International Journal of Research in English 2025; 7(2): 478-482

International Journal of Research in English

Research in English

ISSN Print: 2664-8717 ISSN Online: 2664-8725 Impact Factor (RJIF): 8.36 IJRE 2025; 7(2): 478-482 www.englishjournal.net Received: 11-06-2025 Accepted: 13-07-2025

Ruchi Yadav

Department of English & Foreign Languages, Maharshi Dayanand University, Rohtak, Haryana, India

Motherhood beyond marriage-single mothers in Indian literature

Ruchi Yadav

DOI: https://doi.org/10.33545/26648717.2025.v7.i2g.507

Abstract

Motherhood in India has always been linked to marriage, as if it can not exist outside the institution of marriage. Yet, countless women have gathered courage to outlive this norm, raising children against the societal judgement. Literature is a very powerful tool. Indian literature has begun to give voice to these lives that rarely make it into mainstream discussions. This paper examines single mothers in five important works:

Anita Nair's 'Eating Wasps', Githa Hariharan's 'Lessons in Forgetting', Shashi Deshpande's 'The Dark Holds No Terrors', K. R. Meera's 'Hangwoman', and Baby Halder's memoir 'A Life Less Ordinary'.

These narratives do not glorify motherhood as sacrifice, the way it is often seen in cultural discourse. Instead, they bring out everyday struggles, finding work, dealing with family shame, holding on to dignity and the moments of strength, resistance and even rebellion. Drawing on feminist theorists such as Adrienne Rich, Judith Butler, Chandra Talpade Mohanty, and bell hooks, the study analyzes and acknowledges the challenges of Indian single mothers.

The aim is not only to read these women as characters, but also to see them as carriers of a different kind of truth, that motherhood does not have to be sanctioned by marriage, and that single mothers are neither incomplete nor marginal. Rather, they redefine what it means to mother, and in doing so, they force literature and society to rethink its categories of family and gender.

Keywords: Single motherhood, feminist literary analysis, stigma and resistance, motherhood as institution, intersectionality (India)

Introduction

Motherhood has always carried weight in Indian thought. From epics where mothers embody sacrifice, to nationalist movements where the "mother figure" stood for the nation itself, the idea has been wrapped in symbolism. Yet, behind these grand narratives lies a roaring silence. What about the women who mother outside marriage? Their stories are scattered, whispered, sometimes erased. It is through literature that many of these voices return, carrying truths that society often chooses not to hear.

In Indian cultural imagination, the mother is expected to be married, obedient, and endlessly giving. Anything outside this boundary is seen as a deviant behaviour. A divorced mother, a widow, or a woman who raises her children alone, is seen as incomplete. Such women are often reduced to stereotypes- selfish, fallen, or pitiable. When we look at the works of writers like Anita Nair, Githa Hariharan, Shashi Deshpande, K. R. Meera, and Baby Halder, a different picture emerges. One where single mothers are not simply victims of abandonment, but also agents of strength, survival, and resistance.

This research explores the representation of single mothers in five major texts: *Eating Wasps* by Anita Nair, *Lessons in Forgetting* by Githa Hariharan, *The Dark Holds No Terrors* by Shashi Deshpande, *Hangwoman* by K. R. Meera, and *A Life Less Ordinary* by Baby Halder. Each of these works places motherhood outside its "legitimate" space, showing how women live, work, and fight in contexts where society denies them respect. These texts are not isolated stories but part of a broader feminist conversation. Adrienne Rich's distinction between motherhood as experience and as institution, Judith Butler's theory of gender performativity and Chandra Mohanty's critique of universal womanhood all provide important lenses to view these narratives.

Corresponding Author: Ruchi Yadav

Department of English & Foreign Languages, Maharshi Dayanand University, Rohtak, Haryana, India At the same time, the study is grounded in India's own social realities: caste, class and community pressures. Baby Halder's account of labor and survival is very different from the struggles of an educated urban woman like Deshpande's Sarita, yet both reflect the burden of being judged as mothers outside marriage. This contrast helps us view single motherhood not as a single category but even further bifurcated by history, economy and identity.

The significance of this research lies in rethinking the cultural beliefs that bind motherhood to marriage. By turning to literature, we not only discover the pain and stigma that single mothers endure but also their resilience and their power to resist. These texts break the stereotypes and remind us that motherhood, in its many forms, belongs to women and not to the institutions that try to control them.

Literature Review

The study of motherhood in India has never been simple. Scholars have long debated whether the figure of the mother is a source of empowerment or a tool of control. Adrienne Rich, writes from a global feminist perspective, stating that there is "motherhood as experience" and "motherhood as institution." While the former belongs to women themselves, the latter belongs to patriarchy. Many Indian writers and critics have shown how this institution limits women, binding them to marriage, self-sacrifice and obedience. But when single mothers appear in literature, they disturb this notion, forcing both readers and critics to rethink what motherhood can mean.

Indian feminist scholarship has engaged with this tension in different ways. Rajeswari Sunder Rajan, in 'Real and Imagined Women', discusses how cultural texts imagine women within rigid frameworks of respectability, often silencing those who step outside. Nivedita Menon in 'Seeing Like a Feminist' challenges the idea of a "natural" family unit, arguing that institutions such as marriage are deeply political. Similarly, Sharmila Rege's work on Dalit feminism reveals how caste complicates motherhood, showing that a poor or lower-caste single mother faces double marginalization. She is doubly oppressed. These studies, provide frameworks to understand how literature destabilizes the conventional roles.

Globally too, feminist critics have pushed against the narrow visions of motherhood. Judith Butler's ideas of gender performativity help explain how the role of the "good mother" is repeatedly performed rather enforced. Anyone who tries to rebel is reprimanded. Chandra Talpade Mohanty warns against universalizing these experiences, pointing out that motherhood in India cannot be understood in the same way as in the West because it is shaped by class, caste, and postcolonial realities. These theorists, together, give us lenses to read Indian texts with better understanding Many scholars have studied women writers like Shashi Deshpande, Anita Nair and Githa Hariharan for their portrayal of women who resist patriarchal expectations. For instance, critics note that Deshpande's women often confront silence and guilt when they step out of oppressive marriages. Hariharan's work is known for its focus on memory and forgetting as feminist strategies. Nair's novels, particularly Eating Wasps, have attracted commentary for their bold depiction of female desire and agency. Meanwhile, Baby Halder's memoir is seen as a landmark in life-writing, giving visibility to voices of domestic workers and women outside the elite class.

Single motherhood has rarely been studied as a category of its own. Instead, it appears in fragments- discussions of widowhood, divorce and abandonment. This paper brings these strands together posing a question- what happens when single mothers step into the center of literary analysis? When we look at the existing body of research, one thing becomes clear: motherhood has been discussed often, but single motherhood has not received the same focused attention in Indian literary studies. Scholars have examined motherhood in myth, in nationalist discourse, in uppercaste families and even in feminist critiques of patriarchy. Yet, the figure of the single mother- widowed, divorced, abandoned or simply choosing to raise a child alone remains scattered. It has never been a topic of discussion on its own. For instance, criticism on Shashi Deshpande, highlights the silences and frustrations of middle class women, but rarely the theme of single motherhood is deeply explored. Anita Nair's women have been praised for their frank engagement with sexuality and identity, but her exploration of single mothers is still under analyzed. Even Baby Halder's memoir is read more as testimony of class and labor than as a narrative of single motherhood.

This uneven focus creates a research gap. There is rich commentary on women in Indian English writing, but the exploration of single mothers as a distinct category remain marginalized. It is not enough to study them as by products of failed marriages or tragic accidents of widowhood. Their stories demand to be read in their own right.

By focusing on the chosen texts, this study brings together diverse forms of single motherhood- the professional urban woman, the deserted wife, the Dalit domestic worker and even the inherited burden of a role, in K. R. Meera's 'Hangwoman'. Reading them side by side, voices the silent struggles that are often left out of academic focus.

This research, therefore, aims to bring single mothers from the margins to the center. By doing so, it not only fills a gap in Indian literary criticism but also adds to global feminist conversations that continue to rethink family, gender and survival.

Methodology

The research methodology for this paper is rooted in close, attentive and empathetic reading. The five texts were particularly chosen for study because each of them, in different ways, places single mothers at the center of its narrative. Together, they cover a wide range of experiences-Anita Nair's bold exploration of women's desires, Githa Hariharan's questioning of memory and gender, Shashi Deshpande's portrayal of silence in middle class homes, K. R. Meera's sharp critique of inherited legacies and Baby Halder's raw, unfiltered memoir of survival.

The approach is feminist literary analysis, informed by intersectional and postcolonial frameworks. Feminist criticism allows us to see how literature challenges patriarchal norms, while intersectionality reminds us that class, caste and community cannot be separated from gender. For example, Halder's story cannot be read only as a narrative of womanhood, her position as a working-class Dalit woman makes her motherhood radically different from that of Deshpande's Sarita. Judith Butler's notion of gender performativity helps us think about how "good motherhood" is performed and policed by the society, while Adrienne Rich's distinction between motherhood as experience and as institution provides a crucial entry point into reading these texts.

The method also involves comparative reading. Instead of treating each text as a reserved space, the analysis places them in conversation with one another. What does Halder's lived testimony reveal about the silences in Deshpande's fiction? How does Hariharan's narrative of social hypocrisy echo against Nair's portrayal of female desire? Such comparisons allow us to engage with texts deeply.

Finally, this research treats literature as testimony. These works are not only fictional or autobiographical but also cultural records. They give shape to lives often ignored in history. Reading them as testimonies means listening to the voices they contain, without smoothing over their contradictions. The lives of single mothers are messy, fragmented, full of doubt and the methodology reflects this by allowing space for complexity as in their lives.

The method here is feminist, intersectional, comparative and attentive. It is built on the belief that literature does not just mirror reality but it also reshapes it, creating new ways of thinking about motherhood beyond marriage.

Themes

1. Stigma and Social Judgment

For single mothers in India, stigma often arrives before sympathy. The community, relatives, sometimes even their own family, everyone becomes a silent judge. In 'The Dark Holds No Terrors', Shashi Deshpande's Sarita is haunted less by her abusive husband than by the way society sees her when she steps outside marriage. Her return to her parental home is loaded with guilt, shame and the sense that a woman without a husband is a woman without any worth.

Anita Nair's 'Eating Wasps' takes this further. A single mother here is not celebrated for her resilience, rather she is doubted and questioned. Hariharan in 'Lessons in Forgetting' presents Meera, a woman whose husband abandons her. Instead of pity or support, she faces suspicion from everyone around her.

Stigma is a cultural weapon. It ensures that women stay within marriage, even if the marriage is violent or loveless. K. R. Meera's 'Hangwoman' makes this visible in a symbolic way, the protagonist is forced to carry an inherited role that she does not want, simply because the society cannot imagine her stepping out of it. Single mothers are trapped in the roles defined for them, made by the so called guardians of culture and society.

Baby Halder's 'A Life Less Ordinary' depicts stigma in its everyday cruelty. As a domestic worker abandoned by her husband, she experiences the blunt edge of judgment. Neighbors, employers, even distant relatives, all assume the right to question her choices. Her text is testimony that stigma is lived everyday.

It shows how the society controls women through shame. These texts break silence and expose the fragile foundation of patriarchal respectability.

2. Silence, Memory and Trauma

Many single mothers in Indian literature do not speak easily or they are not allowed to. The everyday atrocities silence the chirpy, emotional beings. Their stories often unfold through memory and fragmented recollections. Shashi Deshpande's 'The Dark Holds No Terrors' is the most striking here. Sarita does not scream or make fiery speeches. Her resistance comes through half-broken sentences, hesitant returns to her childhood and a silence that speaks louder than words. Trauma leaves her voiceless, but that voicelessness itself becomes a form of critique.

Githa Hariharan's 'Lessons in Forgetting' treats memory almost like a battlefield. Meera, left to raise her daughter on her own, struggles with forgetting her husband's betrayal and society's blame. Forgetting here is not weakness, it is a way devised for survival. The act of remembering does not let the wounds heal. Hariharan suggests that for single mothers, memory is never neutral, it is heavy, charged and often violent.

Anita Nair, in 'Eating Wasps', shows how silence and trauma pass across generations. The women in her novel are haunted by their pasts, by secrets that cannot be spoken aloud. Their silence is not simple repression, it is again a survival tactic. To speak might mean to break completely, so they hold back, even as the narrative itself reveals what they cannot.

K. R. Meera's 'Hangwoman' adds another dimension. Here, silence is not chosen, it is imposed. The protagonist is trapped by history, by the memory of inherited roles. Her trauma is not only personal but collective, stretching back across generations. The silence she carries is thus both individual and cultural, a reminder that single motherhood too is tied to histories larger than the self.

Baby Halder. 'A Life Less Ordinary' is a significant work because it breaks the silence. A woman who had no formal education writes her own life, refusing the erasure imposed by class, gender and abandonment. Her memoir is raw, where other texts circle around memory and silence, Halder writes directly- an act of defiance against a world that expected her to remain voiceless.

Together, these works show that silence is not absence. It is charged, full of meaning, often heavier than speech. Memory, too, is not passive, it wounds, resists, and keeps stories alive.

3. Agency, Desire, and Resistance

Single mothers in Indian literature are not always drawn only in terms of loss or stigma. They also carve out spaces of agency, sometimes quietly, sometimes defiantly. This agency does not mean a complete escape from patriarchy, but an ability to negotiate, to resist and to desire. Very often, single mothers are denied the right to want anything beyond their children's welfare. Literature disrupts this denial.

In Anita Nair's 'Eating Wasps', women step beyond silence to assert their right to sexuality, to choices that society refuses to grant them. Desire becomes political in this text. A single mother's longing for love, touch or simply freedom is not weakness, it is survival. To speak of desire is itself resistance because it tears down the myth that a mother must erase herself completely.

Hariharan's 'Lessons in Forgetting' hints a subtle form of resistance. Meera is not militant. She is weary, scarred by betrayal and yet she chooses to keep going. Her refusal to collapse, to give up on herself, is a quiet resistance. It may not look heroic, but it unsettles the expectation that abandoned women must drown in shame.

Deshpande's Sarita, too, discovers fragments of agency. Her journey is not about dramatic rebellion but about recognizing the weight of her silence. She refuses to accept guilt as her natural state. Even if fragile, that refusal matters. K. R. Meera's 'Hangwoman' showcases a sharper form of resistance. The protagonist is forced into a role that carries generational burden. Yet she refuses to perform it passively. Her agency emerges in the very act of questioning inheritance and exposing the cruelty of roles thrust upon women. Resistance here is fierce, but also tragic, reminding us that choice often comes at great cost.

And then there is Baby Halder. Her memoir itself is resistance. A domestic worker abandoned by her husband writes her story in her own words, refusing erasure. The act of writing, despite odds, despite lack of formal education, is agency in its rawest form. Her narrative insists that single mothers, even those at the margins of society, claim the right to speak, to desire of a better life and resist invisibility. These works together remind us that agency is not always loud, nor desire always romantic. Sometimes agency is in refusing shame. Sometimes it is in writing one's story. Sometimes it is in seeking love and someday even in surviving. By foregrounding these acts, literature shifts the way single mothers are seen, not as broken women but as individuals who resist erasure and demand recognition.

4. Intersection of Class, Caste, and Motherhood

Motherhood is never experienced in the same way by all women. Class and caste cut through it, shaping who is judged, who is pitied and who is erased altogether. Literature brings out these differences clearly. A single mother from an educated middle class background carries one kind of stigma, while a working class or Dalit single mother carries an even heavier and harsher tone of stigma. Baby Halder's 'A Life Less Ordinary' is the most striking example. Abandoned by her husband, she works as a domestic servant, raising her children in the margins of society. Her motherhood is tied to physical labor, cooking, cleaning and enduring the arrogance of employers. She does not have the luxury to sit and philosophize about "maternal sacrifice." For her, survival itself is a struggle. Her memoir reinforces the intersection of class and gender, showing how being a single mother at the bottom of the social ladder means endless toil, no dignity and constant scrutiny.

In contrast, Shashi Deshpande's Sarita in 'The Dark Holds No Terrors' represents a more urban, middle-class experience. Her struggles are internal, emotional, tied to silence and guilt. While she faces stigma, she also has access to education and professional life. This difference reminds us that single motherhood cannot be studied as a single, unified experience.

Caste complicates this even further. Though not always directly addressed in every text, the shadow of caste hovers. In Meera's 'Hangwoman', the inherited profession of executioner reflects how caste-based roles weigh on women, restricting her choices. In Halder's narrative too, caste is present in the background, shaping how she is treated as both worker and mother.

Anita Nair and Githa Hariharan, writing mostly of middleclass lives, show a different face of single motherhoodmarked by emotional battles rather than raw economic survival. Yet even here, class difference matters. Hariharan's Meera, left to raise her daughter, still moves in circle of privileges where hunger is not her enemy but constant gossip and taunts are.

What ties these differences together is the reminder that motherhood in India cannot be studied in isolation from class and caste. For single mothers, these factors multiply the challenges. Literature forces us to confront the layered nature of stigma and resilience. It insists that a single mother is never just a mother; she is also a worker, a caste subject, a member of a community and each of these shapes her life.

5. Redefining Motherhood

At the heart of these texts lies the deepest message redefinition of motherhood itself.

For centuries, Indian culture has tied the figure of the

mother to the institution of marriage. A "good mother" was first a "good wife". It is literature that has cracked open this rigid framework, allowing us to see motherhood beyond the narrow boundary of marriage.

In 'The Dark Holds No Terrors', Sarita's return to her parents' home shows how suffocating the traditional script of wifehood can be. Her role as a mother does not vanish because her marriage breaks. Instead, her relationship with her child becomes a site of negotiation, guilt and eventually realizing that being a mother does not depend on being a wife.

In Githa Hariharan's 'Lessons in Forgetting', Meera reclaims herself slowly, without the support of her husband. Her mothering exists even outside marriage, reminding us that the bond between mother and child can survive abandonment, betrayal, gossip and even abuse. The text reinforces that motherhood is an act of resilience and not merely an extension of marital duty.

Anita Nair's 'Eating Wasps' disrupts the idea that mothers must be selfless, erasing their desires. The single mothers in her narrative show that wanting more from life, from love is not unconventional. Nair thus redefines motherhood as a space where women are allowed to remain women and not just sacrificial figures.

In K. R. Meera's 'Hangwoman', the very possibility of motherhood is shaped by history and inheritance. The protagonist's struggle to carry or reject the burden of her role becomes a metaphor for how motherhood itself is burdened by social expectations. By questioning this inheritance, Meera forces us to ask that who decides what kind of mother a woman must be?

Baby Halder's memoir 'A Life Less Ordinary' may be termed as the boldest redefinition of all. She writes her own story, refusing silence. She shows that a mother abandoned by her husband, working as a maid, raising children on little money, is no less a mother. In fact, her survival, her writing, her insistence on telling her truth, all expand the meaning of what motherhood can be.

Together, these texts convey something simple but powerful: motherhood is not owned by marriage. It does not need a husband's presence to be legitimate. It is shaped by resilience, desire, memory, class, caste, survival and above all, by women themselves. This redefinition is not abstract theory. It is lived, written, narrated and carried in the everyday struggles of single mothers across India and even globally.

Discussion

The five texts studied here, though very different in style and setting, converge on one urgent truth- motherhood in India cannot be understood only through the lens of marriage. Each narrative pulls apart this assumption, showing how single mothers, whether abandoned, widowed, divorced or choosing their own path, carry stories that complicate the cultural script of "the good mother."

The themes reveal two parallel realities. On one side lies stigma and silence, the heavy weight of judgment. On the other side lies resilience, desire and redefinition. Literature holds both together, refusing to simplify. It does not romanticize single motherhood, but neither does it allow patriarchy to erase it. This tension is what makes these texts so valuable.

From a theoretical perspective, Adrienne Rich's distinction between motherhood as institution and as experience becomes strikingly relevant. The institution demands that a mother should be tied to a husband, family and patriarchal legitimacy. The experience, however, is shown in these narratives as deeply personal, shaped by memory, class, caste and survival. These works privilege personal experiences over theories and societal norms.

Judith Butler's concept of gender performativity also helps make sense of how stigma works. The "good mother" is a role repeatedly performed, policed by community and family. When a woman refuses to perform this role, when she mothers outside marriage, society reacts with rejection. Literature captures this reaction, but also destabilizes it. By writing single mothers into stories, these authors expose the true experiences of single mothers.

At the same time, Indian feminist thinkers remind us to situate these narratives within societal realities. Sharmila Rege's Dalit feminist standpoint helps us see why Baby Halder's memoir is so crucial. It adds class and caste to the conversation, showing how single motherhood is not one but many. A domestic worker's motherhood is not the same as a middle class worker

From Sarita's suffocating silence to Halder's raw defiance, from Meera's weary endurance to Nair's unapologetic assertion of desire, each text redefines what it means to be a mother outside marriage. Together, they remind us that motherhood is not a rigid concept. It is fluid and constantly being rewritten.

More importantly, these works show that literature itself becomes a form of resistance. By telling these stories, by giving single mothers narrative space, writers challenge the silence imposed by society. In doing so, they force readers, critics and policymakers to rethink the boundaries of family, care and legitimacy.

Conclusion

Motherhood in India has often been imagined as a sacred bond, but only when sanctioned by marriage. The texts explored here, by Nair, Hariharan, Deshpande, Meera and Halder push against that narrow vision. They tell us that a woman does not stop being a mother just because her husband leaves her or because the society disapproves or because she chooses to live differently on her own terms.

Across these works, single mothers are shown not as incomplete figures but as women who live, struggle, desire and resist. Some do it quietly, in silences and small refusals while others speak boldly, writing their own lives or asserting their right to love and dignity. Together, they redefine motherhood as something far richer than only an institution tied to patriarchy.

The significance of this redefinition is two fold. First, it allows Indian literature to give voice to women who have long been silenced. Second, it connects Indian feminist thought with global debates, showing that while motherhood is shaped by societal realities of caste, class and culture, it also belongs to a larger conversation about women reclaiming their lives.

Motherhood beyond marriage is not a marginal category. It is central to understanding how women negotiate identity, power and survival. By paying attention to these narratives, we expand the very meaning of family, care and legitimacy. In the end, these stories remind us that literature does not only reflect reality, it reshapes it. And by reshaping motherhood, it opens up possibilities for women to live and mother on their own terms.

References

- 1. Deshpande S. The Dark Holds No Terrors. New York: Penguin; c1990.
- 2. Halder B. A Life Less Ordinary: A Memoir. Butalia U, translator. New York: Zubaan; c2006.
- 3. Hariharan G. Lessons in Forgetting. New Delhi: HarperCollins; c2010.
- 4. Meera KR. Hangwoman: Everyone Loves a Good Hanging. Devika J, translator. New York: Penguin; c2014.
- 5. Nair A. Eating Wasps. Context/Westland; c2018.
- 6. Butler J. Gender Trouble: Feminism and the Subversion of Identity. New York: Routledge; c1990.
- 7. Crenshaw K. Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color. Stanford Law Rev. 1991;43(6):1241-1299.
- 8. Hooks B, Ain't IA. Woman: Black Women and Feminism. Boston: South End Press; c1981.
- 9. Menon N. Seeing Like a Feminist. New York: Zubaan; c2012.
- 10. Mohanty CT. Under Western Eyes: Feminist Scholarship and Colonial Discourses. Boundary 2. 1984;12/13(3/1):333-58.
- Nandy A. Motherhood and Choice: Uncommon Mothers, Childfree Women. Samaj [Internet]. OpenEdition; c2022. https://journals.openedition.org/samaj/ [Accessed date is needed].
- 12. Rich A. Of Woman Born: Motherhood as Experience and Institution. New York: W. W. Norton; c1976.
- 13. Rege S. Writing Caste/Writing Gender: Narrating Dalit Women's Testimonios. New York: Zubaan; c2006.
- 14. Seymour S. Family Structure, Marriage, Caste and Class, and Women's Education: Exploring the Linkages in an Indian Town. SAGE Publ; c1995.
- 15. Dharani MK, Balamurugan J. The Psychosocial Impact on Single Mothers' Well-Being—A Literature Review. J Educ Health Promot. 2024;13:148.
- 16. Reimagining Singlehood in Urban India Through Intersectional Narratives and Support Systems: An Ethnographic Study. PMC [Internet]. [Date of publication/posting is needed]. Available from: URL is needed [Accessed date is needed].
- 17. Karmakar I. Maternal Fictions: Writing the Mother in Indian Women's Fiction. New York: Routledge; c2022.
- 18. Liu X. Review of Maternal Fictions by Indrani Karmakar. Contemp Women's Writing. 2024;18(2):156-158.
- Pawar U. The Weave of My Life: A Dalit Woman's Memoirs. New York: Columbia University Press; c2009
- 20. Dugaje M. Mothers Mummified: A Study of the Novels of Anita Desai and Bharati Mukherjee. ResearchGate [Internet]. 2020.