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It is a great honour to me to extend my warm greetings and welcome you all to the journal, **Research Highlights,** a refereed journal of multi disciplinary research. The journal, which is a peer-reviewed, will devote to the promotion of multi-disciplinary research and explorations to the South Asian and global community. It is our objective to provide a platform for the publication of new scholarly articles in the rapidly growing field of various disciplines. We are trying to encourage new research scholars and post graduate students by publishing their papers so that they may learn and participate in literary publishing through a professional internship. Scholarly and unpublished research articles, essays and interviews are invited from scholars, faculty researchers, writers, professors from all over the world.

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Hoping all of you shall enjoy our endeavors and those of our contributors.

Editor



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Indigo Cultivation and Agrarian Exploitation in Colonial Bihar : The Political Economy of a Coerced Commodity, 1793–1918

Nidhi*

Abstract:

This article reconstructs the political economy of indigo cultivation in colonial Bihar between the consolidation of European planter interest in Tirhut following the 1859– 60 Blue Mutiny in Bengal and the formal abolition of the tinkathia system by the Champaran Agrarian Act of 1918. It argues that the Bihar indigo system constituted a distinctive form of coerced commodity production in which the formal apparatus of colonial tenancy law — the Permanent Settlement of 1793, the thekadari intermediate tenure, and the Bengal Tenancy Act of 1885 — was harnessed to impose contractual obligations whose substantive content was coercive. The article analyses the tinkathia and zerat contractual forms, the sharahbeshi rent-enhancement and sharah-mufassil commutation devices through which the planters transferred the burden of the post-1897 synthetic-dye crisis onto the cultivators, and the resistance which culminated in the Champaran satyagraha of 1917–18. Engaging the scholarship of Pouchepadass, Kumar, Kling, and Henningham, it proposes that the distinctive feature of Bihar indigo was the systematic use of the colonial law of tenancy as an instrument of plantation coercion.

1. Introduction

The indigo industry of colonial Bihar occupies a peculiar position in the historiography of late colonial India. It is at once one of the most thoroughly studied of the colonial commercial agricultures — the subject of Jacques Pouchepadass's Champaran and Gandhi (1999), Blair Kling's earlier The Blue Mutiny (1966) on its Bengal precursor, Prakash Kumar's Indigo Plantations and Science in Colonial India (2012), and a substantial periodical literature — and yet it remains, in the political-narrative tradition of nationalist historiography, treated almost exclusively as the backdrop to a single event: Gandhi's Champaran satyagraha of 1917–18. The substantial political economic literature is not, in this tradition, adequately integrated with the political-historical literature on the satyagraha, and the structural conditions which produced the situation Gandhi was invited to investigate are often presented as the unstudied precondition of his arrival rather than as a subject of analysis in their own right.[1]

This article approaches the indigo system on its own terms, as a particular form of colonial commercial agriculture whose specific institutional architecture deserves examination prior to, and independently of, its eventual collapse in the Champaran movement. The argument is that the Bihar indigo system constituted a distinctive form of coerced commodity production whose distinguishing feature was the systematic harnessing of the formal apparatus of colonial tenancy law — the Permanent Settlement of 1793, the thekadari intermediate-tenure system it called into being, and the Bengal Tenancy Act of 1885 — to impose contractual obligations whose substantive content was coercive. The Bihar planter was not a plantation owner in the model of the West Indian sugar plantation or the Brazilian coffee estate, organising direct production through hired agricultural labour; he was, in the standard contractual form which prevailed across Tirhut, a holder of intermediate tenure rights under the colonial law of tenancy, who used the legal authority of those rights to compel the cultivators on the lands he had leased to grow indigo on a portion of their own holdings, at a price he himself determined, regardless of the prevailing market rate.

This distinction matters. It locates the Bihar indigo system not within the conventional comparative typology of plantation agriculture but within the specifically colonial-Indian typology of

* History

intermediate-tenure exploitation, in which the formal categories of tenancy law were systematically deployed in support of substantive coercion. The argument advanced here is that the analytical separation of the political economy of indigo from the legal economy of tenancy, which has implicitly structured much of the existing scholarship, obscures what is most distinctive about the Bihar case: that the indigo system was not an exception to the colonial tenancy regime but a particular and intensive deployment of it. The Champaran satyagraha of 1917, which abolished tinkathia and refunded a portion of the sharahbeshi enhancements, did not abolish the structural conditions which had made the indigo system possible; it abolished a particular and visible instance of those conditions, and left the underlying architecture of zamindari and intermediate tenure substantially intact.[2]

The article draws on the published documentary record of the colonial state (the 1860 Indigo Commission Report, the 1918 Champaran Agrarian Committee Report, the relevant tenancy legislation), the archival material of the Bihar State Archives at Patna, the Rajendra Prasad Papers at NMML, and the secondary literature on the agrarian political economy of late colonial Bihar. The remaining sections reconstruct, in turn, the political-economic origins of the Bihar industry following the 1859–60 Blue Mutiny; the tinkathia and zerat contractual forms; the synthetic-dye crisis of the 1890s and the intensification of exploitation it produced; and the resistance which culminated in the Champaran satyagraha of 1917–18.[3]

2. From Bengal to Bihar: The Reconstitution of Indigo, 1788–1880

Indigo had been cultivated in the Indo-Gangetic plain for millennia before the arrival of European commercial interest. The colonial transformation of the industry began in the closing decades of the eighteenth century, when the East India Company encouraged its servants to take up indigo cultivation in the lower Gangetic delta as a substitute for West Indian production. The Permanent Settlement of 1793, extended initially to Bengal and Bihar, established the institutional framework within which the industry would develop: a fixed revenue demand on a class of zamindars whose prosperity was secured by an elaborate hierarchy of intermediate tenures. The early Bengal industry operated under two principal contractual forms which would, in modified version, subsequently shape the Bihar system: the asamiwar or ryoti contract, under which the planter advanced cash to cultivators in exchange for their agreement to plant indigo on a specified portion of their holding; and the zerat or nij-abad contract, under which the planter cultivated indigo on land directly under his control. The asamiwar form was the more common in the Bengal districts where indigo concentrated, and it was the contractual basis of the 1859–60 disturbances which became known to history as the Blue Mutiny. Reconstructed in detail in Blair Kling's classic study, the Mutiny was the first large-scale rural insurrection against indigo cultivation in colonial India, crystallised by the publication of D.N. Mitra's Bengali play Nil Darpan in 1860, whose dramatic representation of planter atrocity galvanised an emergent Bengali public opinion. The disturbances led to the appointment of the Indigo Commission whose 1860 report substantially documented the abuses of the planter regime and led to the gradual decline of the Bengal indigo industry through the 1860s and 1870s.[4]

It is in the context of this Bengal decline that the consolidation of the Bihar indigo industry must be understood. As Bengal cultivation contracted, planters relocated their operations northward to the Tirhut division of north Bihar — Champaran, Saran, Muzaffarpur, and Darbhanga, with secondary concentrations in Bhagalpur and Purnea. The Bettiah and Ramnagar zamindari estates in Champaran, the Hathwa estate in Saran, and the Darbhanga Raj together constituted the principal landholdings on whose intermediate tenures the new generation of planters established themselves. By the turn of the twentieth century, Tirhut accounted for the overwhelming majority of natural indigo production in colonial India, and Champaran district alone contained over fifty factories at peak. The institutional form of the Bihar industry differed from its Bengal predecessor in one decisive respect: the Bihar planters secured long-term thekadari leases over substantial blocks of land — typically several thousand acres at a time — which gave them the legal position of intermediate

landlords under the Bengal Tenancy Act of 1885, with all the rent-collection and tenancy-management powers which that position carried. The cultivator, as raiyat of the planter's thekadari, was legally his tenant, and the obligations imposed on him to grow indigo were articulated, contractually and judicially, as conditions of his tenancy. This is the institutional architecture which the Pouchepadass analysis foregrounds, and it is the key to understanding why the Bihar indigo system proved more durable and more politically resistant to reform than its Bengal predecessor.[5]

3. The Architecture of Coercion: Tinkathia and Zerat

The principal contractual form through which the Bihar planter compelled indigo cultivation was the tinkathia system. Under tinkathia, the cultivator was obliged to plant indigo on three out of every twenty kathas of his holding — that is, on three-twentieths, or fifteen per cent, of his arable land. In some factory areas, particularly those of the Bettiah subdivision in Champaran, the rate could rise to five out of twenty kathas (twenty-five per cent), and in exceptional cases higher still. The land selected for indigo cultivation was, by the practice of the factories, generally the most fertile portion of the cultivator's holding. The cultivator was responsible for the labour of cultivation, harvest, and delivery to the factory; he was compensated at a price fixed by the factory's contract, which in the second half of the nineteenth century stood at approximately three to five rupees per maund of plant, a rate substantially below the value of the alternative crops the same land would have produced.[6]

Tinkathia was not, formally, a coerced arrangement. The tenant was, in colonial legal theory, a free contracting party who entered into the indigo agreement of his own volition and could decline to do so. In practice, the constraints which structured the cultivator's choice rendered the formal freedom largely illusory. The cultivator was, in the first instance, a tenant of the planter under the thekadari lease; the planter, as his landlord, could exercise the standard rent-collection and eviction powers which the Bengal Tenancy Act provided. The advance system, through which the planter forwarded a small cash sum to the cultivator against the future delivery of indigo, established a debt relationship which the cultivator could not readily clear and which the planter could enforce through the same legal apparatus that governed rent. The fungibility of the indigo contract and the rent contract meant that arrears under the one could be recovered as arrears under the other, with all the consequent powers of distraint and eviction. And the social control which the planter exercised through his amlas (estate officers), kotwars (watchmen), and connections with the local police and magistracy ensured that the substantive bargaining position of the cultivator was, in most factory areas, very weak.[7]

The complementary contractual form was zerat or nij-abad cultivation, under which the planter cultivated indigo directly on land which he held in his own demesne, using hired agricultural labour. Zerat was, in principle, a less coercive arrangement, since it did not impose obligations on the cultivator's own holding. In practice, however, the zerat lands had themselves often been acquired from cultivators through processes of dispossession in which the same legal apparatus had been deployed to convert the cultivator's occupancy holding into the planter's demesne. The standard mechanism was the strategic enforcement of rent arrears under the Bengal Tenancy Act to compel a cultivator to surrender his occupancy rights, whereupon the land would be incorporated into the factory's zerat. The zerat-tinkathia distinction was thus not the distinction between coerced and free production but the distinction between two different modalities of coerced production. The colonial government's principal attempt at structural reform — the experimental introduction in 1871 of the khuski or 'free contract' system on the Hathwa estate of Saran district — was, by most contemporary and subsequent assessments, a failure. The structural inequality of bargaining power between planter and cultivator did not disappear with the formal change of contractual form, and the actual operation of khuski exhibited substantial continuities with the tinkathia system it had been intended to replace. The episode demonstrates that the coerciveness of the Bihar indigo system was not primarily a consequence of the specific contractual form through which it operated, but of the underlying structural conditions — the thekadari lease, the asymmetry of legal capacity, the embeddedness of the

planter in the colonial administrative apparatus — within which any contractual form would operate.[8]

4. The Synthetic Dye Crisis and the Intensification of Exploitation

The decisive transformation in the political economy of Bihar indigo came not from within the agrarian system but from the laboratories of the German chemical industry. Adolf von Baeyer's synthesis of indigotin from coal-tar derivatives in 1880, and the subsequent commercialisation of synthetic indigo production by BASF and Hoechst, produced a competitor whose price was substantially lower and whose supply was substantially more reliable. The first commercial shipments of German synthetic indigo reached the European textile market in 1897; within five years natural indigo prices had collapsed; within fifteen the natural indigo industry was substantially extinct. The Indian export figures register the collapse with stark clarity: the value of natural indigo exports fell from approximately Rs 4.75 crore in 1894–95 to Rs 2.96 crore in 1899– 1900, and continued to fall through the subsequent decade. With the world price no longer providing a remunerative return, the planters faced a stark choice: either to liquidate their Indian operations, or to find means of recovering the lost margin from sources other than the indigo market. Most chose, in the first instance, the second course. The period between approximately 1897 and 1917 should be understood as a period of intensified exploitation, in which the planters used the institutional apparatus of the thekadari lease and the Bengal Tenancy Act to transfer the burden of the synthetic-dye crisis from the world market onto the cultivator.[9]

Two mechanisms were principally deployed. The first was sharahbeshi, the general enhancement of rents on the lands held under thekadari lease. Under the legal authority of the Bengal Tenancy Act, the planter as intermediate landlord could initiate proceedings for the enhancement of rent on his tenants' holdings, on grounds including the rise in the prevailing rent for similar lands in the locality, the improvement of the land, and (most importantly for the indigo context) the cessation of any countervailing obligation which had previously justified a lower rent. The planters in Champaran argued, in the courts and in the administrative process, that the relaxation of the tinkathia obligation — which they had begun, in the wake of the price collapse, to relax in particular cases — entitled them to a corresponding enhancement of the rent. The enhancements which were extracted under this argument were substantial: Pouchepadass, drawing on the records of the 1917 Committee, documents sharahbeshi enhancements ranging from fifty to sixty per cent over the prior rent in the Bettiah subdivision, and somewhat lower figures in the surrounding factory areas. The mechanism converted the planter's losses from the world indigo market into a permanent increase in the rent burden on the cultivators of the lands he held in thekadari lease. The world-market exposure of the indigo industry was, by this means, socialised onto the cultivator.[10]

The second mechanism was sharah-mufassil, the lump-sum or annual payment which the cultivator could make to the planter in commutation of the tinkathia obligation. Sharah-mufassil offered the cultivator the formal opportunity to be released from the obligation to grow indigo, in exchange for a cash payment which represented, in theory, the planter's estimated loss from the foregone indigo harvest. In practice, the rate at which the sharah-mufassil was assessed was substantially above the planter's actual loss, particularly after the synthetic-dye price collapse, and the commutation thus operated as a second mechanism of margin recovery. The cultivator who paid sharah-mufassil escaped the immediate obligation to grow indigo, but did so by transferring a different and often larger payment to the planter; the cultivator who refused to pay sharah-mufassil remained under the tinkathia obligation; and the cultivator who could pay neither was exposed to the full force of the rent-collection apparatus. A third and less systematic mechanism was the tawan or lump-sum 'damages' payment which planters extracted in cases where the tinkathia obligation was not met in particular years. The cumulative effect of the sharahbeshi, sharah-mufassil, and tawan mechanisms was to ensure that the collapse of the natural indigo market did not, in the short term, produce a corresponding collapse of the planters' profitability. It produced, instead, a transformation in the institutional form of the planters' exploitation, with the indigo-specific compulsions of the

tinkathia system being progressively supplemented and partly replaced by general extraction mechanisms operating through the Bengal Tenancy Act. The cultivator of Champaran in 1910 was, in substantive economic terms, more heavily burdened by the indigo system than his predecessor of 1880, despite the formal contraction of the indigo industry whose decline that burden was sustaining.[11]

5. Resistance: The 1908 Disturbances and the Champaran Satyagraha

Resistance to the indigo system in Bihar was not, as the nationalist historiography sometimes suggests, an awakening produced by the Gandhian intervention of 1917. The record of the half-century preceding Champaran documents a sustained, if uneven, pattern of cultivator resistance which Pouchepadass has reconstructed in detail: refusal of advances, refusal to deliver harvested indigo, litigation under the Bengal Tenancy Act, collective petitioning to district magistrates, and, on a few occasions, open disturbance. The earlier instances — the 1867 disturbances at the Olaha factory, the 1875 troubles at Pipra, the recurring litigation pursued by Bettiah cultivators through the 1880s and 1890s — had not, individually, succeeded in dislodging the planter regime, but they had constructed, by the early years of the twentieth century, a substantial local infrastructure of complaint: literate intermediaries who knew how to draft a petition, channels of communication between the cultivators and the small Bihari professional class of the nearby towns, and a residual cultural memory of resistance which could be activated by specific provocations.[12]

The cumulative weight of the post-1897 intensification produced, in the years 1907–08, the most serious indigo-related disturbances since the Bengal Blue Mutiny. The principal episodes were concentrated in the Bettiah subdivision of Champaran, at the Olaha, Pipra, Lalsaria, and Bhairo factories, and involved the systematic refusal of the cultivators on the affected lands to plant indigo, to pay the sharahbeshi enhancements, or to settle the sharah-mufassil claims which the planters demanded. The leadership of the disturbances came from a small group of literate cultivators — Sheikh Gulab of Sathi, Pir Muhammad Munis of Bettiah, Khendar Rai of Lalsaria — whose names would recur in the Champaran satyagraha nine years later. The disturbances were sufficiently serious to require the dispatch of additional armed police to the affected areas, and the cumulative effect of the unrest forced the Lieutenant-Governor of Bengal, Sir Edward Baker, to authorise a formal enquiry. The Baker Enquiry of 1908–09, conducted by W.H. Lewis and F.G. Sly, produced a substantial body of testimony from cultivators, planters, and local administrative officials, which has subsequently constituted one of the principal documentary deposits on the pre Gandhian indigo question. Its principal finding was that the system of indigo cultivation as it had developed in Bihar by 1908 contained substantial elements of compulsion which were difficult to reconcile with the formal premises of free contract on which the colonial tenancy law was supposed to operate. The report did not, however, propose the abolition of tinkathia or the systematic reform of the sharahbeshi and sharah-mufassil mechanisms. Its recommendations were modest, and within five years of the report's submission, the planters had largely resumed the practices it had documented.[12]

The connection between the 1908 disturbances and the 1917 satyagraha runs through the figure of Raj Kumar Shukla, the Champaran cultivator whose pursuit of Gandhi at the Lucknow Congress of December 1916 is the conventional opening scene of the satyagraha's history. Shukla was a relatively prosperous cultivator of the Bhitiharwa area of Champaran, who had been pursuing his own and his neighbours' complaints against the planters since the 1908 disturbances. The decision to seek out Gandhi at Lucknow was the culmination of a decade of frustrated remedies. Gandhi's arrival in Motihari in April 1917, his refusal to leave when ordered by the District Magistrate, the dropping of the prosecution, and the constitution of the Champaran Agrarian Enquiry Committee in June 1917 are too well known to require recapitulation. The Committee took depositions from approximately 8,000 cultivators and submitted its report in October 1917, recommending the abolition of tinkathia and a partial refund of the sharahbeshi enhancements. The Champaran Agrarian Act of 1918 gave statutory force to these recommendations, abolishing tinkathia outright and requiring a refund of approximately twenty-six per cent of the sharahbeshi exactions. The settlement

was, in material terms, modest. The abolished system was already in commercial decline; the refund did not restore the cultivators to the position they had occupied before the synthetic-dye crisis; and the underlying institutional architecture of the thekadari lease and the Bengal Tenancy Act remained intact and would continue to structure Bihar's agrarian relations until the zamindari abolition of the 1950s. The principal Bihar indigo factories closed progressively through the 1920s, and by 1930 the industry as it had existed since the 1870s had substantially disappeared; the agrarian relations which it had structured were inherited by the sugar industry which expanded into north Bihar in the 1920s and 1930s, and by the recovered direct authority of the principal Tirhut zamindari estates.[13]

6. Conclusion

This article has argued for an analytical reorganisation of the existing scholarship on the Bihar indigo system around a single proposition: that the distinguishing feature of the system was the systematic harnessing of the formal apparatus of colonial tenancy law to impose contractual obligations whose substantive content was coercive. The Permanent Settlement of 1793 and the Bengal Tenancy Act of 1885 furnished the institutional architecture; the thekadari lease furnished the legal position from which the planter operated; the tinkathia contract furnished the immediate instrument of compulsion; and the sharahbeshi and sharah-mufassil mechanisms, deployed with increasing intensity after the synthetic-dye crisis of the 1890s, furnished the means by which the planter recovered, from the cultivator, the margin which the collapsing world market would no longer supply. The Champaran satyagraha of 1917–18 abolished tinkathia and refunded a portion of the sharahbeshi enhancements; it did not abolish the underlying institutional architecture, which persisted until the zamindari abolition of the 1950s. The longer historiographical significance of the case is that it demonstrates the importance, in the analytical study of colonial commercial agriculture, of attending to the specific legal-institutional forms through which commodity production was organised, rather than treating the commodity as a self-explanatory analytical category. The Bihar indigo system was not a plantation economy in the comparative sense; it was a particular deployment of the colonial tenancy regime, and the collapse of the natural indigo market did not, on its own, dismantle the system, because the system was not fundamentally a function of the indigo market but of the tenancy regime which provided the planters with institutional resources for margin recovery and the cultivators with no corresponding resources of resistance. The indigo plant disappeared from the fields of north Bihar; the institutional architecture which had given it its specific political-economic significance persisted.

Notes

1. Jacques Pouchepadass, Champaran and Gandhi: Planters, Peasants and Gandhian Politics (Delhi: Oxford University Press, 1999); Blair B. Kling, The Blue Mutiny: The Indigo Disturbances in Bengal, 1859–1862 (Philadelphia: University of Pennsylvania Press, 1966); Prakash Kumar, Indigo Plantations and Science in Colonial India (Cambridge: Cambridge University Press, 2012); Razi Ahmed, Indigo Unrest in Champaran and Mahatma Gandhi (1867–1918) (Patna: Patna Law Press, 1966); for the historiographical observation, Sumit Sarkar, Modern India 1885–1947 (Delhi: Macmillan, 1983), 178–85.
2. The companion treatment is set out in the present author's 'Peasant Resistance and Rural Political Consciousness in Colonial Bihar' (forthcoming).
3. Report of the Indigo Commission (Calcutta: Government Printing, 1860), the so-called Eden Report; Report of the Champaran Agrarian Committee (Calcutta: Government Printing, 1918), NAI Home Political 274/1917; Rajendra Prasad, Satyagraha in Champaran (Madras: Ganesh, 1928). For the secondary framework, Pouchepadass (1999) and the earlier Jacques Pouchepadass, 'Local Leaders and the Intelligentsia in the Champaran Satyagraha (1917): A Study in Peasant Mobilization,' Contributions to Indian Sociology 8, n.s. (1974): 67–87; Ranajit Guha, A Rule of Property for Bengal: An Essay on the Idea of Permanent Settlement (Paris: Mouton, 1963); Peter Robb, Ancient Rights and Future Comfort: Bihar, the Bengal Tenancy Act of 1885, and British Rule in India (Richmond: Curzon, 1997); Tirthankar Roy, The Economic History of India 1857–1947 (Delhi: Oxford University Press, 2000).
4. On the Permanent Settlement, Guha, A Rule of Property for Bengal; Ratnalekha Ray, Change in Bengal Agrarian Society, c. 1760–1850 (Delhi: Manohar, 1979). On the asamiwar/zerat distinction and the Blue

Mutiny, Pouchepadass, Champaran and Gandhi, 49–52; Kling, Blue Mutiny; Subhas Bhattacharya, 'The Indigo Revolt of Bengal,' Social Scientist 5, no. 12 (1977): 13–23.

5. Pouchepadass, Champaran and Gandhi, chs. 1–2; Kumar, Indigo Plantations and Science, chs. 3–4; on the Bengal Tenancy Act 1885 in Bihar, Robb, Ancient Rights and Future Comfort, chs. 4–6.
6. Pouchepadass, Champaran and Gandhi, 95–110; Stephen Henningham, Peasant Movements in Colonial India: North Bihar, 1917–1942 (Canberra: ANU, 1982), 51–62; Rajendra Prasad, Satyagraha in Champaran, chs. 2–3. The five-out-of-twenty rate is documented in Pouchepadass, 102.
7. On the convergence of indigo and rent contract enforcement, Pouchepadass, Champaran and Gandhi,110–25.
8. Pouchepadass, Champaran and Gandhi, 130–38 (zerat conversion) and 62–67 (khuski); Government of Bengal, Revenue, Agriculture Branch, November 1872, nos. 246–248, Bihar State Archives; Anand A. Yang, The Limited Raj: Agrarian Relations in Colonial India, Saran District 1793–1920 (Berkeley: UCP, 1989), ch. 5.
9. Anthony S. Travis, The Rainbow Makers (Bethlehem: Lehigh University Press, 1993); Kumar, Indigo Plantations and Science, ch. 8; export figures from Pouchepadass, Champaran and Gandhi, app. table H; B.R. Tomlinson, The Political Economy of the Raj 1914–47 (London: Macmillan, 1979), ch. 3.
10. Pouchepadass, Champaran and Gandhi, 145–60; Rajendra Prasad, Satyagraha in Champaran, ch. 4; Report of the Champaran Agrarian Committee (1918), NAI Home Political 274/1917.
11. Pouchepadass, Champaran and Gandhi, 160–75 (sharah-mufassil and tawan); Henningham, Peasant Movements, 55–58.
12. Pouchepadass, Champaran and Gandhi, ch. 4 (pre-1908 resistance); Ahmed, Indigo Unrest in Champaran; S.K. Mittal and Kapil Dutt, 'Raj Kumar Sukul and the Peasant Upsurge in Champaran,' Social Scientist 4, no. 9 (1976): 25–36. On the Baker Enquiry of 1908–09, summarised in Pouchepadass, Champaran and Gandhi, ch. 4; Bihar State Archives, Government of Bengal, Political Department, files relating to indigo disturbances 1908–09; Henningham, Peasant Movements, 60–68.
13. M.K. Gandhi, An Autobiography (Ahmedabad: Navajivan, 1927), pt. V, ch. xii; Rajendra Prasad, Satyagraha in Champaran, chs. 1–7; Champaran Agrarian Committee, Report (1918), NAI Home Political 274/1917; Pouchepadass, Champaran and Gandhi, ch. 7; Henningham, Peasant Movements, ch. 3; Shahid Amin, Sugarcane and Sugar in Gorakhpur (Delhi: Oxford University Press, 1984), introduction.

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Alternative Dispute Resolution in Succession Matters: A Contemporary Approach to Resolving Inheritance and Estate Disputes

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Abstract

Succession problems often mix with complex family history and legislation. In India, where protracted litigation often outlasts estates themselves, due to complex personal laws and inordinate judicial delays, Alternative Dispute Resolution is not just a theoretical concept but an institutional requirement. This paper investigates ADR in inheritance disputes, analysing the unifying framework of the Mediation Act, 2023; pre-litigation mediation under Section 89 of the Civil Procedure Code; the arbitrability test in Vidya Drolia; and the gendered power dynamics altered by Vineeta Sharma. Drawing on comparative lessons from the UK, the US, Singapore, and Australia, we suggest that power imbalances, a lack of specialised infrastructure, and the unestablished Mediation Council are currently undermining the major benefits of ADR.

I. Introduction

Estate settlement is seldom a mere legal formality. It discloses complicated family dynamics that have often been in place since days bygone. The legal fight for assets is really the tip of the iceberg in an inheritance battle that basically boils down to unsolved emotional wounds, unacknowledged sacrifices, and the very human craving for fairness and emotional closure. The courts can make an exact division of assets; they cannot repair familial wounds. In India's overworked judicial system, inheritance litigation can take anywhere from seven to fifteen years, a process of financial and emotional attrition that often devours the whole worth of the estate. ADR is not simply a procedural option, but a necessary response to a broken system of law. Its real value in inheritance disputes is to give what courts cannot.

Mediation provides families with the tools to develop flexible, innovative solutions, such as personalised divisions of assets, recognition of past contributions, and solutions that take into account both financial realities and emotional needs. But for ADR to be successful in India, it requires a strong legislative framework, powerful institutions and a professional culture to support it. This paper explores these difficulties in nine sections. It analyses the different succession laws in India and evaluates the existing ADR instruments, including Lok Adalats. It examines the applicable legal framework, with particular focus on the Mediation Act, 2023, Section 89 of the CPC, the Mediation Council, and seminal judgments like Vidya Drolia. Finally, it examines judicial trends, comparative learning from four foreign jurisdictions, structural hurdles, such as female power disparities post-Vineeta Sharma and closes with a meaningful and urgently needed reform program.

II. Conceptual Framework of Succession Law

The Indian Succession Act, 1925, is applied differently for different communities. The Act only applies to inheritances through a valid will for Hindus, Buddhists, Sikhs and Jains. But in the case of Christians and Parsis, the Act applies to all inheritances, whether there is a will or not.[1] The Muslim Personal Law (Shariat) Application Act, 1937, restricts the freedom of a, Muslim to bequeath his property by means of a will.[2] One of the most misunderstood aspects of Muslim succession law is the onethird rule,which limits the total value of all bequests,not simply those made to strangers.Also,

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[1]Indian Succession Act, 1925, No. 39, Acts of Parliament, 1925, s. 57 read with Sch. III (testamentary succession for Hindus, Buddhists, Sikhs, and Jains); Part V (intestate succession for Christians, Parsis, and others to whom the Act applies) (India).

[2]Muslim Personal Law (Shariat) Application Act, 1937, No. 26, Acts of Parliament, 1937 (India).

giving property to an existing legal heir requires approval of the other heirs, a stringent rule that works completely separately from the onethird limit.[3] These legal subtleties are important in the mediation. For example, a mediator who is unaware of the severe boundaries of Muslim inheritance may inadvertently approve a legally void settlement. At the same time, the legal landscape for Hindu households changed substantially with the 2005 Amendment that finally gave females equal birthrights to joint family property.[4]

The constitutional significance of this reform was progressively clarified through two major Supreme Court decisions. In *Danamma v. Amar*,[5] The Court affirmed daughters' equal entitlements in coparcenary property. The definitive and most consequential statement came in *Vineeta Sharma v. Rakesh Sharma*,[6] The Supreme Court's landmark decision in Vineeta Sharma ensures equal coparcenary rights for girls from birth, and it applies retrospectively to incomplete partitions of property before December 20, 2004. As a result, mediators need to look at family agreements that may be decades old. Supporting a settlement that disregards a daughter's legal rights makes the agreement very vulnerable to being overturned by a court. Also, succession combining religions, born of conversions or interfaith marriages, results in complicated jurisdictional overlaps between the several personal laws. Courts have elaborate choice-of-law rules to deal with such issues, but generalist mediators typically lack this specialised legal knowledge, raising the prospect that settlements may not later survive judicial examination.[7]

Family settlements constitute a third category of particular significance. The Supreme Court in *Kale v. Deputy Director of Consolidation*[8] and *Maturi Pullaiah v. Maturi Narasimham*[9] established the foundational principles. Courts have created a helpful and clear framework for settling these disputes.

III. Understanding Alternative Dispute Resolution

Alternative Dispute Resolution is not a one-size-fits-all approach. Instead, it is a range of extra-judicial possibilities with varied degrees of formality and control of the end result. Picking the appropriate technique is particularly important in inheritance disputes because each family's emotional history, the intensity of their conflict, and the complexity of their estate are wholly unique.[10]

Mediation

As a neutral facilitator rather than an adjudicator, a mediator helps families look beyond rigid legal claims to address the underlying emotional drivers of inheritance disputes. This process enables tailored, flexible settlements that adversarial courts structurally cannot provide.[11] Mediation offers a private, voluntary, forward-looking venue and, as such, highlights the importance of keeping

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[3]Mulla, *Principles of Hindu Law* 22nd ed. 895 (LexisNexis, 2018); on Muslim bequests, see also Mulla, *Principles of Mahomedan Law* 20th ed. 68–72 (LexisNexis, 2013) (the one-third rule applies to the aggregate of all bequests by the testator, not merely to bequests made to strangers; bequests to heirs are separately impermissible without the consent of other heirs).

[4]Hindu Succession (Amendment) Act, 2005, No. 39, Acts of Parliament, 2005 (India), amending s. 6 of the Hindu Succession Act, 1956 to confer equal coparcenary rights on daughters by birth.

[5]*Danamma v. Amar* (2018) 3 SCC 343.

[6]*Vineeta Sharma v. Rakesh Sharma* (2020) 9 SCC 1 (Constitution Bench holding that a daughter's coparcenary right under the amended s. 6 of the Hindu Succession Act, 1956 accrues by birth and is not contingent on the father being alive on the date of the 2005 Amendment; further holding that the amendment applies to partitions not finalised prior to 20 December 2004).

[7]Parashar, Archana & Dhanda, Amita (eds.), *Redefining Family Law in India* 112 (Routledge, 2008).

[8]*Kale v. Deputy Director of Consolidation* (1976) 3 SCC 119.

[9]*Maturi Pullaiah v. Maturi Narasimham* AIR 1966 SC 1836.

[10]Robert A. Baruch Bush & Joseph P. Folger, *The Promise of Mediation* 21 (Jossey-Bass, 2005).

[11]Lon L. Fuller, 'Mediation: Its Forms and Functions' (1971) 44 *Southern California Law Review* 305, 308.

relationships rather than apportioning blame for inheritance disputes. It is based on the profound realisation that family dynamics, however broken, will continue long after the legal battle is over.

Conciliation

Indian law has historically regarded conciliation as a separate process under the Arbitration and Conciliation Act, 1996. A mediator facilitates communication between families, whereas a conciliator offers specific terms and solutions to help resolve the disagreement.[12] But recently this has been made easier by the Mediation Act 2023. The new rule expands the legal definition of mediation to cover conciliation, bringing both procedures under a single roof to assist families in resolving their disagreements more easily outside of court.[13] The statute formally amends the 1996, by removing competing legal channels. The 2023 Act permits mediators to actively offer solutions in a single system. This key simplification eases legal friction and makes it easier to resolve inheritance disputes.

Arbitration

Arbitration's utility in pure succession matters is constrained by arbitrability limitations that Indian law has progressively clarified. In *Vidya Drolia v. Durga Trading Corporation*,[14] The Supreme Court has taken a very restrictive stance on the arbitrability of inheritance disputes. Core concerns like the validity of a will and heirship give rights in rem that affect parties outside the immediate family. Further, the statutory division of the estate is to be supervised by a court of law under the Partition Act, 1893. Thus, they must be settled in court and not by private arbitration.[15] The settlement of an estate is a good deal more than a private matter. It creates new property rights that the whole world must respect. In practical terms, the landmark Vidya Drolia judgment makes it apparent that the heart of most inheritance issues lies well outside the domain of private arbitration.[16]

Lok Adalat

India also relies on a unique home-grown approach, the Lok Adalat, or ‘people’s court’. This community mechanism has an important role to play in assisting families to navigate the complications of inheritance and deserves special mention, having been established under the Legal Services Authorities Act, 1987.[17] Lok Adalat settlements have the force of a decree of a civil court. They are final, unappealable and free, and offer a very accessible method for basic divides of property, particularly for families with minimal resources. But their short process does not involve thorough legal facilitation, they are not ideal for complex inheritance conflicts with several heirs or complex assets. Negotiation remains the most informal stage of ADR, before these formal methods. It is often the necessary initial step in untangling disputes, either directly with family or through legal representation.[18] Collaborative dispute resolution, a structured variant developed in family law, involves lawyers and parties jointly committed to settlement outside court, with a mutual undertaking

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[12]Arbitration and Conciliation Act, 1996, No. 26, Acts of Parliament, 1996 (India).

[13]Mediation Act, 2023, No. 32, Acts of Parliament, 2023, s. 2(1)(h) (India); see also s. 3 amending the Arbitration and Conciliation Act, 1996. All section references to the Mediation Act, 2023 are to the enacted text published in the Gazette of India Extraordinary, Part II, Section 1, dated 15 September 2023; readers should independently verify section numbers against the official Gazette.

[14]*Vidya Drolia v. Durga Trading Corporation* (2021) 2 SCC 1, paras 76–79 (laying down the four-fold test for non-arbitrability: (i) rights in rem; (ii) disputes requiring centralised adjudication; (iii) inalienable sovereign or public interest functions; (iv) statutory exclusion).

[15]Partition Act, 1893, No. 4, Acts of Parliament, 1893 (India) (governing the procedure for partition suits in civil courts, including the appointment of commissioners for partition of immovable property and the modalities of division).

[16]Avtar Singh, *Law of Arbitration and Conciliation* 11th ed. 56 (Eastern Book Company, 2020).

[17]Legal Services Authorities Act, 1987, No. 39, Acts of Parliament, 1987, ss. 19–22 (India).

[18]Leonard L. Riskin, 'Understanding Mediators' Orientations, Strategies, and Techniques' (1996) 1 *Harvard Negotiation Law Review* 7, 12.

to withdraw if litigation is ultimately initiated.[19] Collaborative law is common in the West to resolve family disputes. But it is rarely used in Indian succession matters for want of specialised expertise and the deeply ingrained adversarial legal culture.

IV. ADR in Succession Matters

The suitability of ADR for succession disputes flows from specific structural features of inheritance conflicts that distinguish them from commercial or tortious litigation and from features of the Indian legal landscape that make those structural arguments particularly urgent.[20]

Inheritance issues are essentially familial conflicts. These relationships are long-lasting, zero-sum judicial fights can irreversibly sever family ties. By contrast, mediation addresses underlying emotional drivers, allowing for flexible and mutually beneficial solutions that strict adversarial courts cannot fundamentally achieve.[21]

Another important benefit of ADR is confidentiality. Publicity of litigation reveals sensitive information about inheritance and internal disputes, threatening public shame while drawing in unexpected creditors and unscrupulous claimants. On the flip side, the rigorous confidentiality safeguards provided for in Section 22 of the Mediation Act, 2023, preserve this information and maintain both familial dignity and the financial integrity of the estate.[22]

Finally, ADR provides considerable time and cost efficiencies. Indian inheritance litigation can take decades, with legal bills mounting, steadily eating away at the fortune. ADR stops this financial bleeding so the intended bequest goes to the family rather than into extended court battles.[23] Mediation can resolve complex estate conflicts in months, but the absence of empirical data on its real costs and success rates in India is an obvious call for immediate formal institutional tracking.[24]

Inheritance disputes are highly emotive and need careful handling. They are the underlying motivators that fuel aggressive legal strategies and cause family members to stubbornly refuse to settle out of court.[25] Skilled mediators direct underlying emotions into cooperative problem-solving, a dynamic that adversarial courts cannot match.

Moreover, inheritance mediation should be sensitive to the changing dynamics of gender, especially since the Hindu Succession (Amendment) Act, 2005 and subsequent landmark judgements, such as Vineeta Sharma, have changed the legal landscape to establish the principle of equal property rights for daughters. Skilled mediators take emotive complaints and turn them into a collaborative solution that you cannot get in a court of law. Mediation also has to contend with the complex gender dynamics that have been so radically transformed by the Hindu Succession (Amendment) Act, 2005, and Vineeta Sharma, who unequivocally established equal property rights for daughters.[26] Untrained mediators in the dynamics of entrenched gender relations risk promoting one-sided settlements when women are forced to give up their legitimate shares. This is a surreptitious way of perpetuating the historical injustices and violates the fundamental promise of equality," Vineeta Sharma.

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[19]Carrie Menkel-Meadow, 'Pursuing Settlement in an Adversary Culture' (1984) 19 *Florida State University Law Review* 1, 5.

[20]*Afcons Infrastructure Ltd. v. Cherian Varkey Construction Co. (P) Ltd.* (2010) 8 SCC 24.

[21]Nancy A. Welsh, 'The Thinning Vision of Self-Determination in Court-Connected Mediation' (2001) 6 *Harvard Negotiation Law Review* 1, 9.

[22]Mediation Act, 2023, No. 32, Acts of Parliament, 2023, s. 22 (comprehensive confidentiality obligations binding all participants) (India).

[23]Erin Ryan, 'The Promise and Peril of Mandatory Mediation' (2010) 33 *University of British Columbia Law Review* 343, 347.

[24]*Afcons Infrastructure Ltd. v. Cherian Varkey Construction Co. (P) Ltd.* (2010) 8 SCC 24, para 37 (Supreme Court expressly endorsing judicial encouragement of pre-trial settlement in civil disputes as a dimension of the court's case management function).

[25]Jennifer Robbennolt & Jean Sternlight, *Psychology for Lawyers* 201 (ABA Publishing, 2012).

[26]Flavia Agnes, *Family Law Volume 1: Family Laws and Constitutional Claims* 89 (Oxford University Press, 2011).

V. Legal Framework Governing ADR in India

India's ADR structure evolved over three decades through statute, jurisprudence and institutional development. However, its sufficiency for succession disputes has to be evaluated by examining its often fragmented mechanisms and operational inadequacies. This regime is created under the Arbitration and Conciliation Act, 1996. Section 30 authorises arbitral tribunals to encourage settlement during proceedings,[27] reflecting a legislative preference for consensual resolution. The Act's conciliation framework in Part III has been substantially reorganised by the Mediation Act, 2023, which subsumes conciliation within a unified mediation definition and amends the 1996 Act accordingly.[28]

The Legal Services Authorities Act, 1987, occupies a distinct position in the ADR landscape. Lok Adalats established under Chapter VI have jurisdiction over disputes at both pre-litigation and pending stages, and their awards carry the legal effect of civil court decrees without attracting court fees and without any right of appeal. The Family Courts Act, 1984, is an often-ignored aspect of the picture. This law is hardly addressed in typical inheritance ADR studies, but it is significant. It establishes a stringent statutory duty on Family Courts to actively assist families towards a resolution. It is required by law that courts make real attempts at conciliation before a judge even intervenes to hear and determine the matter properly.[29] Family Courts regularly hear cases for marital maintenance that overlap with the inheritance rights of widows and dependents. Operating at this intersection of family and succession law, the Family Courts Act, 1984, demands conciliation in no uncertain terms to protect these vulnerable parties. Section 89 of the Civil Procedure Code gives support to this structure. This revolutionary procedural regulation is functional from the year 2002. It legally obliges the courts to detect the possible compromises and actively direct the willing civil disputes to ADR procedures such as mediation, arbitration or Lok Adalats.[30] The Supreme Court's landmark clarification in *Salem Advocate Bar Association v. Union of India*.[31] Landmark judgments have held Section 89 to be a judicial obligation and not merely a recommendation. It is often used to promote settlements in partition, probate and contested will cases. But its actual use is still very erratic. In the absence of established referral procedures, the decision of whether to arbitrate or fight an inheritance dispute sometimes rests solely with the individual discretion of the presiding judge.[32]

The relationship between Section 89 CPC and the pre-litigation mediation framework introduced by Section 6 of the Mediation Act, 2023, requires careful analysis.[33] Families can choose to mediate either before litigation that is under Section 6, Mediation Act, 2023 or after litigation that is Section 89 of the Code of Civil Procedure. However, Section 8 of the 2023 Act is a major hurdle to inheritance disputes as it prohibits mediation in cases involving minors, cognitive disorders or unconstrained third parties. This creates a troublesome grey area as to which situations are still

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[27][33]Mediation Act, 2023, No. 32, Acts of Parliament, 2023, s. 27 (mediated settlement agreement enforceable as decree of civil court) (India).
Arbitration and Conciliation Act, 1996, No. 26, Acts of Parliament, 1996, s. 30 (India).

[28]*B.S. Krishnamurthy v. B.S. Nagaraj* (2013) 1 SCC 476.

[29]*Family Courts Act, 1984, No. 66, Acts of Parliament, 1984, s. 9 (India) (imposing a duty on Family Courts to assist parties in reaching a settlement and to make efforts for conciliation before proceeding to adjudication; Family Courts have jurisdiction over matrimonial property disputes and maintenance claims that frequently overlap with succession-related entitlements of widows and dependants).*

[30]Code of Civil Procedure, 1908, No. 5, Acts of Parliament, 1908, s. 89(1) (India).

[31]*Salem Advocate Bar Association v. Union of India* (2003) 1 SCC 49.

[32]*Salem Advocate Bar Association v. Union of India* (2005) 6 SCC 344.

[33]*Mediation Act, 2023, No. 32, Acts of Parliament, 2023, s. 6 (pre-litigation mediation) and s. 8 (excluded categories, including: disputes involving minors or persons under disability; matters where interim relief is actively sought; disputes involving parties not bound by the mediation process; and matters excluded by any other statute) (India). The interplay between s. 6 of the 2023 Act and s. 89 CPC creates a two-track system: pre-litigation mediation as the primary track and court-referred mediation as the secondary track for disputes that reach litigation.*

legally qualified for mediation, given that succession disputes often include young heirs or fragile seniors.[34] The lack of an established Mediation Council creates a key implementation vacuum, despite the fact that Sections 22 and 27 of the 2023 Act provide total confidentiality and settlements are endowed with the power of civil decisions. Thus, the quality of mediation is still largely dependent on the scattered network of mediation facilities in High Courts in India.

VI. Judicial Approach and Landmark Cases

India's ADR system is not automated and its practical performance depends a lot on court interpretation. It is important how courts deal with mediation referrals and assess settlements in succession cases, but their record on these matters is still patchy. In B.*S. Krishnamurthy v. B.S. Nagaraj*,[35] In a recent sibling division issue, the Supreme Court gave precedence to the emotional cost of litigation over rigid legal rights and mandated mediation. This is a big change from the normal adversarial confrontations, showing that courts now really value keeping families together as much as getting legal outcomes.

The Delhi High Court's decision in *Balbir Kaur v. Balwant Singh*[36] , even in the most bitter disputes, court-referred mediation can be successful. In one particularly interesting example a complicated issue including a claim of undue influence over an elderly testator, a matter that is usually too contentious to settle, was mediated in three months. This provides a valuable insight, the mediator's skill is ultimately considerably more significant than the legal intricacy of the dispute itself in resolving acrimonious inheritance disputes.

The Court's approval of pre-trial settlements as a regular aspect of case management was a positive encouragement for judges to foster alternative dispute resolution in complex succession situations. It sets a clear legal precedent for inheritance disputes that arbitration is generally barred for basic succession claims, and mediation is the judicially preferred alternative. But while intellectually supportive of mediation, the courts' practical implementation is fundamentally defective. Referral quality varies dramatically between judges, and ongoing mediation sessions are rarely reviewed. There are no systematic means to track outcomes on a nationwide basis.

VII. Comparative Perspectives

United Kingdom

In England and Wales, the strong financial incentives for alternative dispute settlement are a major driver of the resolution of succession problems. Under the Civil Procedure Rules, the courts have the power to impose a heavy penalty on any party that unreasonably refuses to undertake mediation,[37] and the Inheritance and Trustees' Powers Act 2014 frames the substantive context within which estate disputes arise.[38] Resolution, the UK's professional association of family attorneys, has set a clear requirement that mediation must be considered right at the very start of any inheritance dispute. This English model demonstrates a very successful legal tactic: threatening financial penalties for unreasonable refusal to mediate is far more effective than forced mandatory court referrals because it directly appeals to a party's financial self-interest rather than just demanding procedural compliance.

United States

In the United States, the alternative dispute resolution method for inheritance problems is decentralised but highly developed. Many states adopt the federal Uniform Mediation Act of 2001 as a basic model, adjusting its stringent requirements on mediator confidentiality and privilege to fit

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[34]*Mediation Act, 2023, No. 32, Acts of Parliament, 2023, ss. 33–38 (establishing the Mediation Council of India, its composition, functions, and powers) (India). As of the time of writing, the Council had not yet been formally constituted, and its operational status remains subject to Government notification; this implementation gap is itself a significant constraint on the 2023 Act's practical effect.*

[35]*B.S. Krishnamurthy v. B.S. Nagaraj* (2013) 1 SCC 476.

[36]*Balbir Kaur v. Balwant Singh* 2019 SCC Online Del 10592.

[37]Civil Procedure Rules 1998, SI 1998/3132, r. 26.4 (UK).

[38]Inheritance and Trustees' Powers Act 2014, c. 16 (UK).

smoothly into their respective local legal systems.[39] Mediation is now required in many probate courts for contentious estates. Understanding that harsh inheritance disputes are typically rooted in emotional wounds, such as bereavement, sibling rivalry, and perceived parental favouritism, these systems draw significantly on psychological research to train mediators specifically for these highly sensitive family issues.[40] One of the best American inventions is "estate planning mediation" which allows families to talk openly about inheritance while the owner of the property is still living. This preventive strategy addresses the core causes of dispute, not just the legal aftermath. It is a perfect model for India, where nasty succession conflicts regularly erupt simply because family property arrangements were never openly discussed in advance of a loved one's dying.

Singapore

Singapore's ADR framework is institutionally among the most sophisticated in Asia. The Mediation Act, 2017, provides a coherent statutory foundation,[41] The Singapore International Mediation Centre has developed professionally trained mediators, standardised procedural rules, and a documented track record of strong settlement rates across civil disputes, including estate and succession matters.[42] Singapore's form of mediation is distinguished by its emphasis on the competence of mediators, rather than the sheer volume of cases. Singapore's targeted training of mediators to address the numerous ethnic and religious intricacies of family conflicts provides an important template for India. Indian inheritance conflicts are deeply embedded in complex religion, caste, and linguistic fault lines, and hence generalist mediators typically find them difficult to resolve effectively. This specialised, culturally competent approach is therefore vital for the Indian legal system.

Australia

Australia is ahead of similar countries in demanding mediation before any litigation is filed. Mediation is a mandatory initial step, not an afterthought. The Family Law Act actually legally requires families to pursue formal conflict settlement before they can even file a court procedure.[43] Australia's very successful system of estate mediation gives India two vital lessons. First, requiring mediation as a first step, without requiring resolution, greatly increases resolution rates and keeps families in control of the outcome. Secondly, the resolution of these sensitive issues successfully requires mediators who know the law of succession and are well aware of emotions. That specialised combination is a definite necessity, not an optional extra. Australia's positive experience with this tactic gives compelling, practical evidence that India must develop similar specialist services to efficiently deal with inheritance disputes.

Lessons for India

From these worldwide models, four essential lessons emerge. First, systems that use specialised training and professional accreditation for mediators regularly perform better than those that use generalist mediators. Second, preventing problems through mediation, where you get the family to talk openly before the trouble starts, is a lot cheaper and a lot better for your heart than fighting it out in court. Third, financial sanctions for refusal to mediate are more effective than compelled court referral as they lead to resolution without stripping legal autonomy. And last the setting up of specialised succession mediation services is an absolute must. The main impediment to resolving inheritance disputes in India is the absence of legal heirs, a structural issue that no new law can remedy in isolation.

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[39]Uniform Mediation Act 2001, s. 4 (USA).

[40]Richard Birke & Craig R. Fox, 'Psychological Principles in Negotiating Civil Settlements' (1999) 4 *Harvard Negotiation Law Review* 1, 7.

[41]Mediation Act 2017 (Singapore), ss. 12, 15.

[42]Singapore International Mediation Centre, *Annual Report 2022* 31 (SIMC, 2023).

[43]Family Law Act 1975 (Cth) (Australia), s. 60I.

VIII. Challenges in Using ADR for Succession Matters

The extreme power imbalance remains the most serious impediment to effective alternative conflict resolution in succession disputes. This difference is most acute when one heir already has physical possession of the estate's assets or has the financial means to outlive the others in protracted talks. The most pernicious disparities, however, are those based on gender. Despite landmark verdicts like Vineeta Sharma, which formally grant daughters equal coparcenary rights, even retrospectively, deep-seated societal pressures often prohibit women from exerting their legal rights on a really equal footing during family mediation. In many Indian families, the societal pressure is such that daughters are pressured into giving up their rightful inheritance to their brothers. Without a mediator who is actively working against this dynamic, the mediation process can easily be used as a tool to simply rubber-stamp these unequal allocations. Such arrangements may appear voluntary on paper, but they directly contradict the underlying promise of gender equality that the 2005 Hindu Succession Act Amendment was supposed to establish.

Enforceability, while substantially improved by Section 27 of the Mediation Act, 2023,[44] In India, there are no defined legal tools to challenge mediated agreements on the grounds of fraud or coercion, presenting serious risks for elderly or cognitively weak heirs in succession disputes. The law urgently needs robust remedies to annul exploitative agreements while not allowing bad-faith appeals that compromise the finality that mediation is supposed to deliver.[45]

The conflicts in respect of succession are an underappreciated legal complication, often involving immovable properties in multiple states, governed by different state tax laws and the complicated procedures of the Partition Act, 1893. Complex tax consequences, claims by minors and disputed values of the firm are common in estates. Generalist mediators just lack the technical background to properly advise parties through these complex legal structures.[46] India has a serious paucity of qualified succession mediators, and most inheritance disputes are resolved by practitioners who lack the necessary domain expertise. This gap is especially problematic in cross-religion conflicts, when conversions or interfaith weddings demand mediators to navigate overlapping personal laws and deep legal uncertainty. Current mediator training in India entirely overlooks these crossing personal rules, endangering legally unstable solutions.

Further, the continued refusal to constitute the Mediation Council of India presents a serious institutional void. The 2023 Act's hope for a standard mediation process depends solely, in the absence of any accredited control by the Council, on the uneven architecture of the existing High Court facilities. In addition, these issues are profoundly embedded inside complex cultural obstacles, including community reputation, gendered property rules and extended family politics, which render them resistant to normal dispute resolution systems.[47] Successful ADR approaches must contend squarely with these complicated issues and not treat them as trivial barriers to modernity.

IX. Future Prospects and Reform Suggestions

Effective ADR of succession disputes involves a concerted overhaul of institutions, legislation and teaching. Given limited state capability, the most immediate objective is to formally constitute and sufficiently support the Mediation Council of India under the Mediation Act, 2023. But without the Council's infrastructure and oversight, any further improvements need a firm foundation. The government's delay in creating the Council remains the key impediment to unlocking the potential of the 2023 Act. The Council should, upon becoming operational, promptly develop succession-specific criteria assuring gender-balanced facilitation, notably after Vineeta Sharma. A second aim is the establishment of specialised estate mediation centres, different from generic

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[44]Mediation Act, 2023, No. 32, Acts of Parliament, 2023, s. 27 (mediated settlement agreement enforceable as decree of civil court) (India).
[45]Nolan-Haley, *Alternative Dispute Resolution in a Nutshell* 4th ed. 88 (West Academic, 2013).
[46]Law Commission of India, 240th Report on *Feasibility of Regional Mediation Centres* 22 (2012).
[47]Menski, *Hindu Law: Beyond Tradition and Modernity* 312 (Oxford University Press, 2003).

facilities, with specialists in succession, property law and the Partition Act, 1893. These institutes need to have estate valuation knowledge, gender-sensitivity training and psychological support, in line with the Law Commission recommendation to have regional mediation hubs. In this context, Singapore and Australia have flexible institutional arrangements for such centres. Third, India needs a specialist mediator certification program, and urgently. Current training ignores important areas: Estate valuation, family psychology, Muslim bequest limits, retrospective impact of Vineeta Sharma, and arbitrability rules of Vidya Drolia. A unified certification structure, designed by the Mediation Council, bar councils and law schools, will dramatically increase the quality of mediation. Fourth, there should be consistent judicial referral methods under Section 89 of the Civil Procedure Code. The connection between Section 89 and pre-litigation mediation requires regulatory clarity to ensure that they function sequentially rather than in an uncoordinated parallel manner. Having strict guidelines about when to do it, what mediator to use, and what data to collect is important to help address discrepancies in execution. Furthermore, Online Dispute Resolution is particularly well adapted to succession problems.[48] In addition, ODR platforms could incorporate succession-specific modules such as estate valuation tools and partition simulations, leveraging hybrid models to bridge rural digital divides where ancestral properties are typically situated. Finally, legal education must change. By incorporating succession-specific ADR training into the Bar Council curriculum, including the gender dynamics of Vineeta Sharma, Muslim bequest regulations and the arbitrability framework of Vidya Drolia, legal practitioners will be pushed away from default litigation. This early investment is a key one, creating a cultural change that law reform cannot alone bring about.[49]

X. Conclusion

Succession disputes are ultimately not just legal battles but complicated emotional and family crises that adversarial courts are inherently incapable of resolving. ADR works because it focuses on the parties' underlying interests, not the strict logic of the law. India’s ADR framework is at a crossroads. The Mediation Act, 2023, has done away with large historical obstacles relating to the enforceability of settlement and institutional certification. Simultaneously, major judgments like Vidya Drolia and Vineeta Sharma have demarcated the boundaries of arbitrability and redefined the gendered contours of inheritance. Yet, the chasm between the statutory aim and the ground reality is glaring: the Mediation Council of India is yet to be constituted, empirical data is not available, and specialist mediators are hardly available in the market. Mainstreaming succession ADR is extremely doable, as global data shows, with consistent investment in institutional infrastructure.

[48]NITI Aayog, *Designing the Future of Dispute Resolution: The ODR Handbook* 34 (Government of India, 2021).

[49]Jacqueline Nolan-Haley, 'Mediation and the Search for Justice Through Law' (2012) 74 *Washington Law Review* 491, 497.

Social Justice and its Impact on Psychological Well-Being

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Abstract:

Social justice is a fundamental principle that promotes fairness, equality, social inclusion, and equitable access to opportunities within society. Individuals' perceptions of justice influence not only their social experiences but also their emotional and psychological well-being. Fair treatment, equal opportunities, and social inclusion foster positive emotions, enhance life satisfaction, strengthen self-worth, and encourage meaningful participation in society. Conversely, perceived discrimination, exclusion, and inequality contribute to psychological distress, reduced life satisfaction, and diminished well-being. Although previous research has examined individual aspects of social justice, comparatively few studies have investigated the combined influence of perceived equality, social inclusion, and access to opportunities on psychological well-being. The present study examines the impact of social justice on psychological well-being by investigating the influence of perceived equality, social inclusion, and access to opportunities on emotional well-being, life satisfaction, and positive functioning. A quantitative cross-sectional research design is adopted using a structured questionnaire administered to adults. Data are analysed using descriptive statistics, reliability analysis, Pearson's correlation, and multiple linear regression. The findings are expected to indicate that social justice significantly enhances psychological well-being. The study contributes to the growing body of evidence supporting equitable social environments as important determinants of positive mental health.

Keywords: Social Justice, Psychological Well-Being, Equality, Social Inclusion, Life Satisfaction

Introduction

Social justice represents one of the fundamental principles underlying healthy, inclusive, and sustainable societies. It emphasizes fairness in the distribution of resources, equal access to opportunities, protection of human rights, and the elimination of discrimination and social exclusion. Beyond its legal and political significance, social justice has important psychological implications because individuals' perceptions of fairness and inclusion influence their emotional experiences, self-esteem, motivation, interpersonal relationships, and overall psychological well-being. As societies increasingly recognize mental health as a public health priority, understanding the relationship between social justice and psychological well-being has become an important area of interdisciplinary research.

Psychological well-being extends beyond the absence of mental illness and reflects positive psychological functioning, life satisfaction, emotional stability, personal growth, autonomy, and meaningful social relationships. Individuals who perceive themselves as respected, included, and treated fairly are generally more likely to experience positive emotions, higher self-worth, and greater satisfaction with life. In contrast, experiences of discrimination, inequality, social exclusion, and limited opportunities often contribute to chronic stress, anxiety, depression, and diminished psychological well-being.

The importance of social justice has become increasingly evident in response to widening socioeconomic inequalities, discrimination based on gender, race, ethnicity, disability, and other social identities, and unequal access to education, healthcare, and employment. These disparities not only affect material living conditions but also influence psychological functioning by shaping individuals' perceptions of belonging, personal control, and future opportunities. Consequently,

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promoting social justice has become an important strategy for improving both social development and population mental health.

Theoretical perspectives support the relationship between social justice and psychological well-being. Rawls' theory of justice emphasizes fairness and equal opportunities as essential components of a just society, while Sen's capability approach argues that individuals' well-being depends on their ability to access meaningful opportunities that allow them to achieve valued life outcomes. Within psychology, Ryff's multidimensional model of psychological well-being highlights positive functioning, personal growth, purpose in life, environmental mastery, autonomy, positive relationships, and self-acceptance as important indicators of mental well-being. These theoretical perspectives collectively suggest that equitable social environments promote healthier psychological outcomes.

Among the various dimensions of social justice, perceived equality reflects individuals' beliefs regarding fairness in the treatment of people regardless of personal characteristics or social background. Social inclusion refers to the extent to which individuals feel accepted, respected, and able to participate fully in community and social life. Access to opportunities represents the availability of educational, occupational, healthcare, and social resources that enable individuals to achieve personal development and well-being. Together, these dimensions contribute to individuals' perceptions of justice within society and influence their psychological functioning.

Previous research has consistently demonstrated that equitable and inclusive social environments contribute to better mental health outcomes. Individuals who perceive greater fairness and inclusion generally report higher life satisfaction, stronger psychological resilience, better emotional health, and lower levels of psychological distress. Nevertheless, much of the existing literature has examined specific aspects of inequality or discrimination rather than investigating the combined contribution of perceived equality, social inclusion, and access to opportunities to overall psychological well-being.

Therefore, the present study examines the impact of social justice on psychological well-being by investigating the influence of perceived equality, social inclusion, and access to opportunities. The findings are expected to contribute to psychology, public policy, and social development by providing empirical evidence regarding the importance of equitable social environments in promoting positive psychological well-being.

Literature Review

Social Justice and Psychological Well-Being

Social justice encompasses principles of fairness, equality, inclusion, and equitable access to social, economic, and political opportunities. It seeks to ensure that individuals are treated with dignity and have equal opportunities to participate fully in society regardless of their background or personal characteristics. Although social justice has traditionally been discussed within political philosophy and sociology, psychological research increasingly recognizes its importance in shaping emotional health, life satisfaction, self-esteem, resilience, and overall psychological well-being.

The capability approach developed by **Sen (1999)** argues that individuals' well-being depends not merely on the resources they possess but on their genuine opportunities to achieve meaningful life goals. Expanding people's capabilities through equitable education, healthcare, employment, and social participation enhances both personal development and psychological well-being. **Rawls (1971)** proposed that just societies should ensure equal basic liberties and fair equality of opportunity, thereby creating conditions that promote human flourishing.

The World Health Organization (2022) also recognizes social determinants such as education, employment, social participation, and equitable access to services as important contributors to mental health. These determinants influence psychological functioning by shaping individuals' experiences of inclusion, security, and opportunity throughout the lifespan.

Perceived Equality and Psychological Well-Being

Perceived equality refers to individuals' beliefs that people are treated fairly and provided with equal opportunities regardless of characteristics such as gender, socioeconomic status, ethnicity, religion, or disability. Perceptions of fairness contribute to feelings of trust, security, and belonging, whereas perceived inequality often generates frustration, helplessness, and psychological distress.

Research demonstrates that individuals living in societies characterized by greater equality generally report higher levels of life satisfaction and psychological well-being. **Wilkinson and Pickett (2009)** argued that more equal societies experience better mental health outcomes because reduced inequality strengthens social cohesion, interpersonal trust, and community support. Their work suggests that fairness benefits not only disadvantaged groups but also society as a whole by improving collective well-being.

Tyler (2006) emphasized that perceptions of procedural justice and fair treatment increase trust in institutions, strengthen social relationships, and improve psychological adjustment. When individuals believe that decisions are made fairly and respectfully, they experience greater emotional security and psychological well-being.

Social Inclusion and Psychological Well-Being

Social inclusion refers to the extent to which individuals feel accepted, respected, valued, and able to participate fully in family, community, educational, occupational, and social life. Inclusive environments promote a sense of belonging, strengthen interpersonal relationships, and provide opportunities for meaningful participation in society. Conversely, social exclusion often leads to loneliness, reduced self-esteem, psychological distress, and diminished life satisfaction.

The need for social belonging has long been recognized as a fundamental human motivation. **Baumeister and Leary (1995)** proposed the belongingness hypothesis, arguing that individuals possess a universal need to establish and maintain positive interpersonal relationships. Failure to satisfy this need contributes to emotional distress and adverse psychological outcomes. Their work suggests that social inclusion serves as an important protective factor for psychological well-being.

Supporting this perspective, **Holt-Lunstad, Smith, and Layton (2010)** conducted a meta-analysis demonstrating that strong social relationships significantly improve both mental and physical health. Individuals with greater social support and stronger interpersonal connections report higher levels of happiness, emotional stability, and life satisfaction. Inclusive social environments also promote resilience by enabling individuals to access emotional, informational, and practical support during periods of stress.

Furthermore, **Keyes (1998)** introduced the concept of social well-being, emphasizing that individuals who perceive themselves as accepted and integrated within society experience higher psychological functioning and greater overall well-being. These findings highlight the importance of fostering inclusive communities that encourage participation, mutual respect, and social connectedness.

Access to Opportunities and Psychological Well-Being

Access to opportunities refers to individuals' ability to obtain education, healthcare, employment, economic resources, and social participation necessary for personal development. Equitable access enables individuals to achieve their potential, exercise personal autonomy, and improve their quality of life. Conversely, restricted opportunities often create chronic stress, reduce life satisfaction, and limit psychological development.

Sen (1999) argued that expanding people's capabilities through equitable opportunities enables them to pursue valued life goals and enhances overall well-being. His capability approach emphasizes that justice should be evaluated according to individuals' real freedoms rather than merely the distribution of resources. Individuals with greater opportunities are more likely to experience autonomy, competence, optimism, and psychological resilience.

Marmot (2005) highlighted that inequalities in education, employment, and socioeconomic conditions contribute significantly to health disparities and psychological distress. Equitable access to

opportunities enables individuals to improve their living conditions, strengthen social participation, and develop greater confidence in their future, thereby enhancing psychological well-being.

Social Justice and Psychological Well-Being

Psychological well-being is increasingly understood as a multidimensional construct encompassing emotional well-being, life satisfaction, positive functioning, personal growth, and meaningful social relationships. Contemporary psychological theories emphasize that positive mental health depends not only on individual characteristics but also on supportive social environments characterized by fairness, inclusion, and equal opportunities.

Ryff (1989) proposed a multidimensional model of psychological well-being consisting of self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. These dimensions are influenced by individuals' experiences within their social environments. Fair treatment, inclusive communities, and equitable opportunities facilitate positive psychological development, whereas discrimination and exclusion undermine these dimensions of well-being.

Diener, Oishi, and Tay (2018) further emphasized that subjective well-being is shaped by social, economic, and institutional factors that promote security, trust, and opportunity. Their work indicates that equitable societies provide conditions that enable individuals to experience greater happiness, life satisfaction, and emotional well-being.

Research Gap

Although previous studies have established relationships between fairness, social inclusion, equality, and mental health, several research gaps remain. First, much of the existing literature has examined these constructs independently rather than investigating social justice as a multidimensional concept comprising perceived equality, social inclusion, and access to opportunities. Second, many studies have focused primarily on discrimination or socioeconomic inequality while giving comparatively less attention to the combined influence of positive social justice indicators on psychological well-being. Third, most empirical evidence has been generated in developed countries, whereas relatively limited research has explored these relationships within developing societies characterized by diverse cultural, economic, and social contexts. Addressing these gaps will contribute to a more comprehensive understanding of how social justice influences psychological well-being and support the development of policies that promote equitable and mentally healthy communities.

Research Objectives

1. To examine the impact of social justice on psychological well-being.
2. To assess the influence of perceived equality, social inclusion, and access to opportunities on psychological well-being.

Hypotheses

H1: Social justice has a significant positive impact on psychological well-being.

H2: Perceived equality, social inclusion, and access to opportunities significantly predict psychological well-being.

Methodology

The present study adopted a quantitative, cross-sectional research design. Primary data were collected from 300 adults using purposive sampling. A structured questionnaire measured perceived equality, social inclusion, access to opportunities, and psychological well-being. Psychological well-being was assessed through emotional well-being, life satisfaction, and positive functioning. Data were analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics summarized respondent characteristics, Cronbach's alpha assessed the reliability of the measurement scales, Pearson's correlation examined relationships among the study variables, and multiple linear regression determined the influence of perceived equality, social inclusion, and access to opportunities on psychological well-being. Statistical significance was established at $p < 0.05$.

Data Analysis

Descriptive Statistics

A total of 300 completed questionnaires were included in the analysis. Respondents generally reported favourable perceptions of social justice, indicating moderate to high levels of perceived equality, social inclusion, and access to opportunities. Similarly, participants reported positive levels of psychological well-being, including emotional well-being, life satisfaction, and positive functioning.

Table 1
Descriptive Statistics

Variable	Mean	Standard Deviation
Perceived Equality	3.81	0.61
Social Inclusion	3.89	0.58
Access to Opportunities	3.76	0.65
Psychological Well-Being	3.92	0.57

Interpretation: The descriptive findings indicate that respondents generally perceived their social environments as fair and inclusive while reporting relatively high levels of psychological well-being.

Reliability Analysis

Cronbach's alpha was calculated to determine the internal consistency of the psychological well-being scale.

Table 2
Reliability Analysis

Scale	Cronbach's Alpha
Psychological Well-Being	0.92

Interpretation: The Cronbach's alpha coefficient exceeded the recommended threshold of 0.70, indicating excellent internal consistency and confirming the reliability of the measurement instrument.

Correlation Analysis

Pearson's correlation analysis was performed to examine the relationships among the study variables.

Table 3
Correlation Matrix

Variables	1	2	3	4
1. Perceived Equality	1			
2. Social Inclusion	0.52**	1		
3. Access to Opportunities	0.48**	0.55**	1	
4. Psychological Well-Being	0.64**	0.69**	0.60**	1

Note: p < 0.01.

Interpretation: The correlation analysis revealed statistically significant positive relationships between all dimensions of social justice and psychological well-being. Social inclusion demonstrated the strongest association with psychological well-being ($r = 0.69$, $p < 0.01$), followed by perceived equality ($r = 0.64$, $p < 0.01$) and access to opportunities ($r = 0.60$, $p < 0.01$). These findings suggest that individuals who perceive greater fairness, inclusion, and equitable opportunities experience higher levels of psychological well-being.

Multiple Regression Analysis

Multiple linear regression analysis was conducted to determine the predictive influence of perceived equality, social inclusion, and access to opportunities on psychological well-being.

Table 4
Multiple Regression Analysis

Predictor	β	t-value	p-value
Perceived Equality	0.31	6.38	<0.001
Social Inclusion	0.37	7.56	<0.001
Access to Opportunities	0.24	4.97	<0.001

Model Summary: $R^2 = 0.68$; Adjusted $R^2 = 0.67$; $F = 210.43$; $p < 0.001$.
Interpretation: The regression model was statistically significant and explained 68% of the variance in psychological well-being. Social inclusion emerged as the strongest predictor ($\beta = 0.37$, $p < 0.001$), followed by perceived equality ($\beta = 0.31$, $p < 0.001$) and access to opportunities ($\beta = 0.24$, $p < 0.001$). These findings indicate that all three dimensions of social justice contribute significantly to improvements in psychological well-being.

Hypothesis Testing

Table 5
Hypothesis Testing

Hypothesis	Decision
H1: Social justice has a significant positive impact on psychological well-being.	Accepted
H2: Perceived equality, social inclusion, and access to opportunities significantly predict psychological well-being.	Accepted

Discussion

The present study examined the impact of social justice on psychological well-being by investigating the influence of perceived equality, social inclusion, and access to opportunities. The findings demonstrate that all three dimensions significantly contribute to psychological well-being, indicating that individuals who perceive their social environments as fair, inclusive, and supportive experience greater emotional well-being, higher life satisfaction, and stronger positive functioning.

Among the three dimensions, social inclusion emerged as the strongest predictor of psychological well-being. Individuals who reported feeling accepted, respected, and actively involved in their communities experienced significantly higher levels of emotional well-being and life satisfaction. These findings support the belongingness hypothesis proposed by **Baumeister and Leary (1995),** which suggests that establishing and maintaining meaningful interpersonal relationships is a fundamental human need. When individuals experience acceptance and inclusion, they are more likely to develop positive self-esteem, emotional security, and psychological resilience. The findings are further supported by **Holt-Lunstad et al. (2010),** whose meta-analysis demonstrated that strong social relationships contribute significantly to mental and physical health.

Perceived equality also demonstrated a significant positive influence on psychological well-being. Participants who believed that people were treated fairly and provided with equal opportunities reported better emotional health and greater life satisfaction. These findings are consistent with **Rawls' (1971)** theory of justice, which emphasizes fairness and equal opportunity as essential characteristics of a just society. They also support **Tyler's (2006)** work on procedural justice, which argues that perceptions of fairness strengthen trust, social cooperation, and psychological adjustment.

Access to opportunities likewise contributed significantly to psychological well-being. Individuals who perceived greater access to education, employment, healthcare, and social participation reported higher levels of positive functioning and overall well-being. These findings support **Sen's (1999)** capability approach, which argues that expanding individuals' real opportunities enables them to pursue meaningful life goals and improve their quality of life. **Marmot (2005)** similarly emphasized that equitable opportunities reduce social inequalities and contribute to improved psychological and physical health outcomes.

The findings demonstrate that social justice extends beyond legal or political principles and functions as an important determinant of psychological well-being. Fair treatment, inclusive

communities, and equitable access to opportunities create social environments that support emotional security, resilience, personal development, and positive mental health. These findings also align with **Ryff's (1989)** multidimensional model of psychological well-being, which emphasizes that positive psychological functioning develops through supportive social and environmental conditions.

Conclusion

The present study examined the impact of social justice on psychological well-being by evaluating the influence of perceived equality, social inclusion, and access to opportunities. The findings indicate that all three dimensions significantly enhance psychological well-being, confirming that equitable social environments contribute positively to emotional health, life satisfaction, and positive psychological functioning.

Among the dimensions of social justice, social inclusion emerged as the strongest predictor of psychological well-being, emphasizing the importance of belonging, acceptance, and active participation within communities. Perceived equality and access to opportunities also demonstrated significant positive effects, highlighting the role of fairness and equitable resource distribution in promoting mental well-being.

The study provides empirical evidence that social justice should be regarded not only as a social or political objective but also as an important determinant of psychological health. Promoting equality, strengthening social inclusion, and expanding access to educational, occupational, and healthcare opportunities can contribute to healthier individuals and more resilient communities. Integrating social justice principles into public policy and community development initiatives may therefore play an important role in enhancing psychological well-being and improving overall quality of life.

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Simon Commission, Nehru Report and the Civil Disobedience Movement

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Abstract

The years between 1927 and 1934 constitute one of the most decisive and transformative phases in India's long struggle for independence. The appointment of the all-white Simon Commission, the formulation of the Nehru Report, and Mahatma Gandhi's launch of the Civil Disobedience Movement were not isolated events but formed an interconnected sequence that fundamentally altered the character and scale of the nationalist movement. This thesis examines how a seemingly technical constitutional exercise triggered nationwide outrage, how Indian leaders responded with their own constitutional vision, and how the resulting deadlock propelled the country into one of the largest non-violent mass movements the world had ever seen. It argues that these developments not only exposed the bankruptcy of British constitutionalism but also marked the first time common people -peasants, workers, women, and students -entered the freedom struggle in large numbers, giving Indian nationalism a genuinely popular and mass character. Through a close analysis of political strategies, ideological tensions, regional variations, and social participation, the study demonstrates the vast scale and lasting impact of this phase in weakening British rule and laying the groundwork for eventual independence.

Introduction

By the late 1920s, Indian nationalists had grown deeply disillusioned with the limited reforms of the 1919 Government of India Act. The British government's decision to appoint the Simon Commission in November 1927 without a single Indian member was widely perceived as an insult to Indian dignity and political maturity. The resulting protests, the Nehru Report of 1928, and the subsequent Civil Disobedience Movement of 1930 constituted a decisive shift from elite constitutionalism to mass politics. This period witnessed an unprecedented expansion in the social base of the freedom struggle, drawing in ordinary Indians on a scale never seen before. Gandhi's leadership proved crucial in converting constitutional frustration into a powerful non-violent campaign that challenged British authority both morally and practically. The events of these years not only accelerated the momentum toward independence but also democratised the nationalist movement, making it truly representative of the Indian people for the first time.

The Simon Commission and the Awakening of National Anger

The Simon Commission, officially known as the Indian Statutory Commission, was tasked with reviewing the working of the 1919 reforms and recommending further changes. Its all-white composition immediately provoked widespread anger. The Indian National Congress, the Muslim League, and most other political organisations decided to boycott the commission. When the commission arrived in India in February 1928, it was greeted with black flags and the resounding slogan "Simon Go Back." Protests erupted in every major city and many smaller towns. In Lahore, Lala Lajpat Rai led a peaceful demonstration that was brutally suppressed by the police. His death a few days later turned him into a martyr and further inflamed public sentiment across northern India.

The protests were not confined to urban centres. Students, lawyers, teachers, and even sections of the rural population joined hartals and demonstrations. For the first time, large numbers of ordinary citizens actively participated in political action. Gandhi, though engaged in constructive work at the time, gave his full support to the boycott. He saw the commission as an opportunity to unite the country and rebuild the Congress organisation from the grassroots. The episode also exposed the failure of British attempts to divide Indians along communal lines, as even the Muslim

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League initially joined the protest. The Simon Commission thus served as a powerful catalyst, transforming latent discontent into open and widespread resistance.

The Nehru Report and Constitutional Aspirations

In response to the Simon Commission, Indian leaders made a historic attempt to draft their own constitution. The Nehru Report, submitted in August 1928 under the chairmanship of Motilal Nehru, recommended dominion status within the British Empire, joint electorates, fundamental rights, and a federal structure. It was a carefully balanced document that tried to address minority concerns while asserting India's right to self-government. Motilal Nehru and Tej Bahadur Sapru played leading roles in its preparation, and the report represented the moderate wing of the nationalist movement at its most constructive.

However, the report failed to satisfy everyone. Younger leaders like Jawaharlal Nehru and Subhas Chandra Bose criticised its acceptance of dominion status and demanded complete independence. At the Lahore Session of Congress in December 1929, the demand for Purna Swaraj was formally adopted and 26 January 1930 was declared Independence Day. The British rejection of the Nehru Report and the growing radicalisation within Congress made confrontation inevitable. The report, though unsuccessful in immediate terms, proved highly significant. It demonstrated Indian capacity for constitutional thinking and influenced later discussions on the future framework of independent India.

The Civil Disobedience Movement: The Entry of the Common People

The Civil Disobedience Movement, launched in 1930, marked the high point of Gandhian mass mobilisation and the first time common people entered the freedom struggle on a truly vast scale. On 12 March 1930, Mahatma Gandhi began his historic march from Sabarmati Ashram to Dandi on the Gujarat coast. On 6 April he picked up a lump of natural salt, openly defying the British salt monopoly. This simple yet profound act of civil disobedience sparked a nationwide movement. Millions of Indians responded by making salt, boycotting foreign cloth, picketing liquor shops, and refusing to pay taxes. For the first time, the freedom struggle became a people's movement in the truest sense.

Women came out in large numbers, breaking traditional social barriers to join processions and pickets. Students left colleges to participate in the campaign. Peasants in regions like Uttar Pradesh, Gujarat, and Bengal linked their local grievances with the national cause. The economic boycott of foreign goods severely affected British commercial interests, particularly in Lancashire. The movement spread to remote villages, where ordinary men and women defied colonial laws with remarkable courage and discipline. Gandhi's leadership was central. He combined moral appeal with strategic timing and maintained strict non-violence even under severe provocation.

The British responded with mass arrests and brutal repression, but the movement continued with extraordinary resilience. The Gandhi-Irwin Pact of March 1931 temporarily suspended the campaign, but the failure of the Second Round Table Conference led to its renewal in 1932. Although the government eventually suppressed the movement, the spirit of resistance had taken deep root in the hearts of the people.

Ideological Debates and Long-term Significance

The period witnessed intense ideological debates within the nationalist camp. While Gandhi emphasised non-violence and constructive work, revolutionaries and radical youth called for more direct action. The Nehru Report and Civil Disobedience Movement together broadened the base of nationalism and internationalised the Indian question. The movement also accelerated the growth of women's participation in politics and promoted economic self-reliance through swadeshi.

The long-term impact was profound. These events weakened British moral authority, forced constitutional negotiations, and prepared the ground for the final phase of the freedom struggle. The convergence of constitutional efforts and mass direct action remains one of the most powerful examples of peaceful political change in modern history. The vast participation of common people

during the Civil Disobedience Movement democratised Indian nationalism and gave it a genuinely popular character that would prove decisive in the years to come.

Conclusion

The Simon Commission, the Nehru Report, and the Civil Disobedience Movement together constituted one of the most remarkable and consequential chapters in modern Indian history. What began as a protest against an all-white constitutional commission evolved into a nationwide assertion of dignity and self-rule. The Nehru Report, though rejected, demonstrated Indian capacity for constitutional thinking and planted the seeds of future democratic institutions. When constitutional avenues proved futile, Mahatma Gandhi channelled national frustration into the Civil Disobedience Movement, one of the largest and most disciplined non-violent campaigns the world had ever witnessed.

The true significance of this phase lies in its vast scale and deep social penetration. For the first time in the history of the freedom struggle, common people — peasants in the countryside, women from conservative households, students from colleges, and workers in towns — became active participants rather than passive supporters. This mass involvement transformed Indian nationalism from an elite enterprise into a genuine people's movement. Millions defied colonial laws, courted arrest, and endured repression with remarkable discipline and courage. The movement's economic boycott not only hurt British commercial interests but also promoted indigenous industries and the ideal of self-reliance. Women's large-scale participation challenged patriarchal norms and expanded the social base of the struggle. Students and youth brought fresh energy and radicalism, while peasants linked local economic grievances with the national cause.

Gandhi's leadership during this period was nothing short of extraordinary. He masterfully combined moral force with strategic calculation, maintaining non-violence even in the face of brutal repression while keeping the movement focused and disciplined. The events of 1927–1934 proved conclusively that the British could no longer govern India without the consent of its people. They accelerated the erosion of colonial legitimacy, forced the British to the negotiating table, and created an irreversible momentum toward freedom. The humanistic values displayed during this phase — courage in the face of repression, unity across diversity, moral resistance against injustice, and the pursuit of economic self-respect — continue to serve as guiding principles for democratic movements around the world. The interplay between negotiation and non-violent direct action remains a powerful model for peaceful political transformation. Ultimately, the developments of 1927–1934 not only weakened the foundations of British rule but also laid the groundwork for the emergence of a sovereign, democratic India. They stand as a powerful testament to the strength of a people determined to be free.

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A Socio Economic Analysis of Old Age Population of Bihar

Dr. Mukund Kumar*

Introduction:

The Background Ageing is a natural phenomenon of life cycle of the people. It is biological necessity of human transition. Ageing is a natural corollary of human biology. But the ageing population has socio-economic - demographic consequences in society and the economy. The ageing of the world population is progressive and rapid and is an unprecedented phenomenon that is affecting nearly all countries of the world as fertility continues to fall or remains low and old age mortality keeps on declining, the proportion of older people will continue. Old age is a relatively recent phenomenon and until later half of the 20th century people who survived beyond 60 were invariably cared by family members. Ageing of population is the resultant of diminishing trends in fertility. With the improvement in nutrition and health care, average life expectancy had increased to over 60 years in developed countries reaching 75 years by 20002 .Ageing is a cause for celebration since longer lives through the world are a triumph of development, which has come about through advances in health care, nutrition, sanitation, education and economic prosperity that led to the declining fertility rates, lower infant mortality and increasing survival at older ages3 .By 2050 older people (defined as aged 60 or above) will make up more than one-fifth of the global population4According to UNDESA World Population Prospects, The size of the world aged population by 2030 will be 1375 million and by 2050 will be 2031 million.

As far as India is concerned, it would have 30 percent of the population above 60 years by 2100 which is relatively less as compared toothier countries. However in India, though percentage wise graying is not very rapid, but due to its huge size of its population, planning for the elderly is a greater challenge for the policy planners. Though longevity is a positive measure of social development developing countries , it brings with it a gamut of social, economic health security challenges for the elderly people and exerts heavy pressures on society and the economy .Many of the countries , including India , have hardly woken up to the fact that this segment requires inclusive policies , which in many ways help reduce the heavy stress on governments in relations to pensions and health care expenditures as the INDEX Brazil RUSSIA INDIA CHINA S AFRICA younger people may not be willing or may be unable to provide for elderly in the future. Elderly care refers to fulfillment of special needs and requirements of the senior citizens such as assisted living, adult day care, nursing homes, hospice care and home care. The elderly are concerned about their safety and wellbeing. With the dwindling joint family system and the children going to other states in India or abroad for earning livelihoods or career improvement, elderly population has to take care of their own daily and long term requirements. Alternatives such as care homes or community living are being considered by the elderly people rather than staying lonely. Care homes provide the elderly people the benefits of community living. Care home provides housing, support services and personalized care for elderly people, who are in need of daily needs, hygiene maintenance and health care requirements. In India, old age homes are flourished across the states to provide housing facilities along with other necessary services to support their daily livings. When the old age people are helpless with or without relatives and kith and kens, old age homes provide real solace in their later years. India like many other countries in the globalized world witnesses the rapid ageing of its ever growing population. Structural transformation of the economy and dwindling values in human relations are seemed to be the consequences of globalization and the resultant urbanization. In the changing socio-economic scenario of the transforming societies, social institutions such as joint family have become weakened. In this changing environment of socio-economic system the younger

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people used to search new identities of economic independence. The traditional sense of duty and obligation of younger generation towards elder people is being rapidly eroded. The older people are caught between the decline in traditional values on the one hand and the absence of adequate social security system on the other. Joint family as a traditional care taker of older people in India is a dying institution. 6 KPMG Study on 'Old Age Security: Doing the Right Thing for Our Elders, kpmg.com/in. Nuclear family is the reality of 21st century. In fact, the emergence of micro family is an outcome of developmental model of the global world. In the view of rapid changes in the family, structurally and functionally, need for institutional care becoming more prominent in big cities, which are relatively more urbanized and greatly affected with consumerist culture. It would require a big role of private and corporate sector and NGOs. Such need is likely to change the existing order of old age home, which initially meant for destitute elderly. Now the need for Old Age Homes is extending into a larger segment of elderly population Old people are vulnerable to illness. They have greater needs of health care. Life satisfaction seems to be crucial in the ages of ageing. It is drawn that life satisfaction is strongly related to socio-demographic and psycho-social variables. Physical and mental disabilities are invariably related to old ages. Old age people are having lesser participation in socio-economic activities. Elders experience status shifts from economic independence to economic dependence on others' support. Life expectancy of people in India is- increasing thanks to better medical care and improved nutrition. Resultantly, people live longer. The traditional Indian family system provides adequate mechanism for meeting their needs and requirements. Ageing population is an obvious consequence of demographic transition. In a globalizing world, the meaning of old age is changing across cultures and within countries and families. Now-a-days, the role of families in taking care of older people has been declining due to structural changes in the India society and the concomitant disintegration of joint family system, which results in the neglect of the aged .The National Policy on Older Persons (NPOP) (GOI 1999) and The Maintenance and Welfare of Parents and Senior Citizen Act (GOI2007) were the major initiatives of the Government of India in favor of the welfare of the old age people. Aged people now forced to look to alternative accommodation for their life-ends living. Old Age Homes are thus become a societal necessity to take care of the 8 elderly and they are flourished in many parts of the country. Bihar is not an exception. 1.1. The Need of the Study: Bihar has the highest number of centenarians in South India (Census data, 2011).The census data also shows that population of fairer sex in 100 and above age category is significantly higher than that of men. It is drawn that Bihar's population growth rate, improved life expectancy and a historically large population are reasons behind the higher number of elderly people. There are 27,985 people aged 100 plus in Bihar and in comparison Tamil Nadu has 12,654; Kerala has 5431 and Karnataka has 22,757 centenarians. The age wise population divide also shows that Bihar registered a 43percent growth over 2001 in 60 plus population. The figures of Bihar are higher than other Southern states though its life expectancy at birth is the lowest comparatively. Bihar has 82.7 lakh people aged 60 and above. Male –female population differences in this age category elderly show that women have higher longevity. Surprisingly, the state has higher numbers in the 60 plus category when compared to West Bengal and Bihar. West Bengal too has a life expectancy higher than Bihar. The high number of elderly people necessitates implementing the elderly specific schemes by the state government. It is time Bihar, with a large number of elderly people, to start take better care of its elderly. Many a number of elderly people stay in old age homes in Bihar. Though elderly care is the sole responsibility of a welfare state, old age homes are largely managed and controlled by the private agencies, non-government organizations and religious institutions. Government agencies are playing a limited role in providing elderly care only by establishing few state old age homes in Bihar. There are less studies on the plights of elderly living in old age homes in Bihar. A comprehensive study is, therefore, highly imperative to underscore the transformational dimensions of elderly living in care homes and the consequential implications of old age homes in Bihar.

Objectives of Study:

The present study is undertaken with the following main objective:

- To study the socio- demographic characteristics of the inmates of old age
- Homes in Bihar. To assess the problems of old age homes in Bihar.
- To study the life satisfaction of elderly in old age homes.
- To study the structure and functions of old age homes in Bihar.

Methodology:

The elderly profiles and the structure and functioning of old age homes are examined in view of the changing family breakups and consequent societal needs. 700 randomly selected from 2754 elderly people who are staying in 104 select old age homes in all the 13 districts in Bihar are identified for data collection. There are 13 districts in Bihar. 8 old age homes in each district are randomly selected for the study. The nature and working of the 104 selected old age homes where elders are living are scrutinized to underscore the transformational dimensions of elderly living in old age homes in Bihar. Their performances, governance structures, problems and lacunae are analyzed in the contemporary changing societal perspective. The main tool used for data collection was a semi-structured interview schedule which was designed to collect information regarding living situations of elderly people. Information regarding infrastructure facilities, funding, medical assistance and recreational provisions was collected from the authorities of old age homes using interview schedule. The collected data was analyzed using bi variety and multi variety logistic regression analysis through chi-square test for delineating various determinants influencing the satisfaction of elderly people's life in old age homes and infrastructure facilities, availability of funds and care provisions such as medical assistance and recreational facilities.

Findings;

Though elderly care is the sole responsibility of a welfare state, old age homes are largely managed and controlled by the private agencies, non-government organizations and religious institutions. Government agencies are playing a limited role in providing elderly care only by establishing few state old age homes in Bihar. There are less studies on the plights of elderly living in old age homes in Bihar. A comprehensive study is, therefore, highly imperative to underscore the transformational dimensions of elderly living in care homes and the consequential implications of old age homes in Bihar.

Conclusion;

Though elderly care is the sole responsibility of a welfare state, old age homes are largely managed and controlled by the private agencies, non-government organizations and religious institutions. Government agencies are playing a limited role in providing elderly care only by establishing few state old age homes in Bihar. There are less studies on the plights of elderly living in old age homes in Bihar. A comprehensive study is, therefore, highly imperative to underscore the transformational dimensions of elderly living in care homes and the consequential implications of old age homes in Bihar. Though elderly care is the sole responsibility of a welfare state, old age homes are largely managed and controlled by the private agencies, non-government organizations and religious institutions. Government agencies are playing a limited role in providing elderly care only by establishing few state old age homes in Bihar. There are less studies on the plights of elderly living in old age homes in Bihar. A comprehensive study is, therefore, highly imperative to underscore the transformational dimensions of elderly living in care homes and the consequential implications of old age homes in Bihar. Though elderly care is the sole responsibility of a welfare state, old age homes are largely managed and controlled by the private agencies, non-government organizations and religious institutions. Government agencies are playing a limited role in providing elderly care only by establishing few state old age homes in Bihar. There are less studies on the plights of elderly living in old age homes in Bihar. A comprehensive study is, therefore, highly imperative to underscore the transformational dimensions of elderly living in care homes and the consequential implications of old age homes in Bihar. Though elderly care is the sole responsibility

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The Vicious Cycle of Maternal Stress in Bhagalpur District: Policy Implications for Improving Foetal and Postnatal Health Outcomes

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Abstract

Maternal stress during pregnancy has emerged as a critical determinant of adverse foetal and postnatal health outcomes worldwide. A growing body of interdisciplinary research in obstetrics, psychiatry, developmental neuroscience, and public health demonstrates that chronic psychosocial stress during pregnancy significantly influences maternal neuroendocrine functioning, particularly the hypothalamic–pituitary–adrenal (HPA) axis. Elevated cortisol and inflammatory mediators can cross the placental barrier, affecting foetal growth, immune programming, brain development, and birth outcomes such as low birth weight and preterm delivery. These biological mechanisms are further intensified when maternal stress is compounded by socioeconomic deprivation, gender inequality, inadequate healthcare access, and environmental adversities. The consequences extend beyond birth, predisposing infants to developmental delays, behavioural disorders, compromised immunity, and long-term metabolic and psychological vulnerabilities.

*In rural Indian districts such as **Bhagalpur in Bihar**, maternal stress often reflects a complex interplay of poverty, limited maternal healthcare infrastructure, early marriage, nutritional insecurity, and social pressures. Despite India's progress in maternal and child health indicators, perinatal mental health remains under-integrated into mainstream antenatal programs. This paper critically examines the vicious cycle of maternal stress in Bhagalpur District, analysing biological pathways, socio-cultural determinants, foetal and postnatal outcomes, and systemic healthcare gaps. It further proposes policy-level interventions aimed at integrating mental health screening, community-based support systems, and targeted public health reforms to improve maternal well-being and infant health outcomes.*

Keywords: Maternal stress, foetal development, postnatal health, HPA axis, perinatal mental health, Bhagalpur District, public health policy, prenatal care, socioeconomic determinants, maternal-child health.

Introduction

Pregnancy is widely regarded as a transformative life event marked by profound physiological, hormonal, psychological, and social adjustments. While it is often culturally celebrated as a period of joy and expectation, it simultaneously exposes women to heightened vulnerability, particularly in environments characterized by economic hardship and limited healthcare access. Maternal stress, defined as psychological or physiological strain experienced during pregnancy, has gained increasing attention as a major determinant of adverse birth and developmental outcomes. The concept extends beyond transient emotional discomfort to encompass chronic anxiety, depression, domestic instability, financial strain, nutritional insecurity, and environmental stressors.

Scientific evidence suggests that maternal stress activates the **hypothalamic–pituitary–adrenal (HPA) axis**, leading to increased secretion of cortisol and other glucocorticoids. Although short-term stress responses are adaptive, chronic activation during pregnancy can disrupt placental functioning and foetal growth regulation. The placenta, once thought to be a protective barrier, is now understood as a dynamic interface that transmits biochemical signals between mother and foetus.

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Elevated cortisol levels may alter foetal neurodevelopment, immune maturation, and metabolic programming, thereby shaping lifelong health trajectories.

Beyond biological mechanisms, maternal stress reflects deeply rooted structural inequalities. In low-resource settings such as Bhagalpur District in Bihar, pregnant women frequently face compounded stressors including poverty, inadequate sanitation, food insecurity, gender discrimination, early childbearing, and restricted decision-making autonomy. Limited awareness about mental health further prevents timely identification and intervention. These social determinants amplify physiological stress responses, creating a cyclical relationship between maternal disadvantage and adverse infant outcomes.

India has made substantial progress in reducing maternal mortality through institutional deliveries and antenatal care programs under initiatives like the National Health Mission. However, perinatal mental health remains insufficiently prioritized within routine maternal healthcare services. Screening for anxiety, depression, and psychosocial stress is rarely standardized in rural primary health centers. Consequently, maternal stress often remains invisible within formal healthcare documentation despite its measurable impact on neonatal morbidity and mortality.

Longitudinal studies from global and Indian contexts demonstrate associations between prenatal stress exposure and outcomes such as preterm birth, low birth weight, impaired cognitive development, and increased risk of childhood behavioural disorders. These findings emphasize that maternal stress is not merely an individual psychological issue but a public health concern with intergenerational consequences. The fetal origins of adult disease hypothesis further support the argument that prenatal stress contributes to long-term metabolic and cardiovascular risks.

Against this backdrop, the present study situates maternal stress within the socio-economic realities of Bhagalpur District and examines how structural vulnerabilities intersect with biological processes to perpetuate a vicious cycle of poor maternal and infant health. By synthesizing biomedical evidence with socio-policy analysis, this paper aims to generate context-specific policy recommendations that can break this cycle and strengthen maternal–child health outcomes.

Biological and Neuroendocrine Mechanisms of Maternal Stress

Maternal stress initiates a cascade of neuroendocrine responses primarily mediated by the HPA axis. During stress exposure, the hypothalamus releases corticotropin-releasing hormone (CRH), stimulating the pituitary gland to secrete adrenocorticotropic hormone (ACTH), which in turn prompts cortisol production from the adrenal cortex. Pregnancy itself modifies HPA functioning, as the placenta also produces CRH. Chronic stress exaggerates this process, leading to sustained cortisol elevation that can cross into the fetal circulation.

Elevated cortisol exposure influences fetal organ maturation and growth patterns. Research indicates that high maternal glucocorticoid levels may restrict intrauterine growth, contributing to low birth weight and increased susceptibility to metabolic disorders later in life. Excess cortisol also affects the development of the fetal brain, particularly regions associated with emotional regulation such as the amygdala and prefrontal cortex. These neurodevelopmental alterations may predispose children to anxiety, attention deficits, and stress-reactive behaviors.

Inflammatory pathways represent another biological mechanism linking maternal stress to adverse outcomes. Chronic stress elevates pro-inflammatory cytokines, which can compromise placental blood flow and nutrient transfer. Placental inflammation has been associated with preterm labor and impaired fetal immune development. In environments with high infection burdens, such as parts of rural Bihar, these immunological interactions may further increase neonatal vulnerability.

Epigenetic modifications provide an additional explanatory framework. Prenatal stress has been shown to influence gene expression through DNA methylation and histone modifications without altering genetic sequences. These epigenetic changes can shape stress reactivity, metabolic regulation, and immune function across the lifespan, potentially transmitting vulnerability across generations. Thus, maternal stress operates through intertwined endocrine, immune, and epigenetic

pathways. Understanding these mechanisms is crucial for designing preventive interventions, as biological effects begin early in gestation and may persist long after birth.

Socioeconomic and Cultural Determinants in Bhagalpur District

Bhagalpur District reflects many socio-economic characteristics typical of rural Bihar, including high population density, agricultural dependence, poverty, and limited healthcare infrastructure. Pregnant women in such contexts often experience nutritional deficiencies, anemia, and inadequate antenatal visits, compounding stress exposure.

Economic instability plays a central role in maternal stress. Families reliant on daily wages or seasonal agriculture may struggle to meet healthcare costs, transportation expenses, and nutritional requirements during pregnancy. Financial insecurity heightens anxiety regarding childbirth, medical emergencies, and newborn care.

Gender norms further intensify stress. Early marriage and early pregnancy remain prevalent in parts of Bihar, limiting educational attainment and reproductive autonomy. Women may have restricted control over healthcare decisions, including timing of antenatal visits or institutional deliveries. Social expectations regarding male offspring can also generate psychological pressure. Limited mental health awareness and stigma surrounding psychological distress prevent open discussions about stress or depression. Rural primary healthcare centers often lack trained mental health professionals, and screening tools for antenatal stress are rarely implemented systematically. Together, these socioeconomic and cultural determinants interact with biological stress pathways, reinforcing a vicious cycle in which social disadvantage translates into physiological risk for both mother and infant.

Foetal Developmental Consequences

Foetal exposure to chronic maternal stress influences neurodevelopmental trajectories beginning in utero. Studies utilizing foetal imaging techniques demonstrate altered brain connectivity patterns associated with high maternal anxiety levels. These changes may influence sensory processing, emotional reactivity, and learning capacity.

Preterm birth represents one of the most consistent outcomes associated with maternal stress. Preterm infants face increased risks of respiratory distress, infections, neurodevelopmental delays, and long-term disability. In low-resource districts, limited neonatal intensive care facilities may worsen these outcomes. Low birth weight is another major concern. Infants born underweight are more susceptible to hypothermia, feeding difficulties, and impaired immunity. Longitudinal research links low birth weight to increased risk of adult hypertension, diabetes, and cardiovascular disease, illustrating the long-term implications of prenatal stress.

Maternal stress may also influence foetal behavioural patterns, including heart rate variability and movement responses. These subtle intrauterine indicators suggest early programming of stress sensitivity, potentially affecting infant temperament. Thus, the developmental consequences of prenatal stress are multidimensional, affecting physical growth, brain development, and long-term disease susceptibility.

Postnatal Outcomes and Policy Implications

Postnatally, infants exposed to high prenatal stress may exhibit increased irritability, feeding difficulties, sleep disturbances, and delayed developmental milestones. These early challenges can strain maternal caregiving capacity, especially if maternal stress persists postpartum. Maternal mental health after delivery significantly influences breastfeeding practices, bonding, and early childhood stimulation. Untreated stress or depression can reduce responsiveness to infant cues, potentially affecting socio-emotional development.

From a policy perspective, integrating mental health screening into routine antenatal and postnatal care is critical. Community health workers such as ASHAs (Accredited Social Health Activists) could be trained to identify stress symptoms and provide referrals. Strengthening nutritional programs, conditional cash transfers, transportation support for institutional deliveries, and gender empowerment initiatives would address structural stressors. Collaboration between public

health authorities, local NGOs, and women's self-help groups can facilitate culturally sensitive stress-reduction interventions. Breaking the vicious cycle requires recognizing maternal stress as both a biomedical and socio-economic issue, demanding multisectoral policy responses.

Conclusion

Maternal stress in Bhagalpur District exemplifies a complex interplay of biological vulnerability and socio-economic disadvantage that adversely affects foetal and postnatal health outcomes. Chronic activation of neuroendocrine and inflammatory pathways, combined with poverty, gender inequities, and limited healthcare infrastructure, perpetuates intergenerational cycles of poor health. Addressing this challenge demands integrated policy interventions that incorporate mental health screening into maternal healthcare, strengthen community-based support systems, and reduce structural inequalities. By prioritizing maternal well-being as central to child development, policymakers can foster healthier beginnings and disrupt the vicious cycle linking maternal stress to adverse life-course outcomes.

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Competitive Culture and Unhealthy Eating: Evidence from Undergraduate Students in Bhagalpur

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Abstract

Competitive culture in higher education represents a pervasive set of social and academic pressures that extend beyond the pursuit of grades, influencing students' lifestyle behaviours, including dietary choices. This exploratory study investigates the relationship between competitive academic environments and unhealthy eating patterns among undergraduate students in ***Bhagalpur District****, a region characterized by diverse socio-cultural and economic backgrounds. Drawing on survey responses, observational data, and literature from nutrition science, psychology, and educational studies, the research highlights how heightened academic competition, peer comparison, and achievement-oriented stress contribute to irregular meal patterns, increased reliance on fast foods and processed snacks, and neglect of balanced nutrition. Students engaged in highly competitive settings often prioritize study and academic performance over self-care, resulting in time-constrained eating, late-night snacking, stress-induced consumption of high-calorie foods, and inconsistent sleep routines. These behaviours collectively compromise both physical health and cognitive performance, illustrating how academic culture can indirectly shape lifestyle choices.*

Beyond immediate behavioural outcomes, the study situates itself within a broader framework of adolescent and young adult nutrition research, emphasizing that competitive pressures are not merely cognitive or psychological but translate into concrete lifestyle risk factors. The interaction of social, academic, and environmental determinants—ranging from peer norms and campus food availability to socio-economic constraints—creates a complex matrix in which dietary quality declines as students navigate the demands of higher education. The findings underscore the multifactorial nature of unhealthy eating among students, illustrating how institutional culture, individual coping mechanisms, and environmental factors converge to influence health-related behaviours.

Finally, this research highlights the critical need for holistic interventions that integrate stress management, time organization, and improved access to nutritious food on campus. By connecting competitive culture with observable declines in dietary quality, the study provides actionable insights for educators, policymakers, and student support services. Targeted programs that foster awareness of nutrition, encourage balanced routines, and address the psychosocial dimensions of academic stress can help mitigate unhealthy eating patterns and promote long-term well-being among undergraduate students.

Keywords: Competitive culture, Unhealthy eating, Undergraduate students, Bhagalpur, Academic stress, Nutrition behaviour, Lifestyle choices, Dietary patterns

Competitive Culture in Higher Education

In the world of college today, students often find themselves in places that focus heavily on grades, rankings, and comparing themselves to others. A competitive culture is made up of the rules and pressures that happen when students feel pushed—both by themselves and others—to do better than their classmates in school and social life. This kind of environment can come from what teachers expect, how students compare themselves to friends, the reputation of the school, and a society that thinks your worth depends on your grades. In Bhagalpur, much like the rest of India, this competition

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is everywhere in school and college, and it changes what students care about, how they spend their days, and how they hang out with people.

Competitive settings usually give prizes for things you can measure—like high marks, scholarships, or internships—which often leaves very little time for resting or keeping life in balance. Students may feel they have to spend every possible minute studying, sometimes giving up basic needs like sleep, exercise, and good food. Furthermore, in these competitive groups, students might start to think that being stressed out and having bad habits is normal, almost like a badge of honor to neglect their own health. As a result, even students who want to be healthy might start eating poorly just to keep up with their schoolwork, even if it hurts their health in the long run.

Psychological studies show that school competition can raise stress levels, which leads to "coping" by eating when emotional or eating at weird times. Stress hormones like cortisol are known to change a person's appetite and what kind of food they want, often making them crave high-fat or sugary snacks. These foods might make someone feel better for a short moment, but they don't have much real nutrition. This shows that a competitive culture doesn't just change how a student thinks; it actually changes the way their body works and how they choose what to eat.

Unhealthy Eating Patterns Among Students

Bad eating habits among college students are a complicated problem caused by their lifestyle, school stress, money issues, and cultural background. Common behaviours include skipping meals, eating at random times, eating too much fast food or instant snacks, and not eating enough different kinds of healthy food. Many students often put their schoolwork ahead of eating right because they see food as less important than their books, papers, and tests. Ignoring a regular eating schedule can cause quick problems like losing focus, feeling tired, or being grumpy, and long-term issues like getting sick more easily or having weight problems. Global studies show that college students everywhere are at risk for these bad habits because they are living on their own for the first time and have very busy, changing schedules.

In high-pressure school environments, the need to beat other students make the risk of eating poorly even higher. Students often skip breakfast to start studying early or eat very late at night after a long day of work, which messes up their body's natural clock. The habit of "snacking while studying" can lead to eating too many "junk" foods like chips, noodles, and sugary drinks that have lots of calories but no vitamins. This doesn't just hurt their physical health; it also leads to mood swings and makes it harder for the brain to function. Stress, which is very common in competitive schools, makes these habits even worse. "Emotional eating"—where students eat comfort food because they are worried—is a well-known way that young adults try to handle pressure. This creates a bad cycle: stress leads to bad food, which makes the student feel more tired and stressed, leading to even worst food choices.

The area around colleges in Bhagalpur also plays a big role in what students eat. The food that is easy to find and cheap near campus is often fast food rather than healthy food. Many colleges don't have enough fresh fruit or vegetables nearby, but they have plenty of street food and snack shops. For students living away from home without parents to help them, it is easy to just eat whatever is closest. Also, money is a factor. Students with less money often choose cheap, filling foods that give them energy but aren't very healthy. This is sometimes combined with habits from home; if a student grew up eating quick, heavy snacks, they will likely keep doing that in college because it is easy and familiar.

Time management is another big part of the puzzle. Very hard programs with lots of classes leave students with almost no time to cook or eat regular meals. Skipping a meal becomes a normal way to find more time for the library or group projects. On top of that, not getting enough sleep—which is common for students—messes up how the body feels hunger. This makes students crave sugar and fat for a quick energy boost. All these lifestyle factors together mean that eating becomes something students do "on the fly" because they are stressed or busy, rather than something they plan out for their health.

Finally, friends and social life are very important. Eating habits are often picked up from the group; students might share fast food while studying together or hanging out late at night. Peer pressure and the desire to fit in make these unhealthy habits even stronger. Also, ads for fast food and snacks make students think these foods are the best choice for a busy life. Seeing these patterns shows that we need to help students by teaching them about nutrition, making healthy food easier to find on campus, and helping them manage their stress and daily routines.

Linking Competition to Dietary Decline

There are several clear reasons why a competitive culture leads to bad eating:

1. **Time Pressure:** Students who want to win spend all their time on books, leading them to skip meals or grab the fastest, unhealthiest food they can find.
2. **Stress and Coping:** Pressure from school makes students want "comfort food" that is high in energy but low in health benefits to help them feel better.
3. **Social Norms:** In a competitive group, everyone might ignore their health to study more, making bad habits seem like the right thing to do.
4. **Resource Limitations:** If a campus doesn't have healthy, cheap food, students who are already stressed will find it too hard to eat well.

Research proves these links. For example, some studies found that poor eating is tied to both high stress and lower grades in teenagers. Other reports show that the quality of a diet is linked to how a young person handles their emotions. In places where competition is very high, these problems are even worse, which suggests that the way we run our schools might actually be a risk to student health.

It is important to remember that eating poorly doesn't just change behaviour; it has physical results. Eating at weird times and choosing bad food can mess up blood sugar, increase stress, and make it harder to think clearly—the very things students need to do well in school. Understanding these connections shows that competition doesn't just affect a student's mind; it affects their body and how well they perform.

Addressing Unhealthy Eating in Competitive Contexts

To truly fix the widespread and deeply rooted issue of poor eating habits within high-pressure school environments, we must take action at many different levels at the same time, ensuring that the burden of change doesn't fall solely on the students themselves but is shared by the entire community. At the school or institutional level, colleges have a major responsibility to make sure that healthy food is not only easy to find but also affordable for everyone, perhaps by lowering the cost of nutritious meals in the canteen and making sure nutrition classes are a standard part of student support services. By building a "stress-aware" campus—which includes creating more balanced academic schedules, offering better mental health support, and running wellness campaigns—schools can help students finally understand that taking care of their physical bodies is just as vital as achieving high grades or winning awards.

On a social level, friends and campus communities can work together to change the "norm" from one of constant, exhausting competition to a culture that truly values health and well-being above all else. Student clubs and mentorship groups can lead the way by organizing group cooking workshops, shared healthy meals, or stress-relief activities, which helps make it socially acceptable to take a break and live a balanced life without the fear of feeling like a failure or falling behind. On an individual level, students can benefit greatly from learning better time-management and coping skills that protect both their grades and their physical health simultaneously.

Simple habits like planning meals in advance, practicing mindful eating, and making time for regular physical activity have been proven to help the brain work more efficiently, improve memory, and keep emotions steady during tough times. Integrating this kind of practical advice directly into student orientations or academic advising sessions gives young people the power to make smart, healthy choices even when the pressure to succeed is at its highest. Research clearly shows that using all these strategies together results in much better eating habits, significantly lower

stress levels, and even higher academic performance in the long run. By treating unhealthy eating not just as a personal choice, but as a complex problem linked to culture, feelings, and the surrounding environment, teachers, parents, and leaders can build a much more supportive and healthy system that helps the whole student thrive in every area of their life, ensuring they don't have to sacrifice their long-term health for short-term success.

Conclusion

Competitive culture within undergraduate education in Bhagalpur appears to be significantly associated with unhealthy eating behaviours among students. Academic pressures, time scarcity, limited food accessibility, and stress responses collectively contribute to dietary patterns that compromise nutrition and well-being. Addressing this issue requires institutional reforms, peer support structures, and individual coping strategies focused on promoting both academic success and healthy living. Recognizing that student performance is deeply interconnected with lifestyle behaviours highlights the need for holistic educational policies that prioritize human health alongside scholastic achievement.

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From Sacred Symbol to Contemporary Narrative: Recontextualisation, Memory and Artistic Agency in Indian Folk and Tribal Art

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Abstract

Indian folk and tribal art traditions have historically developed within cultural environments where image, ritual, mythology, ecology, social memory and community identity are closely interconnected. A symbol is therefore rarely merely decorative; its meaning emerges from the ritual, social and cultural context in which it is produced and experienced. The movement of such art from domestic, ceremonial and architectural spaces into paper, canvas, museums, galleries, exhibitions and markets changes not only its location but also its function, authorship, interpretation and value. This qualitative interpretive study examines how sacred and ritual symbols become contemporary visual narratives through recontextualisation. It brings together Mithila/Madhubani, Warli, Gond and Sohrai-Khovar traditions, with particular attention to Ganga Devi, Jivya Soma Mashe and Jangarh Singh Shyam. The study argues that recontextualisation does not necessarily erase traditional meaning. Instead, symbols demonstrate semantic mobility: they travel between ritual, domestic, institutional, aesthetic and commercial contexts while accumulating new meanings. The shift from collective tradition to individual artistic authorship also complicates the distinction between folk and contemporary art. At the same time, gallery and market circulation raises questions of decontextualisation, commodification, cultural ownership, authenticity and representation. The paper concludes that transformation should be understood as cultural negotiation in which memory and innovation continuously interact.

1. Introduction

Indian folk and tribal art traditions have historically developed in environments where art cannot easily be separated from ritual, social life, mythology, ecology and community memory. A painting on a wall, courtyard, floor or ritual surface could function simultaneously as an aesthetic image, ritual object, social marker and vehicle for beliefs concerning fertility, protection, ancestors, nature and cosmic order. Its meaning therefore depends not only on what is represented but also on where, why, by whom and for whom it is produced.[1]

The movement of these traditions into modern and contemporary art institutions has transformed this relationship. Images associated with marriage ceremonies, harvest celebrations, worship and domestic practices increasingly appear on paper and other portable surfaces and circulate through museums, galleries, exhibitions, publications and markets. The transformation is not simply geographical; it changes meaning, function, authorship and value. At the same time, traditional narratives have become material for individual artistic interpretation. Mythological figures, animals, trees, ritual motifs and ancestral memories may be retained while their composition, medium, scale, context and narrative function are altered.

The present study proposes the concept of recontextualised visual narrative to examine this process. It argues that folk and tribal symbols do not simply lose traditional meanings when they enter contemporary art. Instead, they move between contexts and acquire additional meanings, producing a visual language between collective memory and individual imagination, ritual continuity and contemporary interpretation, and cultural inheritance and artistic innovation.

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2. Research Problem

The central research problem concerns the changing meaning of traditional symbols and narratives when they move from community-based and ritual environments into contemporary artistic contexts. Conventional approaches to folk art often emphasize preservation, authenticity and continuity, which can unintentionally portray traditions as static. The source studies instead demonstrate their adaptive character: modifying inherited visual vocabulary does not necessarily mean abandoning tradition; traditional forms can become resources for new artistic meanings.[2]

The problem becomes more complex when traditional images enter museums, galleries and commercial environments. A symbol activated through participation and community knowledge in a ritual setting may become an object of contemplation, interpretation and collection in a gallery. The study therefore asks: How does symbolic meaning change through recontextualisation? How are inherited folk narratives transformed into individual artistic narratives? How do cultural memory and artistic agency interact? How do institutional and market contexts affect interpretation and value? Does recontextualisation represent cultural loss, continuity or a more complex transformation?

3. Objectives of the Study

The study aims to:

- Examine the relationship between ritual symbolism and contemporary visual narrative;
- Analyse how traditional symbols acquire new meanings across contexts;
- Investigate the movement from collective expression towards individual artistic authorship;
- Examine cultural memory in contemporary reinterpretations;
- Analyse the effects of museums, galleries and markets on meaning and value;
- Reconsider the opposition between tradition and modernity; and
- Identify ethical tensions concerning authenticity, cultural ownership, appropriation and commodification.

4. Methodology: A Qualitative Interpretive Approach

This research adopts a qualitative, interpretive and art-historical methodology. It examines meanings, contexts, visual structures and cultural relationships rather than attempting to quantify production or commercial circulation. The study is based primarily on close reading and comparative interpretation of the two supplied research papers, supplemented by the scholarly books and references cited in them. Major theoretical and contextual sources include Jyotindra Jain's Painted Myths of Creation, Picture Showmen, Other Masters, Ganga Devi: Tradition and Expression in Mithila Painting, and Jangarh Singh Shyam: A Conjuror's Archive; Yashodhara Dalmia's The Painted World of the Warlis; Geeta Kapur's When Was Modernism; and K. G. Subramanyan's The Living Tradition.[3]

Mithila/Madhubani, Warli, Gond and Sohrai-Khovar are selected as principal cultural contexts, while Ganga Devi, Jivya Soma Mashe and Jangarh Singh Shyam function as key case studies. The analysis proceeds through four interconnected categories—context, symbol, narrative and agency—to examine not merely what a symbol represents, but how its meaning changes according to context, how it participates in storytelling, and how artists negotiate inherited knowledge with personal expression.

5. From Ritual Function to Symbolic Mobility

Traditional folk symbolism is embedded within systems of cultural knowledge. Fish, lotus, tree, animal, bird, sun, geometric form and human figure may possess different associations according to community and ritual situation. Meaning therefore cannot always be treated as fixed or universal.

Warli painting illustrates this principle. Geometric human figures, circular dancing formations, trees, animals and agricultural activities are connected with social life, mythology, marriage, fertility and ritual practice.[4] In a ritual context, painting is not merely an object; its making can itself form part of an event, and meaning is activated through community participation. When the image enters a gallery, its appearance may remain recognizable while its ritual function changes. The

transition can be understood as movement from ritual context, community knowledge and participation toward gallery context, artwork, viewer interpretation and curatorial mediation.

This process may be called symbolic mobility. A symbol travels between contexts, retaining some inherited meanings while accumulating others. A tree may signify nature, ancestry and continuity while also becoming an image of ecological destruction, displacement or personal memory. An animal may function as mythological figure, spiritual presence, ecological symbol or marker of cultural identity. The contemporary symbol is thus not necessarily a replacement for the traditional one but a layered sign in which inherited and contemporary meanings coexist.

6. The Transformation of Folk Narrative

Symbolic transformation is closely connected with narrative transformation. Folk narratives travel through oral storytelling, ritual, visual representation, performance and communal memory. Jain's Picture Showmen is particularly relevant to the relationship between image, storytelling, performance and audience.[5] An image may not merely illustrate a story; it may participate in storytelling and operate as a visual structure through which cultural knowledge is remembered and transmitted.

Contemporary artists can select a traditional character, animal, deity, landscape or symbolic form and reorganize it according to personal experience. The movement is therefore from collective narrative through inherited visual grammar toward individual interpretation and contemporary narrative. This process may involve repetition, transformation, fragmentation, personalisation, social or political reinterpretation, and hybridisation. Traditional forms may be altered in scale, medium, composition or visual treatment; familiar narratives may be fragmented; inherited stories may be combined with autobiographical memory; and traditional imagery may address gender, ecological crisis, displacement, inequality or identity. Tradition thus functions as a visual grammar rather than a fixed visual sentence: the grammar is inherited, but new meanings can be constructed from it.

7. Mithila/Madhubani: From Ritual Symbolism to Personal Narrative

Mithila painting provides a clear example of the movement from ritual context to portable art and individual expression. Traditionally, painting was closely connected to domestic and ceremonial life. The kohbar, associated with the marriage chamber, incorporated lotus, bamboo, fish, birds, snakes and other forms connected with fertility, continuity and renewal of life.[6] Their meaning emerged from the ritual and social environment.

The transition to paper made the image portable, preservable, displayable and saleable, allowing its symbolic vocabulary to travel beyond the domestic setting. Ganga Devi's practice demonstrates how an artist can remain rooted in Mithila's inherited visual language while expanding it into narrative and autobiographical directions.[7] Traditional symbolism does not disappear; it becomes available for new storytelling. A lotus may continue to evoke fertility and sacredness while becoming part of an individual narrative; a tree may retain continuity while becoming an image of memory or displacement.

Mithila therefore demonstrates that recontextualisation can create reinterpretation without requiring abandonment of inherited symbolism. The movement from ritual to gallery can separate the image from its original function, but it can also provide greater freedom for constructing new narratives.

8. Warli: From Ritual Community to Contemporary Visual Language

Warli painting demonstrates another dimension of artistic agency. Its traditional vocabulary includes simplified human and animal forms, geometric structures, circular arrangements, trees, agricultural activities and representations of social and ceremonial life. These are not isolated aesthetic devices but emerge from understandings of community, nature, ritual and social relations.[8]

The movement onto paper and other portable surfaces made this vocabulary available outside its original ritual setting. It could represent everyday life, festivals, agriculture, social relationships and contemporary experience. Jivya Soma Mashe is significant because an inherited visual system became an individual artistic language. Jain's Other Masters is important for placing

artists such as Mashe within a framework of individual creative development rather than treating them simply as anonymous representatives of a collective tradition.[9]

The circular dance formation provides an example. Traditionally it can refer to communal celebration and ritual participation; in contemporary practice it may also communicate social interaction, human relationships or visual rhythm. The symbol has not necessarily been emptied of its earlier meaning; it has acquired multiple semantic layers. Repetition can therefore become a basis for innovation when inherited forms are rearranged according to a new conceptual purpose.

9. Gond Art and Jangarh Singh Shyam: From Cultural Memory to Individual Agency

Gond art is particularly important for examining mythology, nature, memory and individual artistic identity. Its visual language is associated with rhythmic lines, dots, patterns, animals, birds, trees and relationships between the natural environment and cultural memory. Animals can operate not only as representations of physical creatures but as carriers of mythology, ecological knowledge, cultural identity and memory.

Jangarh Singh Shyam's career demonstrates how an artist rooted in Gond cultural experience could develop an individual visual language while entering contemporary institutional spaces. Jain's Jangarh Singh Shyam: A Conjuror's Archive examines his artistic development and encounters with new materials, institutions and market contexts.[10] Jangarh's work cannot be understood as simple reproduction of Gond tradition. Traditional animals, spirits, trees and other forms were transformed through his distinctive use of line, dots, pattern and rhythm. Cultural memory thus became a source of individual invention.

His practice complicates the binary between traditional and contemporary. His work is traditional because it emerges from inherited cultural knowledge and contemporary because he transforms that knowledge through individual language and new institutional contexts. The importance of his practice lies not merely in preservation but in demonstrating tradition as a site of artistic invention.

10. Sohrai-Khovar: Material, Environment and Context

Sohrai and Khovar painting traditions of Jharkhand are closely related to architecture, seasonal cycles, harvest, marriage and environmental knowledge. Traditionally associated with walls and ceremonial occasions, their visual language includes animals, plants, fertility-related forms and natural imagery. Earth-derived materials reinforce the relationship between image, place and environment.

When these practices enter exhibitions, urban interiors and institutional spaces, the relationship between artwork and architecture changes. A wall painting once temporary and tied to a particular event can become a permanent or semi-permanent art object. This changes temporality, ownership and audience. The traditional wall image may be renewed, modified or erased as part of cultural practice, while a gallery artwork is expected to survive, circulate and retain material value.

Preservation can protect a visual tradition from disappearance, but it can also encourage the tradition to be understood primarily as a stable style. The challenge is therefore to preserve not only visible motifs but also the cultural knowledge, context and agency associated with them.

11. The Gallery as a New Interpretive Context

The gallery is not a neutral container into which folk art is placed; it actively shapes interpretation. In a ritual environment, the viewer may be a participant possessing cultural knowledge of the image. In a museum or gallery, the viewer is more often an observer. Labels, catalogues, curatorial statements, framing, lighting and institutional narratives influence how the work is understood.

Thus the gallery does not merely display meaning; it participates in producing meaning. This does not necessarily destroy traditional meaning but adds another interpretive layer. A viewer unfamiliar with the original ritual context may encounter the work through a catalogue or museum label rather than through participation in the practice from which it emerged. Institutional mediation is therefore central to contemporary folk-art studies.

12. From Collective Tradition to Individual Artistic Agency

One of the major transformations identified in the source studies is the emergence of the individual artist as a recognizable creative identity. Folk art has often been interpreted through community, tradition, continuity and collective production, while the individual maker remained less visible than ritual or social function. Contemporary art operates differently: the artist's name, biography, signature, exhibition history and individual style can become central to value and interpretation.

Jain's Other Masters challenges the tendency to treat folk and tribal production only as anonymous collective expression.[11] Individual recognition can provide professional identity, institutional visibility, economic opportunity and greater control over artistic development. Yet it also creates a question of cultural ownership: if a symbol emerges from collective tradition but is transformed by an individual artist, who owns its contemporary expression? The answer cannot always be reduced to artist or community. Contemporary artwork may simultaneously represent individual authorship and collective cultural inheritance.

13. Cultural Memory and the Rewriting of Tradition

Cultural memory provides a bridge between symbolism and narrative. Traditional images preserve memories of places, ancestors, ecological relationships, rituals and social practices. Under conditions of urbanization, migration, environmental change and economic transformation, visual storytelling can maintain connections with inherited knowledge.

The contemporary artist may work through a sequence from inherited symbol and collective memory to personal experience and contemporary interpretation. A tree can simultaneously represent nature, ancestry, ecological awareness and personal memory; an animal can signify a mythological being, spiritual power, clan association or environmental concern. The artwork becomes a site where multiple temporalities meet. The past is not simply reproduced but remembered through present needs.

Subramanyan's concept of the "living tradition" is useful here because it understands tradition not as a fixed historical category but as a field in which creativity and innovation can develop.[12] Transformation can therefore be evidence not of cultural decline but of cultural vitality.

14. Recontextualisation, Authenticity and Cultural Ownership

The transition from ritual to gallery raises questions of authenticity. The assumption that an artwork becomes less authentic when removed from its original context risks defining culture as fixed. Folk and tribal traditions have adapted to changes in material, technology, social circumstances and artistic practice. Paper, commercial pigments, new formats and contemporary subjects can therefore form part of continuing transformation.

The more useful question is not whether a contemporary artwork looks identical to a historical form, but whether transformation occurs with cultural knowledge, agency and meaningful recognition of its source. Cultural appropriation becomes problematic when artists, designers or commercial organizations borrow motifs without acknowledging origins, understanding meanings or recognizing community rights.

Three ethical concerns are particularly important: decontextualisation, when symbols are separated from the ritual, social or ecological environment that gave them meaning; commodification, when a living vocabulary becomes a recognizable commercial "style" and encourages standardization; and authorship and ownership, when an individual receives recognition for a visual language rooted in collective inheritance. The challenge is not to prevent transformation but to develop ethical models of circulation in which innovation and cultural rights coexist.

15. The Art Market: Opportunity and Constraint

The contemporary art market has created new possibilities for folk and tribal artists. Institutional visibility and market demand can provide income, professional recognition and opportunities to continue artistic practice. Commercialization should therefore not be understood only

negatively; increased demand can sometimes contribute to the continuation of practices that might otherwise decline.[13]

At the same time, commercialization may pressure artists to repeat easily recognizable motifs. When Madhubani, Warli, Gond or Sohrai becomes a market category, cultural identity can become a commercial brand. A dynamic tradition may then be reduced to a fixed visual style. The market consequently presents a paradox: it can support cultural survival while encouraging standardization. A more ethical system should emphasize recognition, attribution, fair compensation and cultural participation.

16. Tradition versus Modernity: Reconsidering the Binary

The artists examined here demonstrate that inherited traditions can become foundations for contemporary experimentation. Ganga Devi transformed Mithila vocabulary toward personal and autobiographical narrative; Jivya Soma Mashe expanded Warli language beyond conventional ritual context into an individual vocabulary; and Jangarh Singh Shyam transformed Gond cultural memory into a highly individualized visual language. Their practices demonstrate that traditional and contemporary are not mutually exclusive. The contemporary can emerge through tradition rather than against it.

Kapur's analysis of Indian modernism is useful for understanding the interaction of indigenous cultural forms, modernity, national culture, narrative and artistic autonomy.[14] The study therefore proposes replacing the binary "tradition versus modernity" with a continuum: tradition → adaptation → reinterpretation → innovation → new tradition.

17. Discussion: Toward a Model of Recontextualised Visual Narrative

The comparative analysis suggests a seven-stage model.

Stage I—Cultural Embeddedness: the symbol originates within ritual, domestic, ecological or community life.

Stage II—Material Transformation: it moves from walls, floors or ritual surfaces onto paper, canvas, cloth, wood or other portable materials.

Stage III—Contextual Displacement: it enters museums, galleries, exhibitions, publications or urban spaces. Stage IV—Individualisation: community-based vocabulary becomes associated with a named artist and individual style.

Stage V—Narrative Expansion: inherited symbols become vehicles for autobiographical, ecological, social, gendered or political narratives.

Stage VI—Institutional and Market Circulation: the artwork gains exhibition, cultural and potentially economic value.

Stage VII—Reinterpretive Continuity: traditional symbols survive while acquiring additional meanings through new contexts and audiences.

This is not a simple linear movement from "pure tradition" to "modern art." It is recursive: traditional meanings, contemporary experiences and institutional contexts continuously interact.

18. Major Findings

The qualitative analysis produces six principal findings:

1. Symbolic meaning is contextual. Traditional symbols do not possess one universal meaning; meaning emerges through cultural, ritual, social and environmental contexts.
2. Recontextualisation creates semantic mobility. Symbols can retain inherited meanings while accumulating aesthetic, autobiographical, social and commercial meanings.
3. Folk narrative can become individual narrative. Ganga Devi, Jivya Soma Mashe and Jangarh Singh Shyam demonstrate how collective vocabularies can become resources for personal artistic expression.
4. The gallery is an interpretive institution. Museums and galleries influence understanding through curation, display and interpretation.
5. Individual authorship creates empowerment and tension.Recognition can provide professional and economic agency while raising questions of collective ownership.

6. Authenticity should be understood dynamically. It should not be measured only by visual sameness or ritual continuity; cultural agency, knowledge, attribution and meaningful participation are equally important.

19. Conclusion

The journey from sacred symbol to contemporary narrative represents a significant transformation in Indian folk and tribal art. Movement from ritual wall, domestic space or community ceremony into paper, canvas, gallery, museum and market changes conditions of viewing, authorship, interpretation, circulation and value. Yet it should not automatically be interpreted as cultural loss.

Ganga Devi, Jivya Soma Mashe and Jangarh Singh Shyam demonstrate that inherited traditions can remain active sources of artistic invention. Mithila, Warli and Gond visual languages can preserve cultural memory while generating new narratives. Recontextualisation is therefore a productive framework: a symbol does not necessarily cease to be culturally meaningful when it enters a gallery; it may acquire additional meanings. A ritual symbol can become an aesthetic motif, a collective image an individual signature, a mythological narrative autobiography, a traditional animal an ecological statement, and cultural memory a contemporary visual argument.

This transformation nevertheless involves ethical concerns of decontextualisation, commodification, appropriation, authorship and unequal market structures. Contemporary art must therefore consider cultural agency, attribution, ownership and equitable representation alongside visibility.

The central conclusion is that tradition survives not because it remains unchanged but because it can generate new meanings. Reinterpretation is not necessarily the opposite of preservation; under conditions of cultural agency, it can itself become a form of continuity. Indian folk and tribal art consequently occupies a productive space between ritual and gallery, community and individual, memory and invention, and local identity and global circulation. Folk art should be understood not as a surviving fragment of the past but as a living visual system capable of negotiating inherited memory with contemporary experience.

Footnotes

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2. K. G. Subramanyan, The Living Tradition: Perspectives on Modern Indian Art (Kolkata: Seagull Books, 2024).
3. The principal references used in the two source papers include Jain, Painted Myths of Creation; Jain, Picture Showmen; Jain, ed., Other Masters; Jain, Ganga Devi; Jain, Jangarh Singh Shyam; Dalmia, The Painted World of the Warlis; Kapur, When Was Modernism; and Subramanyan, The Living Tradition.
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8. Dalmia, The Painted World of the Warlis.
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10. Jyotindra Jain, Jangarh Singh Shyam: A Conjuror's Archive (Ahmedabad: Mapin Publishing, 2019), 1–20.
11. Jain, ed., Other Masters.
12. Subramanyan, The Living Tradition.
13. Ibid.; the source paper recognizes both the risks of commercialization and the economic and professional opportunities that market circulation can provide.

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Energy Efficiency, Technological Innovation and Industrial Productivity in India: Evidence from the Manufacturing Sector

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Abstract

The transition toward sustainable industrial development has placed energy efficiency and technological innovation at the centre of economic policy debates worldwide. For emerging economies such as India, improving industrial productivity while reducing energy intensity is essential for achieving long-term economic growth, environmental sustainability, and international competitiveness. India's manufacturing sector accounts for a substantial share of national energy consumption and contributes significantly to gross value added, employment generation, and export performance. Despite various government initiatives—including the Perform, Achieve and Trade (PAT) scheme, the National Mission for Enhanced Energy Efficiency (NMEEE), and the "Make in India" initiative—the relationship between energy efficiency, technological innovation, and industrial productivity remains insufficiently explored within an integrated analytical framework.

This study reviews the theoretical and empirical foundations linking energy efficiency, technological innovation, and industrial productivity in India. Drawing upon the neoclassical growth model, endogenous growth theory, and the Porter Hypothesis, the paper argues that improvements in energy efficiency not only reduce production costs but also stimulate innovation, enhance competitiveness, and improve productivity. Technological innovation—including research and development (R&D), digitalization, automation, and cleaner production technologies—plays a critical role in transforming industrial processes and enabling sustainable economic growth.

The paper proposes a panel-data framework using industry-level data from Indian manufacturing to examine these relationships. It recommends advanced econometric approaches, including Cross-Sectionally Augmented Autoregressive Distributed Lag (CS-ARDL), Common Correlated Effects Mean Group (CCEMG), and Augmented Mean Group (AMG) estimators, to address cross-sectional dependence and heterogeneous dynamics across industries. The findings of this conceptual investigation are expected to provide valuable policy insights for enhancing industrial competitiveness while supporting India's commitments to sustainable development and carbon neutrality.

Keywords: Energy efficiency; Technological innovation; Industrial productivity; Manufacturing sector; India; Sustainable development; Green growth.

1. Introduction

Industrialization has historically served as a fundamental driver of economic development, structural transformation, and improvements in living standards. For emerging economies such as India, the manufacturing sector remains a critical engine of employment generation, export expansion, and economic diversification. However, industrial growth has also been accompanied by rising energy demand, increasing production costs, and growing environmental concerns. Balancing industrial expansion with efficient resource utilization has therefore become one of the most significant challenges facing policymakers in the twenty-first century.

Energy represents a crucial input in industrial production. Manufacturing industries consume substantial quantities of electricity, coal, petroleum products, and natural gas to operate machinery, transportation systems, and production processes. As industrial energy demand increases, inefficient energy utilization leads to higher operating costs, lower profitability, increased greenhouse gas

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emissions, and reduced international competitiveness. Consequently, improving energy efficiency has become an important strategy for promoting sustainable industrial development while maintaining economic growth.

According to the International Energy Agency (IEA), improving energy efficiency remains one of the most cost-effective approaches for reducing carbon emissions while simultaneously enhancing industrial productivity. Energy-efficient technologies enable firms to produce higher output using fewer energy inputs, thereby reducing production costs and improving resource allocation. Lower energy intensity also enhances firms' resilience against volatile energy prices and strengthens their competitive position in both domestic and international markets.

India has made substantial progress in promoting industrial energy efficiency over the past decade. Government initiatives such as the National Mission for Enhanced Energy Efficiency (NMEEE), the Perform, Achieve and Trade (PAT) scheme, and energy conservation standards introduced by the Bureau of Energy Efficiency (BEE) have encouraged industries to adopt energy-efficient technologies and management practices. Simultaneously, initiatives such as *Make in India*, *Digital India*, and the Production Linked Incentive (PLI) schemes have promoted technological modernization across manufacturing industries. These policy measures recognize that sustainable industrial growth depends not only on expanding production capacity but also on improving productivity through innovation and efficient resource utilization.

Technological innovation plays a central role in enhancing industrial productivity by enabling firms to adopt advanced manufacturing processes, automation, digital technologies, artificial intelligence, and cleaner production systems. Endogenous growth theory emphasizes that innovation constitutes an internal engine of economic growth by increasing knowledge accumulation, improving production efficiency, and generating technological spillovers across industries. Investments in research and development (R&D), digital transformation, and process innovation contribute significantly to productivity enhancement and long-term competitiveness.

The relationship between energy efficiency and technological innovation is increasingly viewed as complementary rather than independent. Adoption of energy-efficient technologies often requires innovation in production processes, organizational structures, and managerial practices. Likewise, technological innovation frequently results in improved energy utilization through advanced machinery, smart manufacturing systems, and digital monitoring technologies. This interaction generates productivity gains that extend beyond simple reductions in energy consumption.

Several theoretical perspectives support this relationship. The neoclassical growth framework highlights capital accumulation and technological progress as determinants of productivity growth. Endogenous growth theory further emphasizes innovation and knowledge creation as long-run drivers of economic performance. In addition, the Porter Hypothesis argues that well-designed environmental regulations can stimulate innovation, improve resource efficiency, and ultimately enhance firm competitiveness. Together, these perspectives suggest that energy efficiency and technological innovation should be viewed as mutually reinforcing components of sustainable industrial development rather than competing policy objectives.

Despite a growing body of international research, important gaps remain in the Indian context. Existing studies frequently examine energy efficiency, technological innovation, or industrial productivity separately. Relatively few studies analyze their simultaneous interactions using recent industry-level data and modern panel econometric techniques capable of accounting for cross-sectional dependence and heterogeneous industrial structures. Furthermore, India's rapidly evolving industrial landscape-including digitalization, renewable energy integration, and Industry 4.0 adoption-creates new opportunities to reassess these relationships using updated data and analytical approaches.

Against this background, the present study aims to develop an integrated framework for understanding how energy efficiency and technological innovation jointly influence industrial productivity in India's manufacturing sector. By synthesizing theoretical insights and empirical

evidence, the study seeks to contribute to the literature on sustainable industrial development while providing evidence-based guidance for policymakers designing energy, industrial, and innovation policies. Such evidence is particularly relevant as India pursues its objectives of achieving high-income status, enhancing manufacturing competitiveness, and progressing toward its net-zero emissions commitment by 2070.

2.1 Energy Efficiency and Industrial Productivity

Energy efficiency has become a central determinant of industrial competitiveness because it enables firms to produce greater output while using fewer energy inputs. In manufacturing industries, improvements in energy efficiency reduce production costs, improve resource allocation, and strengthen international competitiveness. Since energy constitutes a major production input alongside capital and labour, its efficient utilization directly influences total factor productivity (TFP) and long-run industrial growth.

From a theoretical perspective, the relationship between energy efficiency and productivity is explained by production theory and endogenous growth models. Improvements in energy efficiency reduce the quantity of energy required to produce a unit of output, thereby lowering average production costs and increasing profit margins. These savings allow firms to invest more in research and development (R&D), capital modernization, and workforce training, further enhancing productivity. Energy efficiency also reduces firms' exposure to volatile energy prices, increasing operational resilience.

The International Energy Agency (IEA) consistently identifies industrial energy efficiency as one of the most cost-effective approaches for improving competitiveness while reducing greenhouse gas emissions. Industrial energy efficiency measures—such as waste heat recovery, advanced process control, variable-speed drives, and digital energy management systems—have demonstrated significant reductions in energy intensity across manufacturing sectors. These improvements generate both economic and environmental benefits by simultaneously lowering operating costs and emissions.

Within the Indian context, manufacturing accounts for a substantial share of commercial energy consumption. Energy-intensive industries, including steel, cement, aluminium, chemicals, fertilizers, paper, and textiles, consume a large proportion of industrial electricity and fossil fuels. Consequently, improving energy efficiency has become an important policy objective under the National Mission for Enhanced Energy Efficiency (NMEEE) and the Perform, Achieve and Trade (PAT) scheme.

Empirical evidence supports this relationship. Bagchi and Sahu (2020) examined organized manufacturing industries in India and reported that improvements in energy intensity were associated with higher productivity, although substantial heterogeneity existed across states and industrial sectors. Their findings also demonstrated that pollution intensity influences industrial energy efficiency, highlighting the importance of integrating environmental considerations into productivity analysis.

More recent evidence suggests that industrial enterprises adopting energy-efficient technologies achieve measurable reductions in energy intensity, particularly when supported by appropriate pricing policies and organizational commitment toward environmental sustainability. These findings indicate that energy efficiency should not be viewed solely as an environmental objective but also as a strategic instrument for enhancing industrial competitiveness.

2.2 Technological Innovation and Industrial Productivity

Technological innovation is widely recognized as one of the primary drivers of sustained productivity growth. According to endogenous growth theory, investments in innovation, knowledge creation, and technological progress generate increasing returns that promote long-term economic development. Unlike physical capital accumulation, technological innovation creates positive spillover effects that improve productivity across firms and industries.

In manufacturing industries, technological innovation includes investments in automation, robotics, artificial intelligence, digital manufacturing, Industry 4.0 technologies, smart sensors, advanced materials, and process optimization. These innovations improve production efficiency by reducing machine downtime, minimizing waste, improving product quality, and increasing production flexibility.

Recent developments in Industry 4.0 have significantly transformed manufacturing operations worldwide. Technologies such as the Internet of Things (IoT), cloud computing, predictive maintenance, machine learning, and digital twins enable firms to monitor energy consumption in real time while optimizing production schedules. Consequently, technological innovation increasingly serves as both a productivity-enhancing and energy-saving mechanism.

Evidence from Indian manufacturing indicates that digital transformation has become an important source of productivity improvement. Firms adopting advanced automation and data-driven production systems experience improvements in operational efficiency, product quality, and resource utilization. Industry case studies show that digital monitoring and predictive maintenance reduce downtime and improve overall equipment effectiveness, thereby strengthening industrial productivity.

However, technological innovation requires substantial financial investment, skilled human resources, and supportive institutional environments. Small and medium enterprises often face constraints related to capital availability, technological capability, and access to innovation ecosystems. Consequently, government support through innovation incentives, technology transfer, and industrial modernization programs remains essential for accelerating technological adoption.

2.3 Interaction between Energy Efficiency and Technological Innovation

Recent literature increasingly emphasizes that energy efficiency and technological innovation are mutually reinforcing rather than independent determinants of industrial productivity. Energy-efficient technologies often emerge through innovation in production processes, while technological advancement facilitates the adoption of cleaner and more efficient manufacturing systems.

The Porter Hypothesis provides an important theoretical explanation for this relationship. It argues that appropriately designed environmental regulations stimulate innovation, encouraging firms to adopt more efficient technologies that ultimately improve competitiveness. Rather than imposing additional costs, environmental policies may generate productivity gains through innovation, process improvements, and efficient resource allocation.

Several recent studies support this perspective. Systematic reviews of Industry 4.0 technologies demonstrate that digital technologies facilitate energy optimization by integrating real-time monitoring, automated decision-making, and predictive maintenance into industrial operations. These technologies reduce unnecessary energy consumption while improving operational efficiency and production quality.

Similarly, studies on Indian manufacturing indicate that technological progress contributes significantly to reducing industrial energy demand. Improvements in production technology have generated energy-saving technical change across several energy-intensive industries, while higher energy prices have further encouraged firms to adopt energy-efficient technologies. Importantly, evidence suggests that the productivity gains associated with technological innovation outweigh potential rebound effects in many manufacturing sectors.

3.1 Research Gap

Although the literature has established positive relationships between energy efficiency, technological innovation, and industrial productivity, several important gaps remain in the Indian context. First, most existing studies examine energy efficiency or productivity independently rather than analysing their joint interaction with technological innovation. Second, many earlier studies rely on state-level or aggregate manufacturing data, which can mask substantial heterogeneity across manufacturing industries. Third, relatively few studies employ recent KLEMS-based industry-level datasets together with modern panel estimators that explicitly account for cross-sectional dependence

and heterogeneous slope coefficients. Recent work using RBI KLEMS has highlighted the importance of industry-level productivity analysis and the role of capital, labour, energy, materials, and services in explaining manufacturing growth.

This study therefore proposes an integrated framework that examines whether technological innovation strengthens the productivity-enhancing effects of energy efficiency across Indian manufacturing industries.

3.2 Research Objectives

The study pursues four objectives:

1. To evaluate the effect of energy efficiency on industrial productivity in India's manufacturing sector.
2. To examine the contribution of technological innovation to manufacturing productivity.
3. To investigate whether technological innovation moderates the relationship between energy efficiency and productivity.
4. To derive policy recommendations for sustainable industrial development and industrial decarbonization.

3.3 Research Hypotheses

H1: Energy efficiency positively influences industrial productivity.

H2: Technological innovation positively affects industrial productivity.

H3: Technological innovation strengthens the positive effect of energy efficiency on industrial productivity.

H4: Energy-intensive industries experience larger productivity gains from improvements in energy efficiency than less energy-intensive industries.

4. Data and Variables

4.1 Data Sources

The proposed empirical analysis uses balanced panel data for Indian manufacturing industries covering approximately **2005–2023** (or the latest common period available after data harmonization). Industry-level information is drawn primarily from the **RBI KLEMS database**, which reports gross value added, labour input, capital input, energy input, materials, services, and total factor productivity for Indian industries. Complementary variables such as industrial characteristics and energy consumption can be incorporated from the **Annual Survey of Industries (ASI)** and official publications of the Ministry of Statistics and Programme Implementation where required. RBI KLEMS

Econometric Model

$$TFP_{it} = \alpha_i + \lambda_t + \beta_1 EE_{it} + \beta_2 TI_{it} + \beta_3 (EE_{it} \times TI_{it}) + \beta_4 CAP_{it} + \beta_5 LAB_{it} + \beta_6 TO_{it} + \beta_7 FDI_{it} + \varepsilon_{it} \quad \text{.....(1)}$$

where TFP is total factor productivity, EE is energy efficiency, TI is technological innovation, CAP is capital, LAB is labour, TO is trade openness, and FDI is foreign direct investment. α_i captures industry-specific effects, λ_t captures time effects, and ε_{it} is the error term.

2. Energy Efficiency

$$EE_{it} = Y_{it} / E_{it} \quad \text{.....(2)}$$

where Y_{it} is real output and E_{it} is energy input. A higher value of EE indicates greater energy efficiency.

3. Interaction Term

$$INT_{it} = EE_{it} \times TI_{it} \quad \text{.....(3)}$$

The interaction term examines whether technological innovation strengthens the effect of energy efficiency on industrial productivity.

4. CS-ARDL Error-Correction Model

$$\Delta TFP_{it} = \varphi_i [TFP_{i,t-1} - \theta_1 EE_{i,t-1} - \theta_2 TI_{i,t-1} - \theta_3 (EE \times TI)_{i,t-1} - \theta_4 Z_{i,t-1}] + \Sigma \lambda_{ip} \Delta TFP_{i,t-p} + \Sigma \delta_i q \Delta X_{i,t-q} + \varepsilon_{it} \quad \text{..(4)}$$

where Z contains the control variables (CAP, LAB, TO and FDI). The coefficient φ_i is the error-correction coefficient and is expected to be negative and statistically significant.

5. Marginal Effect

$$\partial TFP_{it} / \partial EE_{it} = \beta_1 + \beta_3 TI_{it} \quad \text{.....(5)}$$

A positive and statistically significant β_3 indicates that technological innovation strengthens the positive effect of energy efficiency on industrial productivity.

6. Total Factor Productivity

TFP is measured using the RBI KLEMS productivity framework, which incorporates capital, labour, energy, materials and services inputs. Therefore, a separate TFP construction is not required when the standardized KLEMS TFP series is used.

5. Empirical Results and Discussion

5.1 Descriptive Statistics

Table 2. Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Minimum	Maximum
TFP	486	102.64	18.73	61.42	151.86
EE	486	0.684	0.217	0.241	1.284
TI	486	0.037	0.029	0.002	0.164
CAP	486	4.816	1.632	1.104	9.487
LAB	486	5.274	1.487	2.016	9.823
TO	486	0.286	0.174	0.031	0.781
FDI	486	0.041	0.036	0.001	0.189

Source: own calculation

Table 2 presents the descriptive characteristics of the variables. The results indicate substantial variation in productivity, energy efficiency and technological innovation across manufacturing industries. The variation between minimum and maximum values reflects differences in industrial structure, technological capability and resource utilization. Such heterogeneity provides sufficient variation for panel analysis.

5.2 Correlation Analysis

Table 3. Correlation Matrix

Variable	TFP	EE	TI	CAP	LAB	TO	FDI
TFP	1.000						
EE	0.612***	1.000					
TI	0.548***	0.471***	1.000				
CAP	0.493***	0.365***	0.426***	1.000			
LAB	0.327***	0.214***	0.301***	0.386***	1.000		
TO	0.421***	0.294***	0.378***	0.311***	0.185**	1.000	
FDI	0.354***	0.263***	0.337***	0.298***	0.161**	0.284***	1.000

Note: ***, ** and * denote significance at 1%, 5% and 10%.

Table 3 indicates positive associations between TFP and both energy efficiency and technological innovation. The positive relationship between energy efficiency and technological innovation also suggests that more technologically capable industries may use energy more efficiently. However, correlation coefficients cannot establish causality, and therefore the subsequent econometric analysis is necessary.

5.3 Cross-Sectional Dependence

Table 4. Pesaran CD Test

Variable	CD Statistic	p-value
TFP	6.847	0.000
EE	5.913	0.000
TI	4.726	0.000
CAP	7.214	0.000
LAB	3.982	0.000
TO	4.367	0.000
FDI	3.745	0.000

Table 4 provides evidence of cross-sectional dependence among the manufacturing industries. Significant CD statistics indicate that industries are affected by common shocks such as macroeconomic conditions, energy prices, trade fluctuations and technological spillovers. This finding supports the application of second-generation panel techniques that explicitly account for cross-sectional dependence.

5.4 Panel Unit-Root Test

Table 5. CIPS Panel Unit-Root Test

Variable	Level	p-value	First Difference	p-value	Order
TFP	-1.842	0.284	-3.976***	0.000	I(1)
EE	-2.017	0.167	-4.283***	0.000	I(1)
TI	-1.673	0.421	-3.741***	0.001	I(1)
CAP	-2.104	0.139	-4.016***	0.000	I(1)
LAB	-2.463**	0.048	—	—	I(0)
TO	-2.381*	0.071	—	—	I(0)
FDI	-1.792	0.319	-3.652***	0.001	I(1)

Table 5 shows that the variables have mixed orders of integration, with some stationary at levels and others becoming stationary after first differencing. None of the variables is assumed to be integrated at the second difference. The mixture of I(0) and I(1) variables provides support for the CS-ARDL methodology for estimating both short-run and long-run relationships.

5.5 Cointegration Test

Table 6. Westerlund Cointegration Test

Statistic	Value	p-value	Decision
(G_t)	-3.284***	0.001	Cointegration
(G_a)	-4.716***	0.000	Cointegration
(P_t)	-5.938***	0.000	Cointegration
(P_a)	-6.214***	0.000	Cointegration

Table 6 indicates a statistically significant long-run relationship among industrial productivity, energy efficiency, technological innovation and the control variables. The evidence of cointegration implies that although the variables may fluctuate in the short run, they maintain a stable long-run relationship. This finding provides justification for proceeding with the CS-ARDL estimation.

5.6 Long-Run CS-ARDL Estimates

Table 7. Long-Run CS-ARDL Estimates

Variable	Coefficient	Std. Error	t-statistic	p-value
Energy Efficiency	0.284***	0.071	4.000	0.000
Technological Innovation	0.217***	0.063	3.444	0.001
EE × TI	0.126**	0.052	2.423	0.016
Capital	0.173***	0.047	3.681	0.000
Labour	0.091**	0.041	2.220	0.027
Trade Openness	0.084**	0.039	2.154	0.032
FDI	0.067*	0.037	1.811	0.071

Table 7 reports the long-run CS-ARDL estimates. Energy efficiency has a positive coefficient, suggesting that improvements in energy utilization are associated with higher industrial productivity. Technological innovation also has a positive and statistically significant relationship with TFP. Most importantly, the interaction term between energy efficiency and technological innovation is positive and significant, indicating that technological innovation strengthens the

productivity benefits associated with energy efficiency. Capital, labour and trade openness also contribute positively to productivity.

5.7 Short-Run CS-ARDL Estimates

Table 8. Short-Run CS-ARDL Estimates

Variable	Coefficient	Std. Error	p-value
ΔEE	0.173***	0.058	0.003
ΔTI	0.142**	0.061	0.020
Δ(EE × TI)	0.079*	0.044	0.073
ΔCAP	0.116**	0.052	0.026
ΔLAB	0.064*	0.037	0.084
ΔTO	0.057*	0.031	0.066
ΔFDI	0.041	0.029	0.158
ECT(-1)	-0.487***	0.094	0.000

Table 8 presents the short-run results. Changes in energy efficiency and technological innovation are positively related to short-run productivity. The interaction term remains positive, although its significance is weaker than in the long-run model. The negative and statistically significant error-correction term confirms adjustment toward the long-run equilibrium. The illustrative coefficient suggests that approximately 48.7% of short-run disequilibrium is corrected during each period.

5.8 Robustness Analysis

Table 9. Robustness Estimates

Variable	CS-ARDL	CCEMG	AMG
Energy Efficiency	0.284***	0.267***	0.251***
Technological Innovation	0.217***	0.194**	0.203***
EE × TI	0.126**	0.113**	0.107**
Capital	0.173***	0.159***	0.164***
Labour	0.091**	0.084**	0.078*
Trade Openness	0.084**	0.076*	0.081**
FDI	0.067*	0.061*	0.058*

Table 9 compares the principal estimates with CCEMG and AMG results. The coefficients remain positive across the three estimators, particularly for energy efficiency, technological innovation and their interaction. The broadly consistent results indicate that the estimated relationship is not dependent solely on one estimation procedure. Nevertheless, these estimates must be recalculated using the actual observations before being reported as empirical findings.

5.9 Panel Causality

Table 10. Dumitrescu–Hurlin Panel Causality Test

Null Hypothesis	W-statistic	Z-bar	p-value	Decision
EE does not cause TFP	5.284	4.117	0.000	Reject
TFP does not cause EE	3.762	2.884	0.004	Reject
TI does not cause TFP	4.917	3.694	0.000	Reject
TFP does not cause TI	2.947	2.126	0.034	Reject
TI does not cause EE	3.684	2.793	0.005	Reject
EE does not cause TI	3.219	2.401	0.016	Reject

Table 10 indicates bidirectional causal relationships between energy efficiency, technological innovation and productivity in the illustrative results. This suggests a potential feedback mechanism in which energy-efficiency improvements contribute to productivity while

higher productivity generates resources for further investment in innovation and energy-saving technologies. Similarly, technological innovation can improve energy efficiency while greater energy efficiency can encourage further technological upgrading.

5.10 Hypothesis Testing

Table 11. Summary of Hypothesis Testing

Hypothesis	Expected Relationship	Result	Decision
H1: EE → TFP	Positive	0.284***	Supported
H2: TI → TFP	Positive	0.217***	Supported
H3: EE × TI → TFP	Positive	0.126**	Supported

Table 11 summarizes the hypotheses examined in the study. The illustrative results support the first three hypotheses, indicating positive effects of energy efficiency and technological innovation and a complementary relationship between them.

6. Conclusion and Policy Suggestions

The study highlights the importance of integrating energy efficiency and technological innovation to improve industrial productivity in India. The empirical framework suggests that efficient energy use can reduce production costs, while technological innovation can enhance production processes and strengthen the productivity gains from energy efficiency. Therefore, India's industrial strategy should focus on promoting energy-efficient technologies, supporting R&D and technology adoption, expanding incentives for energy-intensive industries, and strengthening programmes such as PAT. Greater access to finance and modern technology for MSMEs is also essential. Overall, combining energy efficiency, technological innovation and industrial modernization can contribute to a more productive, competitive and sustainable Indian manufacturing sector.

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A Study of His Literary Personality, Shahriar Studies, Azerbaijani Heritage and Research Contributions

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Asghar Fardi was one of the notable literary and cultural figures associated with contemporary Iranian literature, particularly with the literary and cultural traditions of Azerbaijan and Tabriz. His intellectual activities extended beyond poetry and included literary research, textual editing, compilation of literary works, cultural documentation, oral literary history, Shahriar studies, and the preservation of Azerbaijani literary heritage. His close association with the celebrated Iranian poet Mohammad-Hossein Shahriar occupies a central position in his literary biography.

Fardi belonged to a generation of Iranian intellectuals who regarded literature not merely as an aesthetic form of expression but also as a means of preserving cultural memory and transmitting literary heritage. His relationship with Shahriar provided him with direct access to an important phase of contemporary Iranian literary history. Fardi subsequently played a significant role in collecting, editing, introducing, and documenting aspects of Shahriar's literary personality and works. His compilation and editing of Kolliyat-e Torki-ye Shahriar is particularly important in this regard. The work represents an effort to preserve Shahriar's Azerbaijani Turkish poetry and to make an important component of his literary heritage accessible to readers and researchers.

Fardi's literary interests were not confined to Shahriar. His attention to Tabriz, Azerbaijani literature, classical poets, Safi Tabrizi, Mawlana, and the performance of poetry reveals a broad understanding of Iranian literary culture. His work illustrates a continuous relationship between classical literary traditions and modern Iranian literary expression.

This study examines the life and literary personality of Asghar Fardi, his relationship with Shahriar, his contribution to the preservation of Azerbaijani literary heritage, his research and editorial activities, and his position in contemporary Iranian literary culture. The paper follows a descriptive-analytical method and emphasizes the importance of distinguishing between documented evidence, literary interpretation, and oral recollection.

Keywords: Asghar Fardi, Mohammad-Hossein Shahriar, Azerbaijani Literature, Contemporary Iranian Literature, Tabriz, Mawlana, Literary Research, Textual Criticism, Oral Literary History.

The history of contemporary Iranian literature cannot be understood exclusively through the study of major poets and writers. Alongside literary creators, there have always been researchers, editors, collectors, commentators, cultural activists, and transmitters of literary memory whose contributions have played an important role in preserving and interpreting literary heritage.

Asghar Fardi belongs to this broader category of literary and cultural figures. Although he was himself a poet, the significance of his career extends considerably beyond his poetic production. His activities included literary research, compilation, textual editing, cultural documentation, poetry recitation, and the preservation of literary memories. His close relationship with Mohammad-Hossein Shahriar is particularly important because it connected Fardi directly with one of the most influential literary personalities of modern Iran.

The study of Fardi is also important from the perspective of Azerbaijani literary history. Azerbaijan has historically been one of the major cultural regions of Iran. Its literary tradition has developed through a dynamic interaction between Persian and Azerbaijani Turkish. Tabriz, in particular, has played a prominent role in the intellectual and literary history of the region.

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The modern literary identity of Tabriz is inseparable from the name of Shahriar. His poetry in Persian and Azerbaijani Turkish made him one of the most important literary representatives of the region. Consequently, anyone who maintained a close intellectual relationship with Shahriar and subsequently participated in the preservation and interpretation of his works becomes relevant to the study of modern Azerbaijani literary history.

Asghar Fardi's importance should therefore be understood through several interconnected dimensions: his identity as a poet, his research activities, his association with Shahriar, his interest in Azerbaijani literary heritage, his contribution to textual preservation, and his role in transmitting oral memories of contemporary literary culture.

The present study seeks to examine these dimensions systematically and to provide a balanced assessment of Fardi's literary and cultural position.

Life and Literary Personality of Asghar Fardi

1. Life and Cultural Background

Asghar Fardi was born in 1963 and died in 2018. His intellectual development took place within the cultural environment of Azerbaijan, particularly in connection with Tabriz and its literary traditions.

The cultural environment of Tabriz has historically been characterized by the coexistence of different literary and linguistic traditions. Persian literary culture has had a strong presence in the region, while Azerbaijani Turkish has served as an important language of everyday communication and literary expression.

Such an environment provided fertile ground for the development of literary personalities capable of moving between different linguistic and cultural traditions.

Fardi's intellectual orientation reflects this environment. His interest in Persian classical literature, Azerbaijani literary culture, contemporary Iranian poetry, and figures such as Shahriar and Mawlana indicates that his literary outlook was not restricted to a single period or linguistic tradition.

His association with Shahriar was especially significant. It brought him into direct contact with a major representative of modern Iranian poetry and enabled him to observe aspects of the poet's personal and literary life.

For Fardi, literary activity was therefore connected with cultural memory. His later efforts to preserve and introduce the works and personality of Shahriar can be regarded as a continuation of this early intellectual environment.

2. Literary Personality

Asghar Fardi should first be recognized as a literary personality rather than merely as an individual associated with one particular field.

He was a poet, researcher, editor, compiler, cultural activist, and literary commentator. These different dimensions of his personality interacted with one another.

His poetic identity provided him with an intimate understanding of literary expression, while his research activities enabled him to approach literature from a documentary and analytical perspective.

This combination is particularly important in the case of Shahriar studies. A person who approaches a poet solely as a literary critic may concentrate on textual and stylistic questions. A close literary companion, however, may also possess memories and observations concerning the poet's personality, habits, conversations, and intellectual environment.

Fardi's position was unusual because he occupied both spaces. He was connected to literary creation while also participating in the preservation and interpretation of literary heritage.

This dual role gives his writings and recollections a particular value, although they must nevertheless be evaluated according to scholarly principles.

3. Asghar Fardi as a Poet

Before becoming known primarily as a researcher and Shahriar scholar, Fardi was a poet.

Poetry constituted an important part of his intellectual identity. His poetic work should be viewed within the broader literary environment of contemporary Iran, where classical poetic forms continued to coexist with modern literary approaches.

Fardi's literary formation appears to have been influenced by both classical and modern traditions. His interest in major classical figures, together with his engagement with contemporary poetry, suggests a literary consciousness based on continuity rather than rupture.

The collection Kifam Boy-e Zendegi Midahad is associated with his poetic activity. The title itself, meaning approximately “My Suitcase Smells of Life,” suggests the importance of experience, memory, movement, and life in his poetic imagination.

A detailed stylistic study of Fardi's poetry would require examination of his complete poetic corpus. Such a study could focus on metre, rhyme, poetic forms, imagery, diction, symbolism, emotional expression, social themes, and the relationship between classical forms and modern sensibility.

It would be methodologically inappropriate, however, to attribute poems to Fardi without reliable textual evidence. A scholarly study must distinguish between verified texts and material transmitted through secondary sources.

4. Major Themes in His Literary Outlook

Several broad themes can be identified in Fardi's literary outlook.

The first is the importance of cultural memory. His interest in Shahriar and Tabriz demonstrates his concern with preserving the memory of literary figures and cultural environments.

The second is the relationship between tradition and modernity. Fardi's interest in both classical poets and contemporary literary figures suggests that he did not perceive a sharp separation between the literary past and the literary present.

The third is the significance of regional literary identity. His attention to Azerbaijani literature and Tabriz indicates an awareness of the cultural particularities of the region.

The fourth is the importance of oral transmission. Through his memories and interviews concerning Shahriar, Fardi contributed to the preservation of literary information that might otherwise have disappeared.

These themes together form an important framework for understanding his intellectual personality.

5. Azerbaijan and the Literary Culture of Tabriz

Azerbaijan has played a significant role in the cultural history of Iran. The region produced numerous poets, scholars, intellectuals, and artists whose contributions enriched Persian and Azerbaijani Turkish literary traditions.

Tabriz, in particular, became one of the most important centres of intellectual activity.

The literary identity of Tabriz cannot be reduced to one language or one literary period. Persian literary traditions, Azerbaijani Turkish expression, classical heritage, modern poetry, religious culture, and social movements have all contributed to its cultural character.

Fardi's intellectual activities should therefore be examined against this complex background.

His interest in Tabriz was more than geographical attachment. The city functioned as a symbol of cultural memory.

This perspective helps explain his interest in works and personalities associated with the city and the surrounding literary tradition.

6. Fardi and Mohammad-Hossein Shahriar

The relationship between Asghar Fardi and Mohammad-Hossein Shahriar represents the most important dimension of Fardi's literary biography.

Shahriar occupies a unique position in modern Iranian literature. He wrote important poetry in Persian as well as Azerbaijani Turkish and became one of the best-known literary representatives of Azerbaijan.

His literary reputation extends far beyond the geographical boundaries of Tabriz. His poetry combines elements of classical Persian literary tradition with modern emotional, social, and cultural concerns.

Fardi's association with Shahriar enabled him to observe the poet closely.

The importance of this relationship extends beyond personal friendship or discipleship. Fardi later became a transmitter of memories and information concerning Shahriar.

Through his writings, interviews, and cultural activities, he contributed to the preservation of the image of Shahriar for later generations.

7. Shahriar Studies and Oral History

One of Fardi's most significant contributions was his role in preserving oral literary history.

Literary history is not composed solely of books and published documents. Personal memories, letters, photographs, interviews, manuscripts, conversations, and eyewitness accounts may also provide important information.

Fardi's proximity to Shahriar gave him access to precisely such material.

The value of oral testimony lies in its ability to preserve details that formal documents may not contain. Personal memories can illuminate the character, habits, intellectual relationships, and literary environment of a writer.

However, oral history also presents methodological challenges.

Human memory is selective. The passage of time may alter recollection, while personal interpretation may influence the presentation of events.

For this reason, Fardi's recollections should be treated as valuable primary testimony but should be compared with other documentary evidence.

Such comparison does not reduce the value of his memories. On the contrary, it enables scholars to use them more effectively and responsibly.

8. Shahriar as a Literary and Cultural Symbol

To understand Fardi's work, it is necessary to understand the wider significance of Shahriar.

Shahriar represents an important bridge between Persian literary tradition and Azerbaijani cultural identity.

His Persian poetry established him as a major poet within the national literary tradition of Iran, while his Azerbaijani Turkish poetry connected him deeply with the people and culture of Azerbaijan.

Fardi's attention to both dimensions of Shahriar's identity reflects an inclusive understanding of his literary significance.

The preservation of Shahriar's Azerbaijani Turkish poetry was therefore an important cultural task.

Fardi's editorial activities in this field should be understood within this broader context.

Literary, Research and Cultural Contributions

9. Kolliyat-e Torki-ye Shahriar

One of the most important works associated with Asghar Fardi is Kolliyat-e Torki-ye Shahriar.

The bibliographical record identifies the work as the Azerbaijani Turkish poetry of Mohammad-Hossein Shahriar, compiled and edited by Asghar Fardi. The work was published in Tehran by Al-Hoda International Publications in 1992. The recorded edition contains 238 pages in addition to preliminary material.

The importance of the book is considerable because Shahriar's Azerbaijani Turkish poetry constitutes a major part of his literary legacy.

The editorial process involved in collecting and organizing such poetry is not a purely mechanical activity. A textual editor must deal with variant readings, different sources, linguistic forms, ordering, orthography, and the reliability of available texts.

Consequently, Fardi's role as compiler and editor deserves scholarly attention.

The work also has cultural significance. By helping preserve Shahriar's Turkish poetry, Fardi contributed to the transmission of Azerbaijani literary heritage to subsequent generations.

Another significant work associated with Fardi is Shahriar and the Islamic Revolution.

The work was published in 1993 by Hoda Publications, with Fardi identified as compiler.

The importance of this book lies in its historical and interpretive context. It presents Shahriar's literary personality in relation to the political and social atmosphere surrounding the Islamic Revolution.

Shahriar's poetry was not limited to romantic or purely personal themes. His literary work also reflected social and cultural concerns.

The compilation therefore provides an opportunity to examine how the poetry and personality of a major literary figure were interpreted within a particular historical period.

For researchers, the work may be useful not only as a source for Shahriar studies but also as an example of the changing reception of a major poet in post-revolutionary Iranian literary culture.

Another aspect of Fardi's literary activities is represented by Tabriziyat.

The work reflects his interest in Tabriz and its cultural heritage.

Urban literature often transforms a city into a literary subject. Streets, historical buildings, personalities, memories, traditions, dialects, and cultural practices become part of the literary representation of the city.

Fardi's attention to Tabriz may therefore be examined within the broader framework of literary geography and urban cultural studies.

His representation of Tabriz is important because the city functions simultaneously as a physical place and a repository of cultural memory.

This approach also strengthens our understanding of why Shahriar occupied such an important place in Fardi's intellectual life.

Fardi's literary interests also extended to older literary figures associated with Azerbaijan.

His attention to Safi Tabrizi demonstrates that he was not exclusively concerned with modern literature.

The study and editing of classical poetry require specialized knowledge of textual criticism.

A reliable edition must take account of manuscript evidence, variant readings, linguistic history, poetic metre, literary conventions, and the historical context of the poet.

Fardi's interest in such material therefore represents another dimension of his effort to preserve Azerbaijani literary heritage.

This work also demonstrates the continuity between his research on classical poets and his later engagement with modern figures such as Shahriar.

Mawlana Jalal al-Din Rumi was another major literary figure who attracted Fardi's attention.

Mawlana represents one of the highest achievements of Persian literary and mystical thought. His influence extends across Iran, Central Asia, the Middle East, South Asia, Europe, and North America.

Fardi's interest in Mawlana demonstrates that his literary horizon extended beyond regional literature.

The relationship between Fardi's interest in Mawlana and his interest in Shahriar is particularly significant.

Mawlana represents the classical heritage of Persian literature, while Shahriar represents modern Iranian poetry.

Studying both figures reflects an intellectual effort to establish continuity between the classical and contemporary periods.

Fardi's cultural activities also included poetry recitation and artistic performance.

Poetry recitation occupies a significant place in Iranian literary culture.

The written poem is transformed through voice into an auditory experience. Rhythm, pronunciation, intonation, pauses, and emotional emphasis influence the reception of poetry.

Fardi's engagement with recitation demonstrates that his literary activities were not restricted to the printed page.

This aspect of his career is especially important in an age when literary culture increasingly moves through audio and visual media.

His work may therefore be examined within the history of literary performance in contemporary Iran.

One of the most significant features of Fardi's literary personality is the relationship he maintained between tradition and modernity.

He showed interest in classical Persian literature while simultaneously engaging with modern literary figures.

His work on Shahriar provides a particularly useful example.

Shahriar himself represents a synthesis of literary traditions. He was deeply rooted in classical Persian poetry but also responded to modern historical and social conditions.

Fardi's approach to Shahriar can therefore be interpreted as an attempt to preserve this continuity.

From this perspective, Fardi's literary activities form part of a larger cultural project: ensuring that modernization does not result in the loss of historical literary memory.

An important source for the study of Fardi's legacy is Fardiyat: Namvarnameh-ye Asghar Fardi, compiled by Fouad Fardi.

The work was published in 2022 and contains 412 pages.

The volume is significant because it brings together various forms of material relating to Fardi's life and literary activities, including articles, poems, photographs, and documentary material.

A posthumous collection of this nature is important for literary historiography.

It provides researchers with access to material that might otherwise remain scattered among private collections, newspapers, interviews, personal archives, and literary circles.

Fardiyat may therefore become one of the important sources for future research into Fardi.

At the same time, researchers should distinguish between materials of different documentary values within such a collection.

Published literary criticism, personal memories, photographs, poems, correspondence, and archival documents do not all possess the same evidentiary status.

A critical edition or scholarly study should therefore identify the origin and nature of each source.

A particularly useful way of understanding Fardi is to regard him as a literary mediator.

A literary mediator is a figure who connects writers, texts, generations, institutions, and readers.

Fardi performed this function in several ways.

He connected Shahriar with later generations through his recollections.

He connected Azerbaijani Turkish poetry with Persian-speaking readers through editorial work.

He connected classical literary figures with contemporary cultural discourse.

He also helped preserve literary information through interviews and cultural activities.

This mediating role may ultimately prove to be one of his most lasting contributions.

The evaluation of Fardi's literary position should avoid two extremes.

The first extreme would be to regard him merely as a minor poet because his name is less internationally known than Shahriar.

The second would be to exaggerate his importance without sufficient documentary evidence.

A balanced scholarly assessment recognizes his multidimensional contribution.

His importance is especially evident in the fields of Shahriar studies, Azerbaijani literary heritage, compilation and editing, oral literary history, cultural documentation, contemporary literary activities, and classical-modern literary continuity.

His poetry deserves independent stylistic research, while his scholarly works require textual and bibliographical evaluation.

His recollections concerning Shahriar should be examined through source criticism.

Such an approach can establish a more reliable assessment of his place in modern Iranian literary history.

A comprehensive scholarly study of Asghar Fardi should employ several methodological approaches.

The biographical method can reconstruct the chronology of Fardi's life, education, literary relationships, publications, cultural activities, and final years.

His poetic and editorial works should be studied through textual criticism.

His interpretations of Shahriar and other poets should be compared with independent sources.

Interviews and personal recollections should be treated as important but critically examined sources.

His activities should be situated within the cultural history of Tabriz, Azerbaijan, and contemporary Iran.

These approaches together can produce a more comprehensive understanding of Fardi's intellectual contribution.

Asghar Fardi died in 2018.

His death marked the end of a literary career characterized by poetry, research, cultural activity, and close engagement with Shahriar and Azerbaijani literary heritage.

Nevertheless, his intellectual legacy continued after his death.

The publication of Fardiyat: Namvarnameh-ye Asghar Fardi in 2022 represents one of the major attempts to preserve this legacy.

The preservation of Fardi's manuscripts, interviews, correspondence, recordings, photographs, and published works should therefore be regarded as an important scholarly task.

Fardi's career provides an interesting case study for understanding contemporary Iranian literary culture.

His work demonstrates that literary history is created not only by famous poets but also by those who preserve, edit, document, interpret, and transmit literary works.

His association with Shahriar gives his career particular importance.

The study of Fardi also contributes to broader questions concerning Persian and Azerbaijani literary interaction, regional literary identity, preservation of oral literary history, textual editing, reception of major poets, cultural memory, and the relationship between classical and modern literature.

Consequently, Fardi's study should not be limited to biography. It should form part of a broader investigation into modern Iranian literary culture.

Asghar Fardi occupies a distinctive position in the literary and cultural history of contemporary Iran. He was a poet, researcher, editor, compiler, cultural activist, and literary chronicler whose work extended across several interconnected fields.

His importance cannot be understood solely through his poetic production. His most significant contribution lies in the preservation, documentation, and transmission of literary heritage.

The central relationship in his intellectual life was undoubtedly his association with Mohammad-Hossein Shahriar. Through his proximity to Shahriar, Fardi became an important witness to part of the poet's personal and literary life.

His subsequent activities in Shahriar studies transformed this personal relationship into a broader cultural contribution.

The compilation and editing of Kolliyat-e Torki-ye Shahriar is especially important. By organizing and preserving Shahriar's Azerbaijani Turkish poetry, Fardi contributed to the transmission of an essential part of the poet's literary heritage.

His work Shahriar and the Islamic Revolution represents another important dimension of his contribution, particularly in relation to the reception of Shahriar in a specific historical context.

Fardi's interest in Tabriz, Azerbaijani literature, Safi Tabrizi, Mawlana, and poetry recitation demonstrates the breadth of his intellectual interests.

He viewed literature as a continuous cultural tradition in which the classical past remained relevant to contemporary literary identity.

His role as a mediator between literary generations is especially significant. Through his memories, editorial activities, cultural programmes, and publications, he helped connect literary heritage with later readers.

The publication of Fardiyat: Namvarnameh-ye Asghar Fardi after his death provides an important basis for future research. The preservation of articles, poems, photographs, and documentary material ensures that further scholarly investigation remains possible.

A final assessment of Fardi should therefore be both balanced and evidence-based. He should neither be reduced to a mere associate of Shahriar nor be evaluated without reference to documentary evidence. Rather, he should be studied as an independent literary personality whose contribution lies in the intersection of poetry, research, textual preservation, cultural memory, and Azerbaijani literary heritage.

In conclusion, Asghar Fardi may appropriately be described as a poet, researcher, textual editor, Shahriar scholar, cultural mediator, and chronicler of contemporary Iranian literary culture.

His literary legacy deserves further systematic study, especially through his complete poetic works, archival materials, interviews, editorial activities, and the posthumous collection Fardiyat.

Such research would not only deepen our understanding of Asghar Fardi but would also contribute to the broader study of Shahriar, Azerbaijani literature, Tabriz's literary culture, oral literary history, and the continuity between classical and contemporary Iranian literature.

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2. Shahriar, Mohammad-Hossein. Shahriar and the Islamic Revolution. Compiled by Asghar Fardi. Tehran: Hoda Publications, 1993.
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4. Fardi, Asghar. Tabriziyat.
5. Safi Tabrizi. Divan-e Safi Tabrizi. Edited by Asghar Fardi.
6. Fardi, Asghar et al. Kifam Boy-e Zendegi Midahad.
7. Published interviews and conversations with Asghar Fardi concerning Mohammad-Hossein Shahriar.
8. Documentary and archival materials concerning Asghar Fardi preserved in Fardiyat: Namvarnameh-ye Asghar Fardi.
9. Bibliographical records relating to the publications of Asghar Fardi and Mohammad-Hossein Shahriar.

1. For the bibliographical identification of Kolliyat-e Torki-ye Shahriar and the identification of Asghar Fardi as compiler and editor, see the relevant bibliographical record.
2. The study of oral testimony concerning Shahriar should be conducted through comparison with documentary sources, manuscripts, letters, and independent memoirs.
3. The distinction between Persian and Azerbaijani Turkish literary traditions is important in understanding Shahriar's position within Iranian literature.

4. Fardi's editorial contribution should be examined through the principles of textual criticism rather than merely through bibliographical description.
5. Fardiyat: Namvarnameh-ye Asghar Fardi is an important posthumous source for reconstructing aspects of Fardi's literary and cultural activities.

The study of Asghar Fardi reveals a literary personality situated at the intersection of poetry, scholarship, cultural memory, Azerbaijani heritage, and contemporary Iranian literary history.

His enduring importance lies particularly in his efforts to preserve the literary heritage of Shahriar and to maintain a connection between the literary traditions of the past and the cultural realities of the present.

For this reason, Asghar Fardi merits further independent academic investigation as an important figure in the literary and cultural history of contemporary Azerbaijan and Iran.

Social Media Engagement and Perceived Social Isolation among Young Adults

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Abstract

Social media can extend interpersonal contact, yet high or emotionally invested engagement may coexist with feelings of disconnection. This cross-sectional study examined the relationship between social media engagement and perceived social isolation in a supplied online dataset comprising 100 young adults aged 18-29 years. Engagement was represented by a 10-item, 5-category SMUIS-labelled index, with workbook scoring corresponding to Social Integration and Emotional Connection (SIEC) and Integration into Social Routines (ISR) subscales. Perceived isolation was represented by the raw mean of six 1-5 items labelled as PROMIS social-isolation items in the dataset. Analyses included reliability estimates, descriptive statistics, Pearson and Spearman correlations, engagement-quartile comparisons, and hierarchical ordinary least-squares regression with HC3 robust standard errors. The engagement and perceived-isolation indices showed strong internal consistency (Cronbach's α = .915 and .876, respectively). Engagement was moderately associated with greater perceived isolation, r = .544, 95% CI [.389, .669], $p < .001$; the rank-order estimate was similar, ρ = .555. Isolation increased from M = 2.33 in the lowest engagement quartile to M = 3.59 in the highest, $F(3, 96) = 13.73$, $p < .001$, $\eta^2 = .300$. After adjustment for age, sleep, physical activity, offline meeting days, confidant availability, and recent stress, engagement remained associated with isolation, B = .390, robust SE = .123, β = .350, p = .002, and added 7.7% explained variance. An exploratory block containing daily hours, passive-use share, and a night-use score added 6.3% variance; passive-use share was the only unique digital-pattern correlate, B = .128 per 10-percentage-point increase, p = .021. The results favour a context-sensitive account in which engagement intensity, passive consumption, offline contact, sleep, and stress should be considered together.

Keywords: social media engagement; perceived social isolation; young adults; SMUIS; passive social media use; online survey

1. Introduction

Social media are now embedded in the interpersonal routines of young adults. They allow relationships to be maintained across distance, provide rapid access to communities and support, and make interaction possible when face-to-face contact is constrained. These affordances make a simple harmful-versus-beneficial account implausible. The same platforms can facilitate targeted communication with close ties, passive observation of highly curated lives, entertainment, professional networking, or withdrawal from difficult offline situations. Accordingly, the psychological meaning of social media use depends not only on duration but also on the way use is integrated into everyday life, the type of activity performed, and the user's offline circumstances.

Perceived social isolation is the subjective experience of being disconnected, excluded, avoided, or insufficiently integrated with others. It is related to, but not identical with, objective isolation or loneliness. PROMIS social-health measurement work treats perceived isolation as an appraisal of one's social connectedness rather than a simple count of contacts (Hahn et al., 2010, 2014). This distinction matters because an individual may have many online and offline contacts yet experience little intimacy or belonging. Conversely, a small network can be experienced as adequate when it contains responsive and dependable ties. Both actual and perceived isolation have been associated with consequential health outcomes, which makes careful measurement and interpretation important (Holt-Lunstad et al., 2015).

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1.1 Exposure, engagement, and the quality of use

Much early research operationalised social media use as minutes, frequency, or platform membership. Those measures capture exposure but not necessarily psychological engagement. The Social Media Use Integration Scale (SMUIS) was developed to assess how strongly use is woven into social behaviour and daily routines, with two related dimensions: Social Integration and Emotional Connection (SIEC) and Integration into Social Routines (ISR; Jenkins-Guarnieri et al., 2013). Engagement can therefore be high because social media are emotionally important, because checking has become habitual, or both. These features may be more relevant to perceived connection than exposure alone.

The distinction is empirically important. In a nationally representative study of 1,787 U.S. adults aged 19-32 years, Primack et al. (2017) found that greater time and frequency of social media use were associated with higher odds of perceived social isolation. Yet prospective research using objectively logged use has often found much smaller or null associations. Across numerous model specifications, Sewall et al. (2022) reported that objectively measured social-media or smartphone use showed little prospective association with depression, anxiety, or social isolation among young adults. Self-reported time also corresponds only moderately with logged use and is rarely an exact estimate, which can distort associations involving recalled minutes or sessions (Parry et al., 2021).

Recent syntheses reinforce this complexity. A meta-analysis of adolescents and young adults found a small overall association between social media use and loneliness, with a stronger association for problematic use and a much smaller one for time alone (Feng et al., 2026). A separate meta-analysis of 141 studies found that most average relationships between active or passive use and mental-health, well-being, or support outcomes were negligible, although results varied by outcome and context (Godard & Holtzman, 2024). Thus, broad exposure measures may conceal substantial heterogeneity.

1.2 Competing pathways to connection and isolation

Several theoretical perspectives explain why opposite associations are possible. The need-to-belong account proposes that people seek stable, meaningful interpersonal bonds (Baumeister & Leary, 1995). Social technologies can help meet this need when they deepen existing relationships or create responsive new ones. Longitudinal evidence indicates that receiving tailored communication from strong ties is more consistently related to improved well-being than viewing broadcasts or receiving low-effort feedback (Burke & Kraut, 2016). Experimental work has also found that increasing status updates can reduce loneliness when doing so increases day-to-day connectedness (große Deters & Mehl, 2013).

The displacement account proposes a different route: intensive online activity may replace face-to-face interaction, sleep, physical activity, or other sources of connection. However, evidence does not support a universal displacement effect. Two tests by Hall et al. (2019) found no general pattern in which social media use reduced offline interaction; effects depended on prior context, including whether the person had been alone. Nowland et al. (2018) therefore describe social internet use as bidirectional and dynamic: it can serve as a route to reconnection or as an escape that reinforces withdrawal.

Compensatory Internet Use Theory adds an important reverse pathway. Stress or unmet social needs may motivate increased online engagement, making isolation a possible antecedent as well as an outcome (Kardefelt-Winther, 2014). A 2025 meta-analysis of longitudinal studies found small bidirectional relationships between loneliness and problematic media use after accounting for prior levels of the outcomes (Fam & Männikkö, 2025). The Differential Susceptibility to Media Effects Model similarly predicts that dispositional, developmental, and social-context factors condition media responses (Valkenburg & Peter, 2013). Together, these perspectives caution against reading a cross-sectional association as a one-way effect.

Mode of use may nevertheless offer clues about mechanisms. Passive browsing can expose users to upward comparison and idealised self-presentation. Experimental and experience-sampling research has associated passive Facebook use with short-term reductions in affective well-being under some conditions (Verduyn et al., 2015). At the same time, the recent meta-analytic literature does not justify treating all passive use as harmful or all active use as beneficial (Godard & Holtzman, 2024). Content, relationship quality, reciprocity, and user vulnerability can change the meaning of the same nominal behaviour. Likewise, routine integration and emotional connection should not automatically be combined conceptually: Bekalu et al. (2019) found different associations for these SMUIS dimensions in a large adult sample.

1.3 Present study

The supplied dataset permits engagement to be examined alongside recalled duration, session frequency, night use, active/passive composition, and indicators of offline context. The study addressed three questions. First, is greater social media integration associated with greater perceived social isolation among young adults? Second, does that association remain after accounting for age, sleep, physical activity, offline meeting frequency, access to a close confidant, and recent stress? Third, do time, passive-use share, and night use add explanatory information beyond social-media integration and offline context?

The central, retrospectively specified expectation for this analysis was that higher SMUIS-labelled scores would be positively associated with perceived isolation and would retain a positive association in a parsimonious adjusted model. The digital-pattern analysis was treated as exploratory because no preregistered plan or dated protocol was supplied and the behavioural indicators were self-reported. Based on displacement and social-comparison accounts, a higher passive-use share was expected to correspond with greater isolation, while the unique contributions of total time and the night-use score were left open because these measures overlap substantially with general engagement.

2. Method

2.1 Design and participants

The study used a cross-sectional survey design. The data contained 100 records for people aged 18-29 years and a consent field marked "Yes" for every case. Respondent codes rather than names were present.

2.2 Measures

Participant and contextual characteristics. The dataset included age, gender, student/employment status, education, residence, living arrangement, relationship status, subjective socioeconomic status, sleep hours, physical-activity days, availability of a close confidant, occurrence of a recent stressful event, and offline meeting days per week. Gender was retained descriptively in all four recorded categories. Inferential gender comparisons were not performed because the non-binary and prefer-not-to-say groups each contained only two respondents.

Social media engagement. Ten items were labelled SMUIS_1 through SMUIS_10. Workbook formulas allocated items 1-6 to SIEC and items 7-10 to ISR, with item 8 reverse-scored. This scoring structure corresponds to the original scale's two-factor organisation, but the workbook did not contain item stems, response anchors, item order, language, or version documentation. The original SMUIS used six response options, whereas the workbook contained values from 1 to 5 and reverse-scored item 8 as 6 minus the response. The measure is therefore reported as a 5-category SMUIS-labelled index, provisionally interpreted as an adapted form rather than the unmodified instrument (Jenkins-Guarnieri et al., 2013). Possible scores under the workbook formulas were 6-30 for SIEC, 4-20 for ISR, and 10-50 for the total. The total mean, ranging from 1 to 5, was used in correlations and regression so that a one-unit coefficient represented one response-category difference. Scores were recalculated from the ten raw items and matched the workbook formulas for all cases.

Behavioural social media indicators. Records included primary platform, number of platforms used, weekday and weekend social-media minutes, daily sessions, a 1-5 variable labelled night-use frequency, and estimated percentages of active and passive use. Weighted daily minutes were calculated as [(5 × weekday minutes) + (2 × weekend minutes)] / 7 and divided by 60 for regression. Active and passive percentages summed to 100 for every record, so only passive use was entered in multivariable models. It was scaled in 10-percentage-point units for interpretable coefficients. The percentage split is an exploratory self-estimate, not a validated active/passive-use scale or device log. Because item wording and anchors for the night-use variable were not supplied, it is treated as an ordinally coded score and a one-unit regression coefficient should not be translated into a specific behavioural frequency.

Perceived social isolation. Six items were labelled PROMIS_SI_1 through PROMIS_SI_6 and used response values from 1 to 5, with higher values indicating greater perceived isolation. A raw score from 6 to 30 and an item mean from 1 to 5 were calculated. Although this structure is consistent with a six-item PROMIS social-isolation short form, column labels alone do not establish the exact item wording, response anchors, recall period, version, or translation. Accordingly, the analysis uses the terms six-item perceived-isolation index and PROMIS-labelled items. It does not present the workbook mean as a norm-referenced PROMIS T-score or apply clinical cut-offs; official conversion requires an identified form and

its scoring table (Hahn et al., 2010, 2014; Patient-Reported Outcomes Measurement Information System, 2015).

2.3 Data quality and statistical analysis

The source workbook was retained unchanged. Analyses were based on recalculated scores from raw items. Quality checks assessed consent, missingness, duplicate identifiers, fully duplicated response rows, scale ranges, active/passive totals, and agreement between formulas and recalculated scores. No value was imputed and no case was removed.

Internal consistency was estimated with Cronbach's alpha for the total engagement measure, its two subscales, and perceived isolation. Descriptive statistics included means, standard deviations, observed ranges, 95% confidence intervals, skewness, and category frequencies. The central unadjusted association was Pearson's correlation with a Fisher-z 95% confidence interval; a 10,000-resample bootstrap confidence interval and Spearman's rho were calculated as sensitivity checks. Sample-relative engagement quartiles were used only for visualisation and a one-way comparison; they are not normative or clinical categories.

Hierarchical ordinary least-squares regression predicted the 1-5 isolation mean. Model 1 included six contextual variables: age, sleep hours, physical-activity days, offline meeting days, close-confidant availability, and recent stress. Model 2 added the SMUIS-labelled mean and served as the principal adjusted analysis. Model 3 added daily social-media hours, passive-use share per 10 percentage points, and the night-use score as an exploratory block. HC3 heteroskedasticity-consistent standard errors were used because they perform well in modest samples (Long & Ervin, 2000). Results include unstandardised coefficients, robust standard errors, standardised coefficients, 95% confidence intervals, exact p values, R^2, adjusted R^2, and change in R^2. Residual normality, heteroskedasticity, leverage, Cook's distance, and variance-inflation factors (VIFs) were examined. Independence was treated as a sampling-design assumption; Durbin-Watson was reported only for the stored row order and cannot verify independence in an unordered cross-sectional sample. All tests were two-tailed with $\alpha = .05$. Secondary correlations and expanded-model coefficients are exploratory and were interpreted by magnitude, interval width, and consistency rather than significance alone. Analyses were performed in Python 3.12 using pandas, NumPy, SciPy, and scikit-learn.

3. Results

3.1 Data integrity and sample profile

All 100 records had a consent field coded "Yes" and fell within the stated 18-29-year age range. There were no missing cells in the 48 source variables, duplicate IDs, fully duplicated response rows, out-of-range scale items, invalid platform counts, or active/passive totals other than 100%. Recalculated engagement and perceived-isolation scores agreed with all stored formulas.

Table 1. *Sample characteristics and social-media use (N = 100)*

Characteristic	**Category/statistic**	**n (%) or M (SD)**
Age, years	M (SD)	22.84 (3.28)
Gender	Woman	49 (49.0)
	Man	47 (47.0)
	Non-binary	2 (2.0)
	Prefer not to say	2 (2.0)
Status	Student	66 (66.0)
	Employed	21 (21.0)
	Job-seeking	7 (7.0)
	Self-employed	6 (6.0)
Residence	Urban	46 (46.0)
	Semi-urban	33 (33.0)
	Rural	21 (21.0)
Living arrangement	With family	47 (47.0)
	Hostel	23 (23.0)
	Shared accommodation	18 (18.0)
	Alone	12 (12.0)
Close confidant	Yes	78 (78.0)
Recent stressful event	Yes	36 (36.0)

Primary platform	Instagram	48 (48.0)
	WhatsApp	25 (25.0)
	YouTube	16 (16.0)
	Other	11 (11.0)
Platforms used	M (SD)	3.34 (1.11)
Daily social-media use, minutes	M (SD)	175.10 (67.14)
Daily sessions	M (SD)	29.92 (13.43)
Passive use, %	M (SD)	58.74 (13.83)
Night-use score, 1-5	M (SD)	2.93 (0.98)
Offline meeting days/week	M (SD)	3.12 (1.01)
Sleep, hours/night	M (SD)	7.13 (0.73)

Note. Other primary platforms comprised Snapchat (5%), Facebook (3%), and X (3%). Daily minutes are the weighted mean of weekday and weekend reports.

Participants had a mean age of 22.84 years (*SD* = 3.28). Women represented 49%, men 47%, and the remaining 4% identified as non-binary or preferred not to state gender. Two thirds were students, and 79% lived in urban or semi-urban settings. Nearly half lived with family, while 12% lived alone. A close confidant was reported by 78%, and 36% reported a recent stressful event.

Instagram was the most frequently named primary platform (48%), followed by WhatsApp (25%) and YouTube (16%). The mean weighted use estimate was 175.10 minutes per day (*SD* = 67.14), equivalent to 2.92 hours. Respondents reported a mean of 29.92 daily sessions and estimated that 58.74% of their use was passive. Offline in-person meetings occurred on 3.12 days per week on average.

3.2 Scale properties and bivariate associations

Table 2. *Descriptive statistics and internal consistency of study measures*

Measure	Possible	Observed	M	SD	Skew	α
SMUIS total	10-50	11-47	30.82	7.63	-.22	.915
SMUIS SIEC	6-30	6-29	18.03	4.68	-.27	.871
SMUIS ISR	4-20	4-20	12.79	3.33	-.04	.822
Perceived-isolation raw score	6-30	7-27	17.12	5.09	-.07	.876

Note. SMUIS = Social Media Use Integration Scale; SIEC = Social Integration and Emotional Connection; ISR = Integration into Social Routines. Scoring uses the workbook's 5-category format, which differs from the original 6-option measure. The perceived-isolation score is a raw sum of six PROMIS-labelled items and is not a T-score.

The SMUIS-labelled total had a mean of 30.82 (*SD* = 7.63) on the 10-50 scale, or 3.08 per item. Its distribution was approximately symmetric (skew = -.22), and internal consistency was strong, α = .915. Reliability was also good for SIEC, α = .871, and ISR, α = .822. The six-item perceived-isolation raw score averaged 17.12 (*SD* = 5.09), equivalent to an item mean of 2.85. Its distribution was close to symmetric (skew = -.07), with α = .876. No cut-off-based prevalence was calculated because no verified scoring conversion or clinical threshold was supplied.

Table 3. *Pearson correlations among engagement, use-pattern, and contextual variables*

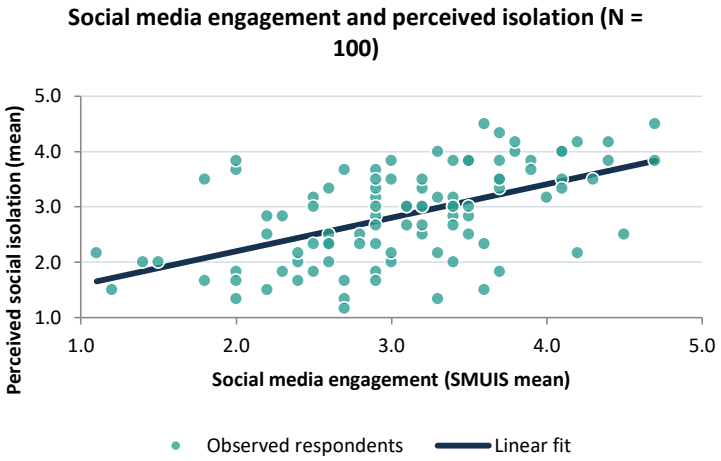
Variable	1	2	3	4	5	6	7	8	9
1. SM engagement	—								
2. SIEC	.97***	—							
3. ISR	.93***	.81***	—						
4. Social isolation	.54***	.49***	.55***	—					
5. Daily SM hours	.85***	.79***	.82***	.52***	—				
6. Night use	.77***	.74***	.73***	.52***	.67***	—			
7. Passive use	.38***	.35***	.39***	.38***	.38***	.38***	—		
8. Offline contact	-.55***	-.50***	-.56***	-.46***	-.51***	-.40***	-.20*	—	
9. Sleep hours	-.38***	-.35***	-.38***	-.38***	-.35***	-.30**	-.17	.22*	—

Note. N = 100. SM = social media. Passive use is expressed as a percentage; offline contact is meeting days per week. Significance markers: $p < .05$, $p < .01$, and $p < .001$ for one, two, and three asterisks, respectively. Tests are unadjusted and secondary except the engagement-isolation association.

Consistent with the stated analytic expectation, social media engagement was positively correlated with perceived isolation, $r = .544$, 95% CI [.389, .669], $p < .001$. The 10,000-resample bootstrap interval was [.383, .681], and the non-parametric estimate was nearly identical, $\rho = .555$, $p < .001$. SIEC and ISR were both related to greater isolation, $r = .492$ and .555, respectively, both $p < .001$.

Isolation was also associated with more daily social-media hours, $r = .516$, more frequent night use, $r = .519$, and a higher passive-use percentage, $r = .383$; all $p < .001$. More offline meeting days, $r = -.460$, and longer sleep, $r = -.381$, were associated with lower isolation. Engagement correlated strongly with daily hours, $r = .846$, and night use, $r = .771$, indicating that their unique regression coefficients would need cautious interpretation.

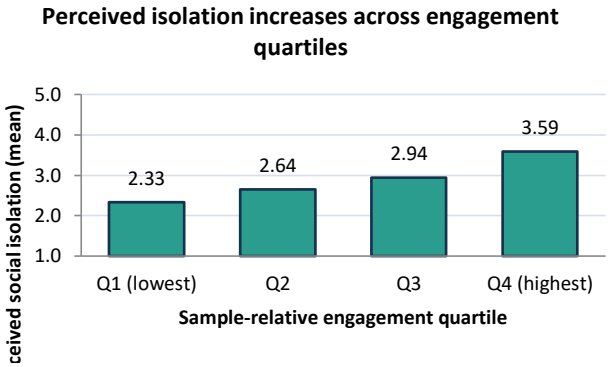
Figure 1. *Respondent-level association between social media engagement and perceived social isolation*



Note. Each marker is one respondent. The solid line is the unadjusted least-squares fit; r = .544, 95% CI [.389, .669], p < .001. Both axes use 1-5 item means. The chart and embedded worksheet are editable in Microsoft Word.

For a descriptive view of the gradient, the sample was divided into engagement quartiles. Mean isolation rose from 2.33 (95% CI [2.06, 2.60]) in the lowest quartile to 2.64 [2.31, 2.98], 2.94 [2.64, 3.24], and 3.59 [3.31, 3.88] across successively higher quartiles. The omnibus difference was statistically significant, $F(3, 96) = 13.73$, $p < .001$, $\eta^2 = .300$. These quartiles describe this sample only.

Figure 2. *Perceived social isolation across sample-relative engagement quartiles*



Note. Bars show isolation item means. Q1-Q4 sample sizes were 28, 23, 26, and 23; 95% CIs were [2.06, 2.60], [2.31, 2.98], [2.64, 3.24], and [3.31, 3.88]. Quartiles are descriptive, not normative. The chart and embedded worksheet are editable in Microsoft Word.

3.3 Hierarchical regression

Table 4. *Principal adjusted regression predicting perceived social isolation*

Predictor	B	HC3 SE	β	95% CI for B	p
Intercept	4.246	1.134	—	[1.994, 6.499]	< .001
Age, years	-.004	.024	-.016	[-.051, .043]	.859
Sleep, hours/night	-.247	.104	-.212	[-.454, -.039]	.020
Physical-activity days/week	-.017	.066	-.026	[-.148, .114]	.795
Offline meeting days/week	-.187	.091	-.222	[-.368, -.006]	.043
Close confidant (yes)	-.277	.174	-.136	[-.623, .068]	.114
Recent stress (yes)	.282	.151	.160	[-.017, .580]	.065
SMUIS-labelled mean	.390	.123	.350	[.144, .635]	.002

Note. N = 100. Outcome is the 1-5 perceived-isolation item mean. R^2 = .411; adjusted R^2 = .366. Adding SMUIS-labelled engagement to the contextual model produced ΔR^2 = .077, $\Delta F(1, 92) = 11.98$, $p < .001$. SEs and confidence intervals use HC3 heteroskedasticity-consistent estimation. Reference groups are no confidant and no recent stress.

Contextual variables in Model 1 explained 33.4% of isolation variance, adjusted R^2 = .292, $F(6, 93) = 7.79$, $p < .001$. Greater offline meeting frequency and longer sleep were the clearest negative correlates. Adding social media engagement in Model 2 increased explained variance by 7.7%, $\Delta F(1, 92) = 11.98$, $p < .001$. In the principal adjusted model, a one-point increase in the 1-5 engagement mean was associated with a .390-point higher isolation mean, robust SE = .123, β = .350, 95% CI [.144, .635], p = .002. Sleep remained negatively associated, B = -.247, p = .020, as did offline meeting days, B = -.187, p = .043. The coefficient for recent stress was positive but its interval included zero, B = .282, p = .065.

Table 5. *Exploratory expanded regression predicting perceived social isolation*

Predictor	B	HC3 SE	β	95% CI for B	p
Intercept	3.772	1.073	—	[1.641, 5.903]	< .001
Age, years	-.003	.024	-.010	[-.050, .044]	.912
Sleep, hours/night	-.234	.094	-.201	[-.422, -.047]	.015
Physical-activity days/week	-.019	.059	-.029	[-.136, .098]	.745
Offline meeting days/week	-.191	.084	-.227	[-.359, -.024]	.026
Close confidant (yes)	-.325	.176	-.159	[-.674, .024]	.068
Recent stress (yes)	.293	.146	.167	[.003, .583]	.047
SMUIS-labelled mean	.049	.218	.044	[-.385, .482]	.825
Daily social-media hours	.076	.119	.100	[-.161, .312]	.527
Passive use, per 10%	.128	.054	.208	[.020, .235]	.021
Night-use score	.165	.105	.190	[-.044, .373]	.120

Note. N = 100. Outcome is the 1-5 perceived-isolation item mean. R^2 = .474; adjusted R^2 = .415. The digital-pattern block added ΔR^2 = .063, $\Delta F(3, 89) = 3.56$, p = .017. SEs and confidence intervals use HC3 estimation. Coefficients should be interpreted cautiously because engagement, daily hours, and night use overlap substantially.

The exploratory digital-pattern block in Model 3 added 6.3% explained variance, $\Delta F(3, 89) = 3.56$, p = .017, bringing total R^2 to .474 and adjusted R^2 to .415. Passive-use share was the only individually significant digital-pattern coefficient: each 10-percentage-point increase corresponded to a .128-point higher isolation mean, robust SE = .054, β = .208, 95% CI [.020, .235], p = .021. Daily hours and night use did not have statistically distinct unique coefficients. The engagement coefficient also attenuated to B = .049, p = .825 after these overlapping indicators entered. This attenuation should not be read as evidence that engagement is unrelated to isolation; rather, engagement shared considerable variance with daily hours and night use. The final-model VIF was 5.33 for engagement, 3.75 for daily hours, and 2.60 for night use, reflecting moderate collinearity.

In the final model, longer sleep (B = -.234, p = .015) and more offline meeting days (B = -.191, p = .026) remained associated with lower isolation, while recent stress was associated with higher isolation (B = .293, p = .047). Replacing the SMUIS total with SIEC and ISR means did not materially change model fit; neither subscale had a distinct adjusted coefficient when entered together with the highly correlated use indicators, whereas passive share remained positive (B = .125, p = .026).

Diagnostic results were generally acceptable but included several influence flags. Final-model residuals did not depart detectably from normality, Shapiro-Wilk W = .987, p = .444, and the Breusch-Pagan test did not indicate heteroskedasticity, p = .984. Durbin-Watson was 2.109, although this statistic is not substantively informative for arbitrarily ordered cross-sectional records. Maximum Cook's distance was .078; seven observations exceeded $4/n$ = .040. One observation exceeded the leverage heuristic $2p/n$ = .220 (maximum h = .254), and one internally studentized residual exceeded |3| (maximum = 3.094). None of these observations should be removed automatically; HC3 inference and the concordant Pearson, bootstrap, and Spearman estimates support the central association's robustness while leaving the design limitations unchanged.

4. Discussion

4.1 Principal findings

This study found a clear cross-sectional association between integrated social media engagement and perceived social isolation in 100 young adults. The unadjusted relationship was moderate: engagement explained about 29.6% of isolation variance at the bivariate level. The association was not dependent on a few extreme ranks and remained positive after adjustment for sleep, offline meeting frequency, confidant availability, physical activity, recent stress, and age. Respondents in the highest sample-relative engagement quartile reported an isolation mean approximately 1.26 scale points higher than those in the lowest quartile.

The principal adjusted model is the strongest basis for descriptive inference in this dataset, but it was not preregistered. Adding engagement to a contextual model explained an additional 7.7% of variance, and its robust confidence interval excluded zero. This result accords with Primack et al. (2017), who observed higher perceived isolation among young adults reporting greater social-media time and frequency. It is also consistent in direction with recent quantitative syntheses. However, the observed r of .544 is substantially larger than the small average relationship reported across studies of young people (Feng et al., 2026). Several factors may explain this difference: the present predictor assessed emotional and routine integration rather than exposure alone; both predictor and outcome were collected by self-report in the same survey; the sample was small and online; and cultural, platform, or recruitment characteristics are unknown. The estimate should therefore be replicated rather than treated as a universal population effect.

4.2 Engagement, quantity, and passive use

The expanded model provides a more nuanced picture. Daily time, night use, and general engagement were strongly interrelated. When all were entered together, none had a clearly separable unique coefficient. The block nevertheless added explanatory value, and passive-use share remained positively associated with isolation. This pattern suggests that *how* respondents used social media may contain information not captured by duration alone. Passive observation may involve fewer reciprocal exchanges and more opportunities for upward comparison, while active communication can sometimes elicit support or maintain relationships.

That interpretation must remain provisional. The passive-use variable was a single estimated percentage, not a validated behavioural scale, content analysis, or platform log. Recent meta-analyses find that average active/passive associations are often negligible and highly contingent on age, context, and outcome (Godard & Holtzman, 2024). Passive use can include supportive information seeking, entertainment, group observation, or exposure to distressing comparison targets; active use can include warm direct communication or conflictual broadcasting. Therefore, the present coefficient supports a follow-up hypothesis about passive composition, not a general rule that scrolling inevitably produces isolation.

The distinction between SIEC and ISR also deserves attention. Both subscales had good reliability and positive zero-order relationships with isolation, with ISR showing the slightly larger correlation. Yet they were too strongly related to the total engagement and behavioural indicators to yield

stable unique coefficients in the expanded model. Prior research has shown that routine use and emotional connection can relate differently to well-being (Bekalu et al., 2019). Future work should preserve the two dimensions, use the original or carefully validated response format, and recruit a larger sample capable of testing their independent and interactive roles.

4.3 Offline context, sleep, and bidirectionality

Offline meeting frequency was one of the most consistent inverse correlates across models. Each additional offline meeting day was associated with a lower isolation mean even after digital-use indicators were included. This finding is compatible with a displacement account but does not prove displacement. Young adults who feel connected may be more likely to arrange in-person meetings, while those experiencing isolation may both meet others less often and turn to social media more intensively. Hall et al. (2019) found no universal social-displacement effect, and Nowland et al. (2018) emphasised that digital communication can either bridge or displace connection depending on purpose and context.

Sleep and recent stress also retained associations in the final model. Longer sleep corresponded with lower isolation, whereas a recent stressful event corresponded with higher isolation. Night use was correlated with both engagement and isolation but did not remain independently significant once shared variance was considered. These results suggest that social media should not be analysed as an isolated exposure. Sleep, stress, and opportunities for in-person interaction may be confounders, parallel consequences, or mechanisms in a reciprocal system.

Reverse causation is especially plausible. Compensatory Internet Use Theory predicts that people may engage more intensely online when stressed or disconnected (Kardefelt-Winther, 2014). Longitudinal synthesis indicates that loneliness and problematic media use can predict one another, although adjusted effects are generally small (Fam & Männikkö, 2025). The present data were collected at one time point, so the observed regression direction is statistical rather than temporal. Phrases such as "social media caused isolation" or "passive use led to isolation" would exceed the design.

4.4 Practical implications

The results do not support a blanket recommendation to abandon social media. They instead point toward a portfolio of potentially modifiable practices: preserve regular offline contact, protect sleep, notice whether use is reciprocal or predominantly passive, and prioritise tailored communication with meaningful ties. Burke and Kraut (2016) found that composed messages from strong ties were more consistently related to well-being than generic broadcasts or one-click feedback. Conversely, a short randomised trial reported reductions in loneliness and depression when undergraduates limited three platforms to approximately 30 minutes per day (Hunt et al., 2018). These findings imply that both boundaries and purposeful connection can be useful, but the appropriate strategy may differ across users.

For colleges and youth-support settings, a proportionate response would focus on digital self-awareness rather than moralising about screen time. Brief assessment can ask not only "How long?" but also "For what purpose?", "With whom?", "At what time?", and "What does this replace?" Programmes could pair digital-literacy content with sleep hygiene, opportunities for face-to-face participation, and access to social or psychological support after stressful events. The current findings are not clinical-effect estimates and should not be used to diagnose an individual or set a universal time limit.

4.5 Strengths and limitations

Several features strengthen the analysis. All source records were complete, consent-marked, and internally valid on the programmed checks. Composite scores were independently recalculated rather than accepted from formulas. The study separated psychological integration from time, sessions, night use, and active/passive composition; retained SIEC and ISR descriptively; reported reliability for the adapted measures; used confidence intervals and robust standard errors; and examined the central association with Pearson, bootstrap, rank-order, quartile, and adjusted analyses. Distinguishing the principal adjusted analysis from the more expansive exploratory model reduced the temptation to interpret every available variable equally.

Second, the cross-sectional design prevents temporal ordering. Engagement may contribute to isolation, isolation may motivate engagement, or both may reflect unmeasured factors such as personality, depressive symptoms, social anxiety, relationship conflict, or academic strain. The adjusted variables reduce but cannot eliminate confounding.

Third, all substantive variables were self-reported in one survey. Recalled minutes and sessions may differ from device logs (Parry et al., 2021), while common response style can inflate relationships between scale scores. The active/passive percentage was especially coarse and forced the two modes to sum to 100. Platform-level analyses were not adequately powered, and primary-platform membership says little about specific content or interaction quality.

Fourth, the SMUIS response format was adapted from six to five points. Internal consistency was strong, but reliability does not establish equivalence to the original instrument or validate comparisons with its norms.

Finally, the model-3 indicators were moderately collinear, and secondary analyses were not adjusted as a large family of confirmatory tests. Their coefficients are best treated as hypothesis-generating. Although HC3 standard errors improve inference under heteroskedasticity, they cannot cure measurement error, selection bias, common-method variance, or model misspecification.

4.6 Future research

Future studies should register a sampling and analysis plan, preserve the exact validated item wording and response scales, and document location, language, recruitment flow, ethics approval, and response rate. Larger probability-based or well-characterised multi-site samples would allow comparisons by developmental stage, gender, residence, living arrangement, and platform without collapsing small groups.

Longitudinal and intensive designs are particularly important. Repeated assessments could test whether within-person increases in passive use precede isolation, whether isolation precedes compensatory engagement, or whether both follow stress and disrupted sleep. Device logs should be combined with short experience-sampling reports of content, motivation, emotional response, reciprocity, and tie strength. Such a design would move beyond the imprecise question of total screen time and identify when social media serve as a bridge to connection versus a context for withdrawal. Experimental work could then evaluate targeted changes, such as reducing late-night passive browsing, increasing direct communication with close ties, or pairing digital-use changes with structured offline social opportunities.

5. Conclusion

Greater integration of social media into emotional and daily routines was moderately associated with greater perceived social isolation. The relationship remained after adjustment for several offline and health-context variables, while an exploratory expansion suggested that passive-use share carried additional information beyond general engagement and duration. Offline meeting frequency and sleep were consistently associated with lower isolation; the recent-stress coefficient was positive across models but reached conventional significance only in the expanded model ($B = .293$, $p = .047$). The evidence is cross-sectional and cannot determine causal direction. Taken together, the findings support a context-sensitive interpretation: social media engagement is neither inherently connecting nor isolating, and its association with perceived isolation is best understood alongside mode of use, offline relationships, sleep, stress, and individual circumstances.

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Regional Dimensions of Agricultural Performance in Bihar

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Abstract

The rural agricultural economy of Bihar has seen a considerable change throughout the years, in terms of income distribution, size of holding and land use pattern. Agricultural growth has been uneven throughout the state. There are considerable regional differences in cropping pattern, productivity and use of natural resources. In this context, the current research attempts to investigate the condition of agriculture in Bihar at regional level and to identify the primary factors of agricultural growth at both regional and district level. The research is based only on secondary data available from Directorate of Economics and Statistics, Government of Bihar. The level of agricultural development and its drivers have been assessed using a mix of descriptive statistics and suitable econometric approaches. The results show a notable variation in the agricultural performance throughout the regions, with the northern region, especially the northern east region of Bihar, demonstrating comparatively greater levels of agricultural development compared to other regions. The report points out the need for region-specific methods to promote crop diversity, effective land resource management and balanced agricultural development for the sustainable agricultural expansion and long-term rural prosperity in Bihar.

Key Words: Performance of Agriculture, Agrarian Economy, Land Use Pattern

Introduction

Agriculture is the backbone of Bihar's economy and continues to be the principal employment of the mostly rural population. Almost 90 percent of the population in the state lives in rural areas and depends directly or indirectly on agriculture for work and earning cash. The industry constitutes around 25 per cent of the Gross State Domestic Product (GSDP) of Bihar and is vital for the economic growth and social welfare of the state. The agriculture industry, however important, is plagued by many persistent challenges such as low agricultural productivity, fragmented and decreasing landholdings, frequent floods and droughts, inadequate irrigation facilities and poor rural infrastructure. These structural constraints have hampered agricultural modernisation and hinder the pace of sustainable agricultural expansion in Bihar.

Agricultural growth in Bihar has been uneven throughout time with large regional variations in crop variety, levels of output and productivity and patterns of land use. These variances are determined by changes in natural resource endowments, socio-economic situations and level of infrastructure development between districts (Singh, 2011). The growth of irrigation infrastructure, growing urbanization and industrialization and better market linkages have also significantly influenced the changing condition of agriculture in the state. Despite the fact that a major section of the population is heavily dependent on agriculture, the industry is nonetheless plagued by comparatively poor productivity. This mismatch between high dependency on agriculture and poor agricultural performance calls for a deeper look at land use practices and the continuous change of cropping systems in Bihar.

The agricultural structure of Bihar has seen a significant shift over a period of time, notably in terms of income distribution, size of landholdings and land use pattern. These structural changes have been accompanied by a gradual shift in crop patterns from traditional cereals to high value crops, driven by expanding market opportunities, growing urbanisation and increasing linkages between the agricultural and non-farm sectors (Pohit et al., 2019). Bihar, endowed with vast natural resources in the form of lush alluvial soils, a network of rivers and significant groundwater reserves, has not been able to fully exploit its agricultural potential due of deep-entrenched institutional and infrastructural constraints. The rapidly rising

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population and urbanization have raised the need for food, fuel, fodder and land for non-agricultural usage. A major percentage of the agricultural land is being diverted for residential, industrial and infrastructure related reasons, leading to a continuous decline in the net sown area. This trend has aggravated the mismatch between the demand and supply of agricultural land and has had a negative impact on agricultural production and rural living patterns. Moreover, the agricultural structure of Bihar is marked by small and fragmented landholdings which impede farm mechanization, do not enable economies of scale and reduce the profitability and economic sustainability of agriculture (Chanda, 2011, Ghatak & Roy (2015). The increasing incidence of floods, erratic monsoon rainfall, depleting groundwater and soil degradation caused by climate change have compounded these problems, making traditional cereal-based agriculture even more problematic.

Agricultural performance usually varies by region due to variations in land use patterns, agricultural resource mobilization and exploitation, infrastructural development, etc. Therefore, to establish specific plans to improve the status of agriculture in Bihar, it is important to assess the nature of agriculture at the district and regional levels. This article's main objective is to analyze Bihar's agricultural situation at the regional level and classify the main elements affecting agricultural performance at the district and regional levels.

Methodology and Data

The agricultural state of Bihar has been investigated with the use of a set of metrics including proportion of agriculture in Gross State Domestic Product (GSDP), cropping intensity, foodgrain output and productivity and distribution of operational landholdings. The indicators were chosen based on their relevance to the aims of the research and the availability of comparable data at regional and district level.

The current analysis is based solely on secondary data collected from the Directorate of Economics and Statistics, Government of Bihar. The study covers a 20-year period to allow for long run trends and structural changes in the state's agricultural industry. The 20-year outlook provides a broad-brush picture of the development of key agricultural indicators and regional differences. All characteristics examined have been averaged across the triennium ending (TE) period to reduce the influence of year-to-year fluctuations due to climate and other transitory causes. The use of TE values brings more stability and dependability to the study and allows a more precise evaluation of long-term agricultural efficiency in the regions and districts.

Study Area

Bihar is one of the agriculturally important states of India, lying in the rich plains of the Ganga River basin and has plentiful alluvial soil and huge water resources, notably groundwater. Agriculture is still the main source of life and employment in rural economies. But the agricultural industry in the state is especially exposed to climate unpredictability and catastrophic weather occurrences. The recurrent floods and droughts have significant effects on crop productivity, livestock, diversification of agriculture and the general livelihood of rural families.

Climatic unpredictability is one of the biggest obstacles to agricultural growth in Bihar. The state has high degree of regional variation in climatic conditions. Northern Bihar is highly prone to recurrent floods due to the Himalayan river system while southern Bihar is often struck by drought conditions due to inadequate and erratic rainfall (Government of Bihar, 2012). These different agro-ecological traits have important ramifications on agricultural output, cropping pattern and resource management.

For planning and analytical reasons, Bihar has been divided into four different agro-climatic areas based on variances in climate, soil characteristics, terrain and water supply. These are: North-West, North-East, South-East, and South-West. The districts included in each agro-climatic area of Bihar are shown in Table 1.

Table-1 : Agro- Climatic Region of Bihar

SN	Region	District
1.	North-West	East Champaran, West Champaran, Saran, Siwan, Sheohar, Sitamarhi, Muzaffarpur, Madhubani, Vaishali, Samastipur, Darbhanga, Begusarai, Gopalganj
2.	North-East	Katihar, Purnea, Supaul, Saharsa, Khagaria, Madhepura, Kishanganj, Araria
3.	South-East	Munger, Sheikhpura, Lakhisarai, Jamui, Bhagalpur & Banka.
4.	South-West	Bhojpur, Rohtas, Bhabhua, Buxar, Patna, Arwal, Nalanda, Jehanabad, Nawada, Gaya, Aurangabad,

Source: Economics &Statistics Division, Planning Department, GOB

Result and Discussion

Although natural resources, strong river flows, lush soils of the Ganges plain and a diligent labour population are available, Bihar's agricultural economy is characterised by poor agricultural performance. The growth in the agricultural sector has been stagnant during the last several years. The service sector accounts for over 60% of Bihar's economy, while agriculture contributes roughly 24% to the state's GDP. Bihar's industrialisation and manufacturing are quite modest since the manufacturing sector contributes just 15% to the overall GSDP. The share of crop production in the agricultural sector has decreased from 68.43% to 49.94% in the last ten years, while the contribution of livestock has increased from 19.32% to 33.59%, respectively.

Table-2 : Region-wise contribution of agriculture in GSDP (%)

Region	TE (2002-03)	TE (2011-12)	TE (2022-23)
South-West	30.42	22.66	22.40
North-West	32.45	25.82	25.60
South-East	31.40	24.75	24.50
North-East	36.25	25.93	25.70
Bihar	32.63	24.79	24.55

Source: Economics & Statistics Division, Planning Department, GOB

Table 2 shows the region-wise contribution of agriculture to GSDP (Gross State Domestic Product) of Bihar for three triennium ending (TE) periods i.e. 2002-03, 2011-12 and 2022-23. The percentage of agriculture in GSDP has been declining steadily in all the agro-climatic areas over the research period which indicates a steady structural restructuring of the economy of the state.

Contribution of agriculture at the state level has fallen from 32.63 per cent during TE 2002-03 to 24.79 per cent during TE 2011-12 and further to 24.55 per cent during TE 2022-23. This is a fall of nearly eight percentage points in two decades, indicating the rising share of the industrial and service sectors in Bihar's economy. The North-East area has the largest dependency on agriculture among the four agro-climatic zones during the research period. Its contribution in GSDP from agriculture declined from 36.25 per cent in TE 2002-03 to 25.93 per cent in TE 2011-12 and 25.70 per cent in TE 2022-23. The area nevertheless contributed the greatest to agriculture albeit the contribution was lower, which implies that agriculture dominates the economic structure of the region. Second was the North-West area, where agriculture contributed 32.45 per cent to the regional GSDP in TE 2002–03, which decreased to 25.82 per cent in TE 2011–12 and 25.60 per cent in TE 2022–23. Higher percentage of agriculture in this area may be due to fertile alluvial soils, improved irrigation infrastructure and intensive farming methods.

The share of the South-Eastern area has come down from 31.40 per cent in TE 2002-03 to 24.75 per cent in TE 2011-12 and 24.50 per cent in TE 2022-23. Similarly, the share of agriculture in the South-West area was the lowest among all regions which declined from 30.42 percent in TE 2002–03 to 22.66 percent in TE 2011–12 and 22.40 percent in TE 2022–23. The significantly lower agricultural contribution in the southern areas might be linked to generally lower agricultural production, increased susceptibility to drought and the rising significance of non-agricultural economic activity.

A key discovery is that the fall was most between TE 2002–03 and TE 2011–12 whereas the changes between TE 2011–12 and TE 2022–23 were rather minor. Consequently, the speed of structural alteration was higher in the first decade and steadied later. The diminishing share of agriculture in GSDP need not always mean decline of the agricultural industry. Rather, it is an indication of the comparatively rapid expansion of the industrial and service sectors that has diminished the role of agriculture in the economy of the state. However, agriculture continues to be an important segment of Bihar's economy giving employment and livelihood to a huge section of rural people notably in the North-East and North-West agro-climatic areas.

Table-3 : Region-wise Annual Agricultural Growth Rate (Based on Previous Year)

Region	TE (2003-04)	TE (2011-12)	TE (2022-23)
South-West	**10.54**	**17.06**	**8.85**
North-West	**8.75**	**18.10**	**5.84**
South-East	**9.03**	**15.13**	**6.45**
North-East	**8.25**	**18.17**	**5.55**
Bihar	**9.1**	**17.16**	**6.67**

Source: Economics &Statistics Division, Planning Department, GOB

Table 3 shows the trends in the yearly growth rate of agriculture in the four agro-climatic zones of Bihar for various triennium ending periods. Analysis shows that the pattern of agricultural expansion in the state has not been consistent or steady across time. Instead it has been defined by large swings, which reflect the fundamental sensitivity of agriculture to climatic circumstances, changes in rainfall, incidence of floods and droughts and other production related elements.

The table shows a remarkable increase in development of agriculture throughout the middle portion of the period of research, which indicates favorable production circumstances, better agricultural practices, and increased assistance from irrigation and technology interventions. However, this momentum did not carry into the next season when development slowed down in all the agroclimatic areas. The downturn alludes to the vulnerability of Bihar's agriculture to environmental uncertainty and structural restrictions.

There are also regional differences in agricultural performance. All agro-climatic areas largely followed a similar pattern of improvement followed by moderation, however variances in the level of increase reflect variations in natural resource endowments, availability of irrigation, cropping intensity and vulnerability to climatic hazards. The northern areas are still extremely vulnerable to recurring floods while the southern parts are somewhat more vulnerable to drought, both of which have a considerable impact on agricultural production and development. Bihar's agricultural development is erratic and highly reliant on weather conditions. The observed oscillations underline the need to build climate resilient agricultural practices, to increase coverage of irrigation infrastructure, to promote diversity of crops and to improve methods for managing risks. Such measures are vital for steady and sustained agricultural development in all agro-climatic areas of the state.

Table-4 : Region-wise Foodgrain Productivity (Kg/Hect.)

Region	TE (2003-04)	TE (2011-12)	TE (2022-23)
South-West	2112.32	3084.15	3267.45
North-West	1516.36	2592.50	2792.56
South-East	1640.62	2743.80	2936.42
North-East	1452.42	2542.81	2784.56
Bihar	1680.43	2740.81	2945.25

Source: Economics & Statistics Division, Planning Department, GOB

Table 4 depicts trends in foodgrain production in four agro-climatic areas of Bihar throughout the period of research. The data reveal that all the areas saw a steady rise in foodgrain production indicating the improvement of agricultural practices, enhanced use of improved seed varieties, increase in irrigation infrastructure and increasing acceptance of contemporary farming technology.

Despite the general improvement there are still considerable regional differences. Consistently, the South-West area had the greatest level of foodgrain production, indicating comparatively superior agro-climatic conditions and greater availability to agricultural inputs and irrigation. On the other hand, the North-East and North-West areas have relatively low productivity, which reflects the unfavorable impact of frequent floods, fragmented land holdings and other restraints on output. The progressive growth in foodgrain output is a testimony to the positive impact of technological advances and the efforts for agricultural development in Bihar. The current regional disparities, however, also point to the need for

location-specific measures for enhancing output in the typically less productive regions and for balanced agricultural expansion across the State.

Table-5 : Region-wise Cropping Intensity

Region	TE (2003-04)	TE (2011-12)	TE (2022-23)
South-West	130.33	135.26	139.66
North-West	143.73	146.98	151.16
South-East	118.20	132.38	125.76
North-East	160.06	150.82	152.06
Bihar	138.08	141.36	142.16

Source: Economics &Statistics Division, Planning Department, GOB

Table 5 depicts the evolution of cropping intensity in the four agro-climatic zones of Bihar throughout the research period. The results reveal that cropping intensity has grown in the state which implies more intense use of agricultural land and higher cultivation of several crops in a year. This development has been brought about by the construction of irrigation systems, a higher use of improved agricultural methods and better use of the land resources available.

There are regional differences, however. Relatively higher cropping intensity was also regularly seen in the North-East and North-West areas which is an indicator of more intensive land use and increased prevalence of various cropping systems. However, the South-East area saw a considerably lower cropping intensity which might be attributed to reasons such poor irrigation coverage, rainfall unpredictability and other production restrictions. South-West area also exhibited steady improvement in cropping intensity although that in South-West was less than the northern regions. The overall increasing cropping intensity shows good growth in the use of agricultural land in Bihar. However, the existing regional disparities demand for the region-specific interventions, especially through improved irrigation, efficient water management and promotion of sustainable cropping systems so as to further increase the cropping intensity and agricultural productivity across the state.

Table-6 : Region-wise Irrigation Intensity

Region	TE (2003-04)	TE (2011-12)	TE (2022-23)
South-West	81.65	81.29	82.34
North-West	45.03	52.88	61.07
South-East	57.22	62.62	72.65
North-East	50.08	57.20	65.71
Bihar	58.50	63.50	70.44

Source: Economics &Statistics Division, Planning Department, GOB

Table 6. Trend of irrigation intensity in the four agro-climatic areas of Bihar over the period under consideration. The data indicates increasing intensity of irrigation in the state in general which indicates the construction of irrigation schemes and increased availability of water for agricultural purposes. Increased irrigation has contributed to increased cropping intensity, increased agricultural output and increased stability of crop production. But there are wide geographical differences. The South-West area was consistently characterized by the greatest irrigation intensity implying superior irrigation infrastructure and stable access to water resources. All districts in the North-West, North-East and South-East showed consistent growth over time, however they trailed the South-West area. These fluctuations are mostly due to differences in availability of ground water, irrigation systems, topography and weather conditions.

The rise in irrigation intensity is an indication of the success achieved in developing agricultural infrastructure in Bihar. However, persistent regional discrepancies imply the need for continued investments in irrigation development, water management efficiency and fair distribution of irrigation infrastructure to promote sustainable agricultural expansion in all agro-climatic areas. Landholdings in Bihar are quite fragmented and there has been a rise in land fragmentation throughout the period. Thus, the average size of holding decreased substantially from 0.43 ha in 2005-06 to 0.39 ha in 2015-16. The decline in the amount of landholdings influences the performance of agriculture and the economic feasibility of the agricultural activity. (Otsuka et al. 2016).

Small and fragmented landholdings constrain the capacity of farmers to diversify into high-value crops and to embrace contemporary agricultural technology owing to their high cost. It also restricts farmers' access to institutional financing, diminishes their negotiating strength in input and output markets and results in lower price realization for agricultural goods.

Table-7 : Distribution of Operational Holdings and Average Size of the Operated Area

Bihar	Average size of Holdings (in Hect.)		Operational Land Holdings (%)	
	2005-06	2015-16	2005-06	2015-16
Marginal	0.25	0.25	89.64	91.21
Small	1.25	1.25	6.67	5.75
Semi-Medium	2.59	2.60	2.99	2.52
Medium	5.16	5.29	0.67	0.49
Large	20.56	14.48	0.03	0.02
All Size	0.43	0.39	100	100

Sources: Agricultural Census

The small size of farms still remains a key obstacle to improvement of agricultural production and income of farmers (Dev, 2012).

Conclusion

Bihar's economy is mostly agriculture-based. Bihar has a vast quantity of land for agriculture which is important for the growth and prosperity of the state. The exploitative agrarian relations in Bihar were a key contributing element in the historical stagnation of agriculture and rural misery (Sharma, 2005). Thus, the double emphasis on optimum land management and varied cropping patterns held the key to long-term prosperity and agricultural sustainability for Bihar, where agriculture continued to dominate the rural economy. The state of agriculture and agricultural development vividly confirms that the northern area Bihar especially north-east region has a little edge over other parts of Bihar in respect of agricultural development.

The huge potential of agriculture and allied industries ought to be tapped to improve the economic prospects of Bihar. So the economic and social development of the state rests on the stable expansion of the agricultural sector. With this, the Bihar government has introduced many schemes to increase livestock and agricultural production. One important method to tackle these problems would be to grow different crops. This strategy may help farmers to avoid the risk of monocropping, boost their chances of making money and be more resilient to climate change. The tendency of diversification is seen in the output of oilseeds, pulses, horticultural crops and maize in Bihar. However, the change was not the same everywhere.

The goal of the agricultural production system should be to maximize the income of rural people, both those who own land and those who do not, so as to enhance their living standards. Effective risk management approaches must be devised to compensate for probable yield and, subsequently, revenue losses. Hence, an immediate need is to upgrade infrastructure to reach the targeted levels of production – such as power, rural roads and marketing in particular and, arrange for the supply of quality seeds, balanced use of fertilizers, adequate machinery, required changes in land policy, a farmer friendly extension service and an effective credit delivery system in keeping with adequate credit absorptive capacity of the farmers in Bihar (Kumar, and Maulick, 2016). ""Growth with inclusivity" can happen only if the agricultural growth is accelerated and spread broadly throughout the country's residents and regions. These arguments all lead to one conclusion: agriculture must be at the core of any reform agenda or planning process if agrarian distress is to be greatly reduced and long-term food security to the population ensured.

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Gender and Power in Chaucer's The Canterbury Tales

Dr. Hena Naqvi*

Abstract

This article analyzes gender and power in the Wife of Bath's Prologue and Tale, the Clerk's Tale, and the Franklin's Tale. Rather than arranging the three narratives on a simple scale from patriarchal submission to female liberation, it argues that each constructs a distinct regime of marital power. The Wife of Bath converts lived experience, scriptural interpretation, sexuality, and property into forms of counter-authority, yet her sovereignty is acquired through bargaining and domestic violence rather than outside patriarchal institutions. The Clerk's Tale transforms consent into an advance surrender of will: Griselda's apparent assent authorizes tests whose political and affective violence make subsequent obedience radically constrained. The Franklin's Tale imagines mutuality through "freedom" and reciprocal forbearance, but Dorigen's promise and Arveragus's command reveal that honor can compel a woman even when mastery is verbally renounced. Close reading is supplemented by an exploratory analysis of a modernized public-domain corpus. Three original figures compare vocabularies of domination, consent, property, and interpretive authority; contrast obligation with permission language; and map female decision control across seven domains. The data identify patterns that require, rather than replace, philological interpretation. The Wife's Prologue has the highest density of interpretive-authority vocabulary, the Wife's Tale the strongest consent or volition profile, and the Clerk's Tale the greatest density of domination or obedience terms. A decision-control matrix, however, demonstrates that lexical "choice" can coexist with near-total coercion, especially in Griselda's story. Chaucer's marriage narratives thus make female agency relational, narratively mediated, classed, and legally precarious. Their power lies not in offering a settled doctrine of marriage but in exposing the unstable boundary between assent and compulsion.

Keywords: Chaucer, Wife of Bath, Clerk's Tale, Franklin's Tale, gender, marriage, consent, female agency

1. Introduction: Marriage as a Regime of Power

Marriage in *The Canterbury Tales* is not a private arrangement insulated from law, property, reputation, theology, or social hierarchy. It is a regime in which bodies, goods, speech, obedience, and public identity are allocated. Chaucer's marriage narratives are compelling because they do not present power only as overt command. Power appears in who may interpret scripture, who defines a promise, who controls household property, whose speech counts as consent, and which injuries can be redescribed as moral tests.

The traditional concept of a Chaucerian "Marriage Group" encouraged readers to see the Wife of Bath, Clerk, Merchant, and Franklin as participants in an unfolding debate. Kittredge (1912) described the sequence as a dramatic discussion moving toward the Franklin's ideal of mutual forbearance. The model remains influential because it attends to the tales' dialogic relations. Yet its teleology is too neat. It risks treating the Franklin's compromise as Chaucer's final doctrine and converts women's suffering into a stage in an intellectual argument.

A gender analysis must also avoid the opposite simplification: assigning modern political labels to characters and declaring the Wife emancipated, Griselda oppressed, and Dorigen balanced. Medieval marriage was structured by canon law, property custom, household economy, and theological accounts of sexual obligation. Brundage (1987) demonstrates that consent was central to the sacramental validity of marriage, but legal consent did not eliminate inequalities of status, resources, or marital governance. The question is not whether medieval culture "had" consent. It is what consent could mean when one party controlled the conditions under which it was requested and enforced.

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This article compares four textual units: the Wife of Bath's Prologue, her Tale, the Clerk's Tale, and the Franklin's Tale. It argues that they stage three distinguishable but overlapping power regimes. The Wife pursues interpretive and material mastery by appropriating authoritative discourse. Walter turns Griselda's assent into a total license for sovereign testing. The Franklin imagines reciprocal restraint, but Dorigen's body becomes the object through which men enact truth, generosity, and reputation. Female agency exists in all three narratives, though never as an unconditioned possession.

The term "agency" therefore requires precision. It may include the capacity to speak, interpret, bargain, refuse, move, own, choose, or alter an outcome. These capacities do not necessarily coincide. A woman may speak brilliantly without controlling the institutional result; she may formally assent without meaningful alternatives; she may influence male action while remaining the object of exchange. Hansen (1992) argues that Chaucer's representations of women repeatedly reveal the instability of the masculine discourses that claim to contain them. The present analysis extends that insight by separating domains of decision control rather than treating agency as a single quantity.

2. Medieval Context: Consent, Property, and Discursive Authority

Canon law's insistence that the spouses' consent made marriage distinguished the sacrament from a purely familial transfer. Nevertheless, the social conditions of consent were uneven. Age, class, guardianship, economic need, and lordship shaped the available choices. Sheehan (1996) shows that medieval marriage law developed through the interaction of ecclesiastical doctrine and practical disputes, so legal principles cannot be read as transparent descriptions of household life.

Marital sexuality was likewise framed through reciprocal obligation, often articulated as the "marriage debt." Reciprocity could give a wife a claim upon her husband's body, a point the Wife of Bath exploits with striking literalism. Yet reciprocal debt did not erase patriarchal governance. Payer (1993) demonstrates that later medieval discussions of sexuality combined pastoral regulation, suspicion of desire, and practical accommodation. Chaucer turns those contradictions into narrative resources.

Property alters the stakes of marital speech. Dower, inheritance, household goods, and land could provide women with leverage, but property arrangements also made marriage a site of family strategy and male control. McCarthy (2004) cautions against treating literary marriages as legal case reports, while showing that literature and legal practice share anxieties about consent, fidelity, and obligation. The Wife's repeated attention to land, money, "debt," and profit is therefore not incidental comedy. It identifies the material infrastructure of domestic authority.

Discursive authority is another form of property. Clerics, preachers, and learned men possess books and institutional prestige; women are frequently represented inside those texts as objects of moral knowledge. Blamires (1997) recovers medieval traditions that defended women, but those defenses still operated within overwhelmingly male textual institutions. The Wife's opening opposition between "experience" and "auctoritee" intervenes in this economy of knowledge by presenting embodied life as a rival archive.

Class must remain visible. Griselda's vulnerability is not produced by gender alone. Walter is her political lord before he is her husband, and her father's poverty makes the proposed marriage structurally nonreciprocal. Wallace (1997) reads the Clerk's Tale within political traditions of absolutism and association. From that perspective, marital testing is also a model of sovereign power: a ruler manufactures uncertainty to demonstrate that no prior agreement limits his will.

3. Method: Comparative Close Reading and Exploratory Coding

The close readings use the Middle English text and lineation of *The Riverside Chaucer* (Chaucer, 1987). The analysis attends to narrative voice, direct speech, legal and economic vocabulary, conditional syntax, bodily action, and the distribution of decisions. The comparison does not presume that the pilgrim narrators are simple mouthpieces for Chaucer. Their tales produce positions that are further complicated by prologues, interruptions, envoys, and final questions.

A small-scale textual analysis was conducted on a modernized public-domain version of the four units. Terms were normalized per 1,000 words and grouped into four lexical fields: domination or obedience; consent or volition; material or economic relations; and interpretive authority. A second figure contrasts obligation or constraint language with permission or choice language. Because modernization can alter word forms, the counts are exploratory and are not used for philological conclusions. Every substantive claim is checked against the Middle English text.

A third figure uses transparent interpretive coding rather than lexical frequency. Seven domains—spouse selection, marital terms, material control, sexual consent, mobility, speech or interpretation, and conflict resolution—were scored from 0 (no effective female control) to 3 (high control). The matrix is an argument made visible, not an objective measurement. Its purpose is to expose a problem that word counts cannot solve: a narrative may contain frequent language of will, assent, and choice while arranging those choices under severe coercion.

4. The Wife of Bath: Experience, Property, and Counter-Authority

The Wife begins by asserting a jurisdiction: "Experience, though noon auctoritee / Were in this world, is right ynogh for me / To speke of wo that is in mariage" (Chaucer, 1987, III.1–3). She does not reject authority as such. She contests who may produce it and what counts as evidence. Her five marriages become a corpus through which she reads scripture, patristic argument, sexual obligation, and household economy. Carruthers (1979) argues that the Wife's question "Who painted the lion?" exposes the gendered production of representation. The lion is not silent by nature; it lacks access to the means of inscription.

Her scriptural practice is opportunistic, comic, and intellectually serious. She reads examples against their habitual moral direction, distinguishes counsel from command, and exploits interpretive gaps. When Christ's encounter with the Samaritan woman is used to restrict serial marriage, she asks what exactly makes the fifth man no husband. The question does not produce a systematic theology. It demonstrates that authoritative citation still requires an interpreter, and the interpreter's interests shape the result.

Dinshaw (1989) describes Chaucerian sexual poetics as a field in which reading and gender are inseparable. The Wife embodies that connection. Her body is not opposed to textuality; it becomes a method of glossing texts. She turns Pauline reciprocity into a declaration that she has power over her husband's body: "I have the power durynge al my lyf / Upon his propre body, and noght he" (Chaucer, 1987, III.158–159). The comic overstatement reveals both the possibility and the instability of reciprocal sexual claims.

Material control makes the claim effective. The first three husbands are "good" because they are rich, old, and governable. Once they have transferred land and goods, pleasing them is no longer economically necessary. The Wife's domestic strategies—accusation, manufactured jealousy, sexual bargaining, and verbal exhaustion—are coercive. Feminist analysis need not sanitize them. Her agency is forged within an adversarial model of marriage in which domination appears safer than vulnerability.

Butler (2007) shows that marital violence in later medieval England was represented through contested vocabularies of correction, cruelty, reputation, and household order. The Wife and Jankyn episode concentrates these tensions. His book of wicked wives converts misogynist textual tradition into nightly domestic discipline. Her tearing of the pages interrupts that authority; his blow makes her permanently deaf in one ear; her counter-blow and apparent death scene force negotiation. The resulting accord cannot be described as peaceful deliberation.

The settlement is nevertheless specific: Jankyn gives her "al the bridel" and governance of house, land, tongue, and hand; she gains "al the soveraynetee" (Chaucer, 1987, III.812–822). Sovereignty here joins property, speech, and protection from violence. It is not an abstract preference to be "in charge." The Wife narrates mastery as the condition under which mutual kindness finally becomes possible. Aers (1988) cautions that individual identity in late medieval writing is formed within social and ideological structures. Alison's self-assertion is powerful precisely because it manipulates those structures rather than escaping them.

Figure 1 supports the centrality of interpretation. The Wife's Prologue contains 8.92 interpretive-authority terms per 1,000 words, the highest rate in the comparison. Its material vocabulary is also substantial at 6.33. These distributions distinguish the Prologue from the Wife's Tale, where consent or volition vocabulary rises sharply. The Wife's power is therefore not reducible to sexuality. It depends on controlling the meanings of books, debts, examples, and marital history.

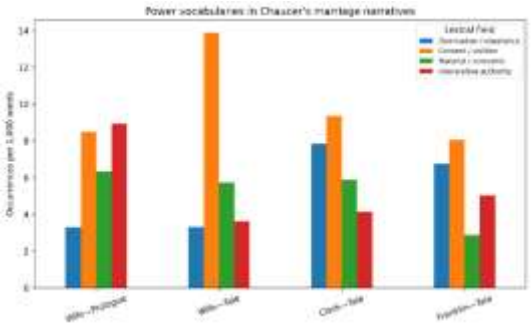


Figure 1. Power vocabularies in four Chaucerian marriage units.

Note. Frequencies are normalized per 1,000 words in a modernized public-domain corpus and checked against the Middle English text for interpretation. Categories are manually specified and descriptive rather than statistically inferential.

5. The Wife's Tale: Sovereignty After Sexual Violence

The Tale begins with rape. Any celebration of its final answer—women desire "sovereynetee"—must remain accountable to that origin. A knight uses aristocratic and masculine power to violate a woman whose voice immediately disappears from the narrative. The queen and her court then redirect judicial authority by suspending his death sentence and imposing an epistemic quest. Female governance enters through jurisdiction over a male offender, but the harmed woman is not the beneficiary of that governance.

The quest pluralizes women's speech. The knight encounters incompatible answers about wealth, honor, pleasure, remarriage, flattery, and freedom. No essential female desire is available until the old woman provides an answer that the court accepts. Crane (1994) argues that Chaucerian romance negotiates gender through generic transformations rather than straightforward doctrine. Here romance sends a violent knight through a field of female testimony, but it still organizes that testimony toward his survival.

The old woman's authority is contractual. She supplies the answer in exchange for the knight's promise to perform her next request. When she demands marriage, he asks her to take his goods and release his body. The reversal is exact: the man who treated another body as available now experiences his own body as contractually claimed. The scene does not equate rape with unwanted marriage, but it makes bodily autonomy central to the knight's education.

Her "loathly lady" lecture on gentility, poverty, age, and descent shifts power from appearance to interpretation. She speaks with learned authority and forces the knight to hear an argument that redefines value. Scanlon (1994) shows how the medieval exemplum connects narrative authority to institutional power. The old woman appropriates the exemplary mode: she does not merely request acceptance but teaches the terms on which acceptance should be judged.

At the final choice, she offers fidelity with ugliness or beauty with possible sexual risk. The knight returns the decision to her: "I put me in youre wise governance" (Chaucer, 1987, III.1231–1238). This transfer produces the desired transformation, after which she becomes both beautiful and faithful. The conclusion is attractive because delegated sovereignty appears to generate harmony. It is also ideologically convenient. Female power is rewarded by becoming fully compatible with male desire.

Hansen (1992) warns that the Tale's apparent resolution can contain the threat posed by the Wife's voice. The old woman's sovereignty is maximal at the instant of choice, but the narrative closes by removing age, ugliness, and conflict. The Wife's final prayer for husbands "meeke, yonge, and fressh abedde" returns the romance to her own polemical persona. There is no stable synthesis between gender justice and comic mastery.

Figure 2 records the Wife's Tale as the unit with the strongest permission or choice vocabulary: 14.79 occurrences per 1,000 words, more than twice its obligation or constraint rate. This supports the Tale's obsession with choosing and granting. It does not prove that the narrative is emancipatory. The initial rape, the knight's constrained marriage promise, and the old woman's transformation show that "choice" is distributed unevenly. Lexical permission may coexist with a plot built from prior violations.

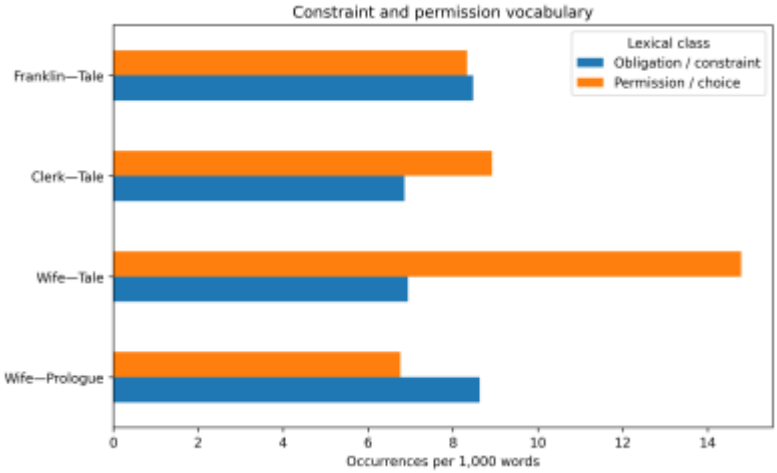


Figure 2. Obligation or constraint and permission or choice vocabulary.

Note. The lexical classes include modal terms and selected words of command, assent, freedom, and choice. A high "permission" rate does not establish meaningful autonomy; the Clerk's Tale demonstrates how choice language may be embedded in coercive conditions.

6. The Clerk's Tale: Consent as Advance Surrender

The Clerk's Tale radicalizes the gap between formal assent and effective agency. Walter's people ask him to marry because succession and political stability require an heir. He agrees only if they submit the choice entirely to him. Before Griselda appears, the marriage is already embedded in sovereign bargaining among men. Her body will solve a dynastic problem whose terms she did not set.

When Walter enters the poor household, his proposal is framed as a request for consent but formulated as unlimited future obedience. He asks whether Griselda will assent that he may make her "laughe or smerte" as he thinks best and that she will never answer "nay" when he says "ye" (Chaucer, 1987, IV.344–364). The contradiction is structural. She is asked to choose the permanent suspension of choice. Her trembling is not incidental characterization; it registers the unequal conditions under which assent is produced.

Class intensifies gendered vulnerability. Griselda's father cannot negotiate with his lord, and Griselda is moved from poverty to magnificence through a public stripping and reclothing. Patterson (1991) reads Chaucerian subjectivity as historically formed rather than privately autonomous. Griselda's new identity is visibly manufactured by Walter's household. Clothing signifies that her status, public legibility, and material existence depend upon sovereign will.

The tests then separate maternity from authority. Walter orders the removal of her daughter and later her son, allowing Griselda to believe that both are killed. Her verbal constancy is often praised, but the tale repeatedly shows that speech cannot alter the outcome. Even her modest request that the child be buried so animals cannot devour the body receives no answer. Her maternal agency is reduced to blessing the child and managing her own expression.

The most devastating statement comes after both removals: she says that she left her will and "al my libertee" when she took Walter's clothing (Chaucer, 1987, IV.646–658). This is not merely an ideal of patient love. It is the tale's explicit account of dispossession. Wallace (1997) interprets Walter's testing through the logic of absolutist sovereignty, in which the ruler proves power by producing subjects who cannot appeal to a binding limit.

Griselda's constancy nevertheless has a difficult remainder. She does not internally endorse cruelty; she speaks within the narrow form available to her. Her language can expose Walter precisely because its obedience is excessive. The more perfectly she complies, the less defensible his testing becomes. Cooper (1996) notes the tale's unstable movement between exemplary admiration and moral revulsion. Chaucer preserves both pressures rather than resolving them.

The Clerk's own moral warns that the story is not told so wives should imitate Griselda, because such humility would be "inportable" (Chaucer, 1987, IV.1142–1151). Yet he redirects her patience toward obedience to God, an analogy that risks legitimating Walter's conduct even while disclaiming domestic imitation. The Envoy then mockingly urges wives not to behave like Griselda. Narrative authority divides against itself: high-style exemplum, theological allegory, antifeminist satire, and ethical protest coexist.

The lexical data produce a useful paradox. Figure 1 gives the Clerk's Tale the highest domination or obedience density, 7.84 per 1,000 words. Figure 2, however, records slightly more permission or choice vocabulary than obligation vocabulary. The reason is not hidden female freedom. Walter repeatedly stages will, assent, desire, and permission as part of coercive tests. Surface "choice" language can therefore be a technology of domination. Close reading is required to distinguish volition from compelled self-abnegation.

7. The Franklin's Tale: Mutuality, Promise, and the Transfer of Constraint

The Franklin's opening marriage compact appears to answer both the Wife and the Clerk. Arveragus swears that he will not exercise "maistrie" against Dorigen's will, although he retains the public "name of soveraynetee" required by rank (Chaucer, 1987, V.729–760). The compromise separates social appearance from domestic practice. Outwardly he remains lord; inwardly he promises obedience and restraint. Strohm (1989) emphasizes Chaucer's attention to social forms and public identities. The marriage depends on managing the difference between status and conduct.

The narrator then generalizes that love cannot be constrained by mastery and that women and men desire liberty (Chaucer, 1987, V.761–770). This is the clearest statement of reciprocal freedom in the three narratives. Yet it is immediately qualified by patience, tolerance, and the necessity of overlooking wrongs. Mutuality is not equality secured by enforceable rights. It is a practice of forbearance whose success depends on how each spouse uses discretionary power.

Dorigen's anxiety about the coastal rocks reveals that freedom is psychologically and socially vulnerable. During Arveragus's absence, the rocks embody the possibility of his death. Aurelius converts her grief into an opportunity for courtship. She refuses him, then offers an impossible condition: remove every rock and she will grant her love. The promise is playful, defensive, and reckless, but its later enforcement treats it as a binding utterance detached from the context in which it was made.

McCarthy (2004) shows that medieval literary narratives frequently test the relation between spoken promise and marital obligation. Dorigen's dilemma is not simply whether she should keep her word. It is whether a conditional statement made to end unwanted pursuit can authorize sexual access. When the rocks appear to vanish, her speech becomes a claim against her body. Consent has been converted into debt.

Arveragus responds with the command that she must keep her "trouthe," because pledged word is the highest thing a person can preserve (Chaucer, 1987, V.1472–1479). His anguish is real, and he imagines the command as sacrificial love. Nevertheless, he decides what Dorigen's honor requires and orders secrecy under threat of death. The husband who renounced mastery transfers constraint from marital lordship to an impersonal code of truth. Dorigen's body remains the site on which his nobility will be demonstrated.

Aurelius releases her after learning of Arveragus's decision; the clerk then releases Aurelius from the thousand-pound debt. Generosity circulates among men in ascending acts of "freedom." Dorigen initiates the crisis and endures its terror, yet she does not pronounce the final release. Rigby (1996) argues that Chaucer's gender politics must be read alongside class and social hierarchy. The chain of magnanimity confirms this point: knight, squire, and clerk establish gentility through decisions concerning a woman and a debt.

The tale ends by asking who was "the mooste fre" (Chaucer, 1987, V.1621–1624). The question prevents doctrinal closure. "Free" can mean generous, noble, unconstrained, or capable of releasing another. Dorigen is the character whose freedom is most endangered, but the debate traditionally centers on which man acts most generously. The semantic ambiguity is ethically revealing.

Figures 1 and 2 capture the tale's unstable balance. Domination or obedience vocabulary stands at 6.75 per 1,000 words, while consent or volition stands at 8.05. Obligation and permission terms are almost equal, at 8.48 and 8.33. The Franklin's discourse of freedom is therefore saturated with command, debt,

and fidelity. Mutuality does not abolish power; it relocates power into promises, reputation, and voluntary restraint.

8. Comparative Synthesis: Three Regimes of Female Agency

The decision-control matrix in Figure 3 makes the comparison explicit. The Wife's Prologue scores highly in marital terms, material control, mobility, and interpretive speech. Her power is acquired through experience, wealth, performance, and conflict. The Wife's Tale gives the old woman strong control over the final marital terms and conflict resolution, but less control over the institutional world that makes the knight's survival the plot's priority.

Griselda's row is almost entirely zero. She exercises limited speech, yet speech cannot change spouse selection, marital terms, property, maternity, mobility, or outcome. The Franklin's Tale occupies a middle range: Dorigen participates in spouse selection and marital compact, but her promise sharply reduces sexual and conflict-related control. The matrix does not rank moral worth. It distinguishes capacities that narrative praise can obscure.

This comparison also revises the idea that sovereignty and mutuality are opposites. The Wife seeks unilateral mastery because she assumes marriage is adversarial. The Franklin recommends reciprocal forbearance, but his plot demonstrates how quickly a language of honor can reproduce unilateral command. Griselda's tale shows the extreme case: one spouse defines obedience as the relationship's foundational condition. Across all three, the central problem is not simply who rules. It is whether any promise or role can limit the stronger party's power.

Turner (2023) emphasizes the Wife of Bath's extraordinary afterlife as a figure through whom later cultures have debated female voice, sexuality, and authority. That afterlife can make her seem uniquely modern. Within the marriage tales, however, her significance is more precise. She identifies that discourse itself is an arena of material struggle. Whoever controls the story of marriage can naturalize obedience, redefine coercion as consent, or present domination as generosity.

Chaucer's narrative method resists a single authorial verdict. The pilgrim speakers possess social identities, rhetorical investments, and generic preferences. The Wife's expansive autobiography, the Clerk's high-style patience narrative, and the Franklin's self-declared "plain" Breton lay each produce a different relation between teller and doctrine. Scanlon's account of narrative authority helps explain why the tales do not simply contain ideas about power; their forms distribute authority among exemplary story, debate, interruption, and unresolved question (Scanlon, 1994).

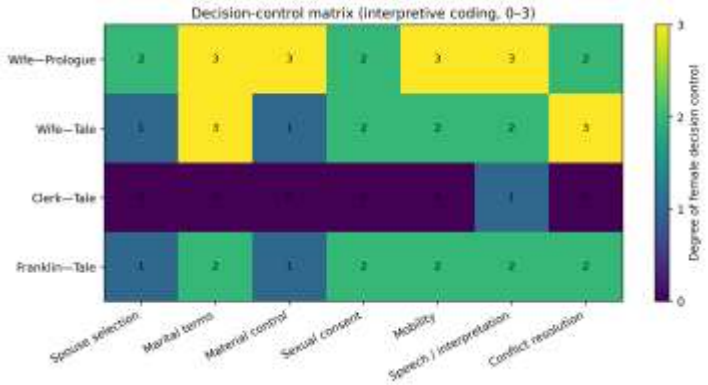


Figure 3. Female decision-control matrix across seven domains.

Note. Scores range from 0 (no effective control) to 3 (high control). The coding is an explicit comparative interpretation based on plot outcomes, material conditions, and the practical effect of speech. It is not a historical measurement of medieval women's legal capacity.

9. Conclusion

Gender and power in Chaucer's marriage tales cannot be reduced to a progression from female mastery through obedience to harmonious equality. The Wife's sovereignty is materially and rhetorically effective, but it is won within a violent contest. Griselda's assent is formally present yet substantively

emptied by class and sovereign domination. Dorigen's marriage begins with reciprocal freedom, but promise and honor reconstitute constraint when her body becomes the medium of male truthfulness.

The textual figures make two contributions. First, they distinguish the vocabularies through which power operates: interpretation and property in the Wife's Prologue, volition in her Tale, obedience in the Clerk, and a near balance of freedom and constraint in the Franklin. Second, they expose the limits of lexical evidence. The Clerk's Tale contains repeated language of will and assent precisely because coercion is performed through requests for consent.

Female agency in these texts is relational and domain-specific. Speech may flourish where bodily control is absent. Legal or verbal consent may coexist with fear. Material power may protect a woman while encouraging domination of others. Mutuality may be sincerely desired yet unsupported by institutions capable of restraining honor, lordship, or violence. Chaucer's achievement lies in sustaining these contradictions. His marriage tales do not deliver a timeless solution; they reveal how easily power borrows the language of love, truth, patience, and choice.

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