (Regulation) Act, 2021 and the Surrogacy (Regulation) Act, 2021, represent significant steps in India's attempt to regulate reproductive technologies. They aim to ensure transparency, protect women from exploitation, and uphold ethical standards.

However, these laws reflect a *heteronormative and patriarchal bias*. By restricting access to married heterosexual couples, they exclude single, queer, and trans individuals—reproducing what Foucault might term "normalizing power." Such frameworks reveal the moral politics embedded in the regulation of life itself.

Ethically, IVF raises questions about the commodification of life, embryo

disposal, genetic manipulation, and reproductive rights. Habermas (2003) warns that biotechnological interventions risk reducing life to an object of human design, undermining moral autonomy. Sociologically, these ethical debates underscore the need for a more comprehensive, inclusive understanding of family and reproduction that transcends biological determinism.

## Parenthood, Identity, and Social Legitimacy

Parenthood through IVF entails navigating complex terrains of identity and legitimacy. In societies where biological lineage underpins social status, assisted conception often requires secrecy or selective disclosure. The donor, surrogate, and clinic challenge the symbolic unity of parenthood.

At the same time, IVF allows for new forms of kinship—same-sex parenting, single motherhood, and trans parenthood. These configurations expand the moral and epistemic horizons of family, demanding sociological redefinition. Parenthood thus becomes an *ethical project*—a negotiated practice of care, responsibility, and belonging, rather than merely a biological connection.

## Conclusion

Epistemologically, IVF is more than a scientific technique—it is a *new way of knowing and governing life*. It shifts reproduction from the natural to the technological, from the private to the institutional, and from the moral to the managerial. In the Indian context, IVF reveals the contradictions of modernity—celebrating progress while reinforcing patriarchy and inequality.

Epistemologically, IVF redefine the definition of family formation, and it normalises and rationalises the child-bearing biological child. In the Indian context, evidently, a biological child has more priority, and IVF promisingly fulfils this in the guise of Indian families' socialisation. However, it is the females who bear the brunt. In the context of sociology of emotions, emotions are social (most of the time). In a similar way, infertility (a disease as per WHO) treatment via IVF may cause a woman to experience *feelings rules*. According to Hochschild (1975), feeling rules are socially constructed norms that govern the appropriate feelings and displays of emotion. The IVF client (particularly a woman) is aware of the pressure to conform to unspoken feeling rules. In many cases, some research studies show that she might disagree with IVF treatment, but has to undergo it because of the *copresence* of her family in the clinic.

Drawing on Foucault's *biopower*, Giddens' *reflexive modernity*, and Haraway's *feminist epistemology*, this study demonstrates that IVF constitutes

a site of negotiation between power and agency, science and morality, gender and technology. It simultaneously liberates and disciplines, creating new freedoms while embedding new forms of control.

The epistemology of IVF thus demands a sociology of knowledge that integrates ethics, embodiment, and cultural specificity. There may be a difference between the technical, objective knowledge held by clinical experts and the subjective lived experiences of patients undergoing treatment. The confusion over medical test reports, unexpected results and a communication gap between patient and doctor highlights a gap in the transfer of knowledge. Parenthood today is no longer simply biological; it is a deeply social, moral, and epistemic construct—one that challenges us to rethink what it means to be human in the biotechnological age.

## REFERENCES

Bharadwaj, A. (2016) *Conceptions: Infertility and procreative technologies in India* (Vol. 34). Berghahn Books.

Böck, M. and Rao, A. eds. (2000) *Culture, creation, and procreation: concepts of kinship in South Asian practice*. Berghahn Books.

Buhler, G. (1886) *The sacred books of the east*. Motilal Banarsidass, Delhi.

Dube, L. (1986) *Seed and Earth*. Nehru Memorial Museum and Library. Available at: https://openlibrary.org/works/OL2322732W/Seed_and_earth

ET HealthWorld (2024) *Govt must make infertility a health priority, cover it under insurance: Top IVF chain founder*. Available at: https://health.economictimes.indiatimes.com/news/industry/govt-must-make-infertility-a-health-priority-cover-it-under-insurance-top-ivf-chain-founder/111987880 (Accessed: 6 June 2025).

Foucault, M. (1978) *The History of Sexuality, Volume 1: An Introduction*. New York: Pantheon Books.

Franklin, S. (2013) *Biological relatives: IVF, stem cells and the future of kinship* (p. 376). Duke University Press.

Fruzzetti, L.M. and Östör, Á. (1984) *Kinship and ritual in Bengal: anthropological essays.* New Delhi: South Asian Publishers. Available at: https://ehrafworldcultures.yale.edu/cultures/aw69/documents/008 (Accessed: August 23, 2025).

Giddens, A. (1991) *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford University Press. Available at: https://www.sup.org/books/sociology/modernity-and-self-identity (Accessed: November 1, 2025).

Giddens, A. (1992) *The Transformation of Intimacy: Sexuality, Love and Eroticism in Modern Societies*. Stanford University Press. Available at: https://www.sup.org/books/sociology/transformation-intimacy (Accessed: August 7, 2025).

Habermas, J. (2003) *The Future of Human Nature*. Polity Press. Available at: https://

monoskop.org/images/3/36/Habermas_J%C3%BCrgen_The_Future_of_Human_Nature_2003.pdf (Accessed: June 23, 2025).

Haraway, D. (1991). *Simians, Cyborgs, and Women: The Reinvention of Nature*. Routledge. Available at: https://www.routledge.com/Simians-Cyborgs-and-Women-The-Reinvention-of-Nature/Haraway/p/book/9780415903875 (Accessed: September 10, 2025).

Hochschild, A. R. (1975) *The Sociology of Feeling and Emotion*. In Marcia Millman and Rosabeth Moss Kanter, eds., Another Voice. Garden City, NJ: Doubleday.

Inden, R.B. and Nicholas, R.W. (2005) *Kinship in Bengali culture*. Orient Blackswan.

Katz, P., Showstack, J., Smith, J.F., Nachtigall, R.D., Millstein, S.G., Wing, H., Eisenberg, M.L., Pasch, L.A., Croughan, M.S. and Adler, N. (2011) Costs of infertility treatment: results from an 18-month prospective cohort study. *Fertility and sterility*, *95*(3), pp.915-921.

Madan, T. N. (1989) *Family and kinship: A study of the Pandits of rural Kashmir*. Oxford University Press.

Morgan, L. M. and Roberts, E. F. S. (2012) Reproductive governance in Latin America. *Anthropology & Medicine, 19*(2), 241–256.

Müller, F.M. (ed.) (1886) *The laws of Manu* (Vol. 25). Oxford: Clarendon Press.

Prabhu, P. H. (1991) *Hindu social organization: A study in socio-psychological and ideological foundations*. Popular Prakashan.

Ragone, H. (2000) Of likeness and difference: How race is being transfigured by gestational surrogacy. *New York: Routledge*, pp. 56-78.

Rudrappa, S. (2015) *Discounted life: The price of global surrogacy in India*. NYU press.

Schneider, D. M. (2014) *American kinship: A cultural account*. University of Chicago Press.

Stanley, L., 2018. Epistemology. *Core concepts in sociology*, pp.96-97. Available at: https://doi.org/10.1002/9781394260331.ch27 (Accessed: November 3, 2025).

Strathern, M. (1992) *Reproducing the Future: Essays on Anthropology, Kinship, and the New Reproductive Technologies*. Manchester University Press.

Sunder, K. (2024) 'Indian Couples are Struggling to Conceive: Why is the World's Most Populous Nation Facing this Challenge?' *South China Morning Post*. 20 March. Available at: https://www.scmp.com/week-asia/health-environment/article/3256105/indian-couples-are-struggling-conceive-why-worlds-most-populous-nation-facing-challenge (Accessed: 1 October 2025).

Tiwari, P. (2020) *Assisted Reproduction and the Indian Family: Ethics and Economy of Surrogacy*. Routledge India.