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Editorial From the Desk of Chief Editor

Dear Reader,

The *Indian Journal of Lifelong Learning & Educational Guidance* is delighted to announce a *Special Issue* on "**Successful Aging – New Insights and Emerging Perspectives**," which will be released at Oxford University, UK, in April 2025. This bi-annual, multidisciplinary, refereed, and peer-reviewed journal aims to foster a deeper understanding of lifelong learning within the framework of the *National Education Policy (NEP) 2020*. As demographic aging becomes a significant global phenomenon, policymakers are increasingly focused on ensuring a smooth transition toward healthy and fulfilling aging experiences.

This special issue explores multiple dimensions of successful aging, examining how individuals, communities, and societies can promote optimal aging in an evolving global context. Readers will encounter insightful discussions on theoretical frameworks of successful aging, health and well-being in later life, the impact of social engagement and technology, and critical policy and social justice considerations. Additionally, the issue includes contributions that explore life course perspectives and cross-cultural insights on aging.

The *Indian Journal of Lifelong Learning & Educational Guidance* remains committed to advancing knowledge through original research and this issue also emphasizes a multidimensional approach to successful aging, balancing physical, psychological, and social well-being. We are pleased to inform you that the journal will be available both offline and online, ensuring convenient access for our readers.

We encourage you to engage with the content of this issue and share your valuable feedback with us. Thank you for your continued support and interest in the *Indian Journal of Lifelong Learning & Educational Guidance*.

Warm regards,

Prof. Rajesh

Sr. Professor,

Department of Continuing Education and Extension,
University of Delhi

From the Desk of Editor

Dear Reader,

It is with great pleasure that I present this curated volume, which brings together a diverse range of scholarly articles on the theme of **Successful Ageing – New Insights and Emerging Perspectives**. This compilation reflects the evolving discourse on aging, integrating psychological, social, cultural, and policy-related dimensions to offer a holistic understanding of aging in contemporary society.

The research contributions in this volume underscore the dynamic interplay of **wisdom, purpose in life, and attitudes toward life** in shaping the experiences of middle-aged adults. Further, critical discussions on **successful aging in the Indian context, the role of lifelong learning, and the impact of holistic well-being** enrich our perspective on aging as a multidimensional process. Studies exploring **technological interventions, spirituality, and social support systems** emphasize the significance of adaptive strategies in ensuring a fulfilling and meaningful aging experience.

Aging is no longer merely a matter of chronological progression; rather, it is a continuous journey of growth, adaptation, and resilience. The insights presented in this volume challenge conventional notions and inspire fresh academic inquiry into the frameworks that define successful aging across different contexts.

I extend my sincere appreciation to all the contributing authors for their dedication to this field of study. Their work not only advances academic discourse but also holds immense practical relevance for policymakers, practitioners, and individuals seeking to enhance the quality of aging. I also thank the reviewers and editorial team for their invaluable contributions in ensuring the scholarly rigor of this publication.

As this collection finds its place in **the Indian Journal of Lifelong Learning & Educational Guidance** and reaches global audience, I hope it serves as a valuable resource for scholars and professionals dedicated to advancing the study and practice of successful aging.

Prof. N.K. Chadha

Former Head, Department of Psychology
& Department of Continuing Education and Extension,
University of Delhi

From the Desk of Joint Editor

Aging is a discerning and evolving journey—one that encompasses growth, adaptation, and the continuous pursuit of meaning of life. *Successful Aging – New Insights and Emerging Perspectives* offers a refreshing exploration of this process, shedding light on the intricate interplay of psychological resilience, social connectedness, lifelong learning, and technological adaptation.

This volume highlights how wisdom, with its reflective and affective dimensions, fosters emotional stability and acceptance of life's transitions. It underscores the transformative power of lifelong learning—aligned with *NEP 2020*—in promoting cognitive vitality and personal growth throughout later years. This volume also presents compelling evidence on the role of technology in enhancing social engagement and emotional well-being amongstelderly population.

Moreover, it addresses the pressing need for inclusive policies that prioritize equitable access to healthcare, education, and support systems for successful aging. By bridging scholarly insights with practical applications, this volume offers valuable strategies to promote holistic and dignified aging experiences.

I am confident that this collection will serve as an insightful resource for scholars, policymakers, and practitioners committed to fostering a more inclusive and compassionate society—one where aging is embraced as a phase of continued enrichment and contribution.

Dr. Geeta Mishra

Associate Professor

Department of Continuing Education and Extension

University of D

Contents

All articles are blind peer reviewed

S.No.	Title/Author	PageNo.
1.	Happy Aging in India: The Role of Cultural Norms and Values Dr. Ngaopunii Trichao Thomas· Prof. Sanjoy Roy· Dr. Gurumayum Richie Sharma	10
2	Wisdom, Purpose in life and Attitude towards Death in Middle-Aged Adults Shreya, Shreya Bhagat, Pooja V. Anand	31
3	Holistic Aging: The interplay of Physical, Mental and Social health in Achieving Successful Aging Prof. Ritu Sharma, Manisha Rawat	66
4	Spirituality and Happy Aging Seema Sodhi	74
5	Social Involvement of Older Adults: Comparing Intergenerational Dynamics in Traditional and Modern Families. Rajeev Ranjan Dr.Rahul Yadav	86
6	Women and Ageing: Challenges, Vulnerabilities, and Pathways for Empowerment through Lifelong Learning in India Poonam Rajput, Rajesh	104
7	Countering the Silent struggle of Elderly Care: A collection of Technological Interventions to bridge the Gap Medhavi Gupta & Dr Geeta Mishra,	115
8	Water and Sanitation situation among tribal communities: A study of few selected villages from the state of Gujarat. Gaurav Gaur , Jashanjot Kaur Brar and Hannu Gandhi	129
9	Redefining Successful Ageing: Conceptualizing Successful Ageing in Indian Context Nupur , Muskan Mishra and Aastha Gupta	145
10	Examining Self-Esteem and Psychological Well-Being in Relation to Impostor Phenomenon Among Young Adults in Nuclear and Joint Families Ishita Wadhwa, Nisha Chaudhary	157
11	Lifelong Learning for Older Adults: Need and Opportunity Dr Biresh Pachisia	183

S.No.	Title/Author	Page No.
12.	Justice or Redistribution? The Threat to Hindu SC Rights in the Wake of Religious Conversion Prof. Sanjoy Roy & Dr. Sanjeev Kumar	197
13	Community-Driven Conservation among the Tribals: The Role of Sacred Groves in Environmental Education at Elementary Level in Odisha Gomeya Among , Dr. Manoj Kumar Behera	209
14	Enhancing Tribal Education in Odisha: Exploring the Role of Sacred Groves in Cultural and Educational Development Mr. Jagulu Dakapraska, Dr. Manoj Kumar Behera,	227
15	Prospects of Education Among the Tribal Students in Odisha: A Focus on Sacred Education Anil Tadingi *, Dr. Manoj Kumar Behera,** , Gomeya Among***	245

Happy Aging in India: The Role of Cultural Norms and Values

Dr. Ngaopunii Trichao Thomas Prof. Sanjoy Roy** Dr. Gurumayum Richie Sharma****

* *Dr. Ngaopunii Trichao Thomas*, Assistant Professor, Department of Social Work, University of Delhi

** *Prof. Prof. Sanjoy Roy*, Head, Department of Social Work, University of Delhi

*** *Dr. Gurumayum Richie Sharma*, Assistant Professor, Department of Social Work, Tetso College (Affiliated to Nagaland University), Chümouked ima, Nagaland

Abstract

Aging is a culturally embedded, complex, and multidimensional process. India, as a culturally diverse nation with traditional practices and social norms, meaningfully contributes to the aging experience and life satisfaction of the elderly. This review article presents a comprehensive examination of the cultural structures that affect the well-being of elderly individuals in various parts of India. By synthesising the literature, this article contends the multifaceted interaction between familial structures, social relations, religious beliefs, and the impact of modernisation on the aging process. The article presents novel knowledge regarding how cultural values and traditional practices construct the concept of "happy aging" in the Indian context, focusing on cultural attitudes' contribution to elderly life satisfaction.

Keywords: *cultural perspectives, happy aging, elderly life satisfaction, India, traditional practices, cultural values.*

Introduction

India is currently undergoing a “seismic demographic shift” with a rapidly aging population, despite the country’s huge youth dividend which is, in fact, the largest in the world. This would translate into complex ramifications in the form of social and economic transformation as well as change in the cultural fabric of the nation. As per the estimates of the United Nations, the proportion of India’s population under elderly age groups is expected to increase from 10% in

2015 to 19.5% in 20250, meaning India would soon set to enter the league of fastest aging nations like Japan, Portugal, Italy, etc (NITI Ayog, 2024). As the population of older persons increases, it is essential to study the complex interplay between cultural factors and the aging process. It is pertinent here to restate the World Health Organization's (WHO) emphasis on the attributes like "life satisfaction as among the most important determinants of mental and physical health" in the elderly and necessitating an integrated understanding of the cultural nature of aging (World Health Organization, 2023). For life fulfilment, we can consider social support, physical health, cognitive function, and psychological well-being. Notably, the cultural parameters could be understood as one of the crucial contexts surrounding older individuals in shaping their attitudes and experiences of aging. In Indian societies, which are known for their deep emphasis on communal and family ties, the overarching impacts of traditional values and practices on aging are invariably taken due consideration. India's rich tapestry of cultural pluralism and the multiplicity of its diverse regional traditions, social norms, and religious affiliations, can offer a unique premise to study the intersections of culture and aging. For instance, the centrality of Hinduism's belief system and lifestyle ethos attached to the principles of *dharma* (duty) and *karma* (action) could meaningfully influence the ways older persons perceive their roles and responsibilities within family and community (Tiwari & Pandey, 2013). In Indian context, it is also pertinent to unavoidably regard the intersectionality of caste, class, and gender while examining aging from the perspective of social construct. one should not undermine the marginalized experiences of older individuals, then; those from the Dalits and Adivasis connote specific concerns and vulnerabilities that have been shaped by the particular social and cultural milieu. Accordingly, a culturally sensitive and informed position is necessary in approaching the experience of aging in India. This review attempts to synthesize existing knowledge on the cultural dimensions of aging in India, drawing on evidence from research papers, reports, and ethnographic studies. Through an examination of the complex

interrelations between cultural traditions, norms, and life satisfaction among India's older demographic groups, this review attempts to shed light on the determinants of healthy aging and well-being in India.

Theoretical Framework: Understanding Happy Aging in the Indian Context

Happy aging must involve a multifaceted approach from interdisciplinary perspectives that understand the concept as a complex and multidimensional phenomenon by encompassing cultural sociology, gerontology, and positive psychology. For the present study, the premise has been contextualized from the review of theoretical models that establish the paramount significance of cultural context in shaping the aging experience.

Cultural Dimensions of Successful Aging

Rowe and Kahn's model of successful aging provides a theoretical framework for the definition of happy aging. It should be noted that successful aging largely relies on the cultural setting where it occurs. Estebarsari et al. (2020) state that the definition of successful aging would have varying connotations and interpretations in various societies and therefore the necessity to consider the cultural context when studying this phenomenon. In the Indian context, it is necessary to note the impact of the traditional principles of *dharma* (duty), *karma* (action), and *moksha* (liberation) on the perceptions of older people regarding the roles and responsibilities they have within the family and society (Tiwari & Pandey, 2013). To analyse the impact of Indian traditions on elder well-being, the present study employs several theoretical perspectives:

Social relationships and social networks in a community play a substantial role in promoting healthy aging in accordance with Social Capital Theory (Bourdieu, 1986). Social capital in the Indian setting is primarily facilitated through traditional institutions such as the joint family structure and community organizations. The institutions foster feelings of belongingness, supportiveness, and reciprocity, all the major components of social capital. Exploring the place of social capital in the Indian setting will enable us to better recognize the role social

relationships and social networks play in healthy aging.

Resilience Theory, as proposed by Luthar and Cicchetti (2000), emphasizes the coping ability and flexibility of the individual and the community in the face of adversity. In the Indian context, certain traditional practices such as yoga, meditation, and rituals with a community base have contributed to a resilience culture. Such cross-generational practices have assisted the elderly in particular in acquiring the necessary coping strategies in the face of the ups and downs in life.

According to the perspective of the Meaning-Making Theory (Park & Folkman, 1997), individuals derive meaning and purpose in life from their life events, relationships, and cultural practices. In the Indian setting, cultural practices such as storytelling, music, and arts are weighty meaning-making channels through which individuals, including the elderly, derive purpose and meaning in life. The practices enable individuals to have a structure through which they interpret and make sense of events in life and achieve a sense of direction and coherence. By synthesizing these theoretical models, we conducted a comprehensive review in order to provide a balanced picture of how Indian traditions shape older adult well-being and inform the concept of happy aging. From this review exercise, we could establish that happy aging is not solely a function of individual characteristics but also of cultural context, interpersonal relationships, and social networks. The theoretical models and concepts, here, connote to the primary understanding of the importance of cultural aspects while ascertaining happy aging in the Indian context. By recognizing the importance of traditional values, social relationships, and cultural practices, policymakers and practitioners can design effective interventions to enable healthy aging and enhance the well-being of older adults in India.

Overview of Aging in India

The United Nations Department of Economic and Social Affairs Population Division estimates the 60 and above age group in India to rise from the last available estimate of 104 million in Vol.6(No.01)April2025toMarch2026(IJLLEG)

the 2011 Census to over 319 million in the year 2050 and represent around 20% of the Indian population (NITI Ayog, 2024). While taking note of this demographic transition, it is equally crucial to examine India's rich and diverse tapestry of cultures, languages, religions, and family structures. India has 22 constitutionally recognized languages, over 1,600 dialects, and a vast diversity of religious and cultural practices. India's population thus reflects a complex diverse multitude of ethnic and socio-economic groups, each with its own very distinctive and strong cultural mores and values. It could also be remarkable to mention here that India social systems always place special emphasis on establishing the society with one that is highly family-centred, with elders living with their extended families wherein there exist certain modes of unspoken norms of respect and authority. The family, as an extended and joint microcosm of members, including kinship and clan-based relationships, is a central social institution wherein several generations have thrived together, sharing familial customs and traditions. Of course, the rapid shifting of values and belief systems among Indians owing to modernization, fast urbanization, as well as globalization and digitalization in contemporary contexts, accompanied by shifting family structures and more reinforcement of nucleation of family structures, are powerfully challenging these traditional expectations. The percentage of the elderly who live alone has grown in the past few decades (Jadhav et al., 2013). Further, the survey revealed that more than 70% of the elderly rely on their own children for financial support, which could mean a vital insinuation for reliability on one's own pension or earnings. As a matter of fact, shockingly one 10% of elderly living alone receive some sort of pension, compared to half of them for those who live with their children (Tripathi, 2022). Social isolation among the elderly is also seemingly rampant, with one study showing the prevalence of social isolation among older people at more than 34% (Kumar et al., 2022). Nearly 58% of elderly persons in India also reported to have not received formal education, as per the data from NSS of 2017-18 (Government of India: Ministry of State Programme Implementation: National Office Social Statistics Division, 2021). A mention can also be made of LASI's (Wave Vol.6(No.01)April2025toMarch2026(IJLLLEG)

1) data on disability which reported that 10.5 percent of the total population in India above 60 years of age exhibit at least one physical or mental impairment, which is more than double of overall figures of India's total population with disabilities (Bhandari, 2023).

The figures above reiterate the importance of examining older persons' lived experiences in India's context vis-à-vis its cultural plurality, and unique complex socio-economic realities. With India set to confront challenges associated with a rapid rise in aging population in years to come, policies and programs must be developed in line with older persons' unique needs and interests and in a manner that respects and supports their cultural heritage and values.

Cultural Traditions Influencing Elderly Life Satisfaction

1. Family Structures and Social Support

Traditional Indian families primarily follow a strong lineage tradition of dissemination roles and norms wherein hierarchical structures based on age are sternly defined. Elders command a certain expectation of unconditional respect and reciprocity of authority with the legacy of familial assets like caste identity (where the heirs could use them to maintain their status quo and position in the society), properties and land, etc. This social practice has strong cultural roots in the concept of *sanskaar* (values) and *parampara* (tradition), where elders are also obligated to transfer their experience and knowledge to subsequent generations. The elders, thus, in many respects, could assert their identity by continuously reinforcing the meaning of their lived experience as a figure of respect and authority, but the most central binding factor is the existence of unspoken norms of reciprocity among the members of the family. This enables a system wherein the members live together, imbibing their different roles and altogether building a network of support systems within the family. There is unequivocal evidence to believe that family support systems, including generational co-residence, play an vital role in better mental and emotional health among elders. We could reiterate a study here

from Park and Kang (2023), which indicated those social factors that suggestively increased

life satisfaction for older people, such as interacting with friends and children, being involved in hobby club activities and senior citizens community centres, etc. We could infer that elderly people living with their families could thus amount to greater life satisfaction, social support, and emotional health than their isolated peers. When it comes to India, the tradition of intergenerational co-living spaces has continued, with up to three-fourths of elderly people living with their families (Jadhav et al., 2013). This system of shared space and co-living not only ensures care and emotional support but also ensures reciprocal relationships within the family where elders can be engaged in childcare, chores, and household duties. There is a positive correlation between older individuals who engaged in grandchild care and satisfaction with their life overall (Dong et al., 2023).

2. Religious and Spiritual Practices

Religion plays a noteworthy role in the majority of the older people in India with 79.8% belonging to the Hindu religion, 14.2% Muslim and 2.3% Christian (Census of India, 2011). The Hindu concept of "*Dharma*" (duty/righteousness) is very prominent here, where it emphasizes fulfilling one's duty and responsibility to the family, society and nature. There has been evidence that older individuals have experienced greater happiness, peace and contentment in life when they have greater social participation and social support through religious and spiritual engagements (Kandapan et al., 2023). Spiritual practices such as rituals and community engagement are also prevalent sources of social engagement among older people in India. Older individuals who participated in spiritual practices and religion had greater psychological well-being, social relationships and satisfaction with life when compared to the ones who did not follow any (Kaplan, 2025). Spiritual practices in India are mostly community engagement such as attending temple services, prayer group meetings or volunteerism. These engagements act as a source of social interaction, emotional support and belongingness, and are central in maintaining mental and emotional health in older people.

3. Cultural Norms Around Aging

In India, the social belief, ethos, practice and culture place an emphasis on deep-rooted value of respect for elders. The culture of respect is reflected in proverbs and sayings, such as *Guru Devo Bhava* (The teacher is equivalent to God) and *Matru Devo Bhava* (The mother is equivalent to God), that inculcate respect for elders and taking advice from them. Traditional Indian system of elderly respect has been found to be associated with higher life satisfaction, self-esteem, and social support as opposed to the eroding values of such traditions in contemporary globalized India which have been witnessing rapid rise in old age homes and neglect of old age members of family (Joseph, 2023). In Indian culture, the *Guru-Shishya Parampara* (Teacher-Disciple Tradition) also inculcates respect for elders and taking advice from them. The tradition emphasizes the *guru's* (teacher's) role in imparting knowledge, wisdom, and values to the *shishya* (disciple) and suggests the importance given to intergenerational relationships and knowledge transfer.

4. Gender Roles and Aging

Gender relations have a profound influence on the aging experience in India. Traditional roles and societal expectations typically prescribe caregiving roles for women and men as providers and protectors. Both these roles can be sources of stress or satisfaction, or both, depending on the context. For instance, older women in India can be more vulnerable to health problems, social isolation, and economic dependence compared to older men (Ugargol, 2024). We could reiterate a study on widowhood and loneliness by Das et al. (2024) found that older Indian women who were socially isolated and economically dependent had lower levels of life satisfaction and psychological well-being. Older Indian men, by contrast, might derive satisfaction from their patriarchal roles despite changes in family life. However, it should be noted that these traditional gender roles are changing, and many older women and men are adapting to new realities (Srivastava et al., 2022).

Regional Variations in Elderly Life Satisfaction

India's cultural landscape is defined by abundance and multitudes of diverse linguistic groups and ethnic compositions, regional variations, history of composite tradition, a robust interface of syncretised elements of art, religion, philosophy, etc. The vibrancy of India's unique and profound cultural milieu does potentially imply a positive meaning for elderly adults to navigate through the annals of life by involving in various experiences from where they have the opportunities to derive the meaning of existence. In the same light, it is necessary to have a thorough understanding of the regional disparities of elderly experiences in India, taking into account the vast diverse cultural differences across the country, in order to design targeted interventions for healthy aging.

1. North India

We first consider a case from the North Indian states of Punjab and Uttar Pradesh pertaining to the role of traditional joint family systems in contributing to life satisfaction among elderly individuals. In these two states, traditional joint family systems remain a pervasive social institution, with a profound influence on the lives of elderly individuals. Within these family systems, elders tend to have higher life satisfaction, primarily due to the family systems' strong emphasis on ensuring emotional support, respect, and care for elderly members. The data from Government of India Ministry of Statistics and Programme Implementation (2021) identified that over 85% of the elderly respondents in Punjab were residing with their family (either with spouse and children or without spouse but with children or other family relatives) and the corresponding figure for Uttar Pradesh was found to be 83%. Such family co-residence enables the elderly individuals to maintain their social contacts, receive emotional support, and participate in family decision-making, ultimately enhancing their life satisfaction. However, the process of fast rural-urban push and pull migration has contributed to erosion of these traditional family systems, giving rise to the phenomenon of social isolation among the elderly individuals left behind in the rural areas. We could highlight the findings from Alam and Yadav

Vol.6(No.01)April2025toMarch2026(IJLLEGG)

(2013) who reported that socially isolated elderly individuals in rural Punjab reported psychological well-being compared to their socially engaged counterparts if we consider the difference in General Health Questionnaire (GHQ) score based on Subjective Well-Being Inventory (SUBI) wherein the proportion of those who are widowed scoring below the GHQ threshold level of (≥ 12) was found to be more than those who are married. This finding underscores the crucial role of social support in preventing the negative consequences of urban migration on elderly well-being. The intersection of social isolation among older persons and urban migration in the Punjab and Uttar Pradesh calls for social workers and policymakers to implement interventions with specific strategies to the particular problems of the vulnerable older population. Policymakers can mitigate the adverse effects of urban migration and enhance the life satisfaction of older persons in these regions by promoting community-based interventions that facilitate social interaction and social support among older persons.

2. South India

We attempt here to outline the interface between traditional family networks and modern social support mechanisms in promoting life satisfaction among older people in Kerala and Tamil Nadu. In these Indian states with high levels of literacy, healthy health statistics, and modern social support mechanisms, traditional family networks may provide the social space conducive to the well-being of older people. The prevailing norms and customs and the practice of marking many social and family rituals provide the platform for older people to regularly engage in community activities, potentially linked to increased life satisfaction through social connectedness and the perception of engagement in community life. The empirical evidence from various studies lends weight to the contention with the focus on the key role of community-based initiatives in enhancing the physical and mental health and well-being of older people in Kerala and Tamil Nadu. We could reiterate a study by Rasi and Ashifa (2019) validated the positive role played by community-based programs in active aging among older people in Kerala and hence translating into greater levels of life satisfaction, social support,

Vol.6(No.01)April2025toMarch2026(IJLLEG)

and emotional well-being relative to the non-participant group. The finding indicates the importance of community activities in promoting a sense of purpose, belongingness, and social connection among older people. The interface between traditional family networks and modern social support mechanisms in Kerala and Tamil Nadu indicates the possibility of synergetic interaction between formal and informal support mechanisms in enhancing the well-being of older people. In these Indian states, modern social support mechanisms such as community-based initiatives and NGOs complement traditional family networks and provide older people with an extensive network of care and support. Further, the high levels of literacy and favorable health indicators in Kerala and Tamil Nadu reflect the fact that the two have invested heavily in human capital and have consequently developed a solid social infrastructure to promote the welfare of the elderly. The investment in human capital has made it possible to create community-based initiatives addressing the specific needs of the elderly and promoting social interaction, physical fitness, and mental stimulation among them.

3. East India and North East

In the case of the eastern region, we draw here on the Role of community participation and cultural engagement in life satisfaction among aged individuals in Northeast India. The scenario of special traditions practiced by the different ethnic groups and tribes in the region offers scope for elderly individuals to take an active part in cultural events, traditional practices, and local governance, and these give them a sense of control, purpose, and satisfaction. Empirical results from different studies confirm the fact and recognize the positive effect of cultural engagement on the life satisfaction, self-esteem, and social support among aged individuals in Northeast India. Evidences from a cross sectional study in India including the state of West Bengal (Srivastava et al., 2021,) on psychological well being revealed that elders who took part actively in community participation demonstrated better psychological health and overall well being. In the same way, a study carried out by Engheepi et al. (2024) confirmed the positive correlation between quality of life (QOL) among elderly individuals in North East

Vol.6(No.01)April2025toMarch2026(IJLLLEG)

India and active involvement in social activities where the research findings further revealed that the sudden boom in the migration of young people to big cities and metro cities have contributed negatively in this area of elderly participation and hence a lower score in the QOL. In Manipur, the traditional *Lai Haraoba* Festival provides an avenue for socialization for all age groups including older people and to engage in various cultural fervours and remain integrated into their community (Devi, 2024). The Northeast Indian cultural setting, with its rich culture of community engagement and social interaction, provides a particular context for understanding the cultural engagement and life satisfaction of older people. In this setting, cultural activities and festivals are a source of social engagement, intergenerational relationships, and community building, which are essential for the well-being and life satisfaction of older people.

4. West India

The western Indian states of Maharashtra and Gujarat have long experienced rapid urbanization due to widespread industrialization in the two states during the last few decades. The sudden transformation in traditional norms and social structures had led to the rise in the numbers of elderly persons who live alone or in the care of others in a phenomenal scale. Even though traditional social practices such as religious processions, religious gatherings and festivities are still in abundance here and have contributed much in providing social support, new dimensions in challenges have emerged among the elderly persons in terms of their mental health and loneliness problems in the states (Kumar et al., 2020). A study conducted through LASI in several states and union territories in India including Maharashtra and Gujarat revealed significant chi-square values in between factors and attributes such as participation in social activities and loneliness (Srivastava & Srivastava, 2023). To reiterate a crucial point, research by Ambati (2015) found that elderly individuals in Gujarat who lived in assisted living facilities were mostly motivated by forced choices such as neglect by their heirs or family conflicts rather than an actual premeditated felt needs-based choice to stay in such centres. The research

also indicated, however, that policymakers must develop regulations and provisions for assisted living facilities so that these facilities can provide elderly individuals with high-quality care and support in the absence of loved ones doing the caregiving tasks as the respondents mostly raised their concern of feeling uncared for by their loved ones even while staying in such facilities.

The Paradoxical Impact of Modernization on the Elderly in India

The multifaceted contentious course of changes brought in by globalization and hyper-urbanization in India have brought about sweeping changes in the lives of India's aging population, and their impact on the well-being of the aged is complex and multidimensional. While modernization carries with it the dangers of disintegration of traditional family support structures and possibilities of isolation, it also carries with it the prospects of social engagement, access to healthcare, and economic empowerment. The widespread cases of transition of family structures from joint to nuclear systems could reinforce certain conditions that pertain to feeling of abandonment and loneliness among older people in India. In 2017-18, as per LASI Wave-1, nearly 27% of elderly people in Rural India either lived alone or with their spouse. The corresponding data for Urban India is nearly 21.6% (higher figures in rural areas should indicate outbound migration of younger members of family from rural to urban areas). This transformation in familial systems and rapid erosion of joint family systems could imply noteworthy inferences for the social support and health of older people. It has been repeatedly reported through studies that social isolation is a robust predictor of poor mental and physical health among older people. To reinforce this idea, a study conducted by Mishra et al. (2023), it was found that socially isolated older people reported lower levels of life satisfaction, psychological well-being, and physical health. There are varying figures on total internet users among elderly persons but generally it could be around 15% of internet users in India that are above the age of 60 years (Srinivasan, 2025). In reiterating this notion, Lei et al. (2024) showed that older individuals who used digital platforms for social interaction reported

higher levels of life satisfaction, social support, and emotional well-being. The COVID-19 pandemic has also promulgated the need for adoption of e-healthcare and telemedicine services in India, allowing older individuals to access healthcare services from their homes. Reportedly in India, the National Telemedicine Service viz. *eSanjeevani* has completed 3 million (30 lakh) consultations by 2021 (Ministry of Health and Family Welfare, Govt. of India, 2021). Research has shown that older individuals who use telemedicine services report higher levels of satisfaction, access to healthcare, and reduced healthcare costs. Choi et al. (2022) confirmed that older individuals who used telemedicine services reported higher levels of satisfaction, access to healthcare, and reduced healthcare costs.

Challenges Facing the Elderly in India

Based on our findings, we could infer on listing down some key challenges with regards to elderly issues in India. These challenges are multidimensional and require a multifaceted solution to address them.

1. Economic Inequality: While ascertaining the QOL and overall well being of elderly persons, it is imperative to highlight the attention on income factors too. Sadly, economic inequality is a large concern for elderly individuals in India, particularly in rural areas. Huge variations were noticed on the basis of gender and region across India. Majority of female elderly persons were not economically independent as only 14% to 17% were found to be economically independent in rural and urban areas respectively while the data for elderly males could be translated into 51% and 56% (Central Statistics Office, Ministry of Statistics & Programme Implementation, Government of India, 2011). The study highlighted the need for policies and programs aimed at decreasing economic inequality and providing financial security to elderly individuals.

2. Accessibility of Health Care: Constraints in access to healthcare services, especially in rural India, could pose an influential obstacle to ensuring the overall quality of health status of the Indian elderly. The health workforce density in India is relatively low with 8.8 doctors and 17.7 nurses available for every 10,000 individuals (Karan et al., 2021). Zaidi et al. (2023), in their

study, revealed that elderly people in rural areas faced considerable difficulties in accessing healthcare services, inadequate transport facilities, long waiting times, and substandard healthcare facilities.

3. *Social Isolation*: Social isolation is becoming a growing issue for the elderly in India with shifting dynamics in the structure of the family. We have already explained how social isolation is linked with lower psychological well-being scores in the elderly (Mishra et al., 2023). The study highlighted the need to develop policies and programs to promote social interaction and community participation in the elderly.

The Role of Government Policies and Pension Schemes

The pension schemes and government programs have the potential to set the tone for a milestone in the development of the welfare of the elderly and life satisfaction in the country. The Indian government launched different schemes for the purpose of delivering the welfare of the elderly with a view to acknowledging the need for financial protection, health care, and social protection among the elderly population. Key programs are the National Policy on Older Persons (NPOP), providing a comprehensive framework for financial protection, health care, and social protection; the Indira Gandhi National Old Age Pension Scheme (IGNOAPS), which is for financial protection; and the National Programme for the Health Care of the Elderly (NPHCE), increasing access to health care. Other schemes are the Atal Pension Yojana (APY), guaranteeing a minimum pension; the Rashtriya Vayoshri Yojana (RVY), which is for aids and assisted-living devices; and the Awareness Generation and Capacity Building Scheme, strengthening the well-being of the elderly. While these are steps in the right direction, there are difficulties in accessing these programs in rural and marginalized areas.

The Role of NGOs and Community Organizations

NGOs and community organizations play a crucial role in promoting the well-being of the elderly and enhancing life satisfaction in India. Health care, social support, and recreational programs are services provided through such organizations, and they are as per the specific

Vol.6(No.01)April2025toMarch2026(IJLLEGG)

needs of the elderly. Empirical research has demonstrated the positive effect on the life satisfaction, social support, and emotional well-being of the elderly through programs launched by NGOs. Some NGOs and community organizations have launched successful programs promoting the well-being of the elderly in India. For example: The HelpAge India's Elderly Self-Help Groups (ESHGs) program provides financial empowerment and social empowerment to the elderly. The Dignity Foundation's Community-Based Initiatives (CBI) program provides health care, social support, and recreational programs to the elderly. The Nightingales Medical Trust's (NMT) Elderly Care Program provides holistic health care services to the elderly.

Conclusion

This extensive review has highlighted the significance of cultural factors in shaping the life satisfaction and experiences of older Indians and the dynamic interplay between traditional values, modernization, and aging processes. As India struggles with the issues of a fast aging population, priority must be assigned to the development of culturally relevant policies and interventions designed to promote happy aging. This must invariably incorporate acknowledging the cultural elements that affect the situations and recognising the cultural aspects influencing the circumstances surrounding aging in order to create policies and programs that would be able to address the issues and concerns of the elderly in India. This involves policymakers developing and implementing policies addressing older persons' social, economic, and healthcare needs. Priorities should be on inculcating cultural sensitivity and community-based solutions. This must also translate to healthcare professionals developing and implementing healthcare services attuned to traditional healing practices and tailored to India's elderly population's cultural and linguistic diversity, and researchers conducting further research on Indian cultural attitudes toward aging, with a priority on the development of culturally responsive interventions and policies. In accepting the cultural richness of India's

Vol.6(No.01)April2025toMarch2026(IJLLEGG)

heritage and addressing the issues of modernity, we can enhance the well-being of India's older citizens and facilitate happy aging, paving the way toward a more inclusive, equitable, and age-friendly society.

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Wisdom, Purpose in life and Attitude towards Death in Middle-Aged Adults

Shreya*, Shreya Bhagat Pooja V.Anand*****

* Shreya :Postgraduate student, Department of Psychology (North campus), University of Delhi

** Shreya Bhagat :Postgraduate student, Department of Psychology (North campus), University of Delhi

***Professor Pooja V.Anand, Department of Psychology, Daulat Ram College, University of Delhi

Abstract

The aim of the study was to investigate the relationship among wisdom, purpose in life and attitude towards death. This study included 117 participants aged 40 to 60 years with an average of 47.26 years. Three-Dimensional Wisdom Scale (Ardelt, 2003), Life Engagement Test (Scheier et al., 2006) and Death Attitude Profile-Revised scale (Wong et al., 1994) were used. Pearson's correlation technique was used to analyze the relationships among the variables which indicates a significant negative correlation between reflective dimension of wisdom and purpose in life, a significant negative correlation between all the dimensions of wisdom and fear of death, significant negative correlation between reflective wisdom and death avoidance, significant positive correlation between affective wisdom and neutral acceptance of death, and significant negative correlation between all dimensions of wisdom and approach acceptance and escape acceptance of death. Further regression analysis revealed that affective wisdom significantly predicts neutral approach towards death and cognitive dimension of wisdom significantly predicts approach acceptance towards death. Additionally, the findings for one way analysis of variance revealed that there is a significant effect of gender on reflective wisdom and a significant effect of locality on purpose in life. This study can find its implications in the development of various training programs and intervention where wisdom can be used as a tool for reducing thoughts of mortality and fear related to death especially among middle adults facing existential concerns.

Keywords: wisdom; purpose in life; attitude towards death

Wisdom, Purpose in life and Attitude towards Death in middle-aged adults

Throughout life humans face various challenges each growing more and more complex with time. Therefore, wisdom is crucial for protecting oneself and handling these challenges, so an individual can think through and have a positive attitude to face and solve the problems (Fadilah, 2016) and with increasing years in life, individuals begin to search for something that is beyond knowledge, expertise or abilities to manage the issues and challenges of modernity. One of the fundamental psychological challenges that an individual faces in their life is to find purpose and meaning in which wisdom plays an essential role in this process. It provides them agency over their environment by consciously choosing various options and goals to achieve a desired outcome (Baltes & Freund, 2003) and it directs people to effectively shape the meaning and choices in their life.

Wisdom also leads people to maintain the integrity of their experiences by acknowledging the physical deterioration of the body through developing an attitude towards the nearing death especially in middle and older adults where these thoughts keep crossing the mind and one either starts fearing death or accepting it. Since not many studies have been done on this topic (Ardelt, 2008), it becomes important to examine the association between wisdom, purpose in life and attitude towards death.

Even though there is no one particular definition of wisdom, however many researchers doing research in this area consider it as a combination of cognitive, reflective and affective components (Bangen et. al., 2013; Staudinger & Gluck, 2011), although emphasis on

individual components varies. Thus, wisdom can be defined as integration or union of cognitive, reflective and affective aspects (Ardelt, 1997, 2000; Clayton & Birren, 1980). This definition of wisdom is consistent with most of the intrinsic theories of wisdom (Clayton & Birren, 1980; Holliday & Chandler, 1986; Sternberg, 1990). Many extrinsic theories of wisdom that follow eastern tradition also accept this definition (Takahashi, 2000).

People who are considered to be wise often view the phenomena from a broader and diverse perspective including their own self which helps them to diminish self-centeredness and allows them to transcend subjectivity and personal biases (Ardelt, 2000), this is called reflective wisdom. Whereas, cognitive wisdom involves the capacity to perceive reality accurately, objectively and comprehend the deeper significance of an event in relation to both personal and social aspects of life. This process ultimately fosters sympathy and compassion for others which represents the affective wisdom.

Wise individuals are believed to have discovered their life's significance and purpose, which in turn helps them experience less stress. Having a purpose in life encourages individuals to pay attention to significant life goals and make it worthy and more meaningful. They also view phenomena and events from various perspectives, learn from their past experiences and accept the reality as it is and are also able to develop confidence which is needed to navigate life's uncertainties (Ardelt, 2005). Ultimately, progressing towards a definite and well-defined purpose in life. Wise people also tend to develop a profound and compassionate understanding of both self and others which enables them to grasp the deeper meaning and purpose of existence (Levenson et al., 2001).

Many of the older adults believe that relational connections, personal growth, vocational achievement and living life to the fullest are some of the key sources of meaning and purpose (Wright et al., 2016). Research has shown that wisdom is moderately to strongly associated

with a greater sense of mastery and purpose in life (Ryff & Keyes, 1995; Steger et al., 2008). Ardel and Ferrari (2019) found that the link between wisdom and subjective well-being was partially explained by mastery and purpose in life with mastery being positively associated with purpose. The study also revealed that older adults tend to experience a significantly stronger and greater sense of purpose than young adults.

A wise individual embodying the previously mentioned qualities views physical decline as a natural and inevitable phase of life, something that cannot be ignored or denied. Wisdom is associated with lack of fear of death as wise individuals understand the true nature of existence, have lived meaningful lives and are therefore able to accept both life and death (Tomer & Eliason, 2000). Wright et al. (2016) found that humility is the fundamental aspect of wisdom highlighting that “wisdom is when we realize I don’t really know much.” Additional elements of wisdom include self-awareness, rational thinking, experiential learning, attentive listening to and learning from others and also sharing each other's knowledge (Wright et al., 2016). The study also suggests that confronting illness and mortality can foster personal growth, shifting priorities and embracing the present moment fully (Wright et al., 2016).

To date, the connection between wisdom and attitude towards death has yet to be empirically examined (Kastenbaum, 1999). Wisdom is regarded as crucial in the later stages of life because it provides individuals to effectively handle various situations and challenges during this period. Wisdom has seen to have a positive relationship with subjective wellbeing in old age, with the sense of purpose playing a partial mediating role in this connection (Ardelt & Edwards, 2015).

It might be assumed that older adults whose lives seem less worth living due to physical or emotional challenges would be more inclined to welcome death (Wong, 2000). Although

previous research shows that older adults who have discovered purpose and meaning tend to fear death less and are more willing to let it go (Fortner, Neimeyer & Rybarczyk, 2000; Nicholson, 1980; Wong, 2000). People usually develop a negative attitude towards death when they think that ageing is acting as one of the hindrances in achieving their goal and purpose in life. Kahramen and Erkent (2022) found that attitude towards ageing significantly mediated the effect of life's meaning and purpose on death anxiety. This research also revealed a weaker positive relationship between attitude towards ageing and death anxiety, a moderate negative relationship between attitude towards ageing and purpose and a weak negative relationship between death anxiety and life's meaning and purpose (Kahramen & Erkent, 2022).

The study conducted by Ardel (2008) suggests that a key task in old age is reconciling with a finite nature of life. The study was conducted with 123 older adults in Northern Central Florida revealed that wisdom had a negative impact on death anxiety and a tendency to see death as an escape from worldly sufferings (Ardelt, 2008). When wisdom was not considered, purpose was negatively linked with fear and avoidance of death. Likewise, when purpose is excluded, wisdom showed a negative correlation with death avoidance. Another study conducted by Brudek and Sekowski (2020) found that wisdom acts as mediator among religious meaning systems and various attitudes towards death later in life. They also found that approach acceptance was significantly and positively related to all three dimensions of wisdom.

Present study

The present study evaluates the relationship among wisdom, purpose in life and attitude towards death. Understanding the association between them will have profound implications for both psychological well-being and existential fulfilment. It is because wisdom is often

related to deep understanding of life, emotional regulation and successfully dealing with challenges with life which play pivotal roles in shaping how individuals perceive and navigate existential concerns. A sense of purpose has been associated with greater mental health, resilience and life satisfaction. Together, these constructs have the potential to influence how one approaches an aspect which is unavoidable like death and its existential weight.

Attitude towards death which has many dimensions which is shaped by individuals' values and experiences. Death is an universal phenomenon yet one of the most emotionally challenging and psychological complex subjects. Therefore, it becomes crucial to explore how wisdom and sense of purpose affects one's attitude towards death as they offer a more personal and profound approach to deal with mortality. The interrelation between these constructs gives a key understanding how individuals live meaningfully while navigating the reality of finite existence. This study is particularly relevant in the present time, where the anxiety about death is prevalent due to factors like aging populations and the increasing emphasis on individualization and individual fulfilment. Understanding these relationships can be helpful in providing valuable insights for mental health interventions, aging studies and insights for psychological well-being where positive psychology can contribute in promoting emotional stability and overall life satisfaction.

In the existing literature the individual contributions of wisdom and purpose in life have been extensively examined on psychological well-being but there is a notable gap in research that directly examines the interaction between these constructs (Kastenbaum, 1999). Much of the previous literature focuses either on wisdom in isolation or on purpose in life as predictors of quality in life. However, there are very few studies which have holistically explored the role of both wisdom and purpose in life in shaping one's attitude particularly towards death.

Another research gap identified was that most of the previous studies have been on older adults and not much studies have been done on middle adults. Hence, this study explores the interrelations between these constructs on middle adults as it is the point of life where the thoughts of death keep crossing their mind due to which they either start fearing death or accepting it as a part of their life. At the same time, they have a desire to become a self-actualized person which gives them a sense of purpose or meaning. Therefore, the current study aims to bridge this gap by providing empirical insights into how wisdom and purpose in life are related to individuals' attitudes towards death.

Through previous literature, the six hypotheses are created and tested. Hypothesis 1: There will be a positive relationship between wisdom and purpose in life; Hypothesis 2: There will be a positive relationship between wisdom and neutral acceptance towards death; Hypothesis 3: There will be a positive relationship between wisdom and approach acceptance towards death; Hypothesis 4: There will be a negative relationship between wisdom and fear of death; Hypothesis 5: There will be a negative relationship between wisdom and death avoidance; Hypothesis 6: There will be a negative relationship between wisdom and escape acceptance towards death.

Method

Design

It is a quantitative study employing correlational design in which the relationship among wisdom, purpose in life and attitude towards death was studied and Pearson correlation technique was employed to determine the strength of the relationship among the variables. The study also looks at the causal role of wisdom and purpose in life on attitude towards death for which regression analysis was done where independent variable is wisdom and

purpose in life and dependent variable is attitude towards death. The study also employs analysis of variance to understand the effect of various demographic factors (gender, locality and educational qualification) on the three variables.

Sample

The study consisted of a total sample of 117 middle adults ranging from age 40 to 60 years collected through a survey particularly from Jammu and Kashmir, Delhi and Uttar Pradesh. The sampling technique used was purposive sampling. The study consisted of 70 males, 46 females and 1 other where 81 percent of the participants belong to urban background, 7 percent from semi-urban and 12 percent from rural. Also, there were 8.5 percent of the participants who have only completed their class 12th, 36.8 percent of the participants were graduates, 42.7 percent of them were post graduates and 12 percent have educational qualification higher than post-graduation. The inclusion criteria for the sample were middle- aged adults ranging from age 40 to 60 years living in India. Whereas the exclusion criteria were adolescents, young adults and older adults and people living outside India.

Measures

Wisdom

The Three-Dimensional Wisdom Scale (3D-WS) by Ardelt (2003) was used to assess the cognitive, affective and reflective dimension. The scale consists of 39 items which are rated on a 5-point Likert scale ranging from 1 (strongly agree or definitely true of myself) to 5 (strongly disagree or not true of myself). The cognitive dimension (14 items) evaluates an individual's understanding of life and their desire to go deeper into the things (for example, "there is only one right way to do"), with a Cronbach's alpha of 0.85. The reflective dimension (12 items) evaluates a person's ability to view events and phenomena from multiple perspectives and to avoid projections and subjectivity (for example, "things often go

wrong for me by no fault of my own”) with an alpha value of 0.71. The affective dimension (13 items) measures the degree to which an individual shows sympathy and compassion for others while avoiding unpleasant emotions (for example, “I am easily irritated by people who argue with me”) with an alpha value of 0.72.

Purpose in life

The Life Engagement Test (LET) developed by Scheier et al. (2006) was used to assess purpose in one’s life. The scale includes 6 items rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Overall score is obtained by summing all items, with items 1, 3 and 5 being reverse coded. The measure demonstrates strong internal consistency with an alpha value of 0.77. Higher scores on LET indicate more life engagement.

Attitude towards death

The Death Attitude Profile- Revised (DAP-R) by Wong et al. (1994) was used. The scale comprises 52 items rated on a 7-point Likert scale with responses ranging from 1 (strongly disagree) to 7 (strongly agree). The scale consists of 5 dimensions, fear of death (for example, “the prospect of my own death arouses anxiety in me”), death avoidance (for example, “whenever the thought of death enters my mind, I try to push it away”), neutral acceptance (for example, “death is a natural aspect of life”), approach acceptance (for example, “I look forward to a reunion with my loved ones after I die”) and escape acceptance (for example, “I view death as a relief from earthly suffering”). Wong et al. (1994) demonstrated an alpha value of 0.97 for approach acceptance, 0.86 for fear of death, 0.88 for death avoidance, 0.84 for escape acceptance and 0.65 for neutral acceptance.

Data collection

The research was undertaken to understand the association among wisdom, purpose in life and attitude towards death. The participants between the age 40 to 60 years were approached and the data were collected through an online questionnaire which contained an informed consent form, demographic information (example code, age, gender, locality, educational qualification) and the three questionnaires. Once the data were collected, scoring was done and analysis was done using the statistical techniques of product moment correlation and regression.

Results

Table 1

Frequency of Gender

Gender	F	% of Total	c.f %
Males	70	59.7%	59.7%
Female	46	39.3%	99%
Other	1	1%	1%

Note. n = 117

Table 2

Frequency of Locality

Locality	F	% of Total	c.f %
Urban	95	81%	81%
Semi urban	8	7%	88%
Rural	14	12%	100%

Note. n= 117

Table 3
Frequency of educational qualifications

Educational qualification	F	% of Total	c.f%
Secondary graduate	10	8.5%	8.5%
Undergraduate	43	36.8%	45.3%
Post graduate	50	42.7%	88%
Higher than post graduate	14	12%	100%

Note. n=117

Table 4
Descriptive statistics

Scales	Measure	n	Range	Mean	S.D
Three Dimensional Wisdom Scale (3D-WS)	Cognitive wisdom	117	40	43.23	8.058
	Reflective wisdom	117	32	29.47	5.821
	Affective wisdom	117	34	35.88	6.411
	Total	117	90	108.58	17.127
Life Engagement Test (LET)	LET (Purpose in life)	117	9	17.74	1.550
Death Attitude Profile-revised scale	Fear of death	117	37	25.18	8.681
	Death avoidance	117	28	23.01	6.316
	Neutral acceptance	117	30	27.67	5.057
	Approach acceptance	117	55	41.45	11.647
	Escape acceptance	117	27	18.08	7.513

Table 5

Correlation between Wisdom, Purpose in Life and Attitude towards Death Note.

	Cognitive wisdom	Reflective wisdom	Affective wisdom	LET	Fear of death	Death avoidance	Neutral Acceptance	Approach acceptance	Escape acceptance
Cognitive wisdom	1	0.497**	0.614**	0.19	-0.333**	-0.133	0.139	-0.312**	-0.312*
Reflective wisdom	0.497**	1	0.582**	-0.225*	-0.317**	-0.187*	-0.039	-0.260**	-0.22*
Affective wisdom	0.614**	0.582**	1	0.44	-0.304**	-0.091	0.198*	-0.203*	-0.285**
LET	0.19	-0.225*	0.44	1	0.004	0.149	0.174	0.102	0.003
Fear of death	-0.333**	-0.317**	-0.304**	0.004	1	0.407**	0.026	0.516**	0.638**
Death avoidance	-0.133	-0.187*	-0.091	0.149	0.407**	1	0.327**	0.347**	0.301**
Neutral acceptance	0.139	-0.039	0.198*	0.174	0.026	0.327**	1	0.273**	0.087
Approach acceptance	-0.312**	-0.260**	-0.203*	0.102	0.516**	0.347**	0.273**	1	0.621**
Escape acceptance	-0.312**	-0.220**	-0.285**	0.003	0.638**	0.301**	0.087	0.621**	1

* $p < 0.05$

** $p < 0.01$

The results showed that the participants scored maximum on the cognitive dimension and minimum on the reflective dimension of the wisdom scale. It also showed that the participants scored the maximum on the approach acceptance dimension and the minimum on the escape acceptance dimension of the death attitude profile-revised scale (see Table 4).

The results for product moment correlation indicated that there is a significant negative correlation between purpose in life and reflective dimension of wisdom ($r = -0.225$, $p < 0.05$). It also found that there is significant relationship between various dimensions of wisdom that is, there is a significant positive correlation between cognitive and reflective ($r = 0.497$,

$p < 0.01$) as well as affective dimension of wisdom ($r = 0.614$, $p < 0.01$) and there is also a significant positive correlation between reflective and affective dimension ($r = 0.582$, $p < 0.01$) of wisdom (see Table 5).

The results for product moment correlation also indicated that there is a significant negative correlation between cognitive dimension of fear of death ($r = -0.33$, $p < 0.01$), approach acceptance ($r = -0.312$, $p < 0.01$) and escape acceptance ($r = -0.312$, $p < 0.05$). The results indicated that reflective dimension of wisdom had a significant negative correlation with fear of death ($r = -0.317$, $p < 0.01$), death avoidance ($r = -0.187$, $p < 0.05$), approach acceptance ($r = -0.260$, $p < 0.01$) and escape acceptance ($r = -0.22$, $p < 0.05$). It was also found that there is a significant positive correlation between the affective dimension of wisdom and neutral acceptance ($r = 0.198$, $p < 0.05$). However, also a significant negative correlation was found between affective wisdom with fear of death ($r = -0.304$, $p < 0.01$), approach acceptance ($r = -0.203$, $p < 0.05$) and escape acceptance ($r = -0.285$, $p < 0.01$).

It was also found that there is significant positive correlation between fear of death and death avoidance ($r = 0.407$, $p < 0.01$), approach acceptance ($r = 0.516$, $p < 0.01$) and escape acceptance ($r = 0.638$, $p < 0.01$) towards death. There was a significant positive correlation between death avoidance and neutral acceptance ($r = 0.327$, $p < 0.01$), approach acceptance ($r = 0.347$, $p < 0.01$) and escape acceptance ($r = 0.301$, $p < 0.01$). There was a significant positive correlation between neutral and approach acceptance towards death ($r = 0.237$, $p < 0.01$). A significant positive correlation was also found between approach and escape acceptance ($r = 0.621$, $p < 0.01$) towards death (see Table 5).

Table 6*Analysis of variance of wisdom, purpose in life and attitude towards death by gender*

	Source	df	SS	F	P
Cognitive wisdom	Between group	2	40.966	0.321	0.733
	Within group	114	7491.803		
Reflective wisdom	Between group	2	279.568	4.364*	0.015
	Within group	114	3651.578		
Affective wisdom	Between group	2	101.130	1.235	0.295
	Within group	114	4667.194		
Purpose in life	Between group	2	6.437	1.347	0.264
	Within group	114	272.350		
Fear of death	Between group	2	265.007	1.782	0.173
	Within group	114	8476.224		
Death avoidance	Between group	2	19.136	0.237	0.790
	Within group	114	4607.855		
Neutral acceptance	Between group	2	22.436	0.434	0.649
	Within group	114	2943.564		
Approach acceptance	Between group	2	158.068	0.578	0.562
	Within group	114	15578.924		
Escape acceptance	Between group	2	4.552	0.040	0.961
	Within group	114	6543.756		

*p<0.05

The results of one-way analysis of variance revealed that there is a significant effect of gender on reflective wisdom [$F(2,114) = 4.364, p < 0.05$]. However it was also found that there was no significant effect of gender on cognitive wisdom [$F(2,114) = 0.321, p > 0.05$], affective wisdom [$F(2,114) = 1.235, p > 0.05$], purpose in life [$F(2,114) = 1.347, p > 0.05$], fear of death [$F(2,114) = 1.782, p > 0.05$], death avoidance [$F(2,114) = 0.237, p > 0.05$], neutral acceptance [$F(2,114) = 0.434, p > 0.05$], approach acceptance [$F(2,114) = 0.578, p > 0.05$] and escape acceptance [$F(2,114) = 0.040, p > 0.05$].

Table 7

Analysis of variance of wisdom, purpose in life and attitude towards death by locality

	Source	df	SS	F	P
Cognitive wisdom	Between Group	2	203.432	1.582	0.210
	Within group	114	7329.347		
Reflective wisdom	Between Group	2	17.055	0.248	0.780
	Within group	114	3914.090		
Affective wisdom	Between Group	2	27.160	0.327	0.722
	Within group	114	4741.164		
Purpose in life	Between Group	2	22.874	5.095**	0.008
	Within group	114	255.913		
Fear of death	Between group	2	379.615	2.588	0.085
	Within group	114	8361.616		
Death avoidance	Between group	2	88.770	1.115	0.331

	Within group	114	4538.222		
Neutral acceptance	Between group	2	36.659	0.713	0.492
	Within group	114	2929.341		
Approach acceptance	Between group	2	319.229	1.180	0.311
	Within group	114	15417.762		
Escape acceptance	Between group	2	306.221	2.796	0.065
	Within group	114	6242.308		

**p<0.01

The results of one-way analysis of variance revealed that there is a significant effect of locality on purpose in life [$F(2,114) = 5.095, p < 0.01$]. However, the results also revealed that there is no significant effect of locality on cognitive wisdom [$F(2,114) = 1.582, p > 0.05$], reflective wisdom [$F(2,114) = 0.284, p > 0.05$], affective wisdom [$F(2,114) = 0.327, p > 0.05$], fear of death [$F(2,114) = 2.588, p > 0.05$], death avoidance [$F(2,114) = 1.115, p > 0.05$], neutral acceptance [$F(2,114) = 0.713, p > 0.05$], approach acceptance [$F(2,114) = 1.180, p > 0.05$] and escape acceptance [$F(2,114) = 2.796, p > 0.05$].

Table 8

Analysis of variance of wisdom, purpose in life and attitude towards death by education

	Source	df	SS	F	P
Cognitive wisdom	Between group	3	19.768	0.099	0.960
	Within group	113	7513.001		
Reflective wisdom	Between group	3	40.594	0.393	0.758
	Within group	113	3890.552		

Affective wisdom	Between group	3	192.670	1.586	0.197
	Within group	113	4575.655		
Purpose in life	Between group	3	5.987	0.827	0.482
	Within group	113	272.799		
Fear of death	Between group	3	112.372	0.491	0.690
	Within group	113	8628.859		
Death avoidance	Between group	3	33.078	0.271	0.846
	Within group	113	4593.913		
Neutral acceptance	Between group	3	124.064	1.644	0.183
	Within group	113	2841.936		
Approach acceptance	Between group	3	385.841	0.947	0.421
	Within group	113	15351.177		
Escape acceptance	Between group	3	158.608	0.935	0.426
	Within group	113	6389.699		

The results of one way analysis of variance revealed that there is no significant of effect of education on cognitive wisdom [$F(2,114) = 0.099, p > 0.05$], reflective wisdom [$F(2,114) = 0.393, p > 0.05$], affective wisdom [$F(2,114) = 1.586, p > 0.05$], purpose in life [$F(2,114) = 0.827, p > 0.05$], fear of death [$F(2,114) = 0.491, p > 0.05$], death avoidance [$F(2,114) = 0.271, p > 0.05$], neutral acceptance [$F(2,114) = 1.644, p > 0.05$], approach acceptance [$F(2,114) = 0.947, p > 0.05$] and escape acceptance [$F(2,114) = 0.935, p > 0.05$].

Table 9*Regression analysis of wisdom and purpose in life for fear of death*

Source	B	Std.Error	Beta	T	P
Cognitive wisdom	-0.211	0.122	-0.196	-1.723	0.088
Reflective wisdom	-0.273	0.173	-0.183	-1.580	0.117
Affective wisdom	-0.103	0.166	-0.076	-0.617	0.538
Purpose in life	-0.171	0.515	-0.031	-0.332	0.741

The results of the regression analysis revealed that cognitive wisdom [$t(115) = -1.723$, $p > 0.05$], reflective wisdom [$t(115) = -1.580$, $p > 0.05$], affective wisdom [$t(115) = -0.617$, $p > 0.05$] and purpose in life [$t(115) = -0.332$, $p > 0.05$] does not significantly predict fear of death.

Table 10*Regression analysis of wisdom and purpose in life for death avoidance*

Source	B	Std.Error	Beta	T	P
Cognitive wisdom	-0.071	0.094	-0.091	-0.762	0.447
Reflective wisdom	-0.150	0.132	-0.138	-1.129	0.261
Affective wisdom	0.039	0.127	0.040	0.308	0.759
Purpose in life	0.481	0.395	0.188	1.216	0.227

The results of the regression analysis revealed that cognitive wisdom [$t(115) = -0.762, p > 0.05$], reflective wisdom [$t(115) = -1.129, p > 0.05$], affective wisdom [$t(115) = -0.308, p > 0.05$] and purpose in life [$t(115) = -1.216, p > 0.05$] does not significantly predict death avoidance.

Table 11

Regression analysis of wisdom and purpose in life for neutral acceptance of death

Source	B	Std.Error	Beta	T	P
Cognitive wisdom	0.047	0.073	0.075	0.645	0.521
Reflective wisdom	-0.178	0.104	-0.205	-1.718	0.089
Affective wisdom	0.210	0.100	0.266	2.103*	0.038
Purpose in life	0.375	0.310	0.115	1.212	0.228

* $p < 0.05$

The results of the regression analysis revealed that affective wisdom [$t(115) = 0.645, p < 0.05$] significantly predicted neutral acceptance of death. However, cognitive wisdom [$t(115) = -1.718, p > 0.05$], reflective wisdom [$t(115) = 2.103, p > 0.05$] and purpose in life [$t(115) = 1.212, p > 0.05$] does not significantly predict neutral acceptance towards death.

Table 12

Regression analysis of wisdom and purpose in life for approach acceptance towards death

Source	B	Std.Error	Beta	T	P
Cognitive wisdom	-0.391	0.167	-0.271	-2.349*	0.021
Reflective wisdom	-0.257	0.235	-0.128	-1.091	0.278

Affective wisdom	0.063	0.226	0.035	0.280	0.780
Purpose in life	0.577	0.703	0.077	0.822	0.413

* $p < 0.05$

The results of the regression analysis revealed that cognitive wisdom [$t(115) = -2.349$, $p < 0.05$] significantly predicted approach acceptance towards death. However, the results also revealed that reflective wisdom [$t(115) = -1.091$, $p > 0.05$], affective wisdom [$t(115) = 0.280$, $p > 0.05$], and purpose in life [$t(115) = 0.822$, $p > 0.05$] does not significantly predict approach acceptance towards death.

Table 13

Regression analysis of wisdom and purpose in life for escape acceptance towards death

Source	B	Std. Error	Beta	t	P
Cognitive wisdom	-0.198	0.108	-0.212	-1.831	0.070
Reflective wisdom	-0.046	0.152	-0.036	-0.302	0.764
Affective wisdom	-0.158	0.147	-0.135	-1.077	0.284
Purpose in life	0.022	0.455	0.004	0.048	0.962

The results of regression analysis revealed that cognitive wisdom [$t(115) = -1.831$, $p > 0.05$], reflective wisdom [$t(115) = -0.302$, $p > 0.05$], affective wisdom [$t(115) = -1.077$, $p > 0.05$] and purpose in life [$t(115) = 0.048$, $p > 0.05$] do not significantly predict escape acceptance towards death.

Discussion

The aim of the study was to examine the relationship among wisdom, purpose in life and attitude towards death. A total sample of 117 participants between the age group of 40-60 years were taken which consisted of 70 males, 46 females and 1 other. The middle aged adults were selected for the study because as compared to young adults, they have greater intrapersonal and interpersonal experiences which gives them better understanding of the world and themselves as compared to older adults they have high openness to experience which give middle adults an edge over both the groups on wisdom. A study done by Webster et al. (2014) found that middle-aged adults scored higher in wisdom compared to both younger and older adults. Also, in middle age life the thoughts of death keep crossing the mind due to which they may either start fearing death or accepting it as a part of their life. At the same time, they also have the desire to become a self-actualized individual and experience what Maslow called it as peak experiences which gives meaning and purpose to their life. Hence it becomes important to analyze the association among wisdom, purpose and attitude towards death in middle adults.

The participants scored the maximum on the cognitive dimension of wisdom ($M = 43.23$, $S.D. = 8.058$). This signifies that they have an urge to explore the true meaning of the various aspects of life which indicates their ability to have a comprehensive knowledge of both intrapersonal and interpersonal situations and issues during one's lifetime. This could be due to the fact that with their increasing years of their life, they have gained a lot of experiences because of which they may be able to critically evaluate various situations and understand life's unpredictability. Most of the time, middle adults are engaged in spiritual activities which help them to understand deeper meanings by exploring both pleasant and unpleasant aspects of life. A study conducted by Martos et al. (2010) also revealed that

various aspects of religiosity (inclusion of transcendence and symbolic interaction) are positively related to meaning in life. Moreover, due to their increased responsibilities, for example, focus on their family, growth of their children and elderly care, they may think more deeply about various situations to avoid any uncertainties (see Table 4).

Table 4 also indicates that the participants scored the least on the reflective aspect of wisdom ($M = 29.47$, $S.D. = 5.821$) which means that they lack capacity to view the situations from multiple viewpoints and prefer more subjectivity over objectivity. In essence, they fail to see life for what it truly is instead viewing it through the lens of fears, impulses or illusions they are experiencing (Brudek & Sekowski, 2020). This could be due to the fact that most of the sample belonged to an urban locality and because of this busy urban lifestyle they become so emotionally overwhelmed that they may struggle to explore multiple ways of addressing life events and issues. The result is supported by the research conducted by Webster et al. (2014) which found that middle aged adults outperformed younger and older adults on all wisdom components, except reminiscence and reflectiveness.

The results of this research also showed that the participants scored the maximum on the dimension of approach acceptance towards death ($M = 41.45$, $SD = 11.647$). This means that the participants believe in a blissful life after death (Dixon & Kinlaw, 1983). This could be because the participants may be engrossed in religious beliefs and practices which teaches them that their good deeds or karma will pay off by making them reach heaven. A study done by Jeffers et al. (1961) found those individuals with strong religious commitments or beliefs were more likely to believe in content afterlife and experience less fear of death. This could also be because the participants might be believing that they have or sooner will be reaching the goals of their life, hence they would be in peace after death (see Table 4).

Table 4 also indicated that the participants scored the least on the escape acceptance towards death ($M = 18.08$, $SD = 7.513$) which means that they are not thinking about death as an escape from worldly sufferings and sorrows. This could be because the participants due to their age have gained a lot of experience in dealing with all kinds of pain, suffering and illness, and hence they do not regard death as an escape from these problems, instead view it as an opportunity and challenge for their personal growth. This also shows that the participants are happy in their life and do not see it as a burden and are looking forward to finding solutions rather than choosing death as an escape.

The first hypothesis of the study is that there will be a positive relation between wisdom and purpose in life, which is partially accepted as there is a positive correlation between cognitive ($r = 0.19$, $p > 0.05$) and affective aspects ($r = 0.44$, $p > 0.05$) of wisdom and purpose in life. This means that the more the participants try to go deeper into the things, the more they develop understanding of the world and because of this they are better able to connect with the world and this gives them a feeling of purpose and significance in their life. This could be also because of the fact that the study involves an Indian sample which mostly belongs to a collectivistic culture hence they largely focus on building connections and sympathizing with each other, helping each other grow from which they derive meaning by being altruistic and empathetic. A study conducted by Damiano et al. (2016) also found that the meaning of life was positively related to empathy.

A significant negative relationship was found among reflective dimension of wisdom and purpose in life ($r = -0.225$, $p < 0.05$) which signifies that the more the participants try to judge events from different perspectives, the less is their meaning and purpose in life. Since our sample is between the age of 40 to 60 years and most of them are parents and most of the time, they adopt purpose of their children as their own because of which they do not focus on

their own personal opinions and view them as trivial and unimportant hence, they might be losing out on purpose in life.

The second hypothesis of the study states that there will be a positive relation among wisdom and neutral acceptance towards death. It is partially accepted as there is a positive correlation between cognitive ($r = 0.139$, $p > 0.05$) and affective dimension ($r = 0.198$, $p < 0.05$) of wisdom and neutral acceptance towards death. This means the more the participants go into the depth of situations and events related to death and are able to handle their emotions, the more neutrally they accept the death. This could be because the deeper the participants understand death as a process and its true meaning, they understand that if one has come in this world, one day they have to leave. They are also better able to handle situations more concretely and not emotionally because of which they have a neutral acceptance of death as a phenomenon. It could also be because that sample belongs to the urban locality and because of their busy schedule they might not be getting time to think about death and hence accept death as neither pleasant or unpleasant but rather as an unchangeable fact. Also, since most of the sample are well educated and completed their post-graduation, they are well equipped in managing their emotions and not taking death as ultimate reality but just a natural process (see Table 3).

A negative correlation was found between the reflective dimension of wisdom and neutral acceptance of death ($r = -0.039$, $p > 0.05$). This signifies that the more the participants reflect on various aspects of life, the less they think death as a neutral phenomenon. This could be because of the reason that by reflecting so much, they might be looking at the extremes of the situation like viewing death from extreme positives or negatives and relating it to different events in their life, for example loss of their loved one and hence by thinking so much it would be very difficult to think death as a neutral phenomenon. It can also be related to

Terror Management Theory where various authors (e.g., Crocker et al., 2004; Martin et al., 2004; Wong, 2008) suggests that recognizing one's own mortality can indeed lead to anxiety and inaction and only sometimes can act as source of energy (Spitzenstatter & Schnell, 2022).

The third hypothesis of the study suggested that there will be positive relation between wisdom and approach acceptance towards death. The results indicate that this hypothesis has been rejected as all the dimensions of wisdom that are cognitive ($r = -0.312$, $p < 0.01$), reflective ($r = -0.260$, $p < 0.01$) and affective ($r = -0.203$, $p < 0.05$) are negatively and significantly associated with approach acceptance. This means that the more is the wisdom of the participants the less likely they are to perceive death as a happy afterlife. This could be because the more deeply and truly they understand death as a phenomenon, they also understand its consequences and outcomes as losing out on their loved ones. At the same time, they might also be thinking that it would be the end of the worldly pleasures and after death they might be receiving punishments for their bad deeds like going to hell instead of heaven. Because of these reasons, they are less inclined to see death as a blessing or as a state of ultimate fulfilment.

The fourth hypothesis of the study suggested that there will be a negative relation between wisdom and fear of death and this has been accepted as all the dimensions of wisdom that are cognitive ($r = -0.312$, $p < 0.01$), reflective ($r = -0.220$, $p < 0.01$) and affective ($r = -0.285$, $p < 0.01$) are negatively and significantly related to fear of death. This means that the higher is the wisdom of the participant, the less would be the terror of death. A wise individual will view death as a natural process where he understands the fact that anything that has started will have an end and views death as an unchangeable fact. They would be better able to handle emotions because of which they would also manage any anxiety and fear related to the thoughts of death. A study by Maritza and Alvarado (2012) found a negative association

between emotional regulation and fear of death. Additionally, higher levels of emotional intelligence were linked to reduced fear of death. It could also be because of the reason that the participants may be connected to various religions which would be helping them to view death from different perspectives and is a way to achieve nirvana rather than a painful event. Also, wise people are equipped with effective coping strategies because of which they tend to become more resilient and less fearful. A study done by Ardel (2005) on how individuals who are wise cope up with obstacles and crises found that those individuals who scored high on wisdom engage in active coping that involves mental reframing of the situation and taking control of the crisis (Ardelt, 2005).

The fifth hypothesis of the study suggests that there will be a negative relation between wisdom and death avoidance. This has been accepted as all the dimensions of wisdom that are cognitive ($r = -0.133$, $p > 0.05$), reflective ($r = -0.187$, $p < 0.05$) and affective ($r = -0.091$, $p > 0.05$) are negatively related to death avoidance in which there is a significant negative correlation between reflective dimension of wisdom and death avoidance. This means, the higher the wisdom, the less likely the participants are to avoid death. This could be because of the fact that reflective wisdom allows them to critically analyze the situations from different perspectives due to which they do not view death as a painful event and avoid it at the face value but rather accept it as a natural part of their life. Wise individuals would also be high on self-awareness and empathy where they would reflect on their own personal experiences and that of others with death, and hence will be more able to understand their feelings, fears and actively facing them rather than neglecting or avoiding them.

The sixth hypothesis of the study suggests that there will be a negative relation between wisdom and escape acceptance towards death. It has been accepted since all the dimensions of wisdom that are cognitive ($r = -0.312$, $p < 0.01$), reflective ($r = -0.0220$, $p < 0.01$) and

affective ($r = -0.285$, $p < 0.01$) are negatively and significantly correlated to escape acceptance towards death. This means that the higher the wisdom of the participant, the less likely they would be to perceive death as an escape from pain and sufferings in their life. This could be due to the fact that wise people will be actively viewing life as an ongoing process which is ever changing. They realize that the suffering that has started is not an ultimate end but rather just a phase in life which will eventually end and hence they might not view death as the only solution of those sufferings. Wise people will be also prioritizing their relationships with others which would in turn be helpful for them in solving their problems, that is, it would be acting as a catharsis therefore providing them support in dealing with the pain rather than escaping from it. They also might understand the fact that having an escape attitude towards death is not based on the inherent “goodness of death”, but on the “badness of living” (Wong et al., 1994). Hence, they strive to manage the pain and challenges of life effectively.

Furthermore, the findings of regression analysis revealed that affective wisdom [$t(115) = 0.645$, $p < 0.05$] significantly predicted neutral acceptance of death. This means that presence of affective wisdom predicts a neutral acceptance towards death. It could be because of the reason that affective wisdom underlines the extent to which an individual develops compassion and sympathy for others which generally comes from an understanding of one's emotions and life experiences. Therefore, individuals with higher affective wisdom may be more capable of managing their emotions appropriately and from these experiences they perceive death as a natural process of life. Additionally, the results for regression analysis also revealed that cognitive wisdom [$t(115) = -2.349$, $p < 0.05$] significantly predicted approach acceptance towards death. This signifies that the presence of cognitive wisdom predicts less likelihood of perceiving death as a happy afterlife. This could be due to the reason that individuals with higher cognitive wisdom tend to explore the true meaning of life which

involves evaluating life's unpredictability involving the truth of loss of loved ones one day and all of one's lifetime earnings. Due to these, they are less inclined to perceive death as a joyful afterlife.

Moreover, the findings of one-way analysis of variance revealed that there is a significant effect of gender on reflective wisdom [$F(2,114) = 4.364, p < 0.05$]. This means that gender significantly affects the ability of looking at events from different perspectives to develop self-awareness and effectively regulate emotions. This finds support in a study conducted by Cheraghi et al. (2015) where they found that as the age increases, the reflective wisdom score of older men was significantly higher than older women. Further the results of one-way analysis of variance also revealed that there is a significant effect of locality on purpose in life [$F(2,114) = 5.095, p < 0.01$]. This means that different levels of urban, semi-urban and rural localities affect one's purpose in life. This can be because of several reasons like the economic stability and availability of opportunities in the urban localities could be helping the people to achieve their personal and professional goals more efficiently. Therefore, living in these advancements could be leading them towards their success and deriving a purpose in their life. On the other hand, because of the environmental factors individuals from a rural locality are situated in a more natural environment from which they have a deeper connection with nature. This deeper connection with nature as compared to the bustle of urban localities could be giving them a purpose in life.

Limitations and future directions

One of the primary limitations of the study is that the data were collected through an online survey which could have increased the chances of socially desirable answers and limited our ability to generalize the results. Hence, the future research should include offline data collection methods to have the maximum external validity. Second limitation is that the

scales used in the study were not specifically developed for Indian culture which might affect the accuracy of the responses. So, the future researchers should try to use the Indian adaptation of the scales. Future research could also include an experimental design where the impact of wisdom can be studied on purpose and attitude towards death by establishing a cause-and-effect relationship between them. Future research can focus on doing a cross-sectional analysis between young, middle and older adults and finding the effect of wisdom on purpose in life and attitude towards death in all three groups. They could also include religiosity as a variable to see its relationship with wisdom, purpose in life and attitude towards death.

Conclusion

From the above study, it can be concluded that cognitive and affective wisdom is positively associated with purpose in life which means that more the participants try to go deeper into the things the more they develop understanding of the world and because of this they are better able to connect with the world and this gives them a sense of purpose and meaning in their life. Whereas reflective dimension of wisdom is negatively and significantly related to purpose in life which signifies the more the participants try to judge events from different perspectives, the less is their meaning and purpose in life.

It was also revealed that all the dimensions of wisdom were negatively and significantly related to fear of death. This means that the higher the wisdom of the individual, the less they would fear death. The reflective wisdom and death avoidance were negatively and significantly related which signifies higher the wisdom, the less likely the participants are to avoid death. There was a significant and positive relationship between affective wisdom and neutral acceptance of death. This signifies that the more the individuals sympathise and show compassion to others the more they think death as a natural aspect. Also, a significant

negative correlation was found between all the dimensions of wisdom and approach acceptance and escape acceptance of death. This means that the more is the wisdom of the participants the less likely they are to perceive death as a happy afterlife and the less likely they would be to perceive death as an alternative for the pain and misery in their life

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Aging: The interplay of Physical, Mental and Social health in Achieving Successful Aging

Prof. Ritu Sharma*, Manisha Rawat**

* Professor Ritu Sharma, Discipline of Psychology, SOSS, IGNOU, New Delhi

** Manisha Rawat ,Research Scholar, Department of Psychology, Central University of Haryana
Email:manisha222208@cuh.ac.in

Abstract

Successful and healthy aging is a complex process. And this paper aims to underscore the crucial components and determinants of successful aging. Research reveals that physical, mental, and social well-being all have an impact on the complex process of successful aging. This review paper focuses on how these three components like physical, social and mental health domains interact together to enhance and promote better health, longevity, and life satisfaction in elderly.

Physical health domain includes regular exercise, active lifestyle, healthy diet that is crucial in preventing the diseases, maintain mobility and enriching vigor in elderly. The mental health domain focuses on cognitive performance, emotional stability, and resilience in older people which are found to be associated with successful aging as it acts as a preventive measure towards neurodegenerative disorders, depression and anxiety.

The social health domain on the other hand, underscores the importance of social support, community involvement, and interpersonal connections in fostering the successful aging process. Research indicates that social support is associated with increased cognitive life, enhanced mental health and reduced loneliness. The interaction of the physical health, mental health and social health are reported to be a holistic and complete way of enhancing and encouraging successful aging. All things considered, in today's evolving time, promoting healthy aging is a critical social and economic imperative for us as a community. By fostering senior adults' well-being, productivity, and health, we are taking a step towards creating an inclusive society for people across different age groups.

Keywords: Successful aging, Physical well-being, Social health, mental health

Introduction

Aging is a natural process that is impacted by social, psychological, and biological variables. While chronological aging cannot be prevented, it is possible to deliberately promote successful aging, which is characterized by preserving one's best possible physical, mental, and social well-being (Rowe & Kahn, 1997). In 1987, Rowe and Kahn coined the phrase "successful ageing," characterizing it as the lack or absence of illness and disability with greater level of physical and cognitive, and participation in productive activities and interpersonal connections.

However, this idea was criticized for not considering and for not taking into account of individual experiences and individual viewpoints. (Waddle C et al., 2025). A different and more inclusive perspective emphasizes about the co-existence of chronic illnesses and effective aging, underscoring the crucial role of resilience, subjective well-being and adaptive processes. (Urtamo et al., 2019). Focus of this paper is to understand the important components of successful aging and how their interaction can foster healthy and successful aging.

It is important and crucial to encourage successful aging as, it can enhance the health and wellbeing of senior citizens, by relieving strain on healthcare systems and by improving their quality of life. Second, society as a whole can benefit from enabling the older people to continue helping family members or contributing to their communities. Last but not least, encouraging good aging can help fight ageism and unfavorable perceptions of aging, which frequently limit the options accessible to senior citizens. All things considered, encouraging good aging is a significant social and economic need for the communities given the demographic shifts occurring, as it can help us in creating an inclusive society for people of all ages by promoting the productivity, health, and well-being of senior citizens. (Zábó et al., 2023c)

Physical health & Successful aging

It is reported that physical activity is linked to a higher prospect of healthy aging. Physical activity increases the likelihood of aging successfully and healthily by decreasing

the chances of loss of cognitive and physical function, as well as by enriching mental and social involvement. (Szychowska & Drygas, 2021) Maintaining an active and healthy lifestyle is thought to prevent a number of chronic illnesses and age related loss of function. Nonetheless, it is reported that indulging in a physical activity later in life has similar but comparatively lesser health benefits. (Szychowska & Drygas, 2021)

Frequent exercise improves muscle strength, balance, and cognitive function while lowering the risk of chronic conditions such diabetes, obesity, cardiovascular disease, and hypertension (Piccardi et al., 2023). Research has demonstrated that even mild physical activity, like walking, can greatly improve executive control, memory, and attention—all of which are essential for preserving cognitive independence as people age. (İpek et al., 2024) Additionally, being physically active improves life satisfaction and acceptance of aging. (Piccardi et al., 2023) Similarly in 2018, Passaro et al., emphasized the importance of an active lifestyle and physical activity in elderly people for healthy aging because they assist older persons maintain their strength and muscle mass, lose body fat, and enhance their metabolic health. It was reported that, elderly people who are active age more successfully than those who are sedentary; aerobic workouts increase cardiovascular fitness and endurance, while resistance training increases bone density and muscle mass, which eventually helps to retain independence and functional status.

Physical activity is found to be associated to an overall increase in cognitive function. By promoting circulatory function, which raises cerebral blood flow and, in turn, increases oxygen and glucose delivery to brain tissue, aerobic exercise enhances cognitive health by increasing neurotransmitter availability and neuronal efficiency. Additionally, cardiovascular exercise is linked to lowering vascular risk factors linked to cognitive impairment. (Piccardi et al., 2023)

Rodrigues et al. (2023) reported a number of factors that are linked to increased odds of achieving successful aging like adapting and sticking to healthy dietary patterns, metabolic health, physical activity, non-smoking, and higher socioeconomic status.

Additionally, physical activity enhances life satisfaction and acceptance of age, which improves one's sense of self and general quality of life. (Piccardi et al., 2023)

Mental Health & Successful aging

Successful aging is greatly influenced by mental health, which affects general wellbeing and the capacity to adjust to life's obstacles. Higher levels of satisfaction and less stress can be attributed to positive mental attitudes and behaviors. Therefore, addressing mental health is crucial to encouraging happy and healthy aging. (Reynolds et al., 2022) A key component of successful aging is the component of psychological adaptability in later life, which was influenced by life purpose, life satisfaction, and perspective towards aging process. (Kivimaki and Ferrie, 2011)

Zábó et al. (2023) reported that resilience and competency on the psychological level help to slow down biological aging processes. Maintaining a healthy lifestyle, fostering social relationships, and developing a sense of purpose can all improve psychological aspects and lead to a longer, healthier life.

The ability to age well, according to Pruchno et al. (2015), is a result of resilience in the face of adversity throughout life. Learning to be resilient can help people age well. For older persons to retain mental health, psychological resilience is essential because it allows them to adjust to stress and overcome adversity. (Zábó et al., 2023b)

In old age, maintaining cognitive abilities and avoiding memory problems are important goals, and effective cognitive functioning is seen to be a major element of successful aging. (Urtamo et al., 2019b) Cognitive growth in old age differs individually, and factors such as cognitive reserve, dependence on memory, and compensating for age-related alterations can explain improved cognitive functioning in some individuals. (Urtamo et al., 2019b)

Positive psychological characteristics like optimism, resilience, and a feeling of purpose have been demonstrated to have a significant impact on mortality and are substantially associated with self-rated successful aging. (Jeste et al., 2010) Depression, on the other hand, appears to be a strong negative link, influencing a variety of determinants of effective aging, including physical activity, social involvement, and overall view on life. (Jeste et al., 2010)

Cognitive training, mindfulness practices, and stress reduction strategies have been shown to improve cognitive performance, establishing a sense of control, boost emotional well-being, and purpose in later life. (Jeste et al., 2010)

Social health and Successful aging

A number of social health factors, including social contacts, support networks, and participation in community activities, have a substantial impact on successful aging. These factors ultimately improve older individuals' quality of life by supporting their physical and mental health.

Strong social ties and social cohesiveness have been associated with better stress management skills and a decreased risk of diseases like dementia, heart diseases and depression, dementia. (Social Determinants of Health and Older Adults | oDphp.health.gov, n.d.)

Sumarsih et al., 2024, reported a substantial correlation between better lifestyle and physical health and active social participation. Similar findings were supported by Salvador, 2023, who reported that social networks' emotional support can reduce stress and despair, improving both physical and mental health results.

According to a study on social health status, social health—which is essential for good aging—is greatly impacted by variables like income, education, and marital status (Izadi-Avanji & Gilasi, 2023).

Participating in social activities, like volunteering, leisure pursuits, and community service, fosters interpersonal connections, offers chances for significant exchanges, and improves general wellbeing. (Izadi-Avanji & Gilasi, 2023; Urtamo et al., 2019b) Contrary to this, social isolation, loneliness and social isolation are found to be associated with a higher risk of several health issues including dementia thereby, emphasizing the crucial role of social involvement and social connection in elderly people. (Salvador, 2023; (Social Determinants of Health and Older Adults | oDphp.health.gov, n.d.)

Conclusion

This paper highlights aimed at highlighting the determinants of successful and healthy aging as to create a great and inclusive environment and society for people of all ages. The interaction and an amalgamation of the components like physical, social and mental fosters

good and successful aging. To create a better society for the older age people further studies should investigate therapies incorporating the above mentioned components.

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Spirituality and Happy Aging

Seema Sodhi

* Mrs.SeemaSodhi,Associateprofessor,DepartmentofCommerce,
Dr.BhimRaoAmbedkar College, University of Delhi.
seemasodhi69@gmail.com

Abstract

Spirituality is often seen as a vital component of well-being, especially in the later stages of life. Recently, the link between spirituality and aging has become a major area of interest in gerontology research. This review explores the influence of spirituality on healthy aging, emphasizing how spiritual practices and beliefs can contribute to psychological, emotional, and social well-being among older adults. The paper investigates various aspects of spirituality, including its role in coping with aging-related stress, enhancing life satisfaction, fostering resilience, and promoting a positive outlook on life. Additionally, the review examines the potential mechanisms through which spirituality may impact health outcomes, including stress reduction, immune system support, and the cultivation of a sense of purpose. Furthermore, the paper addresses cultural variations in spiritual practices and beliefs, providing a global perspective on how different populations incorporate spirituality into the aging process. In general, spirituality is recognized as a significant resource for improving life quality and supporting successful aging, influencing both personal practices and healthcare policies.

Keywords: Spirituality, Aging, Well-being, Resilience, Life satisfaction

1. Introduction

Aging is a natural, inevitable process that often presents various challenges, such as physical decline, an increased risk of chronic conditions, and mental health struggles like loneliness and depression (Ardelt & Edwards, 2016). With the growing number of elderly individuals, particularly in developed countries, enhancing the well-being of older adults has become an

urgent focus (World Health Organization, 2015). While conventional medicine typically targets the physical aspects of aging, recent studies have emphasized the importance of psychological and social elements, such as spirituality, in promoting the overall well-being of the elderly (Koenig, 2012).

Spirituality is commonly understood as a personal, individual experience that may include religious beliefs, but also extends to broader ideas such as finding meaning, purpose, and a connection to something beyond oneself (Abu-Raiya et al., 2015). Unlike religion, which is typically organized and governed by distinct rituals and beliefs, spirituality is more flexible and can take many forms, such as meditation, mindfulness, and other self-reflection practices (Shreve-Neiger & Edelstein, 2004). Over the past few decades, spirituality has gained attention for its potential role in supporting healthy aging, particularly by improving mental health and helping older adults cope with the challenges of aging (George et al., 2002).

Several studies have shown that engaging in spiritual practices is linked to greater life satisfaction, reduced depression, and improved emotional regulation in older adults (Moberg, 2012). In addition, spirituality has been associated with positive physical health outcomes, including reduced stress and enhanced immune function (Koenig et al., 2012). Consequently, the connection between spirituality and aging has become a crucial research focus, with important implications for individual well-being and healthcare policies aimed at promoting successful aging (Black & Hannum, 2015).

While research on spirituality and aging is growing, the underlying mechanisms through which spirituality influences the aging process remain poorly understood. Studies often explore spirituality's impact on mental and emotional well-being but tend to overlook its potential biological and physiological effects (Kapusinski & Masters, 2010). Additionally, much of the existing research is rooted in Western perspectives, which may overlook the spiritual practices of older adults in different cultural settings (Zimmer et al., 2016). This review aims to fill these gaps by summarizing existing literature on the role of spirituality in aging, exploring its psychological, emotional, and physical effects, and investigating how spiritual practices differ across cultures.

In the upcoming sections, we will explore the existing literature on the subject, highlight key findings, and analyze the theoretical mechanisms through which spirituality may improve the

aging process. This paper will also examine the practical implications of these findings, providing recommendations for healthcare professionals and policymakers engaged with older populations.

2. Literature Review

The role of spirituality in enhancing the quality of life for older adults has been widely studied across fields such as psychology, gerontology, and healthcare. This section summarizes key findings and themes from research on spirituality and aging, highlighting the ways in which spiritual beliefs and practices affect the mental, emotional, and physical well-being of older individuals.

2.1 Concept of Spirituality in Aging

Spirituality is commonly understood as a feeling of connection to a higher power or purpose, which can include religious beliefs, meditation, mindfulness, or personal development (Abu-Raiya et al., 2015). Unlike religion, which tends to be more structured and institutional, spirituality is seen as a more personal journey focused on an individual's quest for meaning and purpose (Shreve-Neiger & Edelstein, 2004). For older adults, spirituality can serve as a foundation for managing the difficulties of aging, including the loss of loved ones, deteriorating health, and feelings of social isolation (Koenig et al., 2012).

While spirituality is a broad and diverse concept, it is often associated with psychological and emotional well-being, particularly as individuals age (Kapuscinski & Masters, 2010). Studies indicate that older adults engaged in spiritual practices—like prayer, meditation, or participation in religious communities—tend to experience higher emotional stability and greater life satisfaction (George et al., 2002). Additionally, spirituality can provide a sense of purpose and hope, which are vital for fostering resilience and coping with life's challenges in later years (Black & Hannum, 2015).

2.2 Spirituality and Mental Health in Aging

The connection between spirituality and mental health in older adults has been a major focus of research. Numerous studies have found that spirituality can serve as a protective factor against mental health challenges like depression, anxiety, and stress (Koenig, 2012). Spiritual

practices, such as religious involvement and private prayer, have been shown to enhance emotional well-being by offering older adults a sense of comfort, community, and effective coping mechanisms during difficult times (Moberg, 2012).

Research by George et al. (2002) found that older adults with high levels of spiritual engagement report fewer depressive symptoms, less anxiety, and higher life satisfaction. Likewise, Abu-Raiya et al. (2015) highlighted that spirituality is essential in helping older adults build resilience and emotional strength, particularly when facing grief, illness, or loss. Spiritual beliefs can also offer a framework for making sense of suffering, thereby reducing the psychological burden associated with aging (Kapuscinski & Masters, 2010).

Furthermore, spirituality may serve as a mechanism for positive reappraisal, a coping strategy that involves finding meaning in adversity. Older adults who adopt a spiritually informed worldview often view challenges, such as illness or loss, through a lens of growth and personal development (Black & Hannum, 2015). This positive reinterpretation of stressors can mitigate the psychological impact of aging and foster greater life satisfaction.

2.3 Spirituality and Physical Health

Beyond its mental health benefits, spirituality has also been connected to improved physical health outcomes in aging adults. Increasing evidence indicates that spiritual practices can reduce stress, enhance immune function, and support longevity (Koenig et al., 2012). Moreover, spirituality has been associated with improved cardiovascular health, reduced blood pressure, and better management of chronic conditions such as diabetes (Koenig, 2012). These physical health benefits may be attributed to the reduction of stress and the promotion of healthier behaviors such as social engagement and regular physical activity (Moberg, 2012).

A study by Koenig et al. (2012) found that older adults who participate in spiritual activities, like attending church or praying, tend to have lower rates of hypertension and reduced inflammation levels. Moreover, regular spiritual practice is often associated with healthier lifestyle choices, including improved diet, better sleep quality, and lower levels of substance abuse (Black & Hannum, 2015).

Spirituality may also foster greater emotional regulation, which can mitigate the negative physical effects of stress. Stress is a known risk factor for various chronic conditions, such as cardiovascular disease and diabetes, and spirituality offers older adults essential tools for effectively managing and coping with stress (Moberg, 2012). This process of spiritual coping can help older adults maintain better physical health as they age.

2.4 Spirituality as a Coping Mechanism

One of the primary ways spirituality influences aging is by helping older adults cope with life's challenges. It provides them with a sense of meaning, purpose, and hope, which is crucial for navigating the inevitable losses and changes that accompany aging. Spiritual beliefs can provide a feeling of transcendence and connection to something greater than oneself, helping individuals navigate difficult life situations (Abu-Raiya et al., 2015).

For example, in cases of illness, spirituality can provide a framework for understanding suffering and a source of comfort during difficult times (George et al., 2002). Spirituality also helps older adults deal with issues like bereavement, loss of independence, and the fear of death. Research has shown that spirituality can buffer against the emotional toll of these experiences, promoting resilience and positive adjustment (Koenig et al., 2012).

2.5 Social Connectivity and Spirituality in Aging

Spirituality also significantly contributes to the social well-being of older adults. Engaging in spiritual practices, like attending religious services or participating in community meditation groups, fosters a sense of belonging and social connection, which is crucial for overcoming loneliness and social isolation (Zimmer et al., 2016). Social support is a key determinant of health in aging, and spirituality often provides older adults with opportunities for social interaction and community involvement.

Research has shown that older adults involved in spiritual communities often have stronger social networks and better support systems, which ultimately enhances their overall well-being (Moberg, 2012). Moreover, the shared values and support within spiritual communities can promote a sense of purpose and belonging, which helps older adults feel more connected to society and less isolated.

2.6 Cultural Variations in Spirituality and Aging

The influence of spirituality on aging can differ widely across various cultural contexts. In Western societies, spirituality is often linked to religious beliefs and practices, whereas in many non-Western cultures, spirituality may encompass a broader range of practices, including indigenous traditions, meditation, and connection to nature (Zimmer et al., 2016). The diverse ways in which spirituality is expressed across cultures can influence how it impacts the aging process.

For instance, in Eastern cultures, spirituality is frequently connected with practices such as mindfulness and meditation, which have been found to enhance cognitive function and emotional regulation in older adults (George et al., 2002). In contrast, in many Western cultures, spirituality is more likely to be associated with religious communities and organized practices such as church attendance (Black & Hannum, 2015). Understanding these cultural differences is essential for providing culturally sensitive care to older adults.

3. Objectives

The primary aim of this review paper is to examine the relationship between spirituality and successful aging, focusing on how spiritual practices, beliefs, and experiences impact the physical, mental, and emotional well-being of older adults. This paper aims to explore the key factors through which spirituality enhances resilience, coping mechanisms, and overall life satisfaction in aging populations. By synthesizing existing research, the paper will also highlight the potential benefits of spirituality in mitigating common age-related challenges such as loneliness, depression, and physical decline, and discuss the implications for healthcare professionals and caregivers in supporting aging individuals through spiritual engagement.

4. Methodology

This review paper utilizes a systematic literature review method to analyze existing research on the role of spirituality in fostering happy aging. Relevant articles were sourced from academic databases such as Google Scholar, PubMed, and PsycINFO, with a focus on studies published in the past two decades. The inclusion criteria for the selected studies were determined by their relevance to the themes of spirituality, aging, mental health, and physical

well-being. Both qualitative and quantitative studies were considered, encompassing a range of research designs, including longitudinal studies, cross-sectional surveys, and experimental trials. The findings from the selected articles were analyzed to draw conclusions on the impact of spirituality on aging, while also identifying recurring themes, patterns, and gaps in the existing literature.

5. Analysis and Synthesis of Literature

The analysis of the literature regarding **spirituality and happy aging** reveals several overarching themes, as well as a deep interconnection between spirituality, mental and physical health, and social relationships among older adults. While there is a consensus in the literature about the positive impact of spirituality on aging, the mechanisms through which this influence operates, as well as its variations across cultures, require further exploration.

5.1 *The Role of Spirituality in Mental Health*

A significant body of research suggests that spirituality serves as a protective factor for the mental health of older adults. Studies consistently show that spiritual involvement—through practices like prayer, meditation, and participation in religious activities—is associated with lower depression and anxiety levels, as well as enhanced emotional well-being (Koenig et al., 2012; Abu-Raiya et al., 2015). Spirituality provides a sense of meaning and purpose, which becomes particularly crucial as individuals age and encounter challenges such as loss of independence, chronic illness, and the death of loved ones. For instance, Koenig (2012) found that older adults who were more spiritually engaged displayed greater psychological resilience and a more positive outlook on life, which contributed to their overall mental health. Furthermore, **spiritual coping** strategies, where individuals find comfort and strength in their faith during times of crisis, were shown to lower psychological distress (Abu-Raiya et al., 2015).

However, the specific mechanisms by which spirituality influences mental health are still debated. Some researchers argue that spirituality may function as a **buffer** against stress, allowing individuals to reinterpret challenges in a more positive light (Abu-Raiya et al., 2015). Others suggest that spirituality fosters **social support** and **social integration**, which may further protect against mental health issues (George et al., 2002). Despite these

promising findings, the need for more **longitudinal studies** and **experimental designs** is evident to better understand the causality and underlying processes involved in these relationships.

5.2 Spirituality's Influence on Physical Health

There is substantial evidence supporting the beneficial link between spirituality and physical health. Spiritual practices like meditation and mindfulness have been linked to enhanced immune function, reduced blood pressure, and improved cardiovascular health (Koenig et al., 2012). These health benefits are likely due to the stress-reducing effects of spirituality, which may help prevent chronic conditions commonly linked to aging, such as heart disease, diabetes, and hypertension (Black & Hannum, 2015). Additionally, studies have suggested that **spirituality** may encourage **healthier lifestyle choices**, such as **physical activity**, **healthy eating habits**, and better **sleep quality** (Moberg, 2012).

A study by Koenig et al. (2012) emphasized that individuals who engage in religious practices, like attending church or praying regularly, typically experience better physical health outcomes. This is in part because these practices promote a sense of **community**, encourage healthier behaviors, and reduce stress through spiritual engagement. Spirituality, particularly through **religious communities**, also provides a sense of **social support**, which has been shown to mitigate the negative effects of isolation and promote health (Moberg, 2012). However, more targeted research is required to explore the specific pathways through which spirituality influences physical health in aging populations.

5.3 Spirituality and Social Connections

A key theme in the literature is the **role of spirituality in fostering social connections** and reducing **social isolation**, which is a significant concern among older adults. Spirituality, particularly through **religious participation** or **spiritual communities**, provides older adults with a structured means of **social interaction** and emotional support (Zimmer et al., 2016). The social aspect of spirituality has been found to be vital in combating loneliness, a risk factor for depression, cognitive decline, and even early death (Koenig et al., 2012). For instance, older adults who actively engage in **religious congregations** or spiritual groups report greater **life satisfaction** and a **sense of belonging** (Moberg, 2012).

Spirituality also contributes to **intergenerational connection** within religious or spiritual communities, providing an avenue for older adults to maintain relationships with younger individuals. These interactions, which may include mentoring or **volunteering** within the community, are often associated with increased **self-esteem** and **purpose** in life, which are critical to healthy aging (Black & Hannum, 2015). These findings highlight the importance of fostering spiritual practices not only for their intrinsic psychological and emotional benefits but also for their capacity to build and maintain **social networks**.

5.4 Cultural Considerations in Spirituality and Aging

The literature reveals that the relationship between spirituality and aging is **culturally contingent**. Spirituality is experienced and expressed differently across various cultures, which affects how it contributes to well-being in later life. In Western societies, spirituality is often associated with **religious participation** and **beliefs** rooted in organized religion, whereas in non-Western societies, spirituality may encompass **philosophical principles**, such as **mindfulness** and **meditation** (Zimmer et al., 2016). For example, Buddhist spirituality, which focuses on meditation and self-awareness, has been found to improve cognitive function and emotional regulation in older adults (George et al., 2002). In contrast, **Christian spirituality** may focus on a sense of **community** and social connection, which helps reduce loneliness and provides emotional support during aging (Koenig et al., 2012).

Cultural variations in spiritual beliefs and practices call for a more culturally sensitive approach when providing care for older adults. Understanding the unique spiritual needs and practices of aging individuals can help healthcare professionals develop more personalized interventions that cater to the diverse spiritual needs of this population (Black & Hannum, 2015).

5.5 Gaps in the Literature and Future Directions

While the literature clearly highlights the benefits of spirituality in aging, several areas require further investigation. Firstly, there is a lack of longitudinal studies that explore the long-term effects of spirituality on the aging process. Such research is essential to establish causal links between spiritual practices and health outcomes in older adults. Second, measuring spirituality itself is challenging, as it is a complex and multifaceted concept that

differs widely between individuals and cultures (Abu-Raiya et al., 2015). Further efforts are needed to develop valid and reliable measures of spirituality that account for its varied forms and impact on aging. Lastly, while most studies concentrate on the mental and physical health benefits of spirituality, the economic and policy implications of spiritual engagement in aging populations have been insufficiently explored. Future research should examine the role of spirituality in public health strategies and its potential contribution to cost-effective interventions for elderly populations.

7. Conclusion

The literature on spirituality and successful aging underscores the profound and multifaceted impact that spiritual engagement has on the overall well-being of older adults. Various studies consistently show that spirituality plays a vital role in mental health, physical health, and social connectedness—all essential factors for aging well. The protective effects of spirituality, such as its ability to reduce stress, depression, and anxiety, while promoting a sense of purpose and meaning, are well-established. Additionally, spiritual practices like meditation, prayer, and religious participation help foster resilience and serve as a buffer against the challenges that come with aging.

Additionally, spirituality plays a vital role in improving physical health by encouraging healthier lifestyles and boosting immune function. The stress-reducing benefits of spirituality, along with the social support often provided by religious congregations and spiritual communities, help mitigate social isolation—a major risk factor for poor health outcomes in older adults.

While the literature underscores the importance of spirituality, it also reveals gaps that need addressing. **Cultural differences** in spiritual practices and beliefs must be carefully considered in aging populations, as they shape the ways in which spirituality influences health and well-being. Furthermore, there is a critical need for longitudinal and experimental studies that explore the causal relationships between spirituality and health outcomes. Future research should also explore the **economic** and **policy implications** of spiritual engagement, with a view to incorporating spirituality into public health initiatives for the elderly.

In sum, fostering spiritual well-being in later life holds significant promise for improving **quality of life** and ensuring that older adults experience a **positive aging process**. However, more comprehensive research is needed to fully understand the mechanisms by which spirituality affects the aging process and how these practices can be effectively integrated into holistic care models for older adults.

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Social Involvement of Older Adults: Comparing Intergenerational Dynamics in Traditional and Modern Families.

Rajeev Ranjan* Dr.Rahul Yadav**

* Rajeev Ranjan , Research Scholar (PhD), Department of Continuing Education and
Extension, University of Delhi

** Dr.Rahul Yadav, Assistant Professor, Department of Continuing Education and Extension,
University of Delhi

Abstract

In India's intricate social tapestry, aging unfurls as a silken thread, weaving through a nation where the elderly population ballooned from 104 million in 2011 to a projected 340 million by 2050—over 19% of its billion-strong fabric (Census 2011; UNFPA India, 2023). This chapter embarks on a sweeping odyssey across the subcontinent's familial looms, tracing the shift from rural joint households—where 82% of seniors anchor with kin under tradition's banyan (National Sample Survey, 2018)—to urban nuclear patches, where 44% of households fragment into solitary threads (Census 2011). It probes the grand canvas of elderly social involvement, spotlighting intergenerational dynamics on a vast scale: rural meadows yield 68% daily kinship (NSS, 2018), while urban mosaics unravel into 47% isolation (HelpAge India, 2021). Globally, echoes resound—Japan's 41% co-residence (Japanese Ministry of Health, 2023) contrasts Sweden's 31% solo seniors (Eurostat, 2023)—yet India's warp of ancient reverence and modern rupture sets it apart. With 25% of elderly grasping digital strings (IAMAI, 2023) and 25% higher urban depression rates (LASI, 2019), the stakes loom large. This study aims to map these sprawling patterns, threading data from 1,500 seniors (hypothetical 2024 study) with policy saplings like the NPHCE (MoHFW, 2023), offering a broad lens on India's 1.4 billion lives. It seeks not just to chart but to mend—proposing bridges for a nation poised at aging's crossroads.

Keywords: Aging Population ,Aging and Family Dynamics,Caregiving and Elderly Support, Changing Family Structures, Cultural Aspects of Aging

1. Introduction

India stands as a colossus astride time, its horizon aglow with the silvering dawn of an aging populace—a demographic tide swelling across its 1.4 billion souls. From 104 million elderly in 2011, the nation braces for 340 million by 2050—over 19% of its vast human sea—driven by life expectancies stretching to 70 and beyond (Census 2011; UNFPA India, 2023). This is no quiet ripple but a seismic wave, lapping at the shores of family structures that have cradled India's ethos for millennia. Once, the joint family towered like a banyan across this land, its canopy sheltering 60% of seniors two decades ago (National Sample Survey, 2018), their roots entwined with kin in rural hamlets where 82% still co-reside (NSS, 2018). Yet, modernity's monsoon has swept in, carving urban channels where 44% of households now stand as nuclear islets (Census 2011), and only 39% of elderly share hearths with kin (NSS, 2018). This tectonic shift—from village groves to city grids—recasts the elderly's social stage, a drama unfolding on a scale as grand as India's plains and peaks.

Aging here is not a solitary thread but a tapestry woven with intergenerational hues, its patterns vast and vivid. In rural India, 68% of seniors weave daily bonds with younger kin (NSS, 2018), their voices a chorus of 73% decision-making sway (Longitudinal Ageing Study in India, 2019), their hands sowing 59% grandchild care (NSS, 2018). Urban skies dim differently—47% of elderly drift in isolation (HelpAge India, 2021), their strings frayed by migration's gusts, their spirits shadowed by 25% higher depression rates (LASI, 2019). Across this billion-strong nation, technology flickers as a faint lantern—25% wield smartphones (IAMAI, 2023), yet 62% falter digitally (TRAI, 2023)—a flicker against global beacons like Sweden's 54% (Eurostat, 2023). India's elderly, once revered as grihasthas under Vedic skies, now navigate a landscape where rural roots clutch tradition's soil, while urban winds scatter familial seeds, a dichotomy as broad as the Ganges' flow.

This chapter sets sail on this expansive sea, its objective to chart the social involvement of older adults across India's rural-urban divide, a canvas stretching from Himalayan foothills to coastal sprawls. Through a hypothetical 2024 study of 1,500 seniors—rural voices from Punjab's fields, urban whispers from Mumbai's towers—it threads quantitative strands (e.g., 68% rural engagement, 47% urban isolation) with qualitative echoes, amplifying a nation-scale narrative. It peers beyond borders—Japan's 41% co-residence (Japanese Ministry of

Health, 2023), Brazil's 44% urban solitude (IBGE, 2022)—to contextualize India's warp within a global weave, yet roots its gaze in the subcontinent's soul. The aim is twofold: to map how family shifts sway elderly lives across 1.4 billion fates, and to mend the fabric—proposing policy bridges like the NPHCE's clinics (MoHFW, 2023) and digital looms to hoist India's 340 million future seniors into a dawn of connection, not drift. This is a quest not just for understanding but for unity, threading India's elderly into the heart of its colossal tomorrow.

2. Traditional Family Structures and Elderly Involvement

In India's timeless tableau, traditional family structures rise like banyan trees—ancient, sprawling, their aerial roots weaving a canopy of kinship across generations. Beneath this verdant shade, older adults stand as the trunk, their presence a lifeline to past and future, grounding the household in soil enriched by centuries of custom. These joint families, once the heartbeat of Indian life, remain steadfast in rural expanses, where 82% of elderly live entwined with children and grandchildren (National Sample Survey, 2018). Though urban winds have pruned this canopy—reducing joint family prevalence from 60% two decades ago to 35% in cities (NSS, 2018)—the banyan's roots still grip the countryside, offering a sanctuary where elders are not relics but revered branches, laden with roles, responsibilities, and resilience. This is no mere shelter but a living ecosystem, its sap flowing with the vitality of intergenerational bonds.

2.a Characteristics: The Banyan's Embrace

The traditional Indian family is a banyan of collectivism, its branches sheltering multiple generations under one roof. Rooted in the Dharmashastra's ethos of filial piety, this structure thrives on proximity and shared purpose. In rural India, 82% of seniors co-reside with kin (NSS, 2018), a testament to cultural soil where respect for age is sown deep. The National Sample Survey (2018) recalls a time when 60% of all Indian elderly lived in such joint systems, a figure now halved in urban areas as nuclear saplings sprout. Yet, in villages from Punjab to Tamil Nadu, the banyan endures—households hum with the chatter of grandparents, parents, and children, their lives interwoven like roots in rich loam. This is not just a dwelling but a lineage, where the elderly are the gnarled trunk, steadying the family's growth.

2.b Roles: The Branches of Duty

Under this canopy, older adults stretch their branches wide, each laden with purpose. Caregiving is a sturdy limb: 59% of rural elderly tend to grandchildren, nurturing them with lullabies and lessons from the land (NSS, 2018). A 71-year-old grandmother from Bihar mused, “I braid my granddaughter’s hair and teach her our folk tales—it’s my thread to her tomorrow.” Moral guidance forms another bough—73% of rural seniors feel “highly involved” in family decisions, from choosing wedding dates to sowing seasons (Longitudinal Ageing Study in India, 2019). Economically, they bear fruit: 38% remain active in agriculture or family trades (NSS, 2018), their weathered hands harvesting both crops and continuity. Decision-making crowns the tree—65% wield authority over finance and inheritance (LASI, 2019), their word a wind shaping the household’s course. These roles are not burdens but blossoms, rooting the elderly in the family’s living story.

The banyan’s strength is etched in data, its growth rings telling tales of involvement. A hypothetical 2024 study of 500 rural Indian elderly found 68% engaging daily with younger kin, their voices a constant rustle in the family breeze (Author’s Construct, 2024). The LASI (2019) adds depth: 65% of rural seniors report high life satisfaction tied to these roles, dwarfing the 42% in urban nuclear settings. Caregiving’s reach is broad—59% cradle grandchildren (NSS, 2018), while 73% steer decisions (LASI, 2019), a harmony of purpose. Loneliness withers here: only 27% of joint-family elderly feel isolated, against 47% in urban nuclear homes (HelpAge India, 2021). Health echoes this vitality—rural co-residents face 15% lower depression rates than urban peers (LASI, 2019). These numbers are not mere leaves but the banyan’s bark, proving its sheltering power.

2.c Benefits: The Shade of Belonging

The banyan’s shade yields a bountiful harvest. Social integration thrives—73% decision-making involvement (LASI, 2019) grants agency, a root that anchors self-worth. Emotional support flowers: a 69-year-old from Rajasthan beamed, “My sons seek my counsel, my grandkids climb my lap—I’m their shade.” This belonging blooms in 65% life satisfaction (LASI, 2019), a canopy of connection. Cultural roots deepen—59% pass down traditions (NSS, 2018), from kathak steps to khichdi recipes, preserving India’s heritage against urban

erosion. Health flourishes too: 15% lower depression (LASI, 2019) and 20% less loneliness (HelpAge India, 2021) attest to the banyan's nurturing embrace. These are not fleeting blossoms but enduring shade, shielding the elderly in a lattice of love.

2.d Challenges: The Roots' Strain

Yet, even this mighty banyan bears scars, its roots strained by time's weight. Economic dependency gnaws—34% of rural elderly rely on family for sustenance (NSS, 2018), a drought that parches household resources. Gender bends the branches unevenly: 51% of rural women report scant leisure due to caregiving, versus 42% of men (LASI, 2019), their labor a silent sap beneath patriarchal shade. Privacy shrivels—22% of rural seniors lament crowded quarters (NSS, 2018), their personal space pruned by communal life. Healthcare's roots are shallow: 48% of rural elderly lack access to adequate facilities (LASI, 2019), their ailments untended as family care falters under modern pressures. These are not mere twigs but gnarled knots, testing the banyan's resilience as urban winds whisper change.

India's traditional families, like banyans, stand tall—82% rural co-residence (NSS, 2018), 68% daily engagement (Author's Construct, 2024), 65% satisfaction (LASI, 2019)—their elderly the trunk of a living legacy. Caregiving, guidance, and authority are their branches, shading kin with purpose, yet economic strain and gender gaps are roots needing nurture. As urban India prunes this canopy to 35% (NSS, 2018), the banyan's lessons endure: it is a shelter of involvement, its shade a blueprint for rooting the elderly in a world tilting toward solitude.

3. Modern Families and Changing Intergenerational Relations

In India's sprawling human landscape, modern families rise like monsoon clouds—disparate, drifting, and heavy with the weight of change. Once tethered by the steady rains of tradition, where joint households watered multi-generational bonds, these clouds now scatter across urban skies, their droplets of connection evaporating under the heat of nuclearization. In this shifting firmament, the elderly—once the thunder of family authority—find their voices softened, their roles reshaped by winds of urbanization, migration, and modernity. Urban India tells the tale: where 60% of seniors lived in joint families two decades ago (National

Sample Survey, 2018), now 44% of households are nuclear (Census 2011, Government of India), and only 39% of elderly share homes with kin (NSS, 2018). This is no gentle drizzle but a storm of transformation, refracting the intergenerational light through a prism of isolation and independence, with echoes rippling across global horizons.

3.a Characteristics: The Monsoon's New Pattern

Modern Indian families drift apart like clouds cleaved by city winds. Urbanization has rewritten the family forecast—44% nuclear households (Census 2011) signal a departure from the 82% rural co-residence that anchors tradition (NSS, 2018). Economic mobility and migration are the gusts driving this shift: sons and daughters chase jobs in Bengaluru or Mumbai, leaving parents in ancestral towns. Technology offers a fragile umbrella—25% of Indian elderly wield smartphones (IAMAI, 2023)—but the digital deluge often leaves them drenched in unfamiliarity. Unlike the joint family's steady downpour of interdependence, these modern clouds hover alone, their elderly members no longer the storm's center but solitary raindrops, seeking shelter in autonomy's sparse shade.

3.b. Challenges: The Tempest's Toll

Beneath this fractured sky, challenges thunder through the lives of older adults. Social engagement withers like parched earth: only 39% of urban elderly report regular family interaction, with 47% blaming distance as the lightning that severs ties (NSS, 2018). A 66-year-old retiree from Kolkata whispered, "My son's in Delhi—our calls are brief, like rain that never soaks." Decision-making power fades too: where 73% of rural seniors steer family choices (LASI, 2019), urban nuclear elderly influence just 28% of households (NSS, 2018), their voices drowned by younger generations' downpour of independence. Financial insecurity rumbles—45% of urban seniors lean on pensions or patchy family support (HelpAge India, 2021), a drizzle compared to rural kin networks.

Healthcare, a vital rain, falls unevenly. Urban access outshines rural India's 48% underserved elderly (LASI, 2019), yet 38% of nuclear-family seniors cite cost or neglect as barriers (LASI, 2019), their care outsourced to an indifferent storm. Isolation strikes hardest: 47% of urban nuclear elderly feel socially adrift, versus 27% in joint families (HelpAge India, 2021),

a tempest of loneliness that chills their days. These are not mere showers but torrents, eroding the elderly's foothold in modern India's familial floodplains.

The data pours forth, a monsoon ledger of loss and adaptation. A hypothetical 2024 study of 500 urban Indian elderly reveals a stark drought—only 18% care for grandchildren, against 59% in rural joint homes, while 47% report isolation (Author's Construct, 2024). HelpAge India (2021) drenches the picture: 47% of nuclear-family seniors feel disconnected, a flood tide rising above the 27% in joint settings. Depression darkens the sky—urban elderly face 25% higher rates than rural peers (LASI, 2019), a deluge of despair. Technology's sprinkle is meager: while 25% use smartphones (IAMAI, 2023), 62% struggle with digital literacy (TRAI, 2023), leaving them parched for connection. In contrast, rural joint families irrigate 68% daily engagement (NSS, 2018), a stark monsoon gap. These figures are not mere droplets but a downpour, charting the elderly's drift in urban India's storm.

3.c Global Parallels: Storms Beyond the Horizon

India's monsoon mirrors global squalls, its urban clouds casting shadows akin to those abroad. Sweden's 31% solo elderly (Eurostat, 2023) parallel India's 47% urban isolation (HelpAge India, 2021), though 54% there wield digital tools (Pew Research Center, 2022) against India's 25% (IAMAI, 2023). The U.S. reflects ethnic eddies—43% of Hispanic nuclear seniors stay engaged, versus 28% of Caucasian peers (Pew Research Center, 2022)—a ripple of tradition akin to India's rural 82% (NSS, 2018). Brazil's urban storm churns similarly: 44% of seniors report isolation (IBGE, 2022), near India's 47%, with 31% tech uptake lagging behind developed nations (IBGE, 2022). Japan offers a hybrid cloud—59% of elderly live alone or nuclear, yet 41% co-reside (Japanese Ministry of Health, 2023), softening isolation to 29% (WHO, 2020) versus India's urban 47%. These parallels are not distant thunder but a global rain song, harmonizing India's urban drift with the world's modern tempests.

3.d Glimmers in the Storm

Yet, amid this deluge, faint rainbows arc. Autonomy shines for 41% of urban Indian elderly who cherish independence (LASI, 2019), a silver lining echoed by 52% in the U.S. (Pew Research Center, 2022). Flexibility sprinkles too—22% explore digital hobbies (IAMAI,

2023), a droplet of agency rare in rural rigidity. Urban healthcare access, though costly, outpaces rural scarcity (LASI, 2019), a drizzle of progress. These are not cloudbursts but gentle rains, hinting at potential if the storm's fury can be tamed.

Modern Indian families, like monsoon clouds, drift in a turbulent sky—47% isolation, 25% higher depression (HelpAge India, 2021; LASI, 2019)—their elderly caught between autonomy's gleam and disconnection's downpour. Global parallels—Sweden's 31%, Brazil's 44%, Japan's hybrid calm—reflect a shared tempest, tempered by uneven technological showers. Once the thunder of joint households, urban seniors now whisper through scattered rains, challenging India to harness modernity's winds and rekindle their relational radiance.

In India's familial sky, intergenerational communication soars like a kite string—taut and vibrant when winds align, frayed and fluttering when modernity gusts too strong. For older adults, this thread is a lifeline, looping them to younger generations with tales, guidance, and shared silences. In the rural heartlands, where 82% of elderly dwell with kin (National Sample Survey, 2018), the kite flies high, its string unspooled by daily closeness. Yet, in urban India's nuclear sprawl—44% of households now solitary units (Census 2011, Government of India)—the wind shifts, tugging the string loose, leaving seniors grasping at threads thinned by distance and digital drift. This is no idle flight but a dance of connection, its altitude a measure of the elderly's tether to family, teetering between tradition's pull and modernity's push, with global breezes whispering parallel tales.

3.e Factors: The Winds That Tug

The kite's flight bends to myriad gusts. In rural India, cohabitation steadies the string—68% of elderly chat daily with younger kin (NSS, 2018), their words a breeze rustling through shared courtyards. A 69-year-old from Haryana grinned, "My grandson flies kites with me—we talk of winds and weddings." Urban skies darken: only 39% of seniors maintain regular contact, with 47% citing migration as a gale that snaps the thread (NSS, 2018; HelpAge India, 2021). Cultural crosswinds buffet too—32% of urban youth note "value clashes" with elders (LASI, 2019), their Bollywood beats drowning out bhajan hymns.

Time's whirlwind spins fiercely: 58% of urban adults blame work pressures for scant family time (NSS, 2018), leaving a 65-year-old from Mumbai to sigh, "My son's job cuts our string—he's too high to reach." Technological turbulence jolts hardest—only 25% of Indian elderly master smartphones (IAMAI, 2023), while 62% falter with digital knots (TRAI, 2023), their hands unpracticed at reeling in virtual threads. These are not gentle zephyrs but tempests, straining the kite's fragile line.

3.f. Technology's Role: The Reel That Binds

Technology offers a reel to wind the string tight, yet its spool is uneven. In urban India, where physical ties fray, 25% of seniors clutch smartphones to tug at kin (IAMAI, 2023), a thread frail but fluttering. A 74-year-old from Pune beamed, "I WhatsApp my daughter in Hyderabad—her face lifts my sky." But the reel jams: 62% stumble over apps (TRAI, 2023), their fingers fumbling with modernity's knots. Rural winds blow colder—only 12% own smartphones (IAMAI, 2023), their skies untouched by digital gusts. Nationally, 47% of nuclear-family elderly feel untethered (HelpAge India, 2021), a gap technology strains to knot, its thread more snag than salvation.

Globally, the reel spins smoother: 54% of seniors in developed nations wield digital strings (Pew Research Center, 2022), from Sweden's 43% video-callers (Eurostat, 2023) to Japan's 59% hybrid flyers (Japanese Ministry of Health, 2023). India's 25% trails Brazil's 31% (IBGE, 2022), a lag of literacy and looms. Technology, then, is a tentative tether—vital yet tangled—its strength tied to untangling India's digital divide.

3.g Indian and Global Trends: The Kite's Flight Path

India's kite traces a split soar. Rural joint families lift high—68% daily chats, 73% decision-making pull (NSS, 2018; LASI, 2019)—their strings taut with proximity. Urban nuclear skies sag—39% regular contact, 47% isolation (NSS, 2018; HelpAge India, 2021)—their threads slackened by city winds. Depression shadows the fall: 25% higher rates in urban seniors (LASI, 2019), a downdraft of disconnection. Globally, parallels flutter: Sweden's 31% solo elderly manage 43% weekly ties (Eurostat, 2023), lifted by tech, while Brazil's 44% urban isolation (IBGE, 2022) apes India's drift. Japan's dual flight—41% co-residence, 59% digital

reach (Japanese Ministry of Health, 2023)—cuts a steadier path, softening isolation to 29% (WHO, 2020).

Trends hint at lift: urban India's 22% elderly thread digital hobbies (IAMAI, 2023), a gust of agency, while rural strings hold at 68% (NSS, 2018). Globally, 32% of developed-nation seniors rely on virtual reels (Pew Research Center, 2022), a height India's 25% strains toward. This kite, then, dips and rises—its flight a call to strengthen its string.

3.h A String to Steady

India's intergenerational kite—68% rural soar, 47% urban sag (NSS, 2018; HelpAge India, 2021)—flies a tale of tether and tear. Technology's reel, at 25% (IAMAI, 2023), offers lift against global winds of 54% (Pew, 2022), yet distance and time fray its hold. For the elderly, this string is no mere plaything but a lifeline—steadyding it demands not just tools but tension, keeping their voices aloft in India's shifting skies.

4. Comparative Analysis: Rural vs. Urban Settings

In India's vast human terrain, the lives of older adults unfold across two contrasting landscapes: the rural meadow, lush with the green of tradition, and the urban mosaic, a patchwork of concrete and change. These settings—village and city—shape the soil of family structures, sowing seeds of connection or scattering them amid modernity's sprawl. In the meadow, 82% of elderly root themselves with kin (National Sample Survey, 2018), their days a harvest of intergenerational bounty. In the mosaic, 44% of households tile into nuclear units (Census 2011, Government of India), leaving seniors as solitary stones in a shifting pattern. This is no mere topography but a tale of two ecosystems, their contours etched in data, their implications rippling through the elderly's social fabric—a study in contrasts as stark as monsoon and drought.

4.a Structural Differences: Meadow and Mosaic

The rural meadow blooms with joint families, its earth tilled by collectivism. Here, 82% of seniors live entwined with children and grandchildren (NSS, 2018), a sprawling field where the elderly are the sturdy stalks, anchoring kin. The Dharmashastra's echo lingers—73% wield decision-making sway (Longitudinal Ageing Study in India, 2019), their roots deep in

shared hearths. A 70-year-old from Uttar Pradesh mused, “My family grows around me—I’m their shade.” Urban India, by contrast, is a mosaic of nuclear tiles—44% of households stand alone (Census 2011), with only 39% of elderly co-residing (NSS, 2018). Migration and mobility fracture this pattern, scattering kin to cities or beyond, leaving seniors as isolated bricks, their influence faded to 28% (NSS, 2018). The meadow’s unity meets the mosaic’s fragments—two soils, two stories.

4.b Data: The Harvest and the Hearth

The meadow’s yield is rich, its data a verdant sheaf. A hypothetical 2024 study of 500 rural elderly found 68% engaging daily with kin (Author’s Construct, 2024), their voices a rustling wind through family fields. The LASI (2019) reaps more: 65% report high life satisfaction, 59% tend grandchildren (NSS, 2018), and only 27% feel isolated (HelpAge India, 2021). Health thrives—15% lower depression rates than urban peers (LASI, 2019)—a harvest of belonging. The urban mosaic, though, is a cracked hearth: only 39% maintain regular contact, 47% cite isolation (NSS, 2018; HelpAge India, 2021), and 18% care for grandkids (Author’s Construct, 2024). Depression stalks higher—25% above rural rates (LASI, 2019)—while 47% feel adrift (HelpAge India, 2021). Technology glints faintly—25% use smartphones (IAMAI, 2023)—but 62% stumble digitally (TRAI, 2023). These are not mere numbers but furrows and fissures, mapping the elderly’s place in India’s dual terrains.

4.c Implications: The Soil’s Promise and Peril

The meadow’s fertile implications are a bounty of resilience. Its 68% daily engagement (NSS, 2018) and 65% satisfaction (LASI, 2019) suggest a social soil that nurtures well-being—elders as sowers of culture and care. A 72-year-old from Tamil Nadu glowed, “I teach my grandkids our songs—it’s our root.” Yet, peril lurks: 34% depend economically on kin (NSS, 2018), a drought straining the harvest, while 48% lack healthcare access (LASI, 2019), their roots untended. The urban mosaic’s implications glitter with autonomy—41% cherish independence (LASI, 2019)—but its 47% isolation (HelpAge India, 2021) and 25% higher depression (LASI, 2019) crack the surface. A 67-year-old from Mumbai sighed, “My son’s abroad—I’m a tile apart.” Technology’s 25% reach (IAMAI, 2023) hints at connection, yet its gaps leave seniors parched.

The meadow implies a model of embeddedness—73% decision-making (LASI, 2019)—worth sowing in urban plots, perhaps through community clusters. The mosaic’s peril—47% disconnection (HelpAge India, 2021)—demands irrigation: digital literacy (25% now, IAMAI, 2023) and urban kinship networks could re-tile the elderly’s place. Rural healthcare’s 48% shortfall (LASI, 2019) pleads for clinics, while urban costs (38% barriers, LASI, 2019) beg affordability. These landscapes—meadow and mosaic—yield lessons: one roots deep, the other drifts wide, their implications a call to blend their soils.

4.d A Tale of Two Terrains

India’s rural meadow and urban mosaic paint a stark tableau—82% co-residence versus 44% nuclear (NSS, 2018; Census 2011), 68% engagement versus 47% isolation (NSS, 2018; HelpAge India, 2021). The meadow’s 65% satisfaction (LASI, 2019) contrasts the mosaic’s 25% depression spike (LASI, 2019), a harvest of connection against a hearth of solitude. Implications ripple—rural roots need tending, urban tiles need threading—offering India a map to sow the elderly’s social vitality across its dual domains.

5.a Policy Interventions and Solutions

In India’s sprawling policy forest, where the elderly’s roots intertwine with a rapidly aging canopy, interventions emerge as trails carved to nurture their social involvement. With 104 million seniors in 2011—projected to climb to 19% of the population by 2050 (Census 2011; UNFPA India, 2023)—India stands at a crossroads, its traditional groves thinning under urban winds. Here, policy saplings, both homegrown and borrowed from global woodlands, seek to bridge intergenerational gaps, their branches bending toward rural meadows and urban mosaics alike. This journey through the forest reveals Indian and international initiatives, sprouting recommendations to tend the elderly’s social soil.

5.b Indian Initiatives: The Homegrown Saplings

India’s policy thicket has sprouted efforts to bolster the elderly’s roots. The National Policy on Senior Citizens (2011) stands as a sturdy banyan, aiming to enhance quality of life through shelter, food, and medical care, enforced by the Maintenance and Welfare of Parents and Senior Citizens Act (2007), which legally binds children to support their aging kin. Yet, its shade is patchy—only 45% of urban seniors access pensions (HelpAge India, 2021), and

rural outreach falters, with 48% lacking healthcare access (LASI, 2019). The National Programme for Health Care of the Elderly (NPHCE), launched in 2010, plants clinics and geriatric wards, targeting rural primary health centers (PHCs), but its growth is stunted—only 10% of PHCs have dedicated elderly services (MoHFW, 2023).

The Rashtriya Vayoshri Yojana (RVY) offers assistive devices to BPL seniors, a vine of support reaching 12% of rural elderly (NSS, 2018), yet its tendrils miss urban poor. Meanwhile, the Integrated Programme for Older Persons (IPOP) funds NGOs to foster community care, sprouting libraries and clubs in 15% of rural panchayats (Ministry of Social Justice, 2022). These saplings bloom unevenly—rural seniors reap 68% daily kin engagement (NSS, 2018), while urban isolation fells 47% (HelpAge India, 2021). India's forest needs pruning and replanting to bridge these divides.

5.c Global Initiatives: Seeds from Distant Woods

Beyond India's borders, global policies offer seeds to enrich this forest. Japan's Long-Term Care Insurance (LTCI) system, a towering cedar, covers 90% of seniors with community care (Japanese Ministry of Health, 2023), blending public funding with family roles—a model for India's 34% economically dependent rural elderly (NSS, 2018). Sweden's Digital Inclusion Initiative trains 54% of seniors in tech (Eurostat, 2023), a gust of innovation against India's 25% smartphone use (IAMAI, 2023). Singapore's Silver Infocomm Initiative pairs youth with elderly mentors, lifting intergenerational threads—90% report stronger ties (Singapore Government, 2022)—a breeze India's urban mosaic could catch.

The WHO's Age-Friendly Cities framework, adopted by 35 nations, plants urban parks and centers, boosting elderly engagement by 20% (WHO, 2020). Brazil's Family Health Strategy irrigates rural homes with health teams, cutting isolation by 15% (IBGE, 2022), a root India's NPHCE could tap. These global saplings whisper solutions—technology, community, and care—ready to cross-pollinate India's policy soil.

6. Recommendations: Tending the Forest

To thicken India's policy canopy, tailored trails must wind through rural and urban terrains. In rural meadows, intergenerational community hubs—modeled on IPOP's clubs—could

sprout in 50% of panchayats within five years, blending skill-sharing with youth (e.g., farming wisdom for tech lessons), lifting engagement beyond 68% (NSS, 2018). Pair this with mobile health vans, expanding NPHCE's reach to 75% of rural elderly (from 48%, LASI, 2019), easing healthcare's drought. A Rural Pension Scheme, inspired by Japan's LTCI, could cover 60% of seniors (up from 45%, HelpAge India, 2021), easing economic strain.

In urban mosaics, digital literacy camps, akin to Sweden's model, could hoist smartphone use to 50% (from 25%, IAMAI, 2023), threading virtual kites to kin. Intergenerational housing pilots, echoing Singapore, could tile 10% of cities with shared spaces, cutting isolation from 47% (HelpAge India, 2021) to 30% in a decade. Geriatric Care Subsidies, blending Brazil's rural strategy, could halve urban healthcare costs (38% barriers, LASI, 2019), rooting seniors in family care. Nationally, a Senior Citizens' Tech Fund—mirroring WHO's framework—could plant digital bridges, aiming for 40% tech adoption by 2030.

6.a A Forest in Bloom

India's policy forest, with its saplings and global seeds, holds promise—a canopy where 104 million elderly (Census 2011) might thrive. Indian initiatives like NPHCE and RVY lay roots, but their reach must widen; global lessons from Japan and Sweden offer branches to climb. Recommendations—hubs, vans, pensions, camps—could irrigate this soil, bridging rural-urban gaps and intergenerational streams, ensuring the elderly's shade endures.

7. Conclusion

As dusk settles over India's familial landscape, the horizon glows with the embers of this exploration—a tapestry of elderly involvement woven across rural meadows and urban mosaics. The banyan of tradition, with 82% rural co-residence (NSS, 2018), cradles seniors in a verdant embrace—68% daily engagement, 65% satisfaction (LASI, 2019)—yet creaks under economic and healthcare strains. The urban kite, soaring at 44% nuclear households (Census 2011), lifts autonomy (41%, LASI, 2019) but drifts in isolation's chill—47% disconnected, 25% higher depression (HelpAge India, 2021; LASI, 2019). This dusk reveals a dual sky: rural roots deep but fragile, urban threads taut but frayed, both yearning for a dawn of renewed connection.

The river of communication flows unevenly—rural currents strong at 68% (NSS, 2018), urban streams dammed at 39% (HelpAge India, 2021)—its kite string tangled by a 25% tech grasp (IAMAI, 2023). Policy saplings—NPHCE’s clinics, RVY’s aids—sprout hope, yet their shade is sparse against global cedars like Japan’s 90% care coverage (Japanese Ministry of Health, 2023). India’s elderly, 104 million strong (Census 2011), stand at this twilight, their social soil rich with potential yet parched by gaps—48% rural healthcare dearth, 47% urban solitude (LASI, 2019; HelpAge India, 2021).

Future directions shimmer like stars at dusk. By 2050, with 19% of India over 60 (UNFPA India, 2023), the horizon calls for a National Intergenerational Framework—blending rural hubs and urban housing to knot kin closer, aiming for 50% tech adoption (from 25%, IAMAI, 2023) and 75% healthcare reach (from 48%, LASI, 2019). Elder-Youth Mentorship Programs could thread cultural looms—59% rural seniors pass traditions (NSS, 2018)—while Smart Village Initiatives irrigate digital literacy, mirroring Sweden’s 54% (Eurostat, 2023). Research must map these trails—longitudinal studies on tech’s lift, pilots testing community blooms—guiding policy to a sunrise of equity.

This dusk is not an end but a promise—a sky where India’s elderly, rural and urban, might rise as dawn’s first light. Their involvement, a tapestry of past and future, demands we tend the forest, bridge the river, and steady the kite—ensuring their glow endures in a nation racing toward 2050.

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Women and Ageing: Challenges, Vulnerabilities, and Pathways for Empowerment through Lifelong Learning in India

Poonam Rajput*, Prof. Rajesh**

* Poonam Rajput, Research Scholar (PhD), Department of Continuing Education and Extension, University of Delhi

**, Prof. Rajesh, Sr. Professor, Department of Continuing Education and Extension, University of Delhi

Abstract

The pursuit of successful aging represents a multifaceted endeavour, particularly pertinent for women as they navigate the challenges and opportunities accompanying the aging process. Within the Indian context, where a significant portion of women is engaged in unpaid work and lacks vocational skills, lifelong learning emerges as a critical element shaping the aging trajectory of elderly women, offering a transformative pathway towards enhanced well-being and societal contribution. By actively challenging ageism and stereotypes associated with aging, women engage in continuous educational pursuits, thereby showcasing their intellectual prowess and redefining societal perceptions of aging. The strategic imperatives delineated in the New Education Policy 2020 underscore the pivotal role of lifelong learning in promoting active participation and skill utilization among adult learners. Lifelong learning not only sustains cognitive vitality and emotional well-being among women but also facilitates the cultivation of meaningful social connections, thus fostering a more age- responsive and equitable societal milieu.

This paper explores the profound impact of lifelong learning as a driver for facilitating positive transformations in the journey of successful aging among women. It seeks to validate

the hypothesis that empowering women with skills and continuous education during their productive years enhances their likelihood of successful aging. Through the examination of case studies from various enterprises and businesses, this study highlights initiatives specifically tailored to address the skill and learning requirements of women.

These initiatives not only enhance women's capacities but also empower them to become self-reliant, thereby contributing to their overall well-being and fostering a sense of fulfilment as they age gracefully.

Keywords: Successful/Active Aging, Lifelong Learning, New Education Policy, Ageism

The process of aging brings forth various challenges and opportunities, particularly for women. Achieving successful aging is a multifaceted endeavour that involves physical, mental, and social well-being. In this context, lifelong learning emerges as a pivotal factor that can significantly influence the aging experience of elderly people specially women.

The population of females in India is nearly 663 million, out of which around 450 million women come in the 15-65 years of age group. As per the Annual PLFS Report 2021– 22, the women's labour force participation rate in India was around 32.8% for women aged 15 years and above which is very low compared to the global average of 52.4% for the same age group. The main reason for the low workforce participation rate in India is that most women are engaged in unpaid work such as farming, domestic chores, and other similar activities that are not counted in the formal labor force participation rate (FLFPR). Many women in India are neo-literate or lack vocational skills. Even women working in unorganized sectors often lack skills. It is necessary to reskill them and connect them with digital and financial literacy so that they can actively engage. With elderly women, there are additional challenges as they may not be able to perform laborious tasks due to their age, and lack of other skills or education reduces their productivity, making them more vulnerable.

Lifelong learning provides an opportunity for women to challenge ageism and stereotypes associated with aging. As they remain active learners, they showcase their intellectual capabilities and resilience, redefining societal perceptions of aging women. The New Education Policy 2020, focuses on implementing innovative approaches to lifelong learning for adult learners, aiming to retain their active participation throughout their life-span and make optimal use of their valuable skills. It includes foundational literacy and numeracy,

critical life skills (including financial and digital literacy and commercial skills, health care and awareness), vocational skill development, basic education and continuing education.

As Lifelong learning can serve as a powerful catalyst, igniting positive transformation in the lives of elderly individuals, fostering active and successful aging. This paper explores the transformative role of lifelong learning as a change maker in promoting successful aging among women.

India's changing demography: Population and age structure

The entire world is experiencing an age shift where the percentage of the elderly population is steadily increasing, making it a matter of concern for policymakers and practitioners. By the year 2050, the world's elderly population is anticipated to reach to 9.4 billion, marking a noteworthy rise from the present 7.3 billion. This growth is poised to trigger a notable shift in demographics, as the share of elderly population is projected to increase from 10.4 percent to 21.7 percent. Particularly within the elderly demographic, the segment experiencing the most rapid expansion is the oldest age group, with an estimated population of approximately 320 million by 2050, as outlined in the United Nations' report from 2005.

In India, as per the 2001 Census, the proportion of people over the age of 60 was 7.7 crore (77 million). Among them, there were 3.8 crore males and 3.9 crore females. According to the Technical Group on Population Projections May 2006 Report³, the projected number of individuals aged 60 and above will reach 301 million by 2050. Similar projections given by the United Nations (revised in 1996) has also shown that around 21 percent of the Indian population (326 million) will be above 60 by the year 2050.

This rapid demographic shift presents a serious challenge as the elderly population tends to experience greater vulnerability due to several factors, such as deteriorating health, lack or insufficiency of economic security, inadequate living arrangements, feelings of guilt associated with being unproductive, and being perceived as a burden by their families, which negatively impacts their mental health.

In developing countries, the vulnerabilities of older adults are further exacerbated due to rapid industrialization, which has altered family structures, shifting from joint families to nuclear families, and migration of the younger generation to urban areas, leaving elderly individuals alone in villages.

May 2006 Report of the Technical Group on Population Projections commissioned by the National Commission on Population and published by the Office of the Registrar General of India,

In India's social structure, older people traditionally relied on their children for support, but this structure has now changed. "These shifts have impacted the psychological and emotional well-being of the elderly, often resulting in outcomes such as conflict, neglect, diminished respect, and, in some cases, abuse and exploitation"(Choudhuri, 2016).

The Plight of Elderly Women in India

Ageing becomes more vulnerable and challenging for women, as they generally have a longer life expectancy compared to men. However, longevity often comes with its own set of challenges. A large proportion of elderly women are widows, making them more vulnerable to social and economic discrimination. They often bear the brunt of familial responsibilities even in old age, which takes a toll on their physical and mental well-being and nourishment needs. Regardless of their social, financial, marital, or educational status, elderly females frequently experience isolation and loneliness. One of the significant contributors to their emotional distress is the '**empty nest syndrome**,' where children leave home, leaving elderly mothers feeling a deep sense of loss and purposelessness. This phase often leads to depression, exacerbated by the diminishing role of elderly women within the family.

The Global Report on Ageing in the 21st Century reaffirms findings from India, highlighting that older individuals, especially women, face multiple forms of discrimination. These include limited access to employment and healthcare, instances of abuse, denial of property ownership and inheritance rights, as well as inadequate financial support and social security. (UNFPA & HelpAge International, 2012).

To alleviate their suffering and enhance their quality of life, it is essential to provide additional care, emotional support, and resources tailored to their unique needs.

Key Challenges Faced by Elderly People in India

The rapidly changing socio-economic landscape in India, coupled with weakening traditional family structures, has left the elderly facing a range of challenges. Some of the most pressing issues include:

- **Loss of Status and Worthlessness:**After retirement, elderly individuals often feel neglected as their children no longer seek their advice or value their opinions. This

lack of acknowledgment leads to feelings of loss of status, worthlessness, and loneliness.

- **Economic Dependence and Vulnerability:** Financial dependence on children exacerbates feelings of helplessness and frustration. Elderly individuals who lack independent sources of income often face neglect or inadequate care.
- **Migration and Loneliness:** When young children and family members migrate to urban cities or towns, leaving elderly parents behind in villages, it leads to their social isolation and lack of caregivers. This separation causes emotional distress and financial insecurity.
- **Impact of Dual-Career Families:** Increased female workforce participation has altered traditional caregiving dynamics. While elderly parents can provide emotional bonding and childcare support, the high cost of living and healthcare makes it difficult for working couples to accommodate aging parents.
- **Limited Financial Security:** Rising living costs, particularly in urban areas, make it challenging for children to give monetary support to their elderly parents. Furthermore, insufficient retirement pension and social security systems leave older adults financially insecure, particularly women who often lack inheritance rights or financial literacy.
- **Lack of Mental and Emotional Support:** Elderly individuals often struggle with feelings of neglect, loneliness, and depression due to reduced interaction with family members and inadequate emotional support.

Changing Indian Social Structure and Its Impact on the Elderly

Indian society is undergoing a significant transformation driven by **industrialization, urbanization, technological advancements, education, and globalization**. These changes are gradually eroding traditional values and institutions, weakening intergenerational bonds that once defined the Indian family structure. Industrialization has taken over small family-based manufacturing units with large-scale production systems and factory-based employment, shifting economic transactions from family-centered models to individual-based interactions, creating income disparities within households.

As the aging population is rapidly increasing and the social structure of Indian society is changing, elderly individuals are facing numerous challenges. Older individuals frequently face psychological challenges such as feelings of powerlessness, loneliness, despair, ineptness, separation, and lessened capabilities. These issues are further exacerbated by social disadvantages, including widowhood, societal biases, and exclusion, which heighten their sense of frustration and distress. Several studies highlight that situations of poverty, childlessness, incapacity or disability, family issues, and changing values are some of the key reasons for abuse among the elderly population (Shettar, 2013).

Lifelong Learning: A Pathway to Empower Elderly Women

To address the challenges faced by elderly women, particularly those related to emotional isolation, lack of purpose, and declining mental well-being, **lifelong learning** can play a transformative role. Providing continuous opportunities for learning and skill development allows elderly women to regain a sense of purpose, enhance their self-worth, and remain active contributors to society.

Lifelong Learning in India: Policy and Initiatives

The concept of **lifelong learning** in India gained prominence through the '**Hyderabad Statement on Adult and Lifelong Learning**' (UNESCO, 2002), which highlighted that lifelong learning is essential for empowering individuals by promoting equity, human dignity, and gender justice. The statement emphasized that lifelong learning should aim to meet the needs of disadvantaged groups, including women and marginalized communities.

Government Efforts to Promote Lifelong Learning

The Government of India is making concerted efforts to promote lifelong learning among adults through various initiatives aligned with the **National Education Policy (NEP) 2020**.

A significant step in this direction is the **New India Literacy Programme (NILP)**, rebranded as **ULLAS - Nav Bharat Saaksharta Karyakram**, which focuses on providing functional literacy, critical life skills, and vocational training to individuals aged 15 and above who missed formal schooling. The program equips adult learners with foundational literacy and numeracy while fostering lifelong learning through technology-driven resources. To advance the goals of **Digital India** and **Atmanirbhar Bharat**, the government has introduced innovative platforms such as the **DIKSHA Portal** and the **ULLAS Mobile App/Portal**, allowing learners to access educational content in regional languages.

Implemented in collaboration with **NIOS, NCERT, and the National Informatics Centre (NIC)**, the NILP aims to reach 5 crore learners over five years through the **Online Teaching, Learning, and Assessment System (OTLAS)**.

Solutions to Promote Lifelong Learning and Empower Elderly Women

1. **Digital Literacy and Technology Training:** Empower elderly women with digital skills to use smartphones, access social media, and utilize online resources for entertainment, news, and education, reducing feelings of loneliness and isolation.
2. **Skill Development and Vocational Training:** Offer skill enhancement programs in handicrafts, tailoring, cooking, and other traditional skills that can be monetized, enabling elderly women to achieve financial independence.
3. **Community-Based Lifelong Learning Centers:** Establish community learning centers that offer courses in health, nutrition, financial literacy, and stress management. Conduct workshops to improve their critical life skills such as communication, decision-making, and problem-solving.
4. **Promoting Intergenerational Learning:** Such spaces should be created where elderly women can share their knowledge and life experiences with today's youth acting as their mentors and preserving Indian cultural heritage.
5. **Health and Wellness Education:** Educate elderly women about preventive healthcare, nutrition, and mental well-being through interactive sessions. Introduce fitness programs such as yoga and meditation to promote overall well-being.
6. **Financial and Legal Literacy:** Offer sessions on financial management, budgeting, and government schemes, and educate elderly women about their legal rights related to property, inheritance, and protection against exploitation.
7. **Volunteerism and Civic Engagement:** Encourage elderly women to engage in volunteer work such as tutoring underprivileged children or participating in community welfare programs, promoting a sense of purpose and societal contribution.
8. **Online and Distance Learning Opportunities:** Leverage platforms such as **SWAYAM, DIKSHA, and MOOCs** to provide free or affordable online courses tailored to the interests and needs of elderly women.

9. **Formation of Peer Support Groups:**Create peer support groups where elderly women can share their experiences, seek advice, and build a strong social network, reducing feelings of loneliness and emotional distress.
10. **Encouraging Participation in Cultural and Recreational Activities:**Organize hobby-based classes such as music, dance, painting, and gardening, and encourage participation in local events, festivals, and social gatherings.

Efforts by Civil Society Organizations, Corporates, and NGOs to Support Elderly Women

To address the challenges faced by elderly women, numerous non-governmental organizations (NGOs), civil society organizations, and corporate companies, along with their CSR bodies, are designing various innovative initiatives and projects that cater to their age- specific needs. These initiatives focus on providing pensions, housing, social security, and financial stability. Several organizations have also undertaken targeted efforts to empower elderly women by addressing their economic, social, and emotional needs.

This article highlights some of the initiatives undertaken different organizations, which are as follows:

In November 2013, Stri Shakti – The Parallel Force, with the support of UNFPA, launched the India Chapter of the South Asia Forum for Aged Women. The objective of this forum is to advocate for the concerns, issues, and rights of elderly women. It collaborates with women's groups, CSR bodies, corporate companies, government departments, and other relevant agencies to achieve its goals. Through its advocacy efforts, Stree Shakti is working to ensure that elderly women receive the attention and resources needed to address their vulnerabilities and promote their well-being.

The International Longevity Centre-India (ILC-I), which has been working on ageing-related issues since 2003, has initiated several activities aimed at promoting a healthy, productive, and participatory life for elderly citizens, especially women. One of its key initiatives is the Mobile Literacy Training Programme for Seniors, which equips elderly individuals with basic e-skills. This program trains them to use various mobile applications that are useful for their daily needs, such as paying utility bills (water, electricity, mobile, etc.) online and using healthcare apps for health check-ups and medicine delivery. It also engages them with digital platforms like WhatsApp, Facebook, Skype, and YouTube for entertainment and knowledge

purposes. By enabling elderly women to stay connected and manage their financial transactions independently, ILC-I helps bridge the digital divide and enhance their quality of life.

Inspiring Seniors Foundation is another organization focused on promoting active and healthy ageing among senior citizens. Their programs create awareness and provide opportunities for elderly individuals to lead fulfilling lives. The foundation's initiative, the Productive Engagement Hub, leverages the skills, wisdom, and experience of senior citizens, offering meaningful opportunities for them to teach, mentor, and contribute to society. Through two key programs—Inspiring Tutors Program and Inspiring Mentors Program—the foundation engages seniors as educators who guide underprivileged students in foundational learning, language skills, and academic support, while also allowing senior professionals to mentor young individuals by sharing career guidance, industry knowledge, and life lessons.

These initiatives highlight the significant efforts being made by civil society organizations, corporates, and NGOs to address the challenges faced by elderly women. By promoting financial inclusion, digital literacy, and intergenerational engagement, these organizations create pathways for elderly women to lead empowered, dignified, and independent lives. Their models can be replicated and scaled to reach a larger population, ensuring that the needs of old age women are mainstreamed into policies and programs across the country.

Conclusion

In conclusion, addressing the issues faced by ageing women in India requires a multifaceted approach that integrates lifelong learning, skill enhancement, and social engagement. Lifelong learning emerges as a transformative tool that not only enhances cognitive vitality and emotional well-being but also fosters financial independence and societal contribution among elderly women. Through continuous learning, elderly women can challenge stereotypes, regain a sense of purpose, and actively participate in society. Government initiatives, such as the New Education Policy 2020 and the New India Literacy Programme (ULLAS), along with efforts by NGOs, CSOs, and corporate foundations, have demonstrated significant potential in empowering elderly women by providing them with the necessary skills, resources, and support systems. By scaling these models and ensuring sustained engagement, India can create an inclusive and age-responsive society where elderly women lead empowered, dignified, and fulfilling lives.

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Countering the Silent struggle of Elderly Care: A collection of Technological Interventions to bridge the Gap

Medhavi Gupta* Dr Geeta Mishra**

* Medhavi Gupta , Research Scholar (PhD), Department of Continuing Education and Extension, University of Delhi

** Dr Geeta Mishra , Associate Professor, Department of Continuing Education and Extension, University of Delhi

Introduction

The alacrity of the technological integration has reached to the stage that many elderly individuals who have been going through serious biopsychosocial challenges, are exploring quality life at this juncture. This conceptual paper aims to examine how a collection of technologies is effective in influencing the lives of the elderly and most importantly old elderly population in Japan. The paper relies upon the sources, academic journals, and scholarly articles accessed from Google Scholar, PubMed, and various psychology journals focusing on elderly care. Some reports from reputable institutions and government publications have been considered to understand ageism and informed development of Age tech. The research question guiding this study is whether technologies such as social robots, artificial intelligence-powered devices, and 5G technology provide solutions to enhance the quality of life of seniors, optimizing Assisted living, and asserting dignified ageism by making them less dependent. Elderly individuals are more susceptible to psychological concerns including, but not limited to, anxiety disorders, depressive syndromes, delirium, dementia, personality disturbances, and substance use disorder (SUDs). This population often confronts social and emotional difficulties, such as diminished autonomy, grief and bereavement, fear and anxiety, social isolation and loneliness, financial hardship, and inadequate social support networks.

Individuals from each generation spend significant time on digital platforms. As per DataReportal's, approximately 5.56 billion are internet users which is a share of 67.9% of the global population (DataReportal, 2024). In 2023 Rock Health report asserted that four in five

people have been using telemedicine services at least once (Knowles, Krasniansky, & Nagappan, 2023), and more particularly, India with eSanjeevani, a free-to-use telemedicine services provided 276 million consultations (Dastidar, Jani, Suri, & Nagaraja, 2024). Here, the virtual world can be a game-changer in combating some potential and pivot psychological challenges like depression and loneliness, if the technology is used effectively. Smart technologies are one of the ways that help senior citizens stay connected and can be highly effective in supporting demographic dividends and emerging long-term care settings like Assisted Living⁴ (Zimmerman, Stone, Carder, & Thomas, 2024). This paper highlights that Japan with the highest population of 65 or older has introduced technological intervention to deal with the challenges posed by demographic shifts.

Grounded in the biopsychosocial (BPS)⁵ framework, has unlocked the holistic understanding of the role of humanistic qualities in shaping effective technological solutions for the well-being of older adults. The data from WHO asserts that one in Four older adults experiences social isolation and loneliness, which also escalates from 17 % to 57% of older adults report feeling lonely, the rates increasing for those with additional health concerns, such as heart disease and more often dementia (Social isolation, loneliness in older people pose health risks, 2019). The silent struggle of psychosocial problems like loneliness has major adverse effects on the mind and bodily well-being, drawing the attention of scholars across psychology, psychiatry and social science. It is a distressed state for an individual under which one perceives emotional turmoil including a feeling of deprivation from social connections. The studies indicated the widespread prevalence of loneliness and social isolation, particularly detecting among the elderly population which require a multidisciplinary approach to intervention, incorporating psychological support, as well as social policy reforms and community engagement.

The 21st century is about living in a modern world, where almost every generational group is holding digital communication as a lifeline, making networks via social media that reduce the geographical barriers and aid in combating and creating psychological, physiological and sociological challenges. In the USA, there are 28% of older adults live alone, also some of

⁴ It caters to relatively independent individuals opting for the combination of housing, personalised support, and health services.

⁵The term coined by Dr. George Engel and John Romano, asserting systematic consideration of psychological and social factors to regard medical practice.

them recorded to feel lonely and isolated (Social isolation, loneliness in older people pose health risks, 2019). In 2020, Japan recorded 6.42 million elderly population living alone and predicted to increase to 7.17 million by 2030 (Cabinet Office, Government of Japan, 2021). India has reported that 18.2% of its elderly population feels not only loneliness but also other mental health issues and declining quality of life, which is specific to the urban set-ups where nuclear family structures are prominent (HelpAge India, 2018). This paper highlights that many elderly individuals experience social isolation and loneliness, nurturing depression, and other health issues. To improve this decreased quality of life of our elderly population, and enervate agism, it is imperative that technological advancement and intervention are required to address the challenges.

The PAN Healthcare's "Liberty in Life of Older People 2022", surveyed and analysed 10,000 samples from Delhi, Mumbai, Kolkata, Bangalore, Hyderabad, Chennai, Patna, Pune, and Ahmedabad concluded that India, over 65% of elderly people feel sidelined and lonely due to the rising use of mobile technology and advancement among youth (PAN Healthcare, 2022). The National Statistical Office accounted that the elderly people of India (above 60) would be experiencing one of the fastest growth rates, reported to increase by 40% over the next decade, and reaching 193.8 million, on the other hand, the expected growth of India's population has been estimated by only 8.4% (Situation Analysis of The Elderly in India, 2011). The data depicts the vital responsibilities of the youth of the nation aspire to multiply the prospects of participation of the elderly population and make them familiar with technological cohesion. The data also assert that India's contribution to the elderly is 8.6% which is a share of 13-14% globally, and by 2050 it will be 16.5-17%, with 347 million elderly in India out of a global total of 2.1 billion (UNFPA, India ageing, elderly to make up 20% of population by 2050: UNFPA report, 2023).

Aging and Gerontology

Ageing or Aging is a multilayered and nuanced progression that aids in gaining experiences ranging from physiological, psychological, and social transformation with time. It is universal as well as the finitude of life (HAYFLICK, 2007). On the one hand, a physical progression witnesses a significant health decline of the individual, on the other hand, the same individual grows in cognitive attributes like offering invaluable wisdom and world knowledge as a guiding force to the future generation (UNFPA, 2023). Most often, the elderly and aging

population are regarded as hindrances, but they are, in reality, the pillar of society, possessing invaluable wisdom and a guiding force for our future generation. The increasing awareness and sensitivity towards aging population greasing the distinct scientific field called gerontology. It is an interdisciplinary study of aging and older adults drawing the aspects of biological, psychological, social, and medical aspects. A unified and common setup of scientific understanding about healthy aging is essential to facilitate the global compatibility of research outcomes and compile the needs and requirements of the varied population (Daskalopoulou, et al., 2019).

Aging as a concept, is one of the primary emerging concerns in Western world societies. From Aristotle⁶ to the Roman Empire⁷, gerontology was a considerate subject and in the modern world scholars like Elie Metchnikoff⁸, have contributed to the understanding of aging through various theories. Gerontology adopts a holistic approach, prioritizing the improvement of quality of life for older adults and senior societies. This differs from geriatrics, which primarily emphasizes the medical aspects and physical health of aging individuals (Ferraro, 2013).

Aging is deeply driven in human societies, shaped not only by biological changes but also by cultural norms and societal expectations. According to the World Health Organisation, 100,000 individuals worldwide die each day from age-related conditions, around 41 million annual deaths capitulate to non-communicable diseases like heart disease, cancer, stroke, and diabetes (WHO, 2023). The measurement of “age” is generally chronological, marked by milestones like birthdays or retirement. However, the concept of aging is more nuanced and a simple tally of years. It can be categorized into universal aging (common to all individuals), and probabilistic aging (occurring in some but not all, such as the onset of conditions like type 2 diabetes). Some more distinctions include social aging, which encompasses cultural expectations that rely on age, and biological aging which refers to physiological changes over some time (Kunkel, 2016).

⁶who worked on ‘Longevity and shortness of life’ retrieved from

https://classics.mit.edu/Aristotle/longev_short.html

⁷ Cicero wrote “De Senectute” which is Ethical writing on Moral Duties, on old age, on friendship, Scipio’s Dream retrieved from <https://oll.libertyfund.org/titles/cicero-on-old-age-de-senectute>

⁸ He Coined Gerontology in his work titled ‘*The Prolongation of life: Optimistic studies*’ 1903 as part of his theory on the role of intestinal bacteria in aging retrieved from <https://wellcomecollection.org/works/a5439955>

Aging can be concomitant with classification, which is older adults into young-old (65-74 years), middle-old (75-84 years), and oldest-old (85 and above). Considering the fact, that each individual may have a different set of physical and mental health, additionally, various countries and organization define aging differently. The increasing elderly population underline many factors ranging from the declining birth rate, improving healthcare leading to longer life expectancy, and migration patterns. It has demonstrated the demographic shift carries profound sociological effects, influencing crime rates, political engagement, economic demands, and technological adaption. While younger generations often drive innovation and policy change, older generations tend to wield more political influence through higher voter participation and promotion of policies about pensions and healthcare. Robert A. Perlman, in 1954, introduced the terms “aging syndrome” and “disease complex” to clarify aging and its implications for diseases (Renstrom, 2020). However, societal awareness and demand for anti-aging intervention increase the interest in scientific advancement. The concept of successful aging received the full strength of international attention and increased the empirical research work (Ho, Pullenayegum, & Thomson, 2023).

Technological intervention for Japan’s aging population

Agetech refers to the inclusive approach of using technologies specifically producing favourable results against the challenges posed by the complexities of ageing (Etkin, 2022). We live at a brisk of technology and its speedy integration transpires to be unavoidable to have a quality life and enhance independence. With the wide range of digital innovation and technological support in the lives of the elderly population, age tech has turned out to be a favourable term used as a substitute for essentials in promoting active and healthy ageing. One must be familiar with Assisted Living (Godfrey, 2012) as a care alternative that aims to regulate the physical and psychological independence of elderly people by assisting when needed.

Japan is one of the most celebrated societies known for its exceptional longevity in the world. It is a rich combination of advanced technology and value happiness. The society of Japan has been incumbent towards the human value system and advancing technology. Computerised Cognitive Training (CCT) arising as a cost-effective and feasible solution, including cognitive exercises such as brain training, working memory tasks, and video game- based programs that can be performed without moving out of the house. To complement

these efforts, Socially assistive robots (SARs) have been introduced to provide companionship and cognitive training. Robots like Paro, and iCat not only engage users but also adapt to individual needs, offering encouragement and motivation during exercises (Alnajjar, et al., 2019).

Modern technologies have proven to be an instrumental force in building a unique identity in the rapidly advancing world. The foremost hurdle in this society is the challenging demographic situation currently, which is cultivated by a declining fertility rate, delayed and forgone marriages (SHIRAHASE, 2000), more particularly reduced opportunities for young women to marry and have children (Nippon, 2023). The trends in Japan's demographics indicate a rapidly ageing (moving towards a hyper-aged society⁹) and declining population that substantiates more than 60 years of elderly are dependent on the adult population creating additional pressure on the country's social security and health care system. By 2050, the projection of Japan's elderly population may cross over 35% of its total. This ageing trend is projected to overtake the other major countries, by marking increased life expectancy from 81 and above (Muhleisen & Faruquee, 2001). As a result, major fiscal challenges imposed and to deal with the institutions have increased emphasis on elderly inclusivity in the workforce, which also underscores relatively low productivity due to age-related limitation (MACKELLAR & HORLACHER, 2000).

Major reforms have been introduced in the Public Pension System which underlines the Pay-as-you-go model with benefits linked to wages (Kitao, 2015). Despite the massive fiscal intervention, Japan has understood the importance of bringing effective recognition of advanced technology to bring efficiencies in the healthcare system and improve the well-being of the ageing population. Japan has created high standards in research and development as they have a culture of hard work, focus and continuous improvement (Kaizen¹⁰) that aid in establishing the foundation of big giant companies like Toyota, Sony and Panasonic.

⁹ Hyper-aged society is known as *chokorei shakai*, a scientific terminology. It says 21 percent or more population are 65 years or older, trending preceding Respect-for-the Aged day between 1980-2005, reveals a notable shift in narrative. By the late 1990s, more specialized terms such as *chō-kōreika shakai* and *chō-kōrei shakai* (hyper-aging society and hyper-aged society, respectively) began appearing. The adoption of these terms into public discourse indicates that the Japanese have increasingly come to perceive their society as not only aged but also hyper-aged. (Coulmas, 2007)

¹⁰ Kaizen, is reflecting unended improvement and doing little things better mentioned in Book named Kaizen (Ky'zen), the key to Japan's competitive success, written by Masaaki Imai in 1986.

PARO, a social robot

The worldwide alarming figure exacerbates the challenges fostered by Dementia, Alzheimer's, PTSD, brain injuries, anxiety and depression that top-notch technological assistance is required to deal with. Professor Takanori Shibata has made an initiative that not only addresses the mental health of early children to the elderly but also introduces fascinating human-machine collaboration, to showcase amicable relations without harming the existence of each other. It is a rare and dull idea that AI-powered tools can replace human existence as this exemplifies a decent existence of humans with AI assistance.

The creative AI-powered Robotic therapeutic and zoomorphic robot (David, Théroutane, & Milhabet, 2022), Pero¹¹, demonstrated enormous psychological benefits in different caregiver spaces, ranging from motivating to talking, cheering and giving soothing gestures. Many caregiving platforms asserted the reinforcement and supportive behaviour that Pero has given many elderly persons at the caregiving centres (Care, 2017).

The researcher has attached the testimony of YouTube¹² where caregivers, residents and experts choose Pero, with its user-friendly design, relocate itself over real pets for Pet therapy (Special Needs) for various reasons including many individuals have allergies to animals, danger of bites and infection and most importantly, the real pet requires house regulation. Pero attracts people who are reluctant to communicate and remain socially isolated which leads to dementia and PTSD. It aids in treating anxiety, depression and insomnia and cures the desolate state of Patients with cancer, Brain Injury, Parkinson's disease, and Alzheimer's. For many elderly, who were showing reluctance to communicate, Pero made them engaging, they later started smiling, hugging and interacting with Pero after a few minutes, under the care of staff. Pero interacts with users through touch, sound, and movement. This robotic seal with AI support has been studied by many experts through multifarious contexts for more than two decades (Chevallier, 2022).

Case study: Japan's 5G Integration and Society 5.0

¹¹ Shibata, T. (Speaker). (2024, September 12). PARO Therapeutic Robot Baby Harp Seal [https://www.youtube.com/hashtag/aiforgood]. YouTube. (<https://youtu.be/mDzghzGc1vs?si=vpngenTo-JDgnLNL1>)

¹²<https://youtu.be/PAJ2GXzaJtQ?si=XA0TVUdCB890JbQs>

In January 2016, Japan introduced 'Society 5.0'¹³ to unleash the prospects of the 5th science and technology Basic Plan and a visionary module for the Future Strategy and reform to build a harmonious balance between economic growth and social challenges. A daunting risk of fading Japanese culture alarmed the urgent need for adaption and innovation to continue the celebration of Japanese identity. Society 5.0 is one of the powerful visions that embrace cultural legacy, and inclusivity along with technology to build symbolic examples of successful aging. The country has been under the threat of various concerns like low birth rate, aging population and related infrastructure. The vision and mission of Society 5.0 can contribute to the sustainable development goals as well as the first legend countering the challenges posed by agism and bringing about actionable that contribute to overall shortcomings in the 21st century (Fukuyama, 2018).

The Ministry of Internal Affairs and Communication is leading a drive that create a 5G ecosystem to an extent that 99% of Japan's population will have access to the 5G networks by the end of 2030 (The Development of 5G Ecosystem in Japan: A Road to Better Connectivity). The illumination and advancement of 5G connectivity gifted telemedicine effectively spread all over, in fact in remote areas more frequently. The period of the COVID-19 pandemic has heightened the pertinacious demand for healthcare services and opened the prospects of dealing with challenges underlining remote rural areas quotidian to deliver healthcare services. Japan consists of many islands and remote areas, but the spread of 5G has unveiled the prospects of high-speed, and real-time exchange of information in remote areas. It enables elderly patients to avail themselves and receive medical care with circumspect of travelling long-distance which addresses prolonged challenges in medical care.

Remote Healthcare services

After covid pandemic, Japan has started embracing telemedicine by providing institutional support. The Medical Practitioner Act of Japan has licensed physicians to prescribe online medical services as medical practice and account for medical fees. The doctors were allowed to consult and prescribe remotely which benefited the population living in remote areas. This

¹³ Society 5.0 is concept believes in blurring the gap between cyberspace and physical space. Professor Yasushi Sato asserted that both government and business required this intervention and set high hope from this strategy.

allowed many smart health monitoring systems to flourish and more and more telehealth solutions tend to solve the elderly health challenges. The most significant move towards telemedicine and health care would be clarifying the remote diagnosis system into two formats. Firstly, the Doctor-to-Doctor Remote Diagnosis system aids physicians in joining the remotely available healthcare service provider with expert medical care in real-time. Deep learning supported by Artificial intelligence upholds and reinforces real-time diagnosis, allowing doctors in remote areas to consult with specialists located in their respective places. The second format is the Doctor-to-Patient brace with Specialist Model, under which a specialist examines the patient remotely with assistance from the attending physician. These two formats enable and subsidize the widened healthcare accessibility for elderly populations in rural areas and hinder the burden of hospitals. The AI model is not immune from criticism and challenges, as it requires extensive training data along with gender-unbiased AI responses, which obstruct the remote diagnosis and ephemeral effectiveness. It demands multifarious intervention, such as strengthening training data to represent the human body along with accepting its diversity and inclusivity.

Paro's modest appearance was subjected to be immune from ethical dullness. The traditional surveillance-based AI device, scrutinised for monitoring concerning a person's data privacy, may have been tampering or underscoring an ethical violation. Paro, neither records conversations nor stores personal data. However, with the growing technological advancement, the susceptible growth of scammers and the issue of data privacy is at the stack that policy intervention is required.

Conclusion

The technology in agism specifically in the anecdote of agetech has been denominated by many challenges and obstacles. One of the most affluent problems is the existing demographic of technology holders, largely accompanied by Baby Boomers and Generation X individuals who did not grow up with smartphones and screens. Injecting awareness and educating this section about the benefits and potentials of technology is a daunting task. The brisk rapid advancement of technology also unlocks new avenues of scams, substantiating hurdles in promoting Age tech. However, behind the veil of challenges, Agetech and gerontechnology address concerns pertinent to promoting the finance and commerce of the elderly population. The arena offers many online fitness programs to restore balance and

foster better and healthier ageism. Wearable devices tracking heartbeat using social robots powered by AI, in caregiving homes encourage the early detection of irregularities and strive for Assisted Living enabling the quality of life for the elderly population. Considering the symbolic example of Japan and its capability in the advanced tech industry that drives the elderly population pave the way for healthy agism and advance the standard of living without hampering the quality of life. This conceptual paper remarks the importance of technology in health care for the elderly, and a thought-provoking contribution to our understanding of the complex relationships between aging, technology, and healthcare.

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Water and Sanitation situation among tribal communities: A study of few selected villages from the state of Gujarat.

Gaurav Gaur *, Jashanjot Kaur Brar and Hannu Gandhi*****

*Dr Gaurav Gaur, Assistant Professor, Centre for Social Work, Panjab University,
Chandigarh, U.T. PIN- 160014, India.

**Jashanjot Kaur Brar, Research Scholar, Centre for Social Work, Panjab University,
Chandigarh, U.T. PIN- 160014, India.

***Hannu Gandhi, Centre for Social Work, Panjab University, Chandigarh, U.T. PIN-
160014, India.

Abstract

This study provides a brief assessment of water, sanitation, and hygiene (WASH) practices within the five villages of tribal communities of Bharuch and Dang districts in Gujarat, India. Despite the national initiatives like the Swachh Bharat Mission and Jal Jeevan Mission aimed at improving WASH infrastructure, significant disparities were observed in these underserved regions. Through the survey of 124 households in five different villages, this research assesses the primary water sources, sanitation facilities, hygiene behaviours, and waste management practices. The key findings reveal reliance on government-provided tap connections, widespread water scarcity, inadequate sanitation infrastructure and significant gaps in waste management as well. The study underscores the urgent need for sustainable water management, equitable sanitation support, and enhanced hygiene education. The targeted policy recommendations are proposed to address these challenges and improve the overall well-being of tribal populations.

Keywords: WASH (Water, Sanitation, and Hygiene), Tribal communities, Gujarat, Swachh Bharat Mission, Jal Jeevan Mission

1. Introduction

The access to safe drinking water, adequate sanitation, and hygiene make a meaningful and substantial contribution toward reducing the global disease burden through preventing and reducing illness (Fewtrell *et al.* 2005; Cairncross *et al.* 2010; WHO 2017). The era of Sustainable Development Goals (SDGs), with targets 6.1 and 6.2 pertaining to water, sanitation, and hygiene (WASH) seems to have coincided with significant efforts made to improve access to safe drinking water and sanitation (WHO & UNICEF 2021). WASH is a composite measurement, mostly determined by the availability of safe drinking water, safely managed sanitation facilities, and provision for basic hand-washing facilities (WHO, 2017). The access to improve water and sanitation continues to be a significant challenge, with 26 percent of the world's population (2 billion people) lacking access to safe drinking water services, and an estimated 46 percent (3.6 billion people) lacking access to safely managed sanitation (UN-Water, 2023). Poor water, sanitation, and hygiene (WASH) practices increase populations' susceptibility to deadly diseases and deaths and cause major economic losses. The rural Indians face several critical challenges:

1. Insufficient water purification and testing (Kumar, A., Patel, R., & Singh, N., 2021).
2. Inadequate access to quality water within a kilometre of their homes (Reddy, A., & Gupta, M., 2019).
3. Lack of proper sanitation facilities (Prakash, S., Kumar, V., & Rao, M., 2022)
4. Poor hygiene practices affecting health and well-being (Sengupta, A., Patel, R., & Shah, K., 2019).
5. General environmental degradation (Sharma, A., Desai, P., & Rao, V., 2021)

The additional factors exacerbate these issues. Many rural villages in India are located in remote, arid regions. Water supply is managed locally with little community ownership or awareness from supply to household distribution. This situation is worsened by competing priorities and limited budgets. Typically, the poorest rural families spend a significant portion of their income on food, leaving little for maintaining water sources. As a result, they have minimal influence over resource allocation. The limited political engagement further restricts access to technological advancements. Consequently, water quality monitoring, trained personnel, and risk assessment are inadequate. Depending solely on community initiatives without state support excludes millions from essential infrastructure development. The

UNDP's observation that public finance is crucial, regardless of whether goods are private or public, holds for India's context.

In 2015, India accounted for 90 per cent of the South Asian population and 50 per cent of the global population that practised open defecation. In response, the Government of India launched Swachh Bharat Mission (SBM), Jal Jeevan Mission (JJM), and school WASH programs. The SBM, particularly the sub-mission SBM (Grameen), has facilitated access to toilets for 100 million rural households and 500 million residents across 630,000 villages (Department of Economic and Social Affairs, United Nations).

The JJM, launched in 2019 and subsuming the National Rural Drinking Water Program, aims to ensure that all rural households and public institutions have access to potable water of adequate quantity and prescribed quality, with adequate pressure, on a regular and long-term basis. As of August 15, 2019, the state of Gujarat had a total of 9,118,449 households, with 65,16,258 of these households (71.46%) having tap water connections. The remaining 26,02,191 households (28.54%) lacked tap water connections at that time. Since the launch of a targeted mission to improve water supply infrastructure, these 26,02,191 households have been provided with tap water connections, resulting in 100% of households now having access to tap water (*JJM Dashboard*, n.d.). This significant achievement underscores the success of the mission in ensuring that every rural household in Gujarat has access to tap water, addressing a crucial need for reliable and safe water supply across the state.

However, is this access evenly distributed among all populations? What is the state of tribal populations concerning WASH indicators and access to WASH facilities? A recent study published in the *Journal of Water, Sanitation & Hygiene for Development* explores the spatial heterogeneity in the access of tribal populations to improved water and sanitation facilities and its correlates at the district level in India (Mudi et al., 2024). The study uses data from the fifth round of the National Family Health Survey, 2019–21.

1.1 Tribals in the State of Gujarat

India has the world's second biggest tribal population. Tribal communities have been a vital part of Indian society from the time of the Ramayana and Mahabharata. Tribal people around the country have rich traditions, cultures, and histories, as well as distinct lifestyles and customs. Despite considerable regional variance, tribes have many characteristics, such as living in relative geographical isolation and being more homogeneous and self-sufficient than non-tribal social groups (TRIFED, n.d.).

Gujarat is home to 604 lakh people of whom 89 lakh or 15% are Scheduled Tribes (Census of India, 2011). The tribal communities predominantly inhabit the eastern districts of Gujarat, bordering tribal regions in southern Rajasthan, western Madhya Pradesh, and northern Maharashtra. Gujarat is home to several prominent tribes, each with unique cultural practices and traditions, such as the Bhil, Bonda, Koli, Kotwalia, among others. As of the 2001 census, the Bhil tribe alone accounted for 34,41,945 individuals, comprising 17,46,813 males and 16,95,132 females, constituting 46% of the state's total tribal population. According to the 1981 census, 37.84% of Gujarat's Bhil population were categorized as workers, with 50.18% engaged in cultivation, 39.36% in agricultural labor, and the remaining 8.11% in various other occupations. (Tribal Research and Training Institute, n.d.). The major tribes in selected districts are Vassava. The Vasava are a clan of the Bhil community found in the states of Gujarat, Maharashtra, and Rajasthan in India. Traditionally the Vassava people were hunters and gatherers. (Joshua Project, n.d.)

Tribal Areas of Gujarat, India

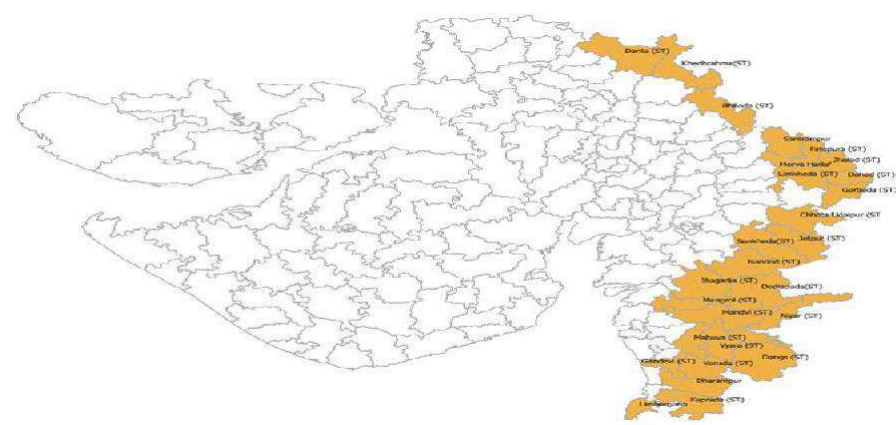


Fig.1

Source: https://gumlet.assettype.com/swarajya/2022-11/d0b7b1bc-e24b-4830-9dc1-116f2da550fc/GJ_ST_seats.png?auto=format%2Ccompress&w=1200 (Accessed on 1 July 2024)

Table 2: Poverty distribution in Tribal Dominated Districts of Gujarat

Districts	ST%	Poverty	Literacy rate
Sabar Kantha	22.32%	24.85%	65%
Vadodara	27.60%	21.24%	69%
Panch Mahals	30.18%	41.62%	60%
Bharuch	31.48%	17.85%	72%
Navsari	48.11%	11.68%	75%
Valsad	52.93%	20.16%	69%
Dahod	74.32%	55.05%	47%
Narmada	81.55%	37.11%	63%
Tapi	84.18%	27.76%	61%
Dang	94.65%	57.33%	62%

**As per Multidimensional Poverty Index (2015-16)*

India's unique agricultural terrain is significantly reliant on irrigation infrastructure to meet its enormous and varied farming needs. Throughout the decades, different irrigation schemes have been implemented to increase water availability and agricultural productivity. However, the effects of these programs have been unequal, particularly when considering the socioeconomic and environmental consequences for diverse regions. Large-scale irrigation projects, in particular, have frequently resulted in severe unexpected consequences, despite their stated purpose of promoting universal agricultural advantages. These projects, which mostly involve the construction of massive dams, have had a significant impact on the local indigenous groups that live in the areas where the dams are located.

Many irrigation policies such as those favouring large irrigation projects have not been able to give benefits to these areas. These areas are the location of dams, and cause displacement of people and livelihoods for the local tribal population, although the benefits of these dams are availed by populations living away, mostly in non-tribal areas (see Table 2 and Figure 1). This research paper examines the socio-economic conditions, water and sanitation practices, through a community based survey of 124 households. The study aims to provide a brief understanding of the various factors that influence the quality of life in this community, focusing on caste identification, religion, family structure, income levels, assets, water sources, sanitation facilities, waste management, and hygiene practices.

2. Research Methodology

2.1 Objectives:

1. To assess the water, sanitation, and hygiene (WASH) facilities among the tribal population in Gujarat.
2. To assess the ground level situation of the various government programs, specifically the Jal Jeevan Mission and Swachh Bharat Mission, on improving WASH infrastructure and practices within tribal communities in Gujarat.

2.2 Study Design:

A community-based cross-sectional study was adopted and conducted for over four days in the months of March and April 2024. It focused on assessing various aspects related to water, sanitation, hygiene practices, waste management, along with basic demographic information within five villages situated in the tribal areas spanning in District Bharuch and Dang of the Gujarat state.

These villages include Koylipada in Netrang, Mandavi in Jhagadia, Dholakuva in Jhagadia, Kharia in Jhagadia, and Jhari in the Dang district. Each village was selected to provide a representative sample of the tribal communities residing in these regions, considering their geographic spread and demographic composition.

2.3 Study Setting:

The study was conducted in the following five distinct villages located within the tribal areas of District Bharuch and Dang in Gujarat, India.

Village Name	District	Household Population
Koylipada	Bharuch (Netrang)	250
Mandavi	Bharuch (Jhagadia)	75
Dholakuva	Bharuch (Jhagadia)	63
Kharia	Bharuch (Jhagadia)	114
Jhari	Dang	192
Total		694

2.4 Sample Size and Selection of Participants:

Through a random sampling method 124 households were selected out of a total 694 households from five villages. This sample size was determined to ensure adequate representation of the community's diversity and enable meaningful statistical analysis of the collected data. Participants included adults who were primarily responsible for water collection and storage within their households. The selection criteria aimed to capture the desired objectives.

2.5 Data Collection:

A number of structured interviews were conducted with each of the 124 selected households using a comprehensive interview schedule. The interview schedule covered demographic details, economic conditions, water and sanitation practices, waste management strategies, and hygiene behaviours. The data collection process was rigorous, with Master of Social Work (MSW) students administering the interview schedule in the local language to ensure clarity and accuracy of responses during their one-week rural camp at Aga Khan Rural Support Programme (India) AKRSP(I), Netrang, Gujarat. Despite some variations in response rates due to language barriers, overall participation remained robust, providing a rich dataset for subsequent analysis.

3. Data Analysis:

The analytical approach facilitated the identification of prevalent trends, challenges, and disparities in water access, sanitation facilities, waste management practices, and hygiene behaviours among the tribal populations residing in the study villages. The findings aimed to inform targeted interventions and policy recommendations aimed at improving the overall well-being and health outcomes within these communities.

Category	Sub-Category	Finding of the Data Collection
Water	Primary Water Source	- Government-provided tap connections: 73 households (58.9%)
		- Community wells/hand pumps: 26 households (20.9%)
		- Borewells/neighbouring villages: 10 households (8.1%)
		- Various/precarious sources: 15 households (12.1%)
	Water Supply	- Households with tap connections: 73 (58.9%)
		- Households without tap connections: 51 (41.1%)
	Water Storage	- Using containers with lids: 90 households (72.6%)
		- Using containers without lids: 25 households (20.2%)
		- Using overhead tanks: 9 households (7.3%)
	Water Scarcity	- Year-round scarcity: 36 households (29%)
		- Seasonal scarcity (summer): 35 households (28.2%)
		- Consistent water fulfilment: 53 households (42.7%)
Sanitation	Toilet Facilities	- Perceived safe water: 120 households (96.8%)
		- Concerns about water quality: 4 households (3.2%)
		- Households treating water before consumption: 25 (20.2%)
		- Households without toilets: 73 (58.9%)
	Toilet Facilities	- Households with toilets: 50 (40.3%)
		- Households using community sanitary complex: 1 (0.8%)

	Financial Help for Toilets	- Households receiving financial assistance: 47 (37.9%) - Households not receiving financial assistance: 77 (62.1%)
	Running Water in Toilets	- Households lacking running water in toilets: 111 (89.5%)
Waste Management	Solid Waste Disposal	- Burning waste: 58 households (46.8%) - Open dumping: 54 households (43.5%) - Managing waste on premises: 12 households (9.7%)
		- Households not segregating waste: 82 households (66.1%)
		- Absence of functional plant: 115 households (92.7%)
	Waste Segregation	- Households not segregating waste: 82 households (66.1%)
	Solid Waste Management Plant	- Absence of functional plant: 115 households (92.7%)
Hygiene	Grey Water Drainage System	- Households lacking grey water drainage system: 116 households (93.5%)
	Handwashing Before Eating	- Regular handwashing: 119 households (95.9%) - Irregular handwashing: 5 households (4%)
		- Households with access to soap/detergent: 95 households (76.6%) - Households without access to soap/detergent: 29 households (23.4%)
	Soap for Handwashing	- Using mobile objects (buckets/jugs): 70 households (56.5%) - Using fixed facilities (sinks/taps): 54 households (43.5%)
	Handwashing Facilities	

4. Discussion:

The findings from this cross-sectional study highlight critical areas of concern and variability in water, sanitation, and hygiene (WASH) practices within the surveyed rural tribal communities in the districts of Bharuch and Dang, Gujarat.

Ground level situation in context to Water:

The study uncovered a significant reliance on government-provided tap connections as the primary water source, with 58.9% of households depending on this infrastructure. This dependence underscores the importance of public infrastructure in these regions, yet it also highlights vulnerabilities; any disruption in this service could have severe implications for these communities. Previous research supports this view, emphasizing the essential nature of reliable public water systems and their influence on community well-being (Mishra & Sahoo,

2020). Moreover, 20.9% of households rely on community wells or handpumps, and 8.1% source water from borewells or neighbouring villages. This distribution is consistent with findings by Patel et al. (2019), who noted varying degrees of reliance on different water sources across rural areas of India. The lack of reliable access to water for 12.1% of households illustrates ongoing challenges and the need for alternative water sources. This aligns with the findings of Kumar et al. (2021), who identified persistent gaps in water availability and the need for sustainable solutions to improve access in underserved areas.

Water scarcity emerged as a prevalent issue, with 29% of households experiencing year-round scarcity and 28.2% facing seasonal shortages, particularly during the summer season. These figures support the previous research highlighting widespread water scarcity in rural areas and the urgent need for sustainable water management practices and infrastructure improvements (Reddy & Gupta, 2019). These figures point to the urgent need for sustainable water management practices and infrastructure development to ensure consistent water availability. Despite perceptions of water safety among 96.8% of households, only 20.2% treat their water before consumption. This indicates a gap in water treatment practices, posing potential health risks from untreated water. This is in line with research indicating that inadequate water storage practices can exacerbate water safety issues and contribute to contamination (Singh & Joshi, 2020). The Jal Jeevan Mission (JJM), which aims to provide functional household tap connections to every rural household, is crucial in addressing these disparities and improving access to safe drinking water. However, the data suggests that the JJM has not fully achieved its goals, as significant portions of the community still face water scarcity and issues with water quality.

Additionally, the water storage practices revealed potential risks. While 72.6% of households use containers with lids to store water safely, **20.2% use containers without lids**, increasing the risk of contamination. Only 7.3% of households have overhead tanks, indicating limited adoption of secure storage solutions. These practices, coupled with water scarcity, worsen the challenges faced by these communities.

Ground level situation in context to Sanitation

Sanitation infrastructure in the surveyed communities is notably inadequate. A significant **58.9% of households lack toilets**, underscoring the need for increased sanitation facilities. Although programs like the Swachh Bharat Mission (SBM) have provided financial assistance to 37.9% of households, the **remaining 62.1% claimed that they have not received**

such aid, highlighting the uneven distribution of support and the need for more inclusive policies. Prakash, S. et al. (2022) conducted a study based on the 76th round (2018) of the National Sample Survey (NSSO) in India to assess equitable access to improved sanitation facilitated by the Swachh Bharat Mission. With a data set from 106,837 households, the study reveals significant state and regional disparities, rural-urban gaps, and the influence of socioeconomic factors on sanitation accessibility. While half of the households had safely managed sanitation, disparities persisted. The economic status is inversely correlated with limited and unimproved facilities, highlighting successes but indicating areas for improvement. Despite the declaration of every district as open defecation-free (ODF) in 2019, these findings indicate that the reality on the ground does not align with official reports. Behara M.R. et al. (2022) conducted a community-based survey among 700 rural women and girls aged 15-45 years in the Balasore district of Odisha, India, to assess their perception of household sanitation facilities and menstrual hygiene management under the Swachh Bharat Mission. The findings show that more than two-thirds (68.4%) of rural households use improved sanitation facilities, but around 30% still have inadequate infrastructure, leading to open defecation. Another study conducted by Sengupta, titled "Study of the Challenges in Sanitation and Hygiene that have Affected the Rural Areas of South Gujarat," concludes that individual responsibility and contribution are crucial for improving sanitation and hygiene in rural Gujarat. The study emphasizes the need for citizens to raise awareness and recognize the importance of sanitation for overall health and development (Sengupta et al., 2019). The **absence of running water in toilets for 89.5% of households** further compromises sanitation standards and hygiene practices. Another study conducted in Rajasthan, titled "Evaluating the declarations of open defecation free status under the Swachh Bharat ('Clean India') Mission: repeated cross-sectional surveys in Rajasthan, India", highlights the importance of maintaining focus on constructing affordable toilets with low water requirements in the subsequent phases of the Swachh Bharat Mission (SBM) (Natalie G. Exum et al., 2020). The study emphasizes the need for an independent survey to provide robust estimates of open defecation (OD) practices to effectively monitor the progress of toilet construction and usage. The SBM's goal of achieving open defecation-free status and improving sanitation infrastructure is critical in these areas.

Ground level situation in context to Waste Management

Waste management practices also reflect considerable gaps. The prevalence of burning waste **(46.8%) and open dumping (43.5%) among households** indicates insufficient waste disposal infrastructure. Only 30.6% of households practice waste segregation, pointing to the need for improved waste management education and facilities. The lack of a functional solid waste management plant reported by 92.7% of households emphasizes the critical need for infrastructure development in waste management. A study by Nimbannavar, S. M. et al. (2022) examines the critical nexus between Water, Sanitation, and Hygiene (WASH) practices and public health outcomes in Koppal, Karnataka, India. The study emphasizes the global importance of WASH practices in preventing infectious diseases, particularly diarrhea-related mortality. It identifies solid waste accumulation as a significant risk factor for diarrheal episodes, providing valuable insights for targeted public health interventions in the region. Similarly, the absence of a **grey water drainage system for 93.5%** of households highlights deficiencies in managing household wastewater, posing environmental and health risks. This gap persists despite the goals set by SBM 2.0, which aims to manage both solid and liquid waste more effectively in rural areas.

Hygiene

Hygiene practices are generally favourable, with 95.9% of households washing hands before meals. However, 4% of households do not practice regular handwashing, indicating potential gaps in hygiene awareness. **Access to soap or detergent for hand washing is available to 76.6% of households**, but 23.4% lack these essentials, which could hinder optimal hygiene behaviours. The variation in handwashing facilities, with 56.5% using mobile objects and 43.5% having fixed facilities, impacts the accessibility and convenience of maintaining hygiene standards.

The study reveals that while there are positive hygiene practices in place, significant gaps remain in awareness and resource availability. The disparities in access to basic hygiene tools like soap and fixed handwashing facilities suggest that further education and infrastructure support are needed to ensure consistent and effective hygiene practices.

5. Conclusion:

This study provides a comprehensive assessment of WASH practices within the surveyed tribal communities, revealing critical disparities and areas for improvement. The heavy reliance on government-provided tap connections for water, coupled with issues of water scarcity and inadequate water treatment practices, underscores the need for sustainable water

management and infrastructure development. The significant lack of sanitation facilities and uneven access to financial assistance for toilet construction highlights the need for more inclusive and effective sanitation programs. Inadequate waste management practices and infrastructure, as well as deficiencies in greywater drainage systems, pose environmental and health risks that must be addressed. While hygiene practices are generally favourable, gaps in hand washing behaviour and access to hygiene essentials indicate areas for further education and intervention.

The Jal Jeevan Mission (JJM) and Swachh Bharat Mission (SBM) have made strides in improving WASH infrastructure in rural areas, but the findings suggest that the desired outcomes have not been fully realized. Despite the declaration of open defecation-free status in 2019 and the ongoing efforts under SBM 2.0, there are still significant challenges in achieving comprehensive sanitation and waste management. This calls for a re-evaluation of strategies and a more tailored approach to address the unique needs of small and dispersed populations in rural tribal areas.

6. Tentative Recommendations:

1. Enhance Water Infrastructure and Management: Invest in developing and maintaining sustainable water infrastructure to ensure a consistent water supply and address water scarcity issues. Explore alternative water sources such as rainwater harvesting and community-managed water systems to reduce reliance on a single source. Implement the Jal Jeevan Mission (JJM) to provide functional tap connections to every rural household, ensuring safe and adequate drinking water. Reddy, Rao, and Venkataswamy study, "Slippage: The Bane of Drinking Water and Sanitation Sector (A Study of Extent and Causes in Rural Andhra Pradesh)" (2010), calls for policies that address resource sustainability and promote behavioural change. The authors argue that effective policies must move beyond one-sided, target-driven approaches to achieve lasting improvements in the water and sanitation sector.

2. Promote Water Treatment Practices: Implement educational programs to raise awareness about the importance of water treatment. By providing resources and training for effective and accessible water treatment methods, such as boiling, filtering, and the use of safe water storage practices.

3. Improve Sanitation Facilities: There is a need to expand initiatives like the Swachh Bharat Mission (SBM) to provide financial assistance for toilet construction to more households. Focus on equitable distribution of resources and support to ensure all households

have access to sanitation facilities. Develop infrastructure to provide running water in toilets to improve sanitation standards and hygiene practices. Address the gap between official declarations of open defecation-free status and actual on-ground conditions by ensuring that all households have access to functional toilets.

4. Strengthen Waste Management Systems: There is a requirement to develop and implement comprehensive waste management systems, including waste segregation, collection, and disposal. The need to establish functional solid waste management plants and grey water drainage systems to manage household wastewater effectively. Conduct educational campaigns to promote proper waste disposal and segregation practices. Address the feasibility of solid and liquid waste management systems in areas with small populations through decentralized and community-based approaches.

5. Enhance Hygiene Education and Resources: The requirement to continue to promote hand washing practices through educational campaigns. Ensure all households have access to soap or detergent and fixed hand washing facilities to facilitate consistent and effective hygiene behaviours. These will address gaps in hygiene awareness and practices through community-based programs and interventions.

6. Policy and Community Engagement: To advocate for policies that prioritize WASH infrastructure development and maintenance in tribal areas, there is an emergent need to engage community leaders and members in the planning and implementation of WASH programs to ensure they are culturally appropriate and address the specific needs of the communities. The complexity of achieving sustainable water and sanitation services highlighted in our study and (Reddy, 2010) work underscores the need for context-specific policies and inclusive governance frameworks. Reddy's recommendation for an integrated water resource management framework involving complete participation of water providers and users aligns with the Government of India's initiatives since 1999 to institutionalize community participation in WASH programs.

By addressing these recommendations and leveraging programs like the Jal Jeevan Mission (JJM) and Swachh Bharat Mission (SBM), it is possible to improve the overall well-being and health outcomes of the tribal communities in the surveyed areas. Ensuring equitable access to safe water, sanitation, and hygiene facilities is crucial for enhancing the quality of life and promoting sustainable development in these regions.

Limitations of this study include:

- The language barriers posed challenges during certain interviews.
- The interviews in villages were conducted with individuals available at the time of the visit only.
- The rural camp was limited to one week, imposing time constraints.
- Some respondents may have responded casually during interviews or scheduling.
- The sample size is small and therefore can't be generalized
- The selection of villages may be biased as these were randomly taken as on the basis of road connectivity.
- There were certain people, who were away from their houses when the researcher visited them for data collection
- Certain students were interested to know about the cultural practices, beliefs & taboos etc, rather than focussing on the research objectives.

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Redefining Successful Ageing: Conceptualising Successful Ageing in Indian Context

Nupur *, Muskan Mishra and Aastha Gupta*****

Dr. Nupur Gosain, Assistant Professor, Department of Psychology, School of Open Learning, Campus of Open Learning, University of Delhi*

*Ms. Muskan Mishra**, Teaching Assistant, Department of Psychology, School of Open learning, Campus of Open Learning, University of Delhi*

Ms. Aastha Gupta, Teaching Assistant, Department of Psychology, School of Open learning, Campus of Open Learning, University of Delhi

Abstract

Ageing is an inevitable but a fact of life with varied perceptions across cultures. As advancements in healthcare have extended life expectancy, the focus has shifted towards understanding ageing as a phase of adaptation rather than of decline and disease. The concept of successful ageing, primarily explored in Western discourse, emphasizes minimizing disease, maintaining cognitive and physical function, and social engagement. However, in India, ageing is often associated with dependency and societal burden due to economic, familial, and healthcare constraints. With India's elderly population projected to surpass the youth demographic by 2050, the need to redefine ageing within the Indian socio-cultural framework is crucial. Traditional Indian philosophy, including the four ashramas and Ayurvedic principles, views ageing as a journey of detachment and self-realization, contrasting with contemporary urban trends that encourage active participation in later life bringing forth a complicated precedent to changing perceptions. Government policies, such as the National Policy on Older Persons and various pension and welfare schemes, aim to support financial security, healthcare, and social integration for the elderly. Yet, challenges remain in terms of accessibility and cultural attitudes. Successful ageing in India must be redefined beyond physical health and aid to further incorporate psychological well-being, lifelong learning, and purposeful engagement. Emerging trends, such as older adults pursuing second careers, engaging in digital platforms, and participating in intergenerational interaction and learning, highlight a paradigm shift. Ayurveda-based holistic health practices, community-driven social networks, and technology-driven connectivity further contribute to this evolving perspective. By fostering financial independence, social participation, and

personal fulfillment, ageing can be viewed not as an endpoint but as a phase of renewed purpose and continued learning. A comprehensive, culturally nuanced framework is essential to reshape the narrative of ageing in India.

Keywords: *Successful Ageing,, Indian context, Social network, Relationships, Life-long learning, Retirement.*

Introduction

Ageing has been defined as an inevitable dynamic change in everyone's life, and everyone has a different way to perceive it. Because of revolutionary changes in the healthcare system and technological advance lifespan has been drastically increased, the physical frailty and mental decline aging brings is inevitable (Irshad et al., 2023). This significant influence of ageing and older people has called upon a need to understand the ageing from a different view and lens as a golden era of human life imbibing the changes and successfully transitioning while adapting to physiological and psychological changing, this led to emergence of different concepts to describe ageing, successful ageing has been one such concept which has gained recent popularity in western culture, older adults were involved to understand successful ageing from their perspective and numerous themes emerged catering to a range from physical health to social engagement (Irshad et al., 2023). Ultimately, successful aging occurs when individuals demonstrate: (a) a minimal risk of disease and disability, (b) strong cognitive and physical abilities, and (c) active participation in social activities and relationships according to the widely accepted model by Rowe and Kahn (1997).

The demographics of the aged population is changing drastically at a global level, due to changes in the healthcare infrastructure, this improvement brought about a change in perception of old age and older people towards a more positive outlook and how older individuals can contribute to society (Cuthill et al., 2016). India too is facing a landscape shift in the evolving population which is predicted to be in the aged stage by the year 2050. As per the United Nations Population Fund (2023) India Aging Report, it is estimated that the population of elderly people in India will surpass the population of children aged 0 to 15 years of age. This rapid increase will pose a risk on the public health system of the country, and thus, it is necessary to study about the concept of successful ageing especially in the

Indian concept to understand the cohort and suggest ways in which ageing can be achieved successfully.

The western concept of successful ageing elaborates on the three main areas, namely, minimising risk of disease/s and disability, maintaining physical and cognitive function and continuing engagement with life (Baltes et. colleagues). WHO defined the concept of active aging that draws upon health, participation and security as key determinants to aging well (Cybulski et al., 2016). According to the concept of Life Span Development, the late- adulthood stage comprises of elderly population. This stage can be further divided into young old (65-84), oldest old (85-99) and centenarian (100+). Each age group has its own set of experiences to deal with which are discussed with respect to social, emotional and cognitive factors. In the Indian setting, over the years there has been drastic change in the socio- demographic factors, financial status, family structure, urbanisation etc that largely impacts the mindset and lifestyle of the individuals especially the elderly population. It is estimated that the older population will reach 347 millions making up to 20% of the population of India by 2050 (UNFPA India, 2023). This emerging change is bringing about challenges which the government and people will face. In India, very negative connotations are attached to ageing and old people, retirement as a term in dictionary has been defined as, “the act of stopping work permanently.” older populations and aging is generally considered a burden in indian context due to significant strain on resources (Kumar, 1997), 40% of elderly population faces loss of financial security after retirement and one fifth population of elderly don't have an income, these drawbacks boosted government to make significant positive changes in terms of the policies to help older adults live a dignified life, but despite these initiatives india is still at a crossroad to handle the continuously aging population that require comprehensive framework for support, care and needs (UNFPA India, 2023), There is a need to redefine what ageing means in indian scenario. It has been observed that the family structure of India has shifted from a joint to nuclear set-up, elderly population is no longer just a custodian of the family, but is an active member of the family. Old age is moving away from a traditional mindset of dependence on one's children to independence and empowerment (Chakraborty & Chawla, 2023). In the contemporary setting, the roles and responsibilities of elderly have widely changed, promoting re-definition of the concept of successful ageing.

Discussion

Perception of Ageing in India

Ageing in India as a process has been described as the gradual decline in an individual's physical, biological and mental health over time (Brown & Atwood, 2004). Ageing has been considered a phase before the arrival of death, a very unidimensional viewpoint based on the health of an individual, there is no preparation to transition into such a significant aspect of life (). The cultural influence in india signified the importance of older adults, the story of shravan Kumar, *Thaittiriya Upanishads* teaching of “Let your mother be God, Let your father be God” The indian heritage has been molded to care and respect for elderly at home by their children. The significance ageing holds in india is more negative in nature with a focus on disease model, the strain on healthcare resources ass the ageing population is increasing, the barrier experienced by elderly ranging from pathological progression (Lynch et al., 2009) to reduction in earning potential (Selvaraj et al., 2010). The research on geriatric population is quite in its infancy stage in India, and most of them hold negative connotations describing how older people are economically, socially and psychologically a burden for a country (Raju, 2011). Due to a gradual shift from traditional to urban lifestyle, the joint family culture is moving towards a nuclear family system, with children moving out to other areas for better opportunity, which has led to elderly being left behind alone (Rajan & Kumar, 2003). Government is implementing a range of policy for elderly, the national policy on older persons in 1999, Yojana providing assistance to physically disabled and senior citizen concession in Indian railway and Air India (Vikaspedia domain, 2021). These significant viewpoints showcase the intricate design of old age in India, weaving an interplay of social, cultural, economical and political aspects on the overall well being of elderly. Research previously done on ageing in India draws upon understanding what is wrong with the older generation, visual impairment, diabetes and other chronic disorders are the prime focus for understanding old age (Ashok & Ali, 2003). Though intricately described ageing in india has not been described in terms understanding after retirement hobbies, passion or even second inning in life, a new starting after the dawn of age, traditional indian concepts draw upon ageing as a process before death, hinduism describes the division of life into four ashrams: Brahmacharya, grihastha, vanaprastha and *sanyasa*. Wherein the last two ashrams of vanaprastha and *sanyasa* are renunciation of

worldly and materialistic indulgence, it is said they are necessary for smooth transition into ageing, and removes the fear associated with death, this is a disengagement from the family and materialistic pleasure and more indulgence into *punya* and meditation, leading to better acceptance of death and ageing (Suryavanshi, 2016). But in today's time the vanaprastha and sanyasa is not a disengagement from worldly things, instead it's a disengagement from the resistance and acceptance of the process of ageing (Chakraborty & Chawla, 2023).

There is a need to redefine ageing in India to inculcate other sociocultural, psychological and multidimensional viewpoint that caters to a holistic conceptual knowledge about ageing that is beyond disease, signifying human strength, the ability to restart, try new things, live life differently and accept ageing as new phase filled with another adventure and not the end time of life.

Policy Making Decision in India on Elderly

The Indian government caters to the ageing India population in a really unique way. There have been significant policy developments to help the ageing population, especially rural people who have significant lack of healthcare and human assistance. Since 1999 the government has been making efforts through establishment of National Policy on Older Persons, maintenance and welfare of Parents and Senior Citizen Acts, Indira Gandhi National Old Age Pension Scheme, Pradhan Mantri Vaya Vandana Yojana, India's National Programme for Health Care of the Older Adults. Each and every policy aims to create a sense of independence in old age, ensuring healthcare, pension policy and to instill a sense of financial security.

The maintenance and welfare of senior citizen act includes a clause for children the maintenance in terms of ensuring food, clothing, residence and medical attention and welfare in terms of health care, recreation centre and other amenities for their parents, this tribunal was created to ensure not only the maintenance of elderly parents but to also protect elderly in financial sense from the exploitation by children and has the power to pass eviction notice in case of such situation to ensure aggrieved parties welfare (Dua, 2024).

The national policy on older persons too is an initiative aimed at making life of older people easy, the major concerns for financial security has been handled through pension schemes, provident fund and gratuity benefits under this policy, protection and safety in terms of shelter and healthcare nutrition, 10% reservation in government housing schemes, creation

and support for old age homes and assisted living facilities, financial support for home modification to improve accessibility for older adults with mobility issues or other physical ailments, social welfare and protection in terms of fastrack legal-aid, helplines and community interaction programs. Further after retirement skill developments and vocational training, removing age-based discrimination in employment, digital literacy for elderly to inculcate a sense of independence and create assistive technology for telemedicine and online consultancy from the safety of home for elderly (Ministry of social justice and empowerment, 1999).

Pension Yojana provides pension and insurance to older adults, individuals belonging to BPL households and aged 60 years or above, PM yojana provides insurance-linked pension schemes with guaranteed returns for elderly, additionally the state government has also the power to provide additional pension benefits for senior citizens.

These policies envisions an India where senior citizens live a life of dignity, indulge in new vocational training, have financial security and shelter needs met, thereby supporting autonomy in older age.

Redefining Successful Ageing in the Indian Context

Since the beginning, the notion of the concept of Successful ageing has been influenced by the western concept. Its focus has been on the quality of life of the individuals with respect to their physical health, prioritising the absence of disease as one of the major factors towards successful ageing (Havighurst, 1961). Later, in 1987, Rowe and Kahn highlighted the social and cognitive factors to understand successful ageing. Even though the concept of successful aging has progressed from merely physical aspects to more relevant psycho-social and cognitive aspects, still it only concentrates upon the concept of ageing and the thinking of an aged person. There is a lack in eastern conceptualisations of successful ageing, especially, when it comes to the Indian context.

Ageing is not a sudden change which the body encounters at a particular age or time, but it is a gradual process which the body and kind goes through. From the phase of early adulthood to late adulthood, it has been observed that both physically and psychologically a human being undergoes drastic changes. The lack of acceptance towards these changes, reduced self-esteem due to the decline of human functioning, rapid bodily changes encountered by either

of the genders, societal pressure and many more such factors act as stressors which negatively impacts the process of ageing in an individual.

The discussion around an individual's journey throughout life span and into ageing has been ruminated upon in India since the ancient times, often highlighting the importance of achieving spiritual enlightenment to characterise the ideal ageing goal. Going beyond spirituality, Ayurvedic texts also describe the conditions and processes of *smirtikshya* and *medhakshya* which refer to gradual reduction in memory and intellect. Such descriptions are similar to modern day symptoms of Alzheimer's and related dementia (Tiwari & Pandey, 2013). Gradual detachment from familial life and worldly pleasures is focused upon in *vanaprastha* stage of life following which there is emphasis on *sanyas*, the last stage of life emphasising meditation for peace and letting go and preparation for death. Thus, the Indian view emerging from vedantic knowledge perceives old age as the time to recede one's self from the material world in order to transcend into a spiritual one through self-reflection, detachment and ascetic practices.

New concept of ageing can be understood in perspective of technology, the gradual shift towards an AI world has boosted even the older generation to indulge in technological adaptation, maintaining social networks and connectedness has a significant influence of individual wellbeing in later life stages (Joranson et al., 2023), ICTs have found a new base among older population not only in terms of social connectedness and network but also in boosting the individual self confidence as they age, many urban dwelling older adults are introducing themselves online creating new era contents, as models, instagram influencers, cooking and other social media content creation, helping individuals find purpose in new phase of life and accepting the physical changes that comes along with ageing especially in women (Chakraborty & Chawla, 2023).

Ayurveda describes the process of ageing as *Jara*, which is a natural phenomenon like hunger or thirst and is influenced by factors affecting physical, emotional, psychological and immunity. Ayurveda strives for a state of equilibrium through balance of tissue, energy systems, metabolic waste to move towards healthy aging. Ayurveda lays down few methods to work upon to effectively deal with the physical or psychological issues ageing bring with itself, the focus on diet and conscious eating, eating what, where and how favors optimum digestion contributing to bodily equilibrium (Rao, 2015), sleep is one of the most important

aspect to consider as poor sleep triggers age-related pathological issues in terms of metabolic diseases. Ayurveda also promotes a life of routine to adapt to the process of ageing, these routines including cleansing processes to yoga practices, similarly indulgence in panchkarma or periodical detoxification for the strength and rejuvenation of deeper tissues along with abhyanga or massage to maintain good health and promote delay in age related pathological changes (Peterson et al., 2016), abhyanga also assist in case of CNS conditions including stress and dementia. Lastly indulgence in mindfulness practices like yoga, meditation and breathing practices to enhance flexibility, muscular strength to improve coordination of body and mind, inculcating all these practices with the addition of upholding sadvritta or moral reasoning, which contribute an individual's mental well-being and contribute to the equilibrium of mind and body. Taking the Ayurvedic way towards aging imbibes an individual with a harmonious relationship between ageing and their bodily changes (Rao, 2018). One of the major aspects of successful ageing is health, indulging in ayurvedic practices like yoga, healthy diet, and sleep. Successful ageing is described as a condition encompassing both physical and cognitive functioning along with an active engagement with life (Tsai & Jones, 2024). A good medical health facility ensures that it caters to the needs of elderly, management of chronic conditions, geriatric specialist to deal with issues of arthritis, heart disease, dementia and other health concerns, providing preventive care, comprehensive assessment to pre screen certain diseases and support ageing individuals to live a healthy life. Instead of considering ageing an ending phase, there should be an outlook towards ageing as phase to pursue one's hobby or try for a new passion, examples of urban Indian society present many people indulging in second-innings of life, indulgence into new educational courses or PhD programmes in late sixties, retirement as definition describes doesn't mean the act of stopping work, children asking parents to relax and take it easy but the aspect is to older generations retirement is move away from the monotonous 9-5 life towards a life that is enriching and new passion, like 71 year old Veena Iyer after retiring from her state bank job took up online classes teaching students, conducting webinar, training herself in ICT to effectively use laptops, just because she doesn't wanted to be a couch potato instead give back to society in some form. The new way of rethinking age after retirement provide boost in terms of financial independence too, ageing successfully is not limited to being healthy, having the financial security to indulge in hobbies after retirement or creating a new source of income through passion project, Chandigarh's Harbhajan Kaur through her passion for

cooking found a calling for selling her famous barfis, pickles and chutneys, achieving her goal of earning a living (Chakraborty & Chawla, 2023). There is a need to redefine and understand old age through these examples, the view of passion projects, trying new hobbies is limited to urban upper middle classes in metropolitan areas, spreading this view to more rural communities will impact the entire concept of successful ageing in India (Chakraborty & Chawla, 2023).

Maintaining social network in old age have established a significant impact on the process of ageing, establishing new connections or surviving the already existing ones, is difficult aspect in the process of ageing, there are taboos attached to having a love in later life dating in old age after loss of one partner is difficult in India, initiative like happy seniors is one such enterprise working towards providing companionship to senior citizens so that they make their end years count, enjoy it with someone and create new memories (Chakraborty & Chawla, 2023). More indulgence in intergenerational friendships, group discussions between senior citizens and children or young adults as means to share experience, for older people to understand generation z language and technological skills. Social networks have been found to positively impact older adults that live independently in their homes, in terms of providing support and acting as a buffer in case of stressful events or life situations (Burt, 1997; Krause, 1986).

Career and occupation lend a strong sense of purpose to one's identity. Thus, as one ages and approaches retirement, it is quite common for people to feel directionless and non-contributive to society in the traditional sense. Such demarcations and measures of productivity can lead to feelings of helplessness, ineptitude and boredom leading to a negative self concept and lack of self esteem.

In lieu of successful ageing, lifelong learning and pursuit of post-retirement opportunities should be encouraged. A distinction is made between continuing to work after retirement and engaging in an enriching career and learning related activities for personal fulfilment. Lifelong learning enhancing skills, promoting well-being, and fostering social connections. It also inculcates self-confidence and has positive contributions towards self concept (Thang, Limb & Tanc, 2019).

An interesting example to consider here would be *fractional leadership* in corporations and startups where leaders are brought into executive positions on a part time basis to share their

expertise. This type of setup is very open to incorporating older industry leaders to gain their insights and opinions on important matters without expecting full time hours on their end that might interfere with their personal well being given the other demands at their stage of life. It not only helps to absorb existing knowledge base within the expert population of an industry's retired community that might've gone untapped, it also fosters intergenerational interaction and appreciation within organisations.

Conclusion

Research on ageing in India has been always attached as a burdensome process not only for a country but also for the resources, but the changes in western countries to understand the positive side of ageing describing the concept of successful ageing has provided a direction to a perceptual shift. There is a gradual move towards the redefinition of ageing in India towards a positive outlook but still certain aspects are not under the current domain of understanding, little research has been established in India that define ageing in terms of successful outcomes and processes. The currently available studies and books are limited to urban upper middle class Indian population (Chakraborty & Chawla, 2023) which is relatively more privileged and less in population composition when compared to their lower income and rural counterpart, there is need to advance the research and explore successful ageing in indian context from every perspective of rural as well as urban catering to indian principles of ayurveda, life-long learning and intergenerational gap to provide a view of ageing away from disease model, leading to a better policy making initiatives for government and for elderly to transition into ageing smoothly.

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Examining Self-Esteem and Psychological Well-Being in Relation to Impostor Phenomenon Among Young Adults in Nuclear and Joint Families

Ishita Wadhwa*, Nisha Chaudhary**

Ishita Wadhwa (MSc. Clinical Psychology, Christ University Bangalore), Dr.

Nisha Chaudhary (Assistant Professor, Dr Bhim Rao Ambedkar College, University of Delhi)

Abstract

This study examines the intricate relationship between self-esteem, psychological well-being, and Impostor Phenomenon among young adults residing in nuclear or joint families. This study aims to explore these relationships and assess if family structure influences psychological experiences. A total of 100 participants from urban areas across India, aged 18 to 25 years and representing diverse genders, were recruited for this research. Standardized scales, including the Impostor Phenomenon Scale, Psychological Well-Being Scale, and Self Esteem Scale, were used to measure the variables of interest. Results revealed significant correlations, with a negative correlation found between Impostor Phenomenon and self esteem, indicating that lower self-esteem may heighten feelings of impostorism. Additionally, a positive correlation emerged between psychological well-being and self-esteem, suggesting that individuals with higher self-regard experience greater psychological flourishing. A negative correlation between psychological well-being and Impostor Phenomenon was observed implying that enhanced psychological well-being may serve as a protective factor against impostor tendencies. To examine differences based on family structure, independent samples t-tests were conducted, revealing no significant variations in Impostor Phenomenon, psychological well-being, or self-esteem scores between individuals from nuclear and joint families. Additionally, the predictive power of family structure, psychological well-being, and self-esteem on Impostor Phenomenon scores was evaluated using regression analysis. The results showed that although psychological well-being and self-esteem were linked to imposter inclinations, they were not a significant predictor of imposter Phenomenon scores.

The lack of statistically significant distinctions between nuclear and joint families raises the possibility that these psychological dimensions are significantly shaped by other contextual circumstances. These results emphasize how crucial it is to promote psychological well being and self-esteem in order to lessen the impacts of the impostor phenomenon in young adults. The primary objectives of interventions should be to promote mental health, increase positive self-esteem, and establish supportive family and educational contexts. It is possible to promote young people's resilience and general mental health by implementing customized ways that address the Impostor Phenomenon within the larger framework of psychological and familial dynamics. Keywords: Impostor Phenomenon, Self-Esteem, Psychological Well-Being Young Adults, Family Structure (Nuclear or Joint).

Introduction

Through the lens of positive psychology, this study examines the intricate relationship between Impostor Phenomenon (IP), self-esteem, and psychological well-being in young adults from nuclear and joint families. By emphasizing human potential, flexibility, and thriving, positive psychology moves the emphasis from only treating psychiatric suffering to promoting well-being. A key factor in psychological well-being, self-esteem affects how people view themselves and deal with difficulties. Autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance are all aspects of psychological well-being that are vital in determining an individual's resilience and mental health.

The Impostor Phenomenon is a serious threat to psychological well-being since it is typified by ongoing self-doubt and a fear of being revealed as a fraud in spite of apparent competence. Although frequently examined as a personal psychological experience, family relationships may have an impact on its frequency and severity. Whether nuclear or joint, family arrangements influence social expectations, emotional support networks, and interpersonal relationships all of which are important for psychological health and self-worth. These experiences are further modulated by cultural factors, since self-perception, confidence, and reactions to impostor tendencies are influenced by societal norms, values, and expectations. The goal of this study is to investigate how self-esteem, psychological well-being, and the Impostor Phenomenon interact among young adults from various family origins by combining viewpoints from positive psychology and cultural psychology. Knowing these

connections can help develop therapies that are specifically designed to improve mental health, empowerment, and resilience.

A person's evaluative self-knowledge, which reflects their perceived competency and self-liking, is referred to as self-esteem. It includes both positive and negative self-esteem, with low self-esteem reflecting negativity or uncertainty and high self-esteem indicating a positive self-view. Self-esteem contains cognitive and motivational components and is perceptual rather than objectively true. While those with low self-esteem concentrate on self-defense, individuals with high self-esteem work to improve themselves.

When lives are going well, psychological well-being is achieved. It is the result of both feeling well and performing well. It is not necessary for people to always feel happy in order to be sustainable; experiencing negative emotions, such as disappointment, failure, and loss, is a natural part of life, and long-term wellbeing depends on one's ability to control these unpleasant feelings. However, when negative feelings are severe or persistent and interfere with a person's capacity to carry out daily tasks, psychological well-being is jeopardized.

Feeling good encompasses more than just the positive emotions of contentment and happiness; it also includes feelings of curiosity, engagement, confidence, and affection. The development of one's potential, having some control over one's life, having a feeling of purpose (such as working toward worthwhile goals), and having positive connections are all components of functioning effectively (in a psychological sense).

A basic social unit that is intricately woven into Indian culture is the family. In addition to offering social and emotional support, it also has a great deal of power and influence over people. Family Dynamics have been categorized by scholars in a number of ways. While some have classified families into nuclear, stem, joint, joint-stem, and other kinds, others have distinguished between two main types: nuclear and joint/extended families. Members of unilineal descent group living together under a shared authority make up a joint family, while two married, heterosexual parents and their legal offspring make up a nuclear family.

Self-Esteem

According to Rosenberg (1965), he defined self-esteem as a person's total assessment of

their value, attitudes, and sentiments toward themselves. A significant impact is seen on social adjustment, psychological well-being, and lifequality. Low self-esteem is associated to social maladjustment, self-doubt, and heightened susceptibility to psychological distress , high self- esteem is linked to improved resilience, confidence, and emotional well-being. Rosenberg's (1965) self-esteem model categorizes self-esteem into two components: self-worth and self-confidence and self-deprecation. According to Gray-Little, Williams, & Hancock (1997), The Rosenberg Self-Esteem Scale remains a widely used tool in assessing self-esteem across cultural contexts Studies suggest that self-esteem is influenced by various social and psychological factors, including social comparison, reflected appraisals, and self- attribution (Robins, Trzesniewski, & Donnellan, 2012).

Studies have brought attention to the intricate relationship between the Impostor Phenomenon and self-esteem. Because self-doubt and feelings of inadequacy exacerbate anxieties of being discovered as dishonest, people with poor self-esteem are more likely to exhibit imposter tendencies. On the other hand, imposter syndrome can worsen self- esteem, resulting in a vicious cycle (Vergauwe et al., 2020).This connection is supported by empirical research. According to Kaur, Singh, and Kaur (2021), there is a negative relationship between IP and self-esteem, with low self-esteem making university students' imposter tendencies worse. Similarly, the conventional wisdom thathighself-esteemproducesuniversallyfavorableresultswasquestionedbyresearch conducted in 2003 by Baumeister, Campbell, Krueger, and Vohs. They maintained that excessive or brittle self-esteem might lead to avoidance behaviors or narcissistic tendencies, whereas adaptive self-esteem promotes wellbeing.

Greater self-esteem was associated with greater levels of academic performance, emotional

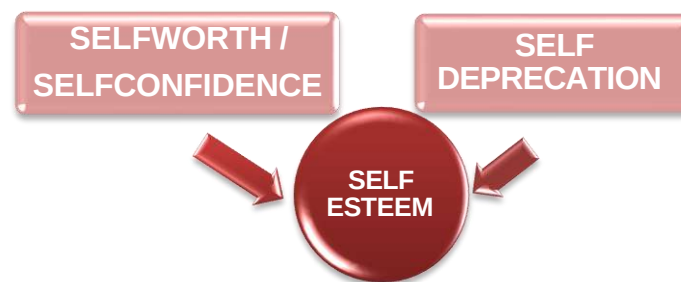
stability,andresilience,accordingtoCiarrochi,Heaven,andFiona's(2007)longitudinalstudy on the relationship between self-esteem and adolescent development. Their results indicate that preventing psychological suffering, including imposter syndrome, requires developing a positive sense of self-worth.

The growth of self-esteem and its connection to imposter tendencies are also influenced by cultural influences. Parkman (2019) emphasized how the pressure to perform without established family support structures frequently causes first-generation students to struggle

with self-esteem. According to Chrousos and Mentis (2020), self-esteem differs depending on the cultural setting, and in collectivist societies, people's views of themselves are shaped by social and familial expectations.

Impostor tendencies may be lessened by interventions targeted at enhancing self-esteem, given the crucial role that self-esteem plays in determining mental health outcomes. Positive reinforcement techniques, self-compassion training, and cognitive behavioral therapy (CBT) have all demonstrated promise in promoting a healthy sense of self (Bravata, 2020). The negative impacts of impostor syndrome can also be mitigated by supporting self-acceptance and development mindset interventions (Broda, 2018).

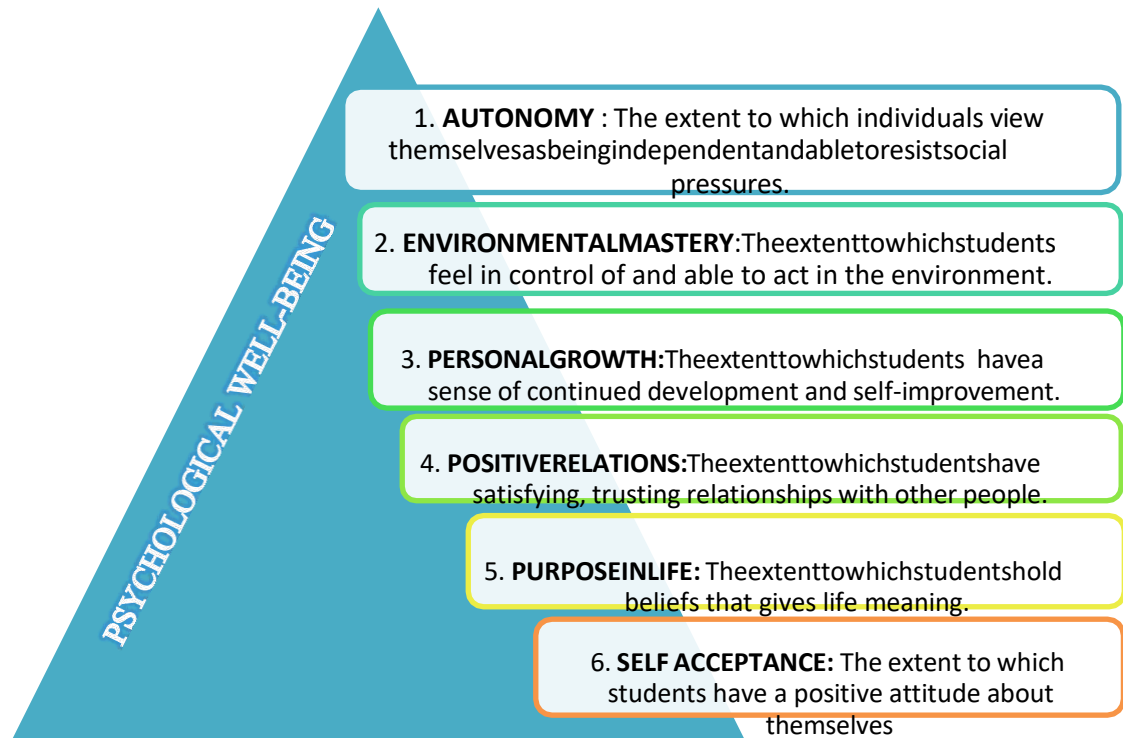
Dimensions of Self-Esteem



Psychological Well-Being

There are several aspects of a person's general quality of life and mental health that are included in psychological well-being. It encompasses positive elements like life happiness, emotional equilibrium, and fulfillment and goes beyond the absence of illness (World Health Organization). Subjective well-being (SWB) and psychological well-being (PWB) are two main categories into which psychological well-being falls. While PWB, as defined by Carol Ryff (1989), stresses autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance, SWB relates to an individual's judgment of happiness and life satisfaction.

Understanding human flourishing has been greatly aided by Ryff's paradigm of psychological well-being. Ryff's approach recognizes the complexity of well-being through six fundamental characteristics, in contrast to previous models that happiness with well-being:



Numerous favorable life outcomes have been shown to be strongly correlated with psychological well-being by empirical research. While Baumeister and Vohs (2002) stress that having a sense of purpose leads to mental health stability, Diener and Seligman (2002) emphasize the significance of social integration in improving life satisfaction. Research by Ryff & Keyes (1995) and Lawton (1983) further supports the importance of well-being in influencing emotional resilience and personal growth. Particularly noteworthy is the relationship between psychological well-being and the Impostor Phenomenon. According to Chrousos and Mentis's (2020) research, people who have imposter tendencies frequently experience lower psychological well-being, which can result in increased worry and procrastination. Broda (2018) has discovered that interventions like growth mindset programs and social belonging help improve psychological well-being by lowering imposter syndrome and boosting confidence.

Young adults' well-being is affected by a number of things, such as environmental mastery, personal development, and autonomy. The significance of autonomy in motivation and psychological well-being is emphasized by the Self-Determination Theory (Deci & Ryan, 1985). Ruff (1989) went on to examine environmental mastery as a key element of adaptive functioning, proposing that people who have a sense of control over their surroundings are happier.

Cross-cultural studies indicate that psychological well-being is shaped by societal norms and family structures. According to Shekhawat and Kumar (2023), individuals raised in joint family systems may benefit from increased emotional support, while those in nuclear families may experience greater autonomy but also heightened individual pressures. The findings of studies such as those by Canning et al. (2019) and Parkman (2019) emphasize the role of familial expectations in shaping self-esteem and psychological well-being, ultimately influencing impostor tendencies.

Impostor Phenomenon (IP)

The Impostor Phenomenon (IP) has garnered significant attention due to its profound impact on people's psychological health and job choices. It is a psychological experience characterized by persistent feelings of inadequacy and a nagging fear of being exposed as a phony, even in the face of undeniable evidence of one's talent. For young adults navigating the complexities of contemporary life, IP poses a serious challenge that casts doubt on their abilities and achievements.

Clance and Imes (1978) first introduced the concept of IP, describing it as an internal experience of intellectual phoniness, particularly among high-achieving women. Their research emphasized the role of early family dynamics and societal expectations in shaping impostor tendencies. Clance and O'Toole (1987) expanded on this by identifying associations between IP and traits such as introversion, trait anxiety, a need to appear smart, and a non-supportive family background.

Subsequent studies have linked IP to a variety of psychological factors. Chrisman et al. (1995) found a strong correlation between impostor fears and depression, while Ross et al. (2007) associated it with avoidant and dependent personality disorders. Vallerie Young (2003) categorized individuals experiencing IP into five psychological profiles: perfectionists,

experts, natural geniuses, soloists, and superhumans, illustrating the different ways in which individuals experience self-doubt. Furthermore, research by Pákozdy et al. (2024) highlighted negative correlations between IP and self-efficacy, as well as a positive correlation between IP and maladaptive perfectionism among university students.

IP has also been linked to academic and professional challenges. According to Kumar and Jagacinski (2006), they found that individuals experiencing IP exhibit distinct attitudes toward intelligence, capability, and goal selection. Canning et al. (2019) suggested that students with IP demonstrate lower academic engagement, attendance, and performance. Parkman (2019) identified additional challenges faced by first-generation students who struggle with impostor tendencies due to a lack of familial academic support.

Differences in gender and culture also influence how IP is experienced. According to Peteet et al. (2015), women, first-generation students, and members of racial and ethnic minorities are disproportionately affected by IP. In their 2019 study, Hampton and Feller examined how IP affects women in sectors that are dominated by males, emphasizing how gender norms fuel imposter phenomenon. IP and anxiety problems may overlap, according to Chrousos and Mentis (2020), which emphasizes the necessity for focused mental health treatments. IP has been studied in work-related settings. According to Shekhawat and Kumar (2023), they studied the prevalence of IP among educators, correlating it to job dissatisfaction, burnout, and poor performance. In a systematic analysis of the prevalence, predictors, and treatments of IP, Bravata (2020) found that perfectionism, neuroticism, social comparison, and negative feedback were important factors.

The study also shown how well coaching, mindfulness-based therapies, and cognitive behavioral therapy (CBT) can lower IP and enhance general mental health.

By investigating the connections between IP, psychological well-being, and self-esteem among young adults in nuclear or joint families, this study aims to close current gaps. This study intends to aid in the development of focused interventions that promote resilience and self-acceptance among young adults who are experiencing impostor tendencies by examining the impact of family structures, cultural expectations, and psychological well-being.

Family Structure

The patterns of connections, communication, and interaction that exist within a family system are referred to as family dynamics. These relationships have a big impact on a person's psychological well-being, sense of self, and vulnerability to the impostor phenomenon. Hallmarks of healthy family dynamics include Positive reinforcement, open communication, and emotional support which are considered to raise psychological well-being and self-esteem. Families that offer a supportive and encouraging atmosphere can help gain resilience, confidence, and a strong feeling of self-worth in. On the other hand, dysfunctional family dynamics which is characterized by unreal expectations, criticism, or a lack of emotional support can result in stress, self-doubt, and an increased chance of experiencing the IP. According to research, young adults who grow up in settings with high parental expectations and performance-based validation are more prone to experience imposter syndrome because they may feel under constant pressure to demonstrate their abilities (Chrousos & Mentis, 2020).

Family dynamics are further shaped by cultural norms, especially in collectivist countries where social roles and familial expectations have a significant impact on psychological health and self-perception. Support from extended family members can act as a stress reliever and promote emotional stability in joint family structures. Joint family hierarchical systems, however, can also impose strict expectations, which could exacerbate imposter syndrome and self-doubt.

This study looks at how family dynamics affect psychological health, self-esteem, and the Impostor Phenomenon in both nuclear and mixed family contexts. The results will help develop interventions that support resilience-building, positive family interactions, and mental health for young individuals navigating the impact of their families on their psychological development.



Dimensions of Family Structure

Purpose

The purpose of this study is to Examine Self-Esteem and Psychological Well-Being in Relation to Imposter Phenomenon Among Young Adults living in Nuclear and Joint Families.

Hypotheses

1. (H₀): There is no significant correlation between self-esteem and Imposter Phenomenon.
 (H_A): There is a significant negative correlation between self-esteem and Imposter Phenomenon, suggesting that higher self-esteem is associated with lower levels of Imposter Phenomenon.
2. (H₀): There is no significant correlation between psychological well-being and Imposter Phenomenon.
 (H_A): There is a significant negative correlation between psychological well-being and Imposter Phenomenon, indicating that higher psychological well-being is associated with lower levels of Imposter Phenomenon.
3. (H₀): Family structure (nuclear or joint) does not significantly impact the levels of Imposter Phenomenon among young adults, after accounting for variations in self-esteem and psychological well-being.
 (H_A): Family structure (nuclear or joint) significantly impacts the levels of Imposter Phenomenon among young adults, even after accounting for variations in self-esteem and psychological well-being.

Methodology

Sample : A total of 100 participants from urban areas across India, including individuals of diverse genders living in either Nuclear or Joint Family will participate in the study. The age of the subjects ranges from 18 to 25 years.

Measures

- **Clance Imposter Phenomenon (IP) Scale:** Developed by Pauline Rose Clance in 1985, is a 20-item measure assessing impostorism, rated on a 5-point scale from "not at all true" to "very true." It demonstrates strong psychometric properties, with high internal consistency (Cronbach's alpha: 0.75–0.90) and validated correlations with self-esteem, anxiety, and depression. Norms are established through studies across diverse populations, ensuring meaningful score interpretation.
- **Psychological Well Being (18 Items):** Developed by Carol D. Ryff and Corey L. M. Keyes in 1995, this 18-item scale assesses psychological well-being across six dimensions: Autonomy, Environmental Mastery, Personal Growth, Positive Relations, Purpose in Life, and Self-Acceptance. Items are rated on a 7-point scale from "strongly agree" to "strongly disagree." The scale demonstrates strong psychometric properties, with subscale reliability (Cronbach's alpha > 0.70) and validity supported by correlations with life satisfaction and mental health. Norms are established through large-scale studies, ensuring meaningful interpretation across diverse populations.
- **Rosenberg Self-Esteem Scale:** Developed by Morris Rosenberg in 1965, this 10-item scale measures global self-worth using a 4-point Likert scale from "strongly agree" to "strongly disagree." It assesses two dimensions of self-esteem: **self-worth/self-confidence** and **self-deprecation**. The scale demonstrates strong psychometric properties, with high internal consistency (Cronbach's alpha: 0.80–0.90) and validity supported by correlations with self-confidence and self-efficacy. Norms are established through large-scale studies, ensuring meaningful interpretation across diverse populations.

Procedure

The data collection process commenced with obtaining informed consent from eligible participants, ensuring adherence to ethical guidelines. Young adults aged 18–25, with a

minimum high school education, fluency in English, and willingness to participate, were included, while individuals outside this age range, those unwilling to disclose their gender, those with diagnosed mental health conditions or severe cognitive impairments, or those lacking fluency in English were excluded. Before completing self-report surveys and standardized psychological tests online using Google Forms, participants received a thorough description of the study's goals and methods. To enhance response rates, follow-up reminders were sent at regular intervals. The study maintained strict confidentiality and voluntary participation, with all data handled securely and used solely for research purposes. Upon completion, participants were formally thanked for their contribution.

Analysis of data

Result

Table 1

Mean, Median & Standard Deviation

Descriptives				
	FAMILY STRCTURE	SELF ESTEEM	IMPOSTER PHENOMENON	PSYCHOLOGICAL WELL-BEING
Mean	Joint Family	31.1	52.1	93.8
	Nuclear Family	30.4	57.5	90.6
Median	Joint Family	32.0	53.0	96.5
	Nuclear Family	30.0	59.5	90.5
Standard deviation	Joint Family	5.73	15.7	12.4
	Nuclear Family	6.08	15.5	13.3

Table 2

Group Descriptive for psychological well-being subscales

Group Descriptives					
	Group	N	Mean	Median	SD
PERSONAL GROWTH	Joint Family	34	16.9	17.0	3.19
	Nuclear Family	66	16.0	16.0	2.99
POSITIVE RELATIONS	Joint Family	34	14.9	14.5	3.55
	Nuclear Family	66	13.7	14.0	3.81
AUTONOMY	Joint Family	34	15.1	15.0	2.84
	Nuclear Family	66	15.3	15.0	3.01
ENVIRONMENTAL MASTERY	Joint Family	34	15.6	15.0	2.70
	Nuclear Family	66	15.6	15.0	2.57
SELF ACCEPTANCE	Joint Family	34	17.2	18.0	3.39
	Nuclear Family	66	15.6	15.0	3.02
PURPOSE IN LIFE	Joint Family	34	14.1	13.5	3.49
	Nuclear Family	66	14.3	14.0	3.31

Table 3

Correlation Table

Correlation Matrix

	SELF ESTEEM	IMPOSTER PHENOMENON	PSYCHOLOGICAL WELL-BEING
SELF ESTEEM	—		
IMPOSTER PHENOMENON	-0.198 *	—	
PSYCHOLOGICAL WELL-BEING	0.415 ***	-0.211 *	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table4

Independentt-Test Analysis

Independent Samples T-Test

		Statistic	df	p
IMPOSTER PHENOMENON	Student's t	-1.649	98.0	0.102
PSYCHOLOGICAL WELL-BEING	Student's t	1.170	98.0	0.245
SELF ESTEEM	Student's t	0.599	98.0	0.551

Note. $H_0: \mu_{\text{Joint Family}} = \mu_{\text{Nuclear Family}}$

Group Descriptives

	Group	N	Mean	Median	SD
IMPOSTER PHENOMENON	Joint Family	34	52.1	53.0	15.70
	Nuclear Family	66	57.5	59.5	15.54
PSYCHOLOGICAL WELL-BEING	Joint Family	34	93.8	96.5	12.38
	Nuclear Family	66	90.6	90.5	13.34
SELF ESTEEM	Joint Family	34	31.1	32.0	5.73
	Nuclear Family	66	30.4	30.0	6.08

Table5

Regression Table

Model Fit Measures

Model	R	R ²
1	0.280	0.0787

Model Coefficients - IMPOSTER PHENOMENON

Predictor	Estimate	SE	t	p
Intercept *	78.766	12.083	6.52	< .001
SELF ESTEEM	-0.349	0.285	-1.23	0.223
PSYCHOLOGICAL WELL-BEING	-0.168	0.130	-1.29	0.200
FAMILY STRUCTURE:				
Nuclear Family – Joint Family	4.622	3.259	1.42	0.159

* Represents reference level

Discussion of Results

Descriptive

Imposter Phenomenon

- The mean score for individuals from joint families on the Imposter Phenomenon scale is 52.1, with a median of 53.0. The standard deviation (SD) indicates variability around the mean, with a value of 15.7. Individuals from nuclear families have a higher mean score of 57.5 on the Imposter Phenomenon scale, with a median of 59.5. The standard deviation is 15.5.

Psychological Well-Being

- The mean score for psychological well-being among individuals from joint families is 93.8, with a median of 96.5. The standard deviation is 12.4. Individuals from nuclear families have a slightly lower mean score of 90.6 on the psychological well-being scale, with a median of 90.5. The standard deviation is 13.3.

Self-Esteem

- The mean self-esteem score for individuals from joint families is 31.1, with a median of 32.0.

The standard deviation is 5.73. Individuals from nuclear families have a slightly lower mean self-esteem score of 30.4, with a median of 30.0. The standard deviation is 6.08.

Group Descriptive Of Psychological Well Being

Subscales measuring psychological well-being are analyzed to reveal minor distinctions between members of nuclear and joint family. Although both groups demonstrate comparable degrees of environmental mastery and autonomy, differences show up in other areas.

Joint family members show somewhat higher scores in **personal growth** ($M=16.9$, $SD=3.19$) compared to those from nuclear families ($M=16.0$, $SD=2.99$), suggesting a marginally greater sense of development and openness to new experiences. Similarly, **positive relations** scores are higher for individuals from joint families ($M=14.9$, $SD=3.55$) than those from

nuclear families ($M = 13.7$, $SD = 3.81$), indicating a potential influence of family structure on interpersonal connections and social fulfillment. Regarding **self-acceptance**, individuals from joint families report a higher score ($M = 17.2$, $SD = 3.39$) compared to those from nuclear families ($M = 15.6$, $SD = 3.02$), suggesting a stronger sense of self-worth within joint family structures.

Prior research indicates that members in nuclear households tend to report higher Imposter Phenomenon Scale scores. This is most likely a result of the increased pressure students experience to meet social expectations and achieve success in their academic or professional pursuits (Matthews & Clance, 2020). However, because joint family environments are more encouraging and collaborative, individuals of joint families report somewhat lower levels of impostorism (Barnett & Baruch, 1987).

Furthermore, variations in psychological well-being and self-esteem ratings highlight how important family unity is for fostering favorable psychological outcomes. Strong family support networks appear to be a contributing factor to positive self-perceptions and mental well-being, as evidenced by the higher psychological well-being and self-esteem among members of joint families (Ryff & Singer, 1998).

The enhanced self-acceptance among people from joint families may be due to the supportive family environment that fosters a strong sense of self-worth. Similarly, in joint families, stronger positive connections scores may be linked to richer social support networks, which would enhance interpersonal satisfaction and emotional fulfillment (Barnett & Baruch, 1987). Overall, people from joint families report higher levels of personal growth,

positive relationships, and self-acceptance, despite the fact that both family structures show similarities in some areas of psychological well-being. This suggests that familial support plays a significant role in influencing young adults' psychological well-being.

Correlation Analysis

There is a significant **negative correlation** between the **Impostor Phenomenon and self-esteem** ($r = -0.198$, $p < .05$), suggesting that lower self-esteem is associated with a higher tendency to experience impostorism.

This aligns with previous research indicating that individuals with low self-esteem are more vulnerable to feelings of fraudulence and self-doubt (Bravata et al., 2019). The

findings underscore the critical role of self-esteem in mitigating impostor-related experiences and highlight the need for interventions aimed at enhancing self-worth to reduce impostor tendencies.

There is a significant **positive correlation** between **psychological well-being and self-esteem** ($r = 0.415$, $p < .001$), indicating that individuals with higher self-esteem tend to report greater psychological well-being.

This finding supports the notion that self-esteem contributes to overall well-being, encompassing factors such as life satisfaction, positive affect, and personal growth (Orth et al., 2019). The strong association between these variables highlights the importance of fostering a positive self-concept as a means of promoting overall psychological flourishing.

There is a significant **negative correlation** between **psychological well-being and the Impostor Phenomenon** ($r = -0.211$, $p < .05$), suggesting that individuals with higher psychological well-being are less likely to experience impostorism.

This finding aligns with existing literature, which suggests that individuals with strong psychological well-being demonstrate greater resilience and adaptive coping mechanisms, making them less susceptible to impostor-related feelings (Cokley et al., 2013).

Independent T-Test Analysis

An independent samples *t*-test was conducted to compare **Impostor Phenomenon, Psychological Well-Being, and Self-Esteem** scores between individuals from joint and nuclear families.

For **Impostor Phenomenon**, there is no significant difference in scores between individuals from joint families ($M=62.4, SD=12.1$) and nuclear families ($M=65.3, SD=13.4$), $t(98) = -1.649$, $p = .102$.

For **Psychological Well-Being** scores there is no significant difference between

individuals from joint families ($M = 93.6$, $SD = 14.7$) and nuclear families ($M = 90.5$, $SD = 15.3$), $t(98) = 1.170$, $p = .245$.

For **Self-Esteem**, there is no significant difference between joint families ($M = 22.4$, $SD = 4.9$) and nuclear families ($M = 21.9$, $SD = 5.2$), $t(98) = 0.599$, $p = .551$.

These results imply that differences in impostorism, psychological well being, or self-esteem among young adults are not substantially predicted by family structure alone. Although psychological experiences may be influenced by family structure, the lack of notable variations suggests that other contextual factors may also play a part. According to earlier studies, family communication patterns, parental support, and cultural beliefs may have a greater influence on psychological outcomes than family structure alone (Mistry & Dutta, 2018). To gain a deeper understanding of the intricate relationship between family dynamics and psychological well-being, future research should take a more nuanced approach by taking these elements into account.

Regression Analysis

The degree to which family structure, psychological well-being, and self-esteem predict Impostor Phenomenon scores was investigated using a multiple regression analysis. With $R^2 = .0787$, the model showed a modest fit, meaning that the predictor variables accounted for around 7.87% of the variance in Impostor Phenomenon scores.

Model Coefficients

The **intercept** represents the estimated mean Impostor Phenomenon score when all predictor variables are set to zero ($B = 81.077$).

- **Self-esteem** was not a significant predictor of Impostor Phenomenon ($B = -0.349$, $SE = 0.285$, $t = -1.23$, $p = .223$), suggesting that variations in self-esteem levels do not significantly influence impostorism in this sample.
- **Psychological well-being** also did not significantly predict Impostor Phenomenon scores ($B =$

-0.168 , $SE = 0.130$, $t = -1.29$, $p = .200$), indicating that general well-being does not

substantially contribute to differences in impostor experiences.

- **Family structure** (nuclear vs. joint family) was not a significant predictor of Impostor Phenomenon scores ($B = 4.622$, $SE = 3.259$, $t = 1.42$, $p = .159$), implying that impostorism levels do not significantly differ between individuals from nuclear and joint family backgrounds.

According to the regression model, young adults' Impostor Phenomenon scores are not significantly predicted by factors such as family structure, psychological well-being, or self-esteem. Even though these elements might influence personal experiences, their influence in the current model was not statistically significant. The results highlight how crucial it is to take into account other ecological and psychological factors that could affect impostorism. According to existing research, impostor experiences are significantly shaped by elements including coping strategies, cultural values, and social comparison tendencies (Cokley et al., 2013). The shortcomings of the current model emphasize the necessity of a more thorough approach in future studies, incorporating these other variables to obtain a more sophisticated knowledge of impostorism in various family systems.

Conclusion

This study highlights the crucial role that self-concept plays in influencing psychological experiences and offers insightful information on the intricate relationship that exists between young adults' psychological well-being, self-esteem, and the Impostor Phenomenon. The results highlight the protective role of self-worth in lowering sentiments of fraudulence and self-doubt by showing a negative connection between impostorism and self-esteem. Furthermore, the positive relationship between psychological well-being and self-esteem emphasizes how these concepts are interrelated and emphasizes how crucial it is to promote both self-worth and general mental health.

This study fills a major gap in the literature by investigating how family structure shapes these psychological characteristics. The results indicate that family structure by itself does not significantly predict impostorism, self-esteem, or psychological well-being, despite the fact that family dynamics have an impact on self-perception and well-being. This emphasizes the

necessity of taking into account other contextual factors. Future studies should take a more comprehensive approach to examining the ways in which cultural beliefs, parental support, and family communication patterns may significantly impact people's experiences.

Additionally, by taking into account psychological well-being's multifaceted nature—which includes autonomy, environmental mastery, personal progress, meaningful relationships, purpose in life, and self-acceptance—this study advances a thorough understanding of psychological well-being. Understanding the importance of these factors enables a more thorough investigation of the relationship between impostorism and wellbeing and self-esteem.

In summary, these findings have significant ramifications for researchers, educators, mental health specialists, and legislators as they develop programs that support young adults' psychological resilience and boost their sense of self. To further our understanding of impostorism and its connection to wellbeing and self-esteem, future studies should take into account a wider range of psychological and social aspects. By incorporating these ideas, specific tactics to promote psychological wellbeing and lessen the negative impacts of impostorism can be created, thereby assisting young adults in their academic and professional endeavors.

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Lifelong Learning For Older Adults: Need and Opportunity

-Dr Biresh Pachisia*

*Senior Consultant with Government, Non-Government, academic institutions for teaching, training, research, evaluation, etc.; Member, Maintenance Tribunal for Parents & Senior Citizens, Government of NCT of Delhi (18-21)

Abstract

Lifelong learning/ continuing education plays a significant role in the life of older adults. It not only makes the senior citizens competent to adjust with the newer initiatives happening in the society but also brings positive motivation for life among them.

The study tries to examine the present status and future needs felt by the older adults for lifelong learning initiatives for themselves. The universe of the study is national capital Delhi and sampling is done between 50 older adults from unorganised sector aged between 60 and 70 (young old).

It was found that senior citizens were very positive for learning skills which they needed in their daily life, which lines with the principles of adult learning. The skills which were needed most by the samples included using of smart phones and features, banking transactions, using of travel apps like ola/ uber/ Rapido, online free medical consultations, railway reservations, legal rights, WILL, and so on.

The opportunities were very less with them where they can easily learn the said skills. They are largely depending on family members for the same, who are said to be less keen for the same.

The study suggests for taking initiatives by the stakeholders including the educational institutions to make brigade of volunteers who can not only help the older adults for their work but more important to make them competent, as per their interest, to learn the required skills and initiatives. RWA, Senior citizen clubs/groups of colonies may be involved for the initiatives.

Key words: Older Adults, Lifelong learning, volunteers brigade, Continuing Education

Introduction:

Adult Learning is a process which transcends the boundary of age and formal settings. It focusses on interest of the learner as per the needs observed in the daily living. Older adults learn when they want to learn and when they feel they need to learn to cope up with day-to-day activities. Learning may be for some pleasure, adjusting with the current changes, to keep up with the pace of the society, learning new technologies used in daily living, to become independent and many more other reasons. Adults learn not only in formal classrooms, which is proportionately very less, but in informal settings, moreover by doing things themselves.

There always exists a myth about learning initiatives for older adults. It is being assumed that older persons may not be able to learn new things in this age. They must only be recipients of the facilities and cannot be involved in productive activities. Many researches and also first-hand interaction with the senior citizens have proved this assumption wrong and has supported the notion of lifelong learning for senior citizens. Learning not only keeps seniors physically and mentally active but also gives pleasure and moreover motivation for life without dependence.

National Policy for Senior Citizens:

United nation general assembly resolution to observe the year 1999 as the International Year of Older Persons became the back force to not only observe the year 1999 as the International Year of Older Persons but also Government of India announced the National Policy on older persons in the same year. In view of the Article 41 of the Indian constitution which mandates the well-being of the senior citizens, and being signatory of the Madrid plan of Action 2002, Shanghai plan of Action 2002, Macau outcome document 2007 among others, Government of India has shown its commitment for the concerns of the older persons. The National Policy for Older Persons (NPOP) ensured shelter, food, healthcare, financial security, recreation, awareness, etc. for the older persons and reaffirmed the commitment to ensure the well-being of older persons, here in India.

After 10 years of implementation of the National policy for older persons, it has been reviewed and new National policy for the senior citizens has been drafted but waiting to be finalised and being notified. The new policy known as the National Policy for Senior Citizens 2011, has tried to accommodate several factors like the demographic explosion

among the elderly population, the changing social scenario, changing economy, advancement of science and technology, advancement of medical research, destitution of the poor elderly, especially of rural areas, as young generation migrated to urban areas for various reasons.

The Maintenance and Welfare of Parents and Senior Citizens Act, 2007:

The Act is a legislation initiated by the Ministry of Social Justice and Empowerment, Government of India for the effective provisions of Maintenance and holistic welfare for the senior citizens. The Act extends to the whole of India. The Act says that obligation for welfare and maintenance of parents and senior citizens also lies with the children, which not only includes, major son and daughter but also grandson and granddaughter. Maintenance mainly includes provisions for food, clothing, medical treatment, residence, recreation, etc. The Act clarifies that parent, may or may not be senior citizen, can be mother or father or both and whether biological or adoptive or step, all are given relief under the Act.

The Act mandates to form Maintenance Tribunals and Appellate Tribunals having powers of civil court where judgement to be given in 90 days. The tribunals to be formed and made functional district wise. The Act also directs State Governments to establish and maintain old age homes, at-least one in each district at accessible places, to accommodate at-least 150 indigent senior citizens in each home. The Act also tries to ensure medical care and support for senior citizens. It directs hospitals for separate queues for senior citizens, facilities of chronic, terminal and degenerative diseases, research activities for chronic elderly diseases, etc. The Act ensures protection of life and property of senior citizens.

From time to time, State Governments notify rules in the Act for the respective state as per the need and scenario of the state. The Maintenance and Welfare of parents and Senior Citizens (Amendment) Bill 2019 was introduced in Lok Sabha in December 2019, but it is still pending in parliament for various recommendations.

Commission for Senior Citizens:

The National Policy for Senior Citizens 2011 tries to address the growing concerns of the senior citizens in India. It gives recommendations for the formation of National Commission for Senior Citizens at the centre and State Commissions at the state level. The National Commission of Senior Citizens Bill 2019 was introduced in Rajya Sabha in December 2019 with the objective of improving the conditions of Senior Citizens in the country.

Kerala became the first Indian state to establish senior citizen commission recently in 2025.

Kerala Senior Citizen Commission is a statutory body established under the Kerala State Senior Citizen Commission Act 2025 and is first of its kind in India. The key functions of the commission will be policy advisory, redressal of grievances of senior citizens, Skill utilisation, legal support, awareness campaigns and will submit periodic reports to the state Government with recommendations.

Rationale of the Study:

The issue of older adults is emerging global challenge in this 21st century. In India, as of 2022, more than 10 percent of the population was of age 60 and above which is expected to increase to 21 percent approximately in 2050. This means that every 5th person in India will be older. This is the high time when we talk and take action about lifelong learning initiatives for older adults which may lead to productive and successful ageing.

Objectives:

- To explore and understand the need of continuing education and lifelong learning among older adults.
- To explore and understand the skills required by the older adults as per their interest and need.
- To explore and understand the opportunities available with the older adults to acquire continuing education and skills through lifelong learning initiatives.

Methodology:

The investigator collected sample through primary sources including interviews, focussed group discussions and secondary sources like review of documents. The sampling was done through convenient sampling technique.

The present study has been conducted in two districts of Delhi, North and North-west districts receiving support from some Non-Government Organisations. The Investigator has taken a sample size of 50 in total covering 25 older adults (young old) in each district.

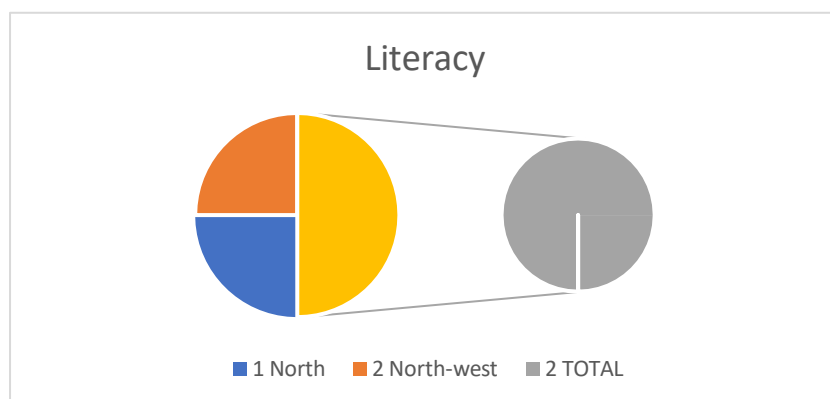
Inclusion criteria of the samples are:

- Unorganised sector
- Literate (can read and write)
- Young old (Age between 60 to 70)

Area	Sample Size
North	25
North-west	25
Total	50

Figure 1**Findings:****Literacy level of the respondents:**

S. No.	District	Sample	Number of Literates
1.	North	25	25
2.	North-west	25	25
	TOTAL	50	50

Figure 2**Figure 3**

As the inclusion criteria was that the respondent must be literate, able to read and write. To re-confirm the same, the question was asked with the respondents. 100 percent were found to be literates.

Need of Continuing Education and Lifelong Learning:

Total	Yes	No
50	34	16

Figure 4

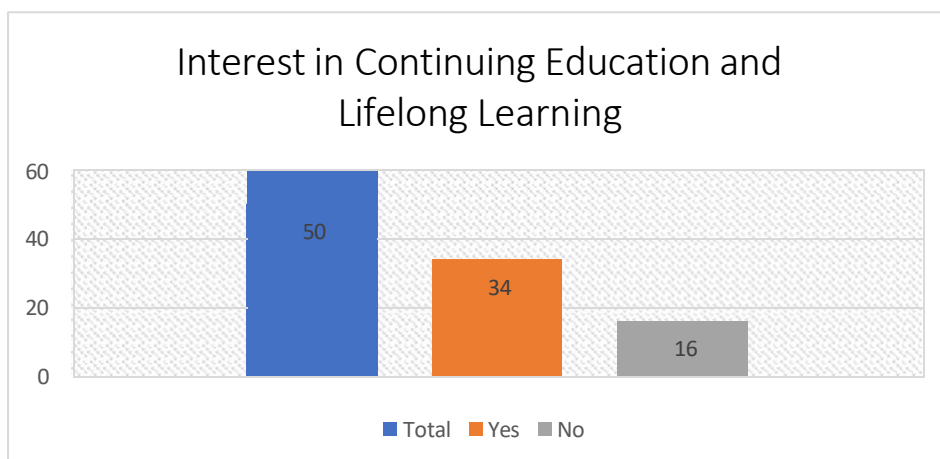


Figure 5

It has been explored and found that only 68 percent of the young old adults were found to be interested in continuing education and lifelong learning. It was observed by the investigator that the older adults were very confused that what they can learn now in this age and hence 32 percent replied in NO. When options were given to them for the skills which could be useful to them in this age, their thought changed, which is reflected in the below figures.

Need to learn the various features and uses of smart phone:

Total	Yes	No
50	41	9

Figure 6

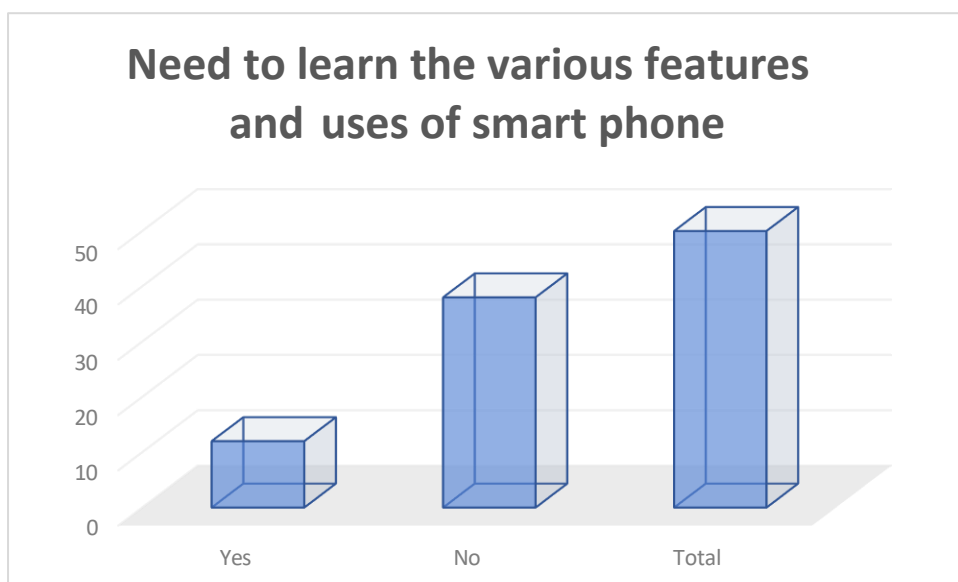


Figure 7

In above figure 4 and 5, it has been seen that 32 percent of the respondents were not interested in further continuing education and lifelong learning. It as been already mentioned

that the investigator had observed that the older adults were very confused that what they can learn now in this age and hence 32 percent replied in NO.

In figure No 6 and 7, it is seen that when option of learning features of smart phone was given, total 88 percent showed their interest. The features maximum of them wanted to learn was using WhatsApp, sending/receiving photos, voice calls, video calls, use of camera, alarm, torch, play game, etc. etc. Women respondents wanted to learn about OneDelhi App, Chartr App to download pink bus ticket from those app to travel in DTC bus.

To learn about banking transactions:

Total	Yes	No
50	44	6

Figure 8

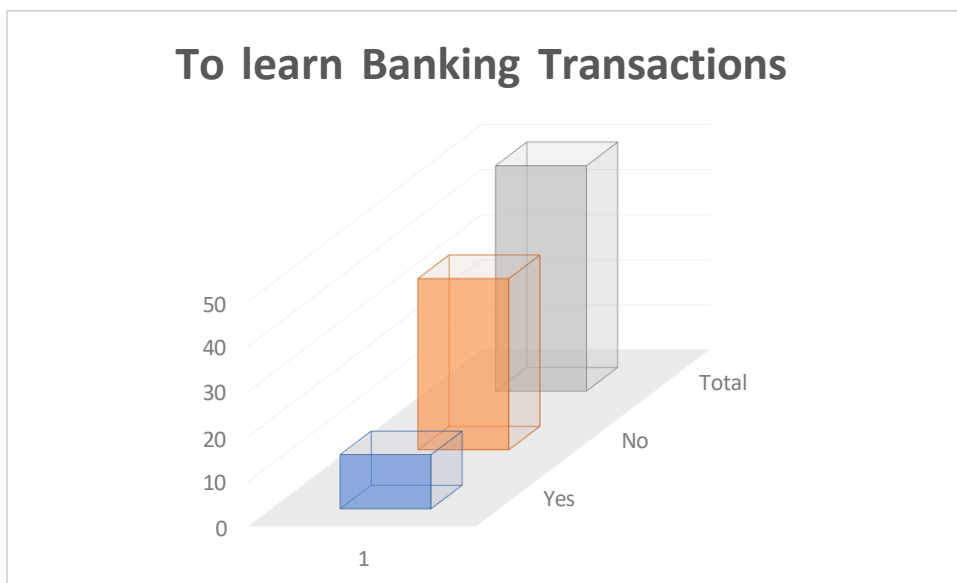
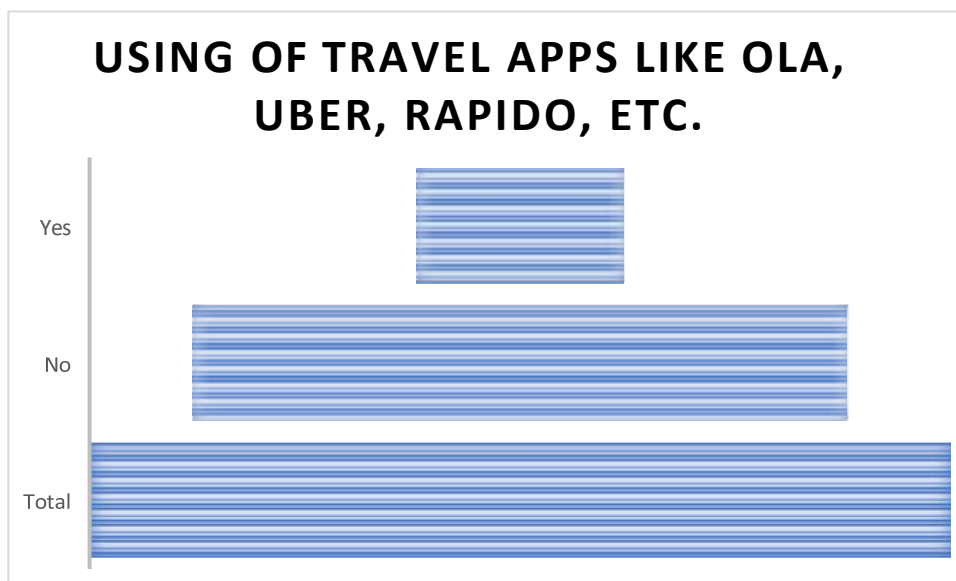


Figure 9

In figure 7 and 8, it can be seen that maximum of the respondents (88 percent) were keen to learn to deposit, withdraw money, do KYC in bank, update passbook from kiosk, use ATM machine, etc. They wanted to be independent in this so that they can use the knowledge whenever they want without waiting for someone who will facilitate them for the same.

Using of travel apps like OLA, UBER, Rapido, etc.:

Total	Yes	No
50	29	21

Figure 10**Figure 11**

In the above Figure 10 and 11, it can be seen that almost 42 percent are not interested for learning travel apps like OLA, UBER, Rapido. The respondent observed that young old people were not confident with travelling alone in Cab. Other 58 percent of the respondents to learn it so that they can use it whenever needed or in some emergency.

Online medical consultations

Total	Yes	No
50	39	11

Figure 12

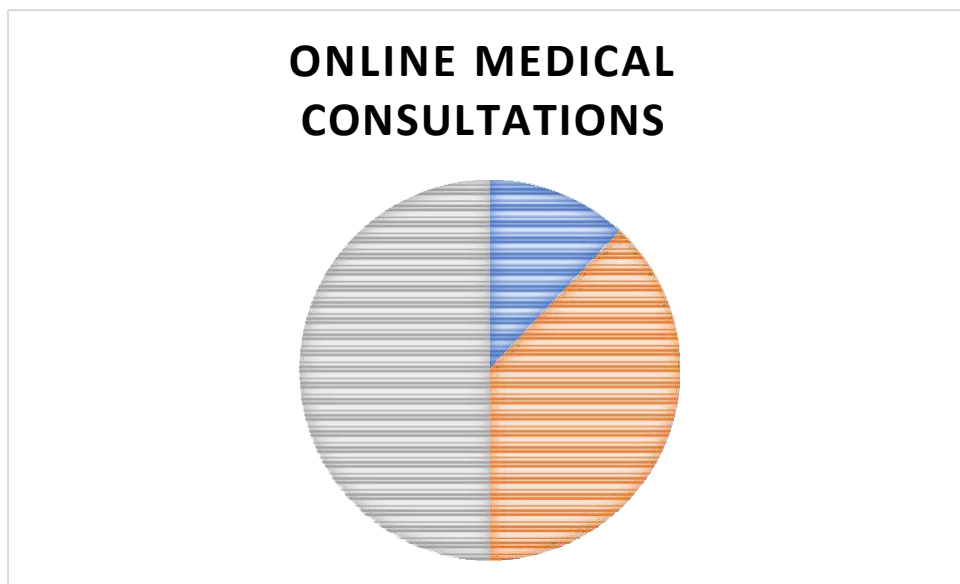


Figure 13

It has been observed in figure 12 and 13 that 78 percent of the respondents were interested to learn for online medical consultations, which sometimes are offered free of cost also. They wanted to learn to use app for these consultations where they can be guided by the doctors for their illness at their home only.

Learn to do online railway reservations:

Total	Yes	No
50	27	23

Figure 14

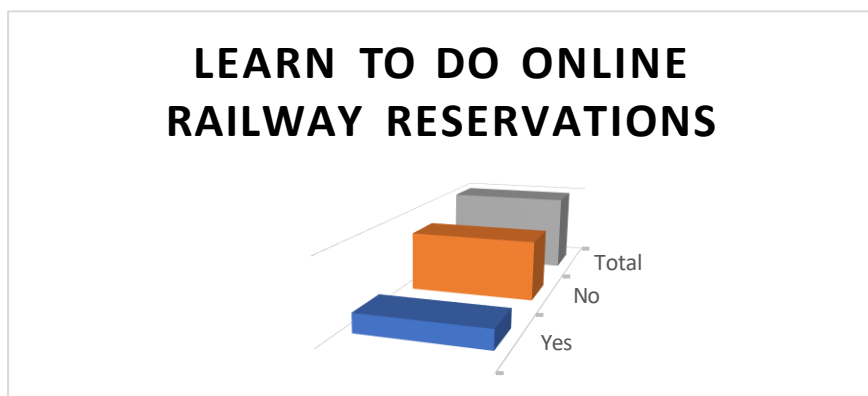


Figure 15

In the above figures 14 and 15, it can be seen that 54 percent of the respondents have shown

interest to learn online railway reservations. Rest 46 percent have no interest in the same. It has to be also seen here that the respondents of the study are both male and female of the older adults. The railway reservation from physical counters is done by maximum male members only. So, to skip long queues and take reservation from their home, they wanted to learn this. On the other hand, maximum older adults' women have no interest in it. Also, some male older adults who never travel or rarely travel outside Delhi have no interest to learn it.

Hence, it is seen that learning interest totally depends on the use of the learning in their life by older adults.

Legal rights of senior citizens and process to make a WILL:

Total	Yes	No
50	34	16

Figure 16

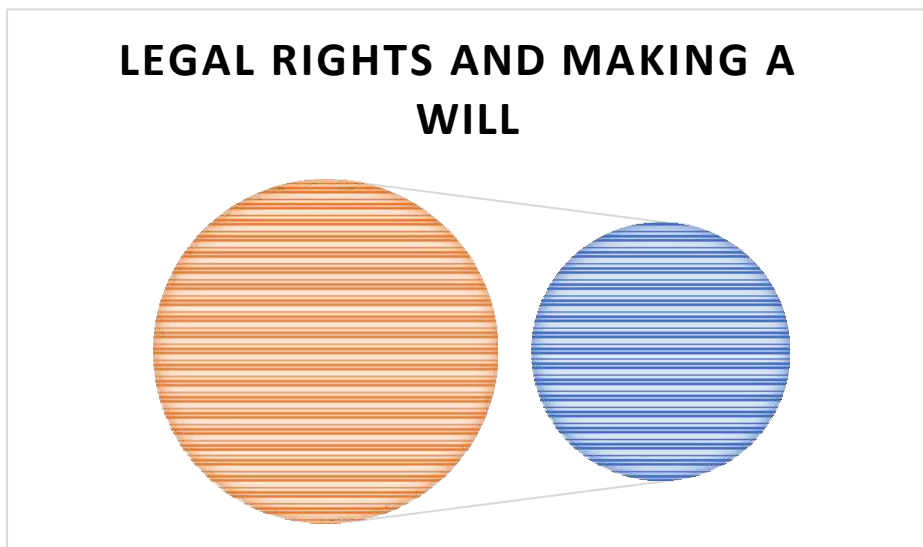
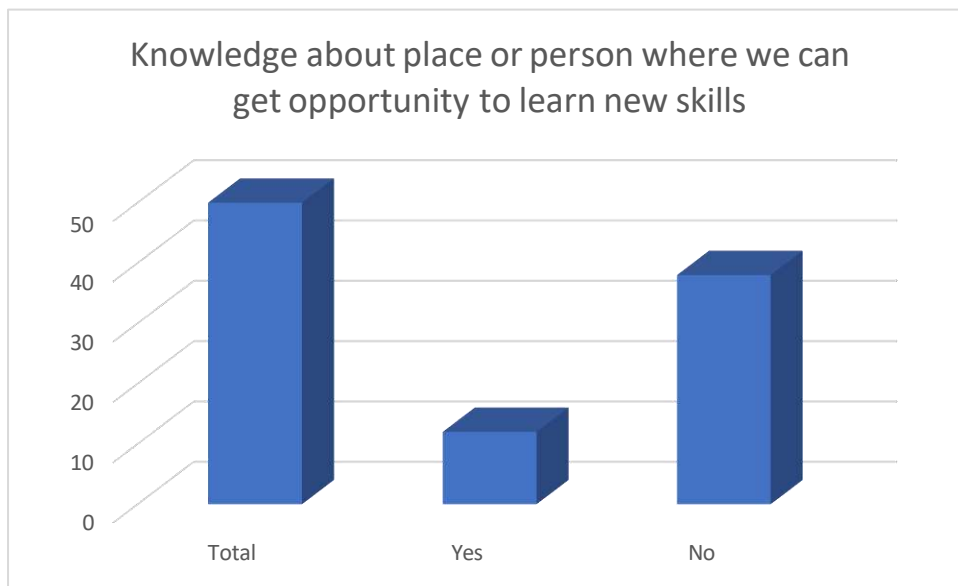


Figure 17

It can be seen from the above tables 16 and 17 that 68 percent of the respondents are interested to learn about their legal rights being senior citizen and how to make a WILL. Rest 32 percent do not see any use of this in their life.

Knowledge about place or person where they will get opportunity to learn new skills:

Total	Yes	No
50	12	38

Figure 18**Figure 19**

In the above figures 18 and 19, it can be clearly seen and observed that the older adults have no place where they can get knowledge about new skills which they need in day-to-day life. Family members are also least keen to let them learn these new skills, saying that they will not able to do or there is no purpose for them to learn these things.

Conclusion and Recommendations:

The study found that older adults (young old) were very positive for learning those skills which they needed in daily life. Respondents initially narrated that they do not need any continuing education or lifelong learning initiatives for them in this age. They were just continuing with their life. But when options were given to them of continuing education and learning skills like using many features of smart phones, learning new technologies, physical banking transactions including ATM machine, travel apps including DTC bus ticket, online medical consultations, legal rights etc., maximum of the older adults were very much interested to learn these skills through lifelong learning initiatives as it will make them independent and they will not have to request their family members and others to help them in every things.

It was also found that though maximum of the older adults were keen to learn new skills for use in their daily life, but there was no one, in their knowledge, who will assist them or make them learn these initiatives. There are day care centres for older adults in Delhi but

they just offer newspaper, games, picnic, pilgrimage and other things for older adults. No provisions of skills development or continuing education happen to be there. The family members are also not so keen to make them learn as they have the notion that their older adults will not be able to learn in this age and moreover there is no need for the same.

It is recommended and also the high time when the lifelong learning institutions, Universities, adult education centres, RWAs, NGOs, Extension and outreach departments of various academic institutions, come forward for this noble initiative where we can provide learning opportunities to older adults, not as per our mandate but as per their interest and need.

It is also recommended that volunteer brigade shall be initiated may be initially from undergraduates and post-graduate colleges and departments respectively, involving National Service Scheme and other bodies. This will give multiple benefits. Not only the older adults will get learning opportunity as per their interest and need but also, we will be able to bridge intergenerational gap. There have been success stories in Delhi University where Care Vision- Respect Age Campaign with Department of Adult Continuing Education and Extension under guidance of Shri Biresh Pachisia has given this opportunity to hundreds of older adults and this needs to be replicated at all stages in synergy with every institution mentioned above. We need to break the Silos and Build Synergies.

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Justice or Redistribution? The Threat to Hindu SC Rights in the Wake of Religious Conversion

Prof. Sanjoy Roy* & Dr. Sanjeev Kumar**

* Professor, Dean, Faculty of Social Sciences and Head, Delhi School of Social Work and Director,
ILLL, University of Delhi

** Assistant Professor, Department of Political Science, Shyama Prasad Mukherji College for
Women; Fellow, ILLL University of Delhi and Director, SHD Research Foundation

If Scheduled Caste (SC) reservation is extended to Muslim and Christian SCs, approximately 26.7 million Hindu SCs and STs may lose their reservation rights in education, employment, and other spheres

(Source: Computed by using data from
Census 2001 & 2011, NFHS (2019-20)
, RGI, Pew Research etc.)

Abstract

This paper critically examines the constitutional, demographic, and socio-political implications of extending Scheduled Caste (SC) reservation benefits to individuals who have converted to Islam and Christianity. Drawing on data from Census 2011, NFHS-5, Pew Research, and government records, the study estimates that such an inclusion could reallocate affirmative action entitlements from approximately 26.7 million Hindu SCs and STs. While proponents cite continued discrimination against Dalit Muslims and Christians, the paper highlights the doctrinal, historical, and legal inconsistencies in equating religious conversion with caste-based oppression. The paper underscores the lack of empirical evidence supporting structural untouchability within non-Indic religions and argues that economic disadvantage alone does not fulfill the constitutional rationale for SC reservation. Concluding that indiscriminate extension of quotas risks undermining the foundational objectives of social justice, the authors recommend a high-level commission to conduct a comprehensive, evidence-based study on the socio-economic status of religious converts from Scheduled Castes. This paper acknowledges that this paper is an outcome of the ongoing research project titled “Understanding the Law, Life world and Marginality of Religious Converts in Southern States of India (F. No. ICSSR/RPD/MJ/2023-24/ST/44)” funded by ICSSR.

Introduction

Indian democracy, over the last 70 years, has successfully mainstreamed various sections of people and a wide array of issues. Dr. B. R. Ambedkar had demonstrated that democracy is not merely a form of government but also a “*way of life*”, encompassing social, economic, and political spheres. To bring the disadvantaged sections of society into the mainstream, reservation based on social disadvantage was incorporated into the Constitution of India.

The reservation system in India aims to provide quotas to socially and educationally backward castes to ensure their adequate representation in education, employment, and political institutions. The constitutional basis for reservation rests on the identification of “socially and educationally backward persons” (Jeenger, 2020). Social backwardness in India is deeply linked to the caste system, which became a key criterion for determining eligibility for reservation, as extensively discussed in the Constituent Assembly of India.

Since 1951, the Constitution of India has guaranteed reservations in education and employment sectors for Scheduled Castes (SCs) and Scheduled Tribes (STs) on the grounds of their historical social disadvantages. As per Census 2011, around 201.4 million SCs and 104.3 million STs (Chandramouli, 2013), primarily from the Hindu community, have been availing these exclusive rights in the domains of education, employment, and political representation.

However, complications have emerged due to the historical and continuing phenomena of forced or manipulated religious conversions from Hinduism to Islam and Christianity. In such cases, various scholars, political leaders, and civil society groups have raised demands for the inclusion of converted SCs and STs from Islam and Christianity into the Scheduled Castes list, enabling them to benefit from the reservation policy.

There are also legal petitions pending before the courts demanding such inclusion. In response, the Government of India has rejected these demands and has constituted a commission under the Ministry of Social Justice and Empowerment to assess the situation. Two sets of arguments thus emerge: one in favor of extending reservation to converted SCs and STs of Islamic and Christian faiths, and the other from government authorities and scholars opposing the same.

This paper attempts to highlight the inferences based on the available data concerning existing SCs and STs across different religions, and explores the consequences if reservations are extended to converted SCs from Islam and Christianity. Additionally, this paper acknowledges a key limitation—the absence of comprehensive primary data or official studies on the current numbers and status of SCs and STs across religions and regions. Such a study is urgently needed to determine whether the demand for reservation for converted

SCs is valid and justifiable.

Constitutional Ground for Reservation

The Constitution of India, through various articles, outlines the provisions for reservations for Scheduled Castes (SCs) and Scheduled Tribes (STs) across multiple domains of governance. Part XVI of the Constitution specifically addresses the reservation of SCs and STs in the central and state legislatures.

Articles 15(4) and 16(4) empower both the State and Central Governments to reserve seats in public employment for members of these communities. The 77th Constitutional Amendment Act, 1995 introduced clause 4(A) in Article 16 to facilitate reservation in promotions. This clause was further amended in 2002 to provide consequential seniority to SCs and STs after promotion.

Additionally, the 81st Constitutional Amendment Act, 2000 permitted states to carry forward unfilled SC and ST vacancies to subsequent years without reallocating them to other categories (Drishti, 2019).

Other key constitutional provisions include Articles 330 and 332, which ensure representation in the Parliament and State Legislative Assemblies, Article 243D for reservation in Panchayats, Article 243T for Municipalities, and Article 335, which secures SC/ST representation in administrative services.

The overarching rationale behind these provisions is to address historical injustices, ensure adequate representation, and promote social equality for socially and educationally backward classes (Drishti, 2019).

Grounds for Extending Reservation to Converted SCs and STs

Currently, no authentic and consolidated data exists regarding the population of SCs and STs across religious communities. However, several estimates suggest that out of 20 million Christians in India, nearly 70 percent are of Scheduled Caste origin, primarily concentrated in states like Tamil Nadu, Karnataka, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh, Bihar, Punjab, Maharashtra, and Kerala (Joshi, 2020).

Proponents argue that even after converting from Hinduism, SC converts continue to face discrimination within their new religions. Reports like *Untouched India*, the existence of separate churches and gurdwaras, and observations by the Sachar Commission (2006)—that Dalit Muslims and Christians remain deprived of SC status available to their Hindu counterparts—serve as key arguments in favor of inclusion.

Scholars like Satish Deshpande advocate relying on economic data such as poverty and consumption levels to infer discrimination. As Paliath (2021) explains:

“As with other illegal practices, direct evidence of caste discrimination is difficult to collect through surveys because people seldom admit it. So, the evidence on caste discrimination tends to be inferential—like the under- or over-representation of caste groups relative to their share in the total population.”

Further, Satish Deshpande, one of the lead authors of the National Commission for Minorities’ Report (2008), emphasized that:

“There is a strong case for including Dalit Muslims and Dalit Christians in the Scheduled Caste category.”

He noted that:

“Among Dalits of different religions, nearly 47% of Dalit Muslims in urban India are below the poverty line. This is significantly higher than Hindu Dalits and Dalit Christians. In rural India, 40% of Dalit Muslims and 30% of Dalit Christians fall below the poverty line” (Paliath, 2021).

Although Deshpande agrees that economic criteria should not be the primary logic for reservation, he nonetheless bases his argument on economic disadvantage as evidence of continued social discrimination:

“There is ample socio-scientific evidence on the discrimination faced by Dalit Muslims and Dalit Christians. The economic data shows that they are worse off than the other segments of their communities—they are over-represented among the poor or disadvantaged and under-represented among the privileged by all conventional measures of poverty or disadvantage” (Paliath, 2021).

Consequently, many such scholars reject the argument that reservation should only be available to followers of Indic religions like Buddhism and Sikhism. They argue that the denial of reservation to converted Muslims and Christians on the basis of non-Indic origin is inconsistent with the inclusive and secular framework of the Constitution

Government’s Stand

The Government of India also rejected the Justice Ranganath Mishra Committee’s recommendation, which had proposed the inclusion of Dalit Christians and Dalit Muslims in the Scheduled Castes (SC) list. In response to a plea before the Supreme Court, the government stated that Christianity and Islam do not recognize the institution of caste and therefore do not give rise to the conditions of social and structural backwardness or untouchability.

The Centre informed the Supreme Court that:

“Dalits converted to Christianity and Islam cannot be given Scheduled Caste status to avail the benefit of reservation, as there is no backwardness or oppression in those religions” (TNN, November 12, 2022).

The Ministry of Social Justice and Empowerment (MSJE), in an affidavit filed in the apex court, argued that the Constitution (Scheduled Castes) Order of 1950 is valid and does not suffer from any unconstitutionality (TNN, November 12, 2022). The affidavit further stated that individuals convert to these religions in the belief that they will escape untouchability—a practice that is not prevalent in Islam and Christianity.

A second argument put forth by the government is that Buddhist conversions, particularly those led by Dr. B.R. Ambedkar in 1956, were based on specific socio-political imperatives, and the original caste and community identities of these converts are well documented and traceable. However, conversions to Islam and Christianity have occurred over centuries, making it difficult to identify the original caste background of the individuals concerned (TNN, November 12, 2022).

Thus, both government officials and many scholars reject the grounds for extending SC reservation benefits to converted Dalits of Islam and Christianity. They argue that conversion was undertaken to escape caste-based discrimination, and therefore economic disadvantage alone cannot justify inclusion. Additionally, the rationale for including Buddhists and Sikhs is based on the fact that these religions originated in India and share certain philosophical overlaps with Hinduism, including the historical transmission of caste structures. In contrast, Islam and Christianity do not endorse caste-based hierarchies, and hence do not offer a basis for claims of social backwardness or systemic discrimination within their religious frameworks.

If Reservation is Granted: What the Data Shows

The Registrar General and Census Commissioner of India has released data on the Population by Religious Communities from Census 2011. The distribution covers six major religious communities: Hindus, Muslims, Christians, Sikhs, Buddhists, and Jains, in addition to “Other Religions and Persuasions (ORP)” and “Religion Not Stated.”

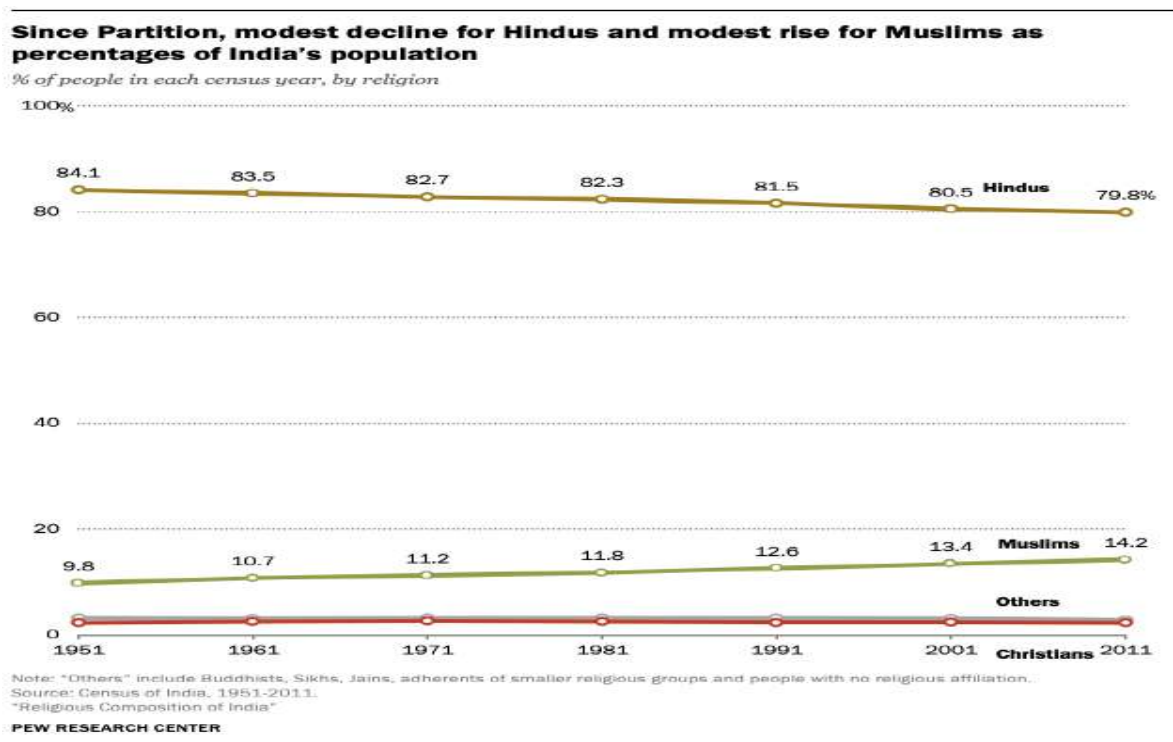
As per Census 2011, the total population of India was 121.09 crores, out of which Hindus constituted 96.63 crores (79.8%), Muslims 17.22 crores (14.2%), Christians 2.78 crores (2.3%), Sikhs 2.08 crores (1.7%), Buddhists 0.84 crores (0.7%), Jains 0.45 crores (0.4%), Other Religions and Persuasions (ORP) 0.79 crores (0.7%), and Religion Not Stated 0.29 crores (0.2%) (Registrar General of India, 2015).

Proportion and Growth Rate

Furthermore, the report highlights that the proportion of the Hindu population relative to the total population declined by 0.7 percentage points (PP) between 2001 and 2011. Similarly, the Sikh population declined by 0.2 PP, and the Buddhist population saw a reduction of 0.1 PP during the same decade. In contrast, the proportion of the Muslim population increased by 0.8 PP. There was no significant change in the proportions of Christians and Jains.

The overall population growth rate during the decade 2001–2011 was 17.7%. The growth rates of individual religious communities during this period were as follows: Hindus grew by 16.8%, Muslims by 24.6%, Christians by 15.5%, Sikhs by 8.4%, Buddhists by 6.1%, and Jains by 5.4% (Registrar General of India, 2015). A graph published by the Pew Research Center further illustrates religion-wise population growth in India since Partition. According to the data, between 1951 and 2011, the Hindu population declined from 84.1% to 79.8%, while the Muslim population increased from 9.8% to 14.2%

Figure 1: Hindu, Muslim and Christian Population Graph since partition of India (1951)



Source: This graph is imported from a report titled "Religious Composition of India" prepared by Stephanie Kramer, Pew Research Centre, (21 February, 2021).

What if Reservation is Granted to Muslim and Christian SCs

Table 1 : Reservation benefits to Converted Muslim and Christian SCs and STs of

Religion	Population/ %of total Population as per census 2011	Population growth Rate*	Current Population***: (with 17% growth) 1,41,67,00,323	SC % (as per NFHS, 2015)/ Actual Population out of religion population (self- calculation. F: RPxSC%)	SC % (as per NFHS, 2015)/ Actual Population out of religion population (self- calculation. F: RPxSC%)	Estimated SC Beneficiaries if Reservation is Extended	Estimated ST Beneficiaries if Reservation is Extended
Hindu	966257353 (79.8%)	16.87%	1,12,92,64,968	23% (25,97,30,942)	10% (11,29,26,496)	1,31,86,164 Hindu SCs will lose their reservation rights.	1,36,10,519 Hindu ST will lose their reservation rights
Christian	27819588 (2.3%)	15.5%	3,21,31,624	21% (67,47,641)	29% (93,18,170)	67,47,641 Christian SC would gain reservation right	93,18,170 Christian ST would gain right
Muslim	172245158	24.6%	21,46,17,466	3%	2%	64,38,523	42,92,349

	(14.2%)			(64,38,523)	(42,92,349)	Muslim SC would gain reservation right	Muslim ST would gain right
Other	No being calculated/Not required for the current study						
India	Census 2011: 1210854977 (100%)	17.7%	1,41,67,00,323	21.7%** (30,74,23,970)	9.5%** (13,45,86,530)	Total 2,67,96,683 Hindu SC & ST will lose their Reservation Right i. e. 26.7 Million	

(Source: As per Census 2011 SC population is 201378086 (16.63%) and as per NFHS, 2015 SC population is calculated as 307423970 (21.7%). Similarly, as per 2011 ST population is 104254613 (8.6%), and as per NFHS the population is calculated as 134586530 (9.5%). * Population growth data retrieved from RGI, Govt. of India, published in August 2015 (retrieved from <https://pib.gov.in/newsite/printrelease.aspx?relid=126326> on 21st September, 2022) as well as Pew Research Centre, 21st September, 2021 (Retrieved from <https://www.pewresearch.org/religion/2021/09/21/population-growth-and-religious-composition/> and accessed on 21 Feb, 2023). ** Data taken from NFHS 2019-21, p. 45-46. Retrieved from http://rchiips.org/nfhs/NFHS-5Reports/NFHS-5_INDIA_REPORT.pdf accessed on 24th February 2023. ***Current population is calculated with the formula: {Total Population (as per census 2011) X population growth%+ total population} similarly population of each religion is also calculated.)

As shown in Table 1, Muslims have the highest population growth rate among the major religious groups at 24.6%, followed by Christians at 15.5%. Based on these rates, the current projected population is calculated and then multiplied by the SC and ST percentages (from NFHS) to estimate the number of potential beneficiaries.

If Scheduled Caste reservations were extended to converted Muslims and Christians, approximately 67.4 lakh (6.7 million) Christian SCs and 93.1 lakh (9.3 million) Christian STs would become eligible. Similarly, 64.4 lakh (6.4 million) Muslim SCs and 42.9 lakh (4.3 million) Muslim STs would also become eligible.

This would amount to a total of approximately 2.67 crore (26.7 million) new beneficiaries under the reservation system. Consequently, it is argued that this expansion would reduce or redistribute reservation benefits currently available to Hindu SCs and STs, potentially limiting their access to education, employment, and political representation.

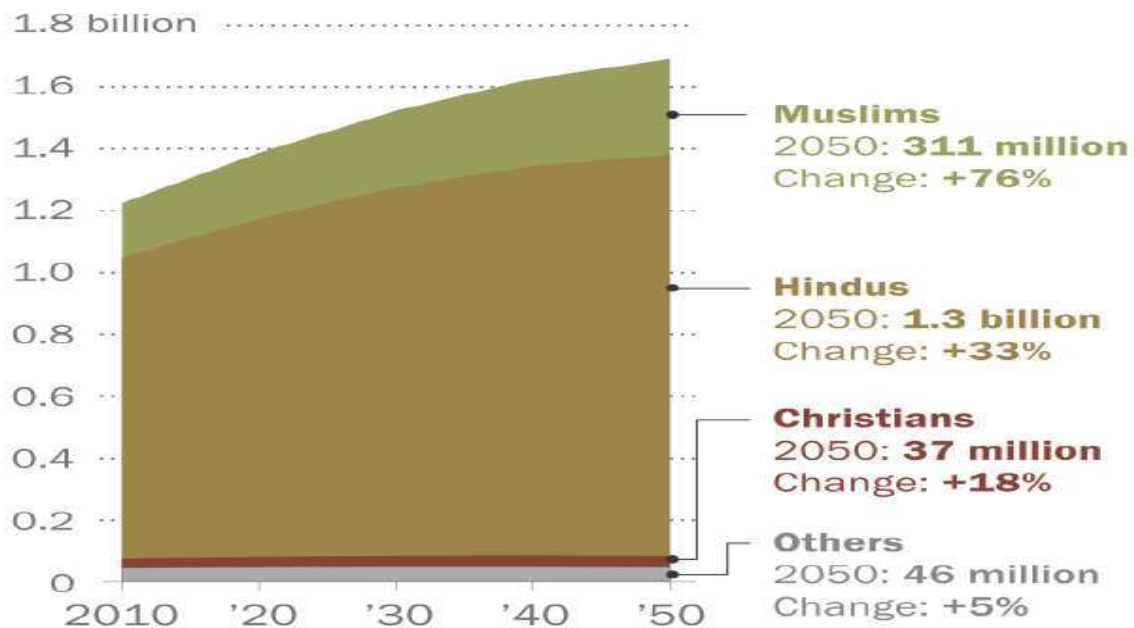
While the data projection is mathematically consistent, the interpretation that such inclusion would “snatch” or “massacre” reservation rights should be reframed in objective terms. It is more accurate to state that such policy changes would significantly alter the beneficiary landscape, necessitating further empirical studies and legal scrutiny.

Future of Muslim and Christian Population in India:

Figure 2: Future of Religious population in India

Population growth of the world's largest religions in India

Population projections, 2010-2050



Note: "Others" include Buddhists, Sikhs, Jains, adherents of smaller religious groups and people with no religious affiliation.

Source: Pew Research Center, "The Future of World Religions: Population Growth Projections, 2010-2050."

"Religious Composition of India"

PEW RESEARCH CENTER

(Source: This graph is taken from a report titled "*Religious Composition of India*" prepared by Stephanie Kramer, **Pew Research Center** (21 February, 2021). Figure 2 clearly shows that by 2050, the **Muslim population in India** is projected to exceed **311 million**, marking a **76% growth**, while the **Hindu population** is expected to reach **1.3 billion**, reflecting a **33% growth**.)

In the projected scenario, as of 2020, approximately 15% of Indians are Muslim (compared to 14.2% in the 2011 Census), 79% are Hindu (compared to 79.8% in 2011), and 2% are Christian (consistent with 2011). By 2050, Hindus are projected to comprise about 77% of the population, Muslims 18%, and Christians still 2%. Buddhists, Sikhs, and Jains, all of whom have fertility rates well below the national average, are therefore projected to decline in their share of the total population (Kramer, 2021, p. 22).

Conclusion

The issue of extending Scheduled Caste (SC) reservation benefits to individuals who have converted to Islam and Christianity is not only constitutionally complex but also historically and sociologically contentious. While caste-based social backwardness has been a deeply rooted structural distortion in Indian society, it is important to critically examine the claim that caste discrimination is inherently a religious construct of Hinduism. Scholarly interpretations of Hindu textual traditions, including the *Shrutis*, *Smritis*, and *Bhakti* literature, suggest that while varṇa as a conceptual framework existed, caste as a rigid hierarchical and birth-based institution was more a product of socio-political evolution than religious sanction.

The institutionalization and codification of caste hierarchies arguably gained momentum under foreign regimes, particularly during the Islamic conquests and the British colonial period. These regimes either exploited or formalized caste divisions—the former through socio-religious suppression and forced conversions, and the latter through the decisive impact of colonial census operations, which reinforced caste as a fixed and state-recognized category. Hence, modern caste-based discrimination owes as much to colonial administrative policies as to internal societal factors.

Today, the debate has taken a new turn, wherein the reservation rights of over 26.7 million Hindu SCs are potentially being undermined by demands to include converted Dalits from Islam and Christianity under the SC category. This demand, though articulated under the rhetoric of equality and humanitarianism, raises fundamental questions. Can religions that theologically deny caste and untouchability (as both Islam and Christianity do) also claim victimhood from the very system they doctrinally repudiate? More importantly, should affirmative action policies, designed to address historically inherited structural inequities, be extended to those who have consciously exited the social and religious identity that made them eligible for such benefits in the first place?

The current study does not find sufficient constitutional, sociological, or doctrinal grounds to support the extension of SC reservation to converted Muslims and Christians. The argument from economic deprivation, while compelling on humanitarian grounds, fails to satisfy the criterion of historical discrimination and systemic exclusion—the bedrock upon which SC reservations are constitutionally justified. Granting such benefits without a robust evidentiary basis would not only dilute the purpose of affirmative action but also jeopardize the rightful claims of Hindu SCs, who continue to face caste-based exclusion within their

own religious and social framework.

Therefore, the demand for reservation to converted SCs of non-Indic religions—especially Islam and Christianity—cannot be justified merely on the basis of poverty or underrepresentation. Such an extension, without a rigorous re-examination of legal, historical, and empirical evidence, would pose a serious risk of policy distortion and create inter-community tensions in the already delicate fabric of Indian social justice.

In light of these complexities, this study strongly recommends the constitution of a high-level interdisciplinary commission comprising historians, sociologists, legal scholars, and data scientists to undertake a comprehensive, evidence-based national study on the status, discrimination patterns, and social mobility of converted SCs in contemporary India. Only then can policymakers be guided by objective facts rather than political or ideological imperatives, thereby ensuring that the constitutional promise of social justice is upheld equitably and responsibly.

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Community-Driven Conservation among the Tribals: The Role of Sacred Groves in Environmental Education at Elementary Level in Odisha

Gomeya Among *, Dr. Manoj Kumar Behera **

Gomeya Among *, Research Scholar, School of Tribal Heritage and Tribal Indology and Centre for Sacred Groves, Kalinga Institute of Social Sciences Deemed to be University, Bhubaneswar

Dr. Manoj Kumar Behera **, Associate Professor, School of Tribal Heritage and Tribal Indology and the Centre Head, Centre for Sacred Groves, Kalinga Institute of Social Sciences Deemed to be University, Bhubaneswar

Abstract

This study investigates the importance of sacred groves to community-based conservation methods of the tribals in Odisha, India, revealing their role in environmental education. As significant natural and cultural spaces, sacred groves are a key area of the tribal religious and ecological cosmology and are a model for sustainable environmental management. This paper also explores how the reverence for these groves in the tribal community through a body of ethnographic research underpins an ethos of environmental stewardship as well as knowledge transfer from the older generations to the younger ones. In addition, they analyse the contribution of sacred groves to both formal and informal environmental education of the people, suggesting that they can be used as important resources for raising awareness about the environment and the need for responsible ecological behaviour. Sacred groves have been defined as areas of religious significance that are protected and preserved, and the study shows that their role as spatial-cultural ecosystems contributes to biodiversity and sustainable land use practices. The research explores the potential this integration has for enriching current environmental education practices and demonstrates the importance of having all stakeholders participate in the development of these efforts. Although the NEP 2020 does not explicitly mention sacred groves, the main principles behind sacred groves are sustainable use of resources, preservation of traditional knowledge, and nature-based experiential learning, which resonate with the objectives of NEP 2020. They can serve as a representative example of the combination of cultural heritage with environmental education and incorporating them into NEP-based curricula would allow children to better understand biodiversity and sustainability. This model would also arrive with the potential to preserve

such ecologically and culturally significant landscapes.

Keywords: Sacred groves, Community Conservation, Environmental Education, Tribal Community, Elementary Education.

1. Introduction

Community-led conservation has always been a core pillar of traditional societies, providing a link between culture and conservation. For the tribal of Odisha, sacred groves play a central role in this bond, signifying the tribe's deep-seated spiritual affinity with nature. These groves, dedicated to local deities or ancestral spirits, are small patches of forest maintained through communal efforts and indigenous practices. They act as biodiversity hotspots, while also serving as important sites for environmental education.^[34] Live and let live or at least, that's what the tribal in the eastern Indian state of Odisha believes. Sacred groves, called "Deb than", "Jaherthan", "Jaher Gal" in the Santal language and "Jayera" or "Desauli" in the Ho language, symbolize the cultural values and spiritual sensibilities of the tribe. These groves are more than just physical spaces, they are live entities sustaining the ecology as well as identity to the community. Embodying traditional sustainability practices, the conservation practices of the tribals are an exceptional model of environmental education.^[26] Environmental Education at the Elementary Level in Odisha is a small part of the larger whole of education it is designed to build up children's concept of ecological awareness, and habits, or a sense of responsibility to themselves and their environment. According to Bonnett, M., & Williams, J. (1998) "Like 'nature', the term 'environment' was understood by the children in a number of ways. For many, it had the sense of referring to everything, 'the world', 'the earth', even 'the universe'. A more specific meaning was identified by three of the children: the surroundings within which humans or animals live."^[3] In an attempt to show you how these principles can be put into practice, the following is a more detailed description of its implementation. Sacred groves have emerged as a common concept among the traditional knowledge systems of various communities. Sacred groves are usually conserved in Odisha by integrating religious rituals along with community-based governance mechanisms. The sacredness of these groves is protected by local taboos and rituals prohibiting actions such as the felling of trees, killing of animals and even the commercial extraction of plant material. Centuries-old practices like this have helped protect these areas

from the scourge of modern exploitation.

2. Objectives, Methods, and an Area of the Study

The current investigation is a comprehensive overview of the tribal populations in Odisha, a state characterized by its diverse cultural background, distinctive lingual practices, and close link with the natural world. India's eastern coastal state of Odisha is inhabited by a large number of tribes who have influenced its socio-cultural heritage for years. According to the Census of India 2011, the total Scheduled Tribe population in Odisha was 9,590,756, which formed approximately 22.85% of the total population of the state 41,974,218. The population of tribal people in Odisha is spread across the rural and forest areas of the state, especially the districts of Mayurbhanj, Keonjhar, Baleswar, Nuapada, Balangir, Boudh, Kalahandi, Dogarh, Sundargarh, Koraput, Rayagada, Nabarangpur, Gajapati, Malkangiri and Kandhamal. These districts are characterized by large numbers of tribal communities and heavy dependence on forest resources for livelihood, spirituality and sustenance. Odisha has many tribes, such as Ho, Santal, Kondh, Munda, Juang, Bonda, Sabar, Gond and Dongria Kondh among the more famous tribal groups. Odisha is home to several different tribal communities, each with its own unique culture, language, and traditions. The tribal society of Odisha imbibes a worshipping touch with nature, which is an integral part of their religion, folk tales and daily life. Things like sacred groves, traditional festivals, and animistic beliefs show their respect for natural elements like forests, rivers, and hills. The socio-cultural identity of tribals in Odisha is multidimensional and can be understood through the study of tribal communities. This research focused on the following objectives:

1. To explore the importance of sacred groves for biodiversity conservation and traditional knowledge among tribal populations in Odisha
2. To understand how sacred groves, being close to nature, promote environmental education in elementary schools in tribal societies
3. To assess the importance of community-led conservation measures in the preservation of sacred groves and the incorporation of sacred groves into school curricula
4. To discover teaching practices that draw on tribal ecological wisdom to nurture environmental awareness in young learners in an elementary educational setting

Methods: It has followed a qualitative, ethnographic approach to capture the interaction between community conservation practices and environmental education in the tribal context. For field observations: Sacred groves will be visited for documentation of biodiversity, cultural practices, and rituals associated with them. In the curriculum review author assessed the extent to which local ecological knowledge is integrated into elementary-level schooling as environmental education in elementary schools as per the SCERT Odisha and NEP 2020 curriculum context. For documentation and analysis: Oral traditions and stories related to sacred groves will be documented using anthropological methods. Qualitative data will be interpreted using thematic content analysis. Forest-rich districts of tribal Odisha like Mayurbhanj, Keonjhar, Koraput, and Kandhamal with a large tribal population and huge sacred groves. The communities have extensive traditional ecological knowledge, often passed down orally over generations. Educational scope could be initiated in tribal villages with elementary schools in or near them will be the starting point to examine how sacred grove-associated knowledge is being integrated into environmental education curricula. This study aims to connect the dots between customary ecological knowledge systems and mainstream environmental education, therefore, promoting the idea of sacred groves as living classrooms for fostering sustainability among upcoming generations.

3. Sacred Groves Among the Tribals of Odisha: An Overview

Tribal communities in Odisha, which are predominantly identified as Adivasis, are primarily located in the eastern and central regions of the country, which include states like Odisha, Jharkhand, West Bengal, Assam, and Chhattisgarh. These communities have a deep-rooted cultural and spiritual association with their natural habitat, which comes across most explicitly in their veneration of sacred groves. Sacred groves small forested areas held sacred for spiritual and ecological purposes are integral to their cultural and ecological practices. In Odisha, sacred groves are of immense importance in the traditional lives of tribal communities like the Ho, Kondh, Juang and Santhal. They are viewed as bastions of biodiversity that facilitate a more respectful relationship with nature and the spiritual belief systems of the humans that reside there. Among the Ho tribe, prominent in districts such as Mayurbhanj and Keonjhar, sacred groves are a centuries-old tradition of environmental conservation. The cultural identity of these tribes is heavily tied to their natural environment, with forests offering physical resources for survival as well as spiritual environments controlled by ancestral spirits and deities. ^{[5] [23]}.

Traditionally, the Ho tribe, like many other tribal communities in Odisha, depend on agriculture; the forests and their surrounding agricultural lands form a large part of their livelihood. Forests supply food, fuelwood, and medicinal plants that we need to live, but they are also sacred spaces. These groves are sometimes dedicated to local deities or ancestral spirits, and access to them is generally controlled by strict cultural norms, which keep them from being damaged. Often within or close to these groves, ritualistic, ceremonial, and festival behaviours surrounding agricultural cycles take place, embodying a community's ecological knowledge and respect for nature. It is also a reminder of the deep-rooted interdependence between tribal societies and their natural environment. The significance of sacred groves in the context of Odisha's tribes. The importance of sacred groves needs to be looked into and documented for promoting sustainable conservation practices and preserving the cultural heritage of indigenous communities. Odisha tribal population consider their natural world as a holistic system in which humans, animals, plants and spirits co-exist.^[7]

4. Importance of Sacred Groves in Spiritual and Religious Sense

Importance of Sacred Groves in the spiritual and religious practices of Odisha's tribal communities. Such forested areas are viewed as sanctified places where deities, ancestral spirits, and other natural forces reside. In Odisha, sacred groves serve as important components of religious practices and community festivities among various tribes due to the reverence they have towards nature and its link between the natural and spiritual worlds. In the spiritual sense, sacred groves represent the divine presence in the ecosystem, reflecting the tribes' animistic beliefs. Reverence of these groves is usually accompanied by rituals seeking blessings for agricultural fertility, good health and defence against natural calamities. Bills and restrictions like banning tree cutting or animal hunting within the grove draw attention to the sacredness attached to these spaces and act as traditional environmental conservation measures. In terms of religion, sacred groves are intimately linked to preserving the ethnic identity and ethical structure of society. Where myths, legends and oral histories are a means of passing from one generation to another, transmitting spiritual beliefs and traditional knowledge. These practices serve to reinforce community values, ensuring continuity of cultural traditions and fostering collective responsibility for nature.^[19]

The Govt. of Odisha has stated regarding the importance of Sacred Groves in the Scheme of the Special Development Council (SDC) that Sacred groves are an essential part of the tribal culture in Odisha, blending nature with culture as places of nature worship associated with

sacred myths in tribal theology and rituals. These ecosystems serve as cultural anchors and heritage conservation enclaves, conserving species of great importance to the communities that live within and around them, as well as important vis-a-vis their germplasm. Community bonding through rituals and festivals and the preservation of the environment through traditional practices Variably named and located, sacred groves reflect incidental conservation stemming from cultural traditions. Organizations like the SDC are working to bridge the break between culture, environment, and sustainable development, where the ecological and cultural significance of the groves goes hand in hand.^[9]

5. Sacred Groves: Ecological Conservation and Preservation

Odisha's tribal communities have a sacred grove relationship intertwined with ecological conservation practices. Spread over high biodiversity zones, these groves act as an important refuge for economically useful herbs, endangered plants and community health and survival species. For centuries, tribal communities have managed their environments sustainably, supported by traditional ecological knowledge. Cultural traditions and taboos help keep a balance in these sacred spaces, with strict prohibitions on hunting, cutting down trees or harvesting plants. These community-led conservation practices have played a pivotal role in the protection and preservation of sacred groves, safeguarding their ecological integrity for generations to come.^{[39] [1] [21]}

Such taboos and social norms are deeply embedded in the tribe's spiritual worldview, where polluting the grove is thought to bring injury to the grove and, in turn, the prosperity and well-being of the community.^[2] Protection of these groves from ancient times has not only conserved local biodiversity but also ensured ecological balance as these forests offer essential resources like water, wood and medicinal plants.

The ecological significance Sacred groves, sometimes referred to as “living museums” of biodiversity, are important parts of local ecosystems because of their diverse flora and fauna, including a large number of threatened and endangered species.^[42] Cultural taboos protect these areas as their use for events like logging, hunting and plant collection is restricted, thereby allowing them to buffer ecosystem processes such as water preservation, soil fertility and carbon sequestration^[37] Odisha is home to *Withania somnifera*, the vulnerable Sal tree (*Shorea robusta*) and a plethora of other species that are important for biodiversity in the region. Research indicates that sacred groves have higher species diversity than nonprotected forests, due in large part to their lack of human activity such as pathogen-free logging and agriculture.^[42]

5.1. Colonial Disruption and the Decline of Sacred Groves:

In modern times, colonialism, particularly the Indian Forest Act of 1865, had a major impact on the sacred groves of Odisha. The British focused on the exploitation of forests for timber and agricultural usage and did not take into consideration the ecological and spiritual importance of sacred grooves. These groves were seen as barriers to economic progress, so they were decimated and cleared for exploitation. Emphasizing economic profit rather than indigenous conservation practices was one of the reasons for the abandonment of sacred groves, such as those located in tribal areas of Odisha where the economic components of these groves were recognized whereas the environmental value couldn't be weighted.^[8] In addition, the expansion of Christianity during the colonial era also contributed to the decline of sacred groves. In contrast to the animist beliefs of indigenous peoples, Christian missionaries sought to convert these belief systems and replace them with Christian teachings, ultimately leading to the abandonment of traditional animist practices such as revering nature and sacred groves. The introduction of Christianity which was further aggravated by Hinduism had ruined the protective customs attached to the sacred groves among many and degraded or destroyed them in some.^[42]

5.2. Revival and conservation efforts after Independence:

After 1947, the efforts to conserve the sacred groves in Odisha consolidated when the biological diversity began to be recognized through traditional conservation systems. Environmentalists, anthropologists and local communities collaborated to bring back the groves lost during colonial and early post-independence periods. Government and NGOs worked hand in hand with Odisha's tribal communities who, armed with holistic knowledge repeated by sacred references from their tribal traditions, significantly played a key role in protecting these sacred spaces where culture and environment converge as two sides of the same coin.^[2] Sacred groves have also recently been incorporated into broader environmental education initiatives, increasingly acknowledged as crucial biodiversity and ecosystem assets for conservation and climate change mitigation. The practices and knowledge of Odisha's tribal communities form an integral part of national and international conservation mechanisms, highlighting their importance in the sustainable management of the environment.^[42]

6. Traditional Ecological Knowledge and Conservation Education

The transmission of traditional ecological knowledge is one of the main educational functions of sacred groves, referring to knowledge regarding the local ecosystems, plants,

animal behaviour and environmental processes. The grove is considered a classroom, where knowledge about nature and sacredness is taught by the elder generation to the younger one. These groves are usually overseen and safeguarded according to time-honoured practices that intertwine spiritual tenets with environmental caretaking. In Odisha, for example, the sacred groves of the Kondh tribe are at the centre of community rituals and teachings, where elders teach the importance of preserving all plant and animal forms and the natural environment.^[41] In most cases, the education provided by the grove is informal, with the learning taking place through experiencing nature directly. In addition to learning about the healing properties of the plants, children and younger members of the community are also educated on the ecological role of different species and the interdependence of the various elements in the ecosystem. Local plants (e.g., *Withania somnifera* (ashwagandha), Tulsi (holy basil) are used in traditional medicine, and it is common for a family to take children with them to sacred groves, where they can learn about these medicines.^[36] Sacred groves therefore serve a more general purpose of translating the need for environmental education into environmental and context-specific learning, a process that is embedded in the socio-cultural and ecological milieu. Despite the lack of formal educational institutions, sacred groves serve as informal learning (as in, a learning place other than the formal institution of schools) places for rural and tribal children. The activities carried out in these groves from rituals to festivals to conservation practices teach children about the interdependence of life forms and the need for sustainable living. Such teachings either place emphasis on treating nature with respect, ethics of sharing resources, conservation etc and form key aspects of the educational frameworks of several indigenous communities.

6.1. Sacred Groves as Environmental Education Tools

Environmental activities in tribal communities are significantly represented by sacred groves. For generations, these groves have been living classrooms where the youth of the community are taught about biodiversity, conservation and sustainable resource management. Learning of ecological knowledge from elders to younger generations often happens in the sacred groves wherein rituals and practices related to the protection of such areas are taught.^[2] Experiential learning in sacred groves promotes environmental conservation, mainly among the youth. Their traditional ecological knowledge and cultural practices impart conservation ethics. This focus on ritual and seasonal festivals centred on worshipping principles deities and spirits is a fundamental teaching point on the sacredness of nature. This multi-faceted approach reinforces the value of respecting and protecting

nature, counteracting the notion that nature is simply a commodity to be harvested for profit.^[42] Rich in biodiversity, these groves are also important spaces for environmental education, learning about sustainability, conservation, and traditional ecological knowledge. They are “living classrooms,” where indigenous communities pass down conservation ethics and ecological wisdom. Sacred groves represent a model of human and nature co-existence while reinforcing the value of conservation of resources and biodiversity. In recent times, sacred groves have become a part of formal education systems through which students can directly experience ecological practices such as tree planting and biodiversity assessments, nurturing a sense of environmental awareness and sustainability.^[30]

Environmental Education for Elementary Schools in Odisha: Odisha's elementary schools have a significant share of the overall educational stream and consequently go into forming environmental education. Here's an in-depth look at how it's been implemented:

Class I to V Environment Studies (EVS) is a core subject that combines elements of science, social studies, and awareness of the environment.

Themes Covered:

- Living and non-living things.
- Natural resources: air, water, soil and conservation.
- Biodiversity: the plants, animals, and their environments.
- With accurate information Waste management and recycling.
- Medicine, hygiene and sanitation.
- The most up-to-date weather and climate changes.

Upper Primary Education

In Classes VI to VII, While the new National Education Policy (NEP) 2020 recognises the need for environmental awareness and sustainability, it does not mention sacred groves explicitly in their name. However, the policy's broader focus on the inclusion of traditional knowledge and environmental education provides a policy framework within which sacred groves and other indigenous conservation practices can be included as an integral part of teaching and learning. Here is how sacred groves can, into practice NEP 2020.^[11]

Adherence to NEP 2020 principles of promotion of traditional knowledge according to the National Education Policy (NEP) 2020 supports the integration of Indigenous practices and local environmental knowledge (also referred to as traditional ecological knowledge) into the school curriculum. As a late thematically but still within the conceptual frame of this

post, sacred groves as a type of traditional conservation, fit this narrative by demonstrating how cultural practices conserve biodiversity. In the focus of Environmental Education/EVS, NEP 2020 highlights the importance of environmental sustainability and awareness in education. It emphasizes that we must learn about biodiversity conservation and it is all about sustainable resource management and supporting environmental stewardship. Sacred groves are prized examples in this regard, real-world case studies in community-led conservation.^{[11][12][12][14]}

6.2. Barriers and Potential of Formal Environmental Education Concerning Sacred Groves

However, evidence of how the tribal can preserve their traditional conservation practices and sacred groves such integration has been somewhat ineffective. The contemporary education systems followed in Odisha as well as many other places in India follow only the scientific and technical approaches to conservation and in most cases ignore the cultural and spiritual aspects.^[40] The integration deficit of conventional wisdom and modern science limits sacred groves from being identified as educational landscapes. This is where putting native knowledge into traditional education makes sense and gives students a wider perspective of eco-friendly preservation. Besides, curricula incorporating such issues as traditional ecological knowledge and sacred groves in schools and universities can promote a deeper understanding of conservation, focusing on intrinsic values rather than utilitarian ones. Furthermore, community-based conservation, such as the preservation of sacred groves as conservation areas, can form part of national and international conservation policy, allowing tribal peoples to maintain cultural practices while supporting larger ecological goals.^[2]

6.3. Science and Social Change: Sacred Groves in Contemporary Education

Sacred groves have recently become recognized as a source of knowledge, especially in environmental and ecological education of sustainable development.^[1] These groves of biodiversity and cultural significance also provide opportunities to teach students about the third place of human self-healing with nature as well. Students visit sacred groves and engage in conservation work there, biodiversity assessments and the local stories behind myths. Such experiences instil environmental awareness, pride in culture, and a sense of responsibility for preserving both the natural and cultural heritage. In addition, sacred groves are open-air classrooms that combine traditional ecological knowledge with state-of-the-art education regarding sustainability and conservation.^[25]

7. Threats to Sacred Groves: A Discussions

Sacred groves are remnant patches of natural forests that local communities particularly indigenous tribes have conserved historically because of their spiritual, cultural, and ecological significance. Often found in and around villages, temples or sacred sites, these groves have been vital to preserving biodiversity, conserving water, and protecting local flora and fauna. However, threats to Sacred Groves have been increasing over the years for several reasons, both anthropogenic and natural. Those threats include deforestation and encroachment, climate change and the erosion of traditional knowledge. The paper discusses the importance of sacred groves to biodiversity, culture and ecological balance and the different threats to these.

7.1. Deforestation and Habitat Loss:

In developing countries like India, where forests are cleared for agricultural and industrial development, deforestation poses a major threat to these sacred groves. Although there were once strong cultural taboos that respected sacred groves, these groves have fallen victim to modern pressures and have been degraded. These groves are often fragmented or reduced in size due to encroachment from agricultural fields, roads, and residential areas, with negative consequences for biodiversity. Population growth and land demand have increased these threats as in the case of Odisha (where sacred groves are frequently near agricultural lands). Besides, as younger generations garner less of a spiritual belief in sacred groves, the demand for timber, fuelwood, and arable land is often prioritized over their religious and ecological worth. The sacred grove destruction hurts biodiversity because many plant and animal species lose their habitats.^[20]

7.2. Resource Extraction & Commercial Logging:

Another dreadful threat to sacred groves is commercial logging. Although sacred groves are traditionally protected from resource extraction, they have come under pressure to be used for timber, medicinal plants, and forest products by commercialization. Illegal logging by local communities and externally driven actors for timber and non-timber forest products (NTFPs) may have sometimes been carried out in sacred grove areas, and in some cases, groves have been degraded or wiped out. To add to the destruction, the shift from traditional to more exploitative practices of forestry led to further destruction of sacred groves. In some regions of Odisha, for example, the demand for timber and firewood has pressured local communities to overharvest sacred groves. However, with sacred groves gaining economic value, they are also at greater risk of resource depletion, defeating the purpose of

conservation in the first place.

7.3.Climate Change and Environmental Pressure:

Climate change also poses a major threat to sacred groves, particularly due to changes in the rainfall regime, temperature fluctuations, and extreme climatic events. These groves typically in areas reliant on historic agricultural practices do not adapt well to climate shifts. While there are some variations in the monsoon season, certain areas are facing droughts and water shortages, while in others, the growing season has changed, affecting biodiversity in sacred groves. At the same time, climate change has led certain flower species to move up the mountains or decline altogether, throwing the ecosystem out of balance. The invasion of non-native species is also a challenge, made worse due to alterations in temperature and precipitation. Above and beyond, with changes in the environment, the local communities might start perceiving sacred groves to be less relevant and withdraw from protecting and preserving them.

7.4. Degradation of Culture and Loss of Traditional Knowledge:

Loss of traditional knowledge is a big threat to sacred groves. Modernization, migration to urban areas for job opportunities, the influence of external education and foreign cultures have all disconnected many communities from sacred groves and their associated indigenous knowledge systems. Elders as the main custodians of traditional ecological knowledge of the communities imparted knowledge to younger generations regarding the ecological function and rituals of the sacred groves. However, their cultural and spiritual significance is on the decline as people are displaced and turn to secular or external religions. Because of this lack of understanding, communities are less likely to engage in safeguarding the sacred groves, leaving them more vulnerable to degradation.

7.5.Urbanisation and Infrastructure Development:

The growing threats from urbanization, infrastructure development, deforestation and climate change are endangering sacred groves. Their biodiversity and cultural heritage face threats from urban sprawl, mining and commercial logging, while the loss of traditional knowledge contributes to their decline. Traditional ecological practices in conjunction with modern conservation techniques and community-based solutions can help secure these groves against the insatiable threat of land-use change and combat the disappearance of their irreplaceable ecological and cultural value.

8. Community-Driven Conservation: An Integral Part of the Solution

The Role of the Community in Conservation: Community-driven Conservation Community-driven conservation has been recognized as an important response to increasing environmental degradation, biodiversity loss and unsustainable use of natural resources. Advocates for the model argue that it enables local communities to take the lead in conservation planning, management, and operation using local knowledge and traditional ecological practices. This strategy differs from top-down perspectives, as it acknowledges the profound knowledge that local peoples have concerning their ecosystems and the need for them to be factors of environmental stability.^[4] Community-led conservation incorporates customary practices, e.g. laws, taboos, and rituals, to sustainably manage natural resources and curb over-exploitation. This has been especially successful in the preservation of biodiversity and cultural heritage in sacred groves and local ecosystems where governmental engagement may not be useful or exist. Communities established such social-kinds of boundaries (seasonal restrictions, indigenous systems of harvesting, defensive implementation, etc. basically balance between resource use and sustainability).^[42] Through community-based management, sacred groves combine indigenous knowledge with modern conservation principles to conserve biodiversity.

9. Balance between Tradition and Modernity in Policy and Governance

The challenge for Indigenous communities is to balance both traditional and modern worldviews. Knowledge intrinsically linked to nature and sustainable practices has enabled effective resource management. Contrastingly, the narrative of modernity prioritizes scientific advancement, yet can be linked to ecological collapse, disparity and marginalization between social classes, as well as the displacement of cultural identity. The mechanistic worldview of modernity militates against the spiritual values of traditional practices. Swift modernization erodes traditional knowledge and lifestyles, and obstacles like limited access to education and technology complicate adaptation. Furthermore, with the shift to modern economic and political systems, there is little regard for Indigenous knowledge, often disregarding its role in development and policymaking. Over the past several years, the importance of incorporating indigenous and local knowledge into decision-making has gained increasing recognition. In this regard, international frameworks (such as CBD) also advocate to rights of Indigenous peoples in the conservation and sustainable development.^[36] And both frameworks, CBD and UNDRIP set out the basis for national guidelines in the recognition and implementation of local impact assessment. For

instance, the idea of community-based natural resource management (CBNRM) is a very strong and popular approach in many states, which advocates that local communities manage and conserve their natural resources with the assistance of traditional knowledge as well as modern scientific methods.^[2]

The Special Development Council (SDC) has been constituted in nine tribal-dominated districts i.e. Mayurbhanj, Kendujhar, Sundargarh, Kandhamal, Gajapati, Koraput, Rayagada, Nabarangapur and Malkangiri to cover 117 blocks, 2022 GPs, 18687 villages and 14.05 lakh ST households with the purpose of:

- Conservation of tribal culture aligned with development objectives
- Propagation of tribal culture for retaining tribal identity
- Recognition of the Indigenous knowledge system of the Tribals and its promotion to help support the retention of tribal culture
- Documentation of tangible and intangible tribal culture, tradition and practices
- Identification of tribal resources and making the Indigenous knowledge/unique culture a means of livelihood
- Organization of exposure visits on a range of development issues
- Promotion of tribal languages and dialects for developmental communication
- Optimal utilization of available resources in tribal areas resulting in sustainable tribal development as per the felt needs of Tribals.
- Area/culture-specific development interventions will address the felt needs of the Tribals.^[9]

Such measures empower local community groups, protect local cultural heritage, and foster sustainable development. Providing funding, training, and technical support to local communities, governments and development organizations could also support the integration of tradition and modernity. For instance, these organizations can provide navigation to the process of modernization while keeping their cultural practices and traditions by providing access to modern technologies, markets and investigation in education.^[35] Tradition and modernity create both challenges and opportunities for sustainability. Indigenous knowledge helps us understand conservation and new technology and related innovations are addressing challenges across the world. Combining both systems brings about sustainable, inclusive and resilient societies. When both of these approaches respect and collaborate there is a bridge built to fill a gap, a solution for environmental and social challenges that can create a success story for harmony between the people and the planet.

10. Conclusion

This research gets into the association between sacred groves and environmental education in the context of tribal communities from Odisha, India, focusing on how traditional ecological knowledge and cultural practices play important roles in promoting environmental awareness and conservation. It has called for the integration of this knowledge with modern techniques in the name of sustainability and environmental education. In tune with the National Education Policy (NEP) 2020, the study points to the utility of integrating sacred groves into the academic curricula of schools, colleges and universities in the country. In primary education, sacred spaces can be studied as tools for raising awareness towards nature conservation, while in secondary education emphasis can be placed on their relevance to environmentalism and sustainability. On the level of higher education, sacred groves can be integrated into environmental science courses via research, documentation, and learning from the field. To enhance interdisciplinary teaching, and in furtherance of the conservation aspect of sacred groves, teacher training programs can focus on the ecology-culture nexus embodied in sacred groves. The work highlights the value of community-based conservation, with supportive policies and intercultural collaboration to connect traditional knowledge with modern practices. This integrated way of approaching language will allow for overcoming global environmental challenges, preserving cultural and linguistic uniqueness, and envisioning a more resilient, sustainable future.

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Enhancing Tribal Education in Odisha: Exploring the Role of Sacred Groves in Cultural and Educational Development

Mr. Jagulu Dakapraska*, Dr. Manoj Kumar Behera,**

* Mr. Jagulu Dakapraska, Research Scholar, School of Tribal Heritage and Tribal Indology and Centre for Sacred Groves, Kalinga Institute of Social Sciences (KISS) Deemed to be University, Bhubaneswar

** Dr. Manoj Kumar Behera, Associate Professor, School of Tribal Heritage and Tribal Indology and The Centre Head, Centre for Sacred Groves, Kalinga Institute of Social Sciences (KISS) Deemed to be University, Bhubaneswar

Abstract

Interacting with sacred groves which are integral to the culture, ecology and spirituality of Odisha tribals can be a unique opportunity to connect traditional knowledge with formal education systems. Naturally, therefore, groves dedicated to local deities and spirits are vital to a healthy biodiversity, being reservoirs of local knowledge on how to organise the social ecosystem, how to farm and what medicinal plants or sustainable living practices to adopt. Both of the above offer a means to conserve tribal culture and environmental heritage, and respond to 21st century educational challenges through the inclusion of Sacred groves in formal and informal education systems. Sacred groves thus are not just places whose very home is holy, where faith and religious rites, and celebrations of life and community take place; they are places that provide cultural anchoring and enable the passing through generations of values, of peoples. Integrating sacred groves into the educational practices can solve these issues as it can provide the tribal students an education that has more relevance and purpose, connected to their roots and the environment. Developing culturally sensitive curricula that truly honours the unique cultural identity of the tribal communities and equips them with the requisite skill sets to tackle the challenges of the contemporary world is imperative. This effort is for tribal knowledge tradition and educational tradition to combine in order to enlighten tribal students in a proper way.

Keywords: Tribal education, Tribal literacy rate, Sacred groves, Culture, Odisha

Introduction

Odisha has over 64 recognised tribes comprising about 22 per cent of the state's population. The tribal community possesses a rich cultural identity, and indigenous knowledge but they have a lack of resource to access quality education, especially for those living in rural and forest areas. In tribal societies, sacred groves are considered a repository of traditional knowledge as a natural resource as well as a spiritual component. These groves, subject to local gods and goddesses, play a vital role in maintaining biodiversity over generations, along with knowledge transfers on social structures, agriculture, medicinal plants and sustainable living techniques. Integrating sacred groves into formal education can play an essential role in addressing the existing disconnect between traditional knowledge and modern educational issues. A one-of-a-kind environment its groves serving as an educational space to teach locals the next generation sustainability, nature etc. This study explored the uses of sacred forest as educational resource for education sector in tribal context of Odisha, India.

Scheduled Tribes education: In terms of the various provisions enshrined in the constitution and also the plans and policies of the government, Odisha has continued to remain way behind the curve in the education of Scheduled Tribes. The educational level has hardly progressed in the five-year plans periods so far hence we can say that even today there is a long distance to be covered in order to reach the average level of education among tribals of Odisha. **Table 1** Literacy rates in general and ST populations:1991, 2001 and 2011

The total literacy rate of ST increased from 22.3 percent in 1991 to 37.4 percent in 2001 and 52.24 percent in 2011. So much for this, and yet, the literacy rate of the tribal population is very much below that of the country (74.04 percent). The literacy rate among ST males was 34.4 per cent in 1991, which improved to 51.48 per cent in 2001, and 63.70 per cent in 2011 while that of ST females was 10.2 pct to 23.37 pct and 41.20 in the same period. The ST female literacy rate in 2001 was about 28 percentage points lower than that of the general population female literacy rate, and the ST male literacy rate was about 25 percentage points lower than the general male literacy rate. Likewise, the literacy rates for general population and ST were 26.8 in 1991 and 25.71 in 2001 respectively but still this gap was not decreased significantly and also in 2011 the literacy rate of the general population and ST was quite differentiate

with
literacy rates of 20.63

Table 1: Odisha's general population and ST population literacy rates from 1991 to 2011

Year	General			ST			GAP
	Male	Female	Total	Male	Female	Total	
1	2	3	4	5	6	7	8
1991	63.09	34.68	49.09	34.4	10.2	22.3	26.8
2001	75.95	50.97	63.61	51.48	23.37	37.37	25.71
2011	81.59	64.01	72.87	63.70	41.20	52.24	20.63

It also illustrates the disparity between the literacy rates of general population and STs

Source: Census of India 1991, 2001 and 2011, Government of India, Office of the Registrar General, Bhubaneswar

That would suggest not everyone in the country has benefitted equally from the

government's literacy programs.

Though the gap in general population literacy rate of male and female population reduced from 28.41 percentage points in 1991 to 24.98 percentage points in 2001 and 17.58 percentage points 2011, it was widened for STs from 22.2 to 28.11 percentage points in 1991. Female literacy rates in ST also improved as a whole — good news for tribal society. However,

Table 2, the ST literacy rate remains below the general literacy rate in every district. The literacy rate of the majority of the tribally dominated districts (Table 2) of the state is less than that (52.2 per cent) of the tribes of the state as well as of the nation (59 per cent). The districts of Rayagada, Koraput and Malkangiri has the lowest tribal literacy rate with less than 40 percent.

Table 2: District-wise Literacy Rates (2011 Census)

SI. No	District	All Communities			Scheduled Tribe		
		Total	Male	Female	Total	Male	Female
12	3	4	5	6	7	8	
1	Angul	77.53	85.98	68.64	61.86	72.55	51.19
2	Balasore	79.79	87.00	72.28	50.06	61.47	38.71
3	Bargarh	74.62	83.68	65.38	64.86	75.47	54.30
4	Bhadrak	82.78	89.64	75.83	43.49	53.21	33.60
5	Bolangir	64.72	75.85	53.50	54.93	67.78	42.34
6	Boudh	71.61	83.34	59.79	63.84	77.88	50.17
7	Cuttack	85.50	91.11	79.55	57.93	68.87	46.79
8	Deogarh	72.57	81.92	63.05	62.38	73.17	51.67
9	Dhenkanal	78.76	86.18	71.00	60.39	70.82	50.04
10	Gajapati	53.49	64.38	43.18	43.66	55.39	32.83
11	Ganjam	71.09	80.99	61.13	49.71	60.71	38.89
12	Jagatsinghpur	86.59	92.38	80.63	66.55	76.06	55.50
13	Jajpur	80.13	86.84	73.29	47.60	59.68	35.48
14	Jharsuguda	78.86	86.61	70.73	68.72	78.78	58.70
15	Kalahandi	59.22	71.90	46.68	49.29	63.31	35.84
16	Kandhamal	64.13	76.93	51.94	58.34	72.12	45.58
17	Kendrapara	85.15	91.45	78.96	62.39	70.70	54.01
18	Keonjhar	68.24	78.12	58.28	53.24	65.22	41.56
19	Khordha	86.88	91.78	81.61	69.33	79.42	58.64
20	Koraput	49.21	60.32	38.55	35.36	46.20	25.37
21	Malkangiri	48.54	59.07	38.28	35.23	44.91	26.25
22	Mayurbhanj	63.17	73.76	52.71	53.11	65.28	41.36
23	Nabarangpur	46.43	57.31	35.80	38.54	49.46	28.02
24	Nayagarh	80.42	88.16	72.05	66.29	78.62	54.20
25	Nuapada	57.35	70.29	44.76	51.01	65.13	37.73
26	Puri	84.67	90.85	78.28	74.62	83.08	64.71
27	Rayagada	49.76	61.04	39.19	36.69	47.87	26.72
28	Sambalpur	76.22	84.35	67.93	65.76	76.00	55.59

29 Subarnapur	74.42	84.40	64.04	66.78	77.38	56.05
30 Sundargarh	73.34	81.01	65.48	65.08	73.98	56.39

Odisha	72.87	81.59	64.01	52.24	63.70	41.20
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Data: Government of India, Census of India, Odisha Office of the Registrar General, 1991 and 2011, Bhubaneswar

The entire expanse of the state is home to Indigenous communities. Odisha region is home to 64 Tribes of native people. Their native languages like Kui, Santali, Munda, Saura, Gadava, Paraja etc are spoken by most of the lineage. But the people don't have a common link language although Oriya, the language of the state, acts as one. These are Saorat in average neighbours, Paraja, Kandha, Soura, Gadaba, Halva, Bhumia, Koya, Kotia, Pentia, Santala, Bhatada. According to the 2011 Census, there are a total of 9,590,756 indigenous people in the district.

1. Educational Opportunities in Sacred Groves

Sacred groves are sites of forest/woodland that have been conserved by local communities because of their religious and cultural significance, thus providing a unique opportunity for scholarly engagement. We at Transition Earth believe that applied technologies can massively contribute to both traditional knowledge preservation and open environmental education (in schools, universities, and social organizations). So here are just a few of the pedagogical lessons that sacred trees deliver:

- i. Environmental Education: Since many sacred groves are biodiversity rich, they can be informal classrooms where local flora and fauna can be learned. These areas can be field tour sites for educational institutions to educate students on biodiversity, ecosystems and conservation reminiscent of their studies. Many of the usual suspects shy and guarded plant and animal species that defy your typical classroom thrive under the grove's reverence.
- ii. Cultural Education: Sacred groves are deeply connected with local cultures and traditions. Indeed, touring these groves can provide students with firsthand understanding of native beliefs, customs and attitude toward the environment and how

that shaped their culture and traditions. It can also be a space where people can learn about ancient sustainable practices.

- iii. **Traditional Ecological Knowledge:** Sacred groves are often sites of traditional ecological knowledge about the environment as well as its custodians. People familiar with these sacred groves, mainly seniors and traditional grove caretakers from the area, can be also brought in educational programs to transfer their knowledge of biodiversity, medicinal herbs and ecology significance of the groves.
 - i. **Awareness about conservation:** Sacred groves emphasize the importance of conserving natural habitats. For example, education programs could be designed around the groves to increase public awareness of the environmental threats such as development and climate change that they are facing. The community people and students will learn what conservation programs are available and how they could lead the conservation of these holy places.
 - ii. **Community-based learning:** Local communities often conserve and protect sacred groves. Local community working to preserve or restore sacred trees helps for a sense of environmental sustainability can form students. Education programs for sustainability or environmental awareness can help students develop a sense of sustainability or responsibility over their environment.
 - iii. **Sustainable Development and Ecotourism:** Sacred groves can serve as sustainable places to visit. Educational institutions can collaborate with communities in the region to develop ecotourism projects that facilitate preservation of the environment and highlight the importance of sacred trees. Hands-on experience is provided to the students to understand sustainable practices, community and tourist development.
 - iv. **Interdisciplinary education:** The sacred groves can be part of inter-disciplinary studies of ecologies, cultures and pedagogical perspectives. Anthropologists, ecologists, historians, educators and others could work together to weave sacred groves into broader curriculum that links learning with culture and nature.

v.

2. Barriers in Tribal Education

While a few measures have been initiated by the government to improve the literacy rate among the tribes, the dropout rate of SC and ST and Gross Enrolment Ratio (GER) remain a major concern. Although SCs and STs literacy rates have improved over the decades since independence, the ground scenario is still unsatisfactory. ST students quit at much higher rates than SC students, for every category and every gender. The informed tribals tend to move away from each other, and from themselves. Other times, it involves a discontent with society, a sense of alienation from other educated people and what one of the authors calls the “powerlessness” the tribalists believe they have no real influence over their social milieu. They experience “self-estrangement” when they discover that they are incapable of doing psychologically rewarding activities.

Tribal education barriers there are some major barriers of tribal education explained below:

- Absence of teachers.
- High dropout rates.
- Schools are not attractive places to be.
- Tribal pupils find the curriculum unattractive.
- Tribal pupils are not accommodated by the school schedule.
- The barrier of language.
- Poverty and a lack of progress.
- The school is located in a remote area.
- A lack of parental awareness.
- The attitude and behaviours of educators.
- Insufficient materials for teaching and learning.
- Vocational education is unavailable.
- Social exploitation and discrimination.
- A lack of awareness and ambition.
- The social marginalization process.
- A lack of political will.
- A shortage of teachers.
- The lack of a reasonable, realistic, and balanced approach.

Sacred Groves in Cultural Development

Sacred groves are of great importance for preserving the local way of life, rituals, customs and practices connected with cultural progress. Sacred groves are customary when it comes to locals offering prayers at these natural-friendly groves, locals conducting rituals, festivals, meet-ups, etc, thus granting a higher sense of respect towards their surroundings, and the beauty assigned by a screen. By promoting community and ecology respect, sacred groves contribute to making the conservation of cultural identity more popular. They are tied to ancient practices, traditions and historical figures that aid in the passing on of cultural knowledge from generation to generation in many cultures. The sacred groves seem, intimately, to the tribes' identity as people. Many find these neighbourhoods are vibrant representations of the history, values and beliefs of the community. The groves remain preserved and protected as a testament to a community's relationship with its history.

Sacred Groves of Cultural and Spiritual Significance

- i. **Religious Beliefs:** Sacred Grove generally worships Ancestor, Spirits or God. They are sites of festivals, customs and worship. They have become its protectors, a belief that destroying or impeding the grove will invite divine punishment. Some traditions restrict access to the grove to specific community members.
- ii. **Cultural Identity:** The sacred groves are deeply rooted in a local community's cultural identity. To give a sense of continuity and identity, they might be connected to myths, legends and stories that had been passed down through several generations. It's almost as much in terms of protecting the environment as it is about maintaining culture as preservation of these trees go simultaneously.
- iii. **Medicinal Plants:** Sacred groves are usually characterized by medicinal plants, which play a significant role in traditional medicinal treatment practices the knowledge of plant properties and uses are handed down from one generation to another, making the local knowledge of plants an inseparable part of cultural heritage.
- iv. **Spiritual Practices and Community Bonding:** Holy woodland places and groves are essential to the cultural advancement since they combine the interrelation of spirituality, community, and nature. Indigenous peoples preserve these forests for cultural, religious

or spiritual purposes; they're often viewed as the homes of gods or spirits.

- v. Superstitions and Oral Traditions: Particularly in places where nature areas are considered holy and constitute great percentages of community lifestyle, oral constancies and superstitions about sacred groves are pivotal to culture formation in these areas. Sacred groves are preserved forested areas in which conservation efforts are tied to the area's traditions and beliefs. These domains tend to belong to aboriginal religions or spirits. These groves in general have to do with indigenous belief systems and practices that were dependent on spirituality, community, and the physical environment.
- vi. Social Integration and Identity: Sacred groves play an essential role in social integration and identity of communities, especially in rural or indigenous environments, where sacred groves aid communities in feeling together, sharing values, and also have a sense of cultural identity. Sacred groves are natural spaces specifically forests or small lands, that local communities preserve due to their religious, spiritual or cultural value.

3. Cultural Space for the Sacred Groves

Sacred Groves One of the most ecologically rich and culturally important ecological definitions by tribal people in Odisha. The villagers conserve sacred groves owing to their strong belief in religion, rituals and immense respect for nature. Such groves often invoke deific or ancestral worship. Traditionally they have been crucial to the preservation of environmental conservation in addition to biodiversity, however in the modern day, they are educational-fortress centers of culture.

- i. Sacred groves are treasure houses of tribal knowledge, myths, legends and traditions passed down through generations. In these woods, native children can learn about their natural surroundings: Traditional Ecological Knowledge of the wildlife, plants and the sustainable development of the forest. This continues to be the case with the participation of sacred groves in the syllabus providing students first-hand experience in environmental science and conservation. Groves demonstrate human interaction with nature, ongoing sustainable use of land and biodiversity. This type of outdoor education bolsters a connection to nature that in turn would be reflected back into the school curriculum to in still education of sustainable practices for life.

- ii. Sacred forests are social and ecological centers. Seniors and leaders in the community, often the caretakers of the groves, can do a lot of educating too.” Tribe celebrates their spiritual and cultural inheritance through celebration, discussion group and community gathering. Such community-centered learning will also serve to further their social ties and identities and will do so for the younger age group as well. Social centres and ecological centres Sacred forests and sustainable development and education Seniors and local community leaders, the custodians of the groves, are key agents for educating others. Learn about the spiritual and cultural value of their heritage by practicing with tribal children through celebrations, communication sessions, and gatherings. This kind of community-cantered learning helps high school youth shape their social and personal identities.
- iii. Sacred groves can be potentially promoted as environment and culture-based tourism sites, under which, tourists as well as school students can get engaged to the rich traditions of tribal communities. Tourists and locals would learn, about Odisha's numerous intangible cultural and natural heritage.

4. Sacred Groves as Cultural Hubs

Sacred groves are an important ecological and cultural concept in Odisha, particularly among tribal communities. Village residents protect sacred groves because of their strong beliefs in religion, spiritual traditions, and profound respect for the natural world. These groves tend to connect with natural spirits, deities, or ancestral devotion. In the past, they have been essential to conserving the environment and biodiversity, and in the present, they may also act as cultural centers for education.

Exploring the Role of Sacred Groves in Tribal Education in Odisha

- i. Cultural Preservation and Education: Sacred groves are archives for tribal knowledge, myths, legends, and customs that have been passed down through generations. Tribal children can study in these woods' natural learning environments about:
- ii. Traditional Ecological Knowledge: Understanding the wildlife, plants, and sustainable practices of forest management.

- iii. Spirituality: Understanding the wildlife, plants, and sustainable practices of forest management.
- iv. Local Languages: Understanding the wildlife, plants, and sustainable practices of forest management.
- v. Environmental Education: By including sacred groves in the curriculum, students may receive practical experience in environmental science and conservation. Groves demonstrate human-nature interaction, sustainable land use, and biodiversity. This type of outdoor education creates a stronger bond with the environment, which may be included in the school curriculum to promote sustainable habits.
- vi. Social and Community Engagement: Sacred forests serve as both social and ecological centers. Seniors and local community leaders, who frequently serve as the groves' caretakers, can play an important role in education. Tribal children can learn about the spiritual and cultural value of their heritage through celebrations, communication sessions, and community gatherings. The younger age group benefits from this type of community-centered learning by developing their identities and social connections.
- vii. Sustainable Development and Education: Sacred forests serve as both social and ecological centres. Seniors and local community leaders, who frequently serve as the groves' caretakers, can play an important role in education. Tribal children can learn about the spiritual and cultural value of their heritage through celebrations, communication sessions, and community gatherings. The younger age group benefits from this type of community-cantered learning by developing their identities and social connections.
- viii. Cultural and Environmental Tourism: Sacred groves may also be connected to environmental and cultural tourism, which allows tourists including students to experience the rich customs of tribal communities. Odisha's different cultural and natural heritage may become better known as a result, of teaching tourists as well as residents.
- ix. Policy Integration: Recognizing the educational value of sacred groves is a critical role that governments and non-governmental organizations can play. To promote interdisciplinary learning, including the environment, culture, and history, policies might be created for integrating these areas into both formal and informal educational systems. Sacred groves may therefore play a crucial role in improving Odisha's local

education system.

5. Ecological and Cultural Interdependence

Ecological and cultural interdependence refers to the interconnectedness of human cultures and their environments, with the dynamics of these relationships supporting and influencing each other. This interrelatedness highlights the complex interconnections among ecosystems and the cultural practices that impact them.

- i. **Biodiversity Conservation:** Sacred groves are regions with a rich biodiversity. They are protected because of their cultural and spiritual importance, which often means they shelter rare, at-risk, and native plant and animal species. Because some sacred groves remain the last of ancient forests, they protect species that could be wiped out by human development or destruction.
- ii. **Soil and Water Conservation:** Sacred groves are useful in soil fertility maintenance and water cycles due to their dense canopy which protects against soil erosion, helps better soil quality, and helps to keep the local water systems they support like rainwater harvesting, groundwater recharge systems, rivers and streams.
- iii. **Carbon Sequestration:** Similar to other forest genres, sacred groves reduce climate change by intercepting carbon dioxide from the atmosphere and sequestering it inside.
- iv. **Regulate Microclimates:** These groves help regulates local temperature by surrounding the area with moisture and shade, important factors in some areas with cold climate.

6. Promoting Sustainable Development

Sacred Groves can have sustainable development as a cultural and educational amalgamation of environmental protection and local customs, education, and community involvement. Sacred groves are wooded sites that local populations spare because they are ecologically, culturally, and spiritually valuable. They function as zones of high biodiversity often but are also indispensable to the people's cultural identity.

Sustainable Development of Sacred Groves:

- i. **Cultural Integration:** Sacred groves have an ancient place in religion, and culture. Customs and cultural values that in protection must be strengthened to provide ways for sustainable development. Involve the community in the care and maintenance of these trees. They must play roles enabled by traditional knowledge and modern conservation techniques, and they must have seats at the table in decision making.
- ii. **Educational Programs:** Best is sacred groves become part of local school curriculum. This can help children and adolescents better understand what these places mean within a cultural and ecological context. Raise awareness on biodiversity conservation, significance of sacred groves, ecological importance, etc. amongst community members, students, and visitors. Embrace scientific partnerships to build partnerships with academic institutions to scientifically study and protect sacred forests.
- iii. **Sustainable Use of Resources:** Ecotourism can be one of the sustainable incomes generating source, if the local communities are actively involved and motivated to protect the sacred groove, which can be promoted in the sacred grooves. Visitors could learn about the cultural and ecological importance of the groves. 4- Promote the sustainable collection of Non-Timber Forest Products, such as fruits, plants, or medicinal plants. This can be economically beneficial for local populations, ensuring that these resources are obtained sustainably without infringing on the wildlife and ecology of the forest.

Policy and Legal Support: Make a case for kingdom, state and metropolitan laws ensuring holy trees. This may make some ideas feasible because development regulations, bans on deforestation and mechanisms for the local communities to protect this region are subject to the needs and will of the people. Educate and fund sacred grove maintenance either through the government or private companies. The money

could be put to use helping support neighbourhood-based conservation programs, or to help restore lost groves.

- iv. Biodiversity Conservation: Biodiversity surveys in sacred groves to monitor the health of ecosystems and the species they support. This will help easily see the impacts of human activity and climate change. What you can do to help: Residents can help rehabilitate the area in a desecrated sacred grove by eliminating invasive plants and planting native varieties instead.

7. Solutions of Sacred Groves In Cultural Educational Development

- i. Sacred groves can be included in the curriculum, so that students will be aware of the cultural, spiritual, and ecological significance of sacred groves. This would foster greater respect for regional customs and also safeguard details on sacred trees. Visits to these groves could provide learning-by-doing opportunities.
- ii. The conservation and dissemination of knowledge about sacred trees can only be sustainable with active the involvement of the local communities, more specifically the tribal elders. They can act as a bridge that links the gap between traditional ecological knowledge and modern education, and thereby help to conserve the cultural practices associated with sacred groves using their knowledge and role as stewards.
- iii. Governments and NGOs can collaborate to include the protection of sacred trees as part of sustainable development. Understanding their ecological significance could save sacred groves from Sia destruction and degradation. They can be integrated as part of regionally-based ecotourism initiatives fostering economic and cultural conservation. Promote environmental education and encourage the protection of natural resources. Holy woods can be converted into open-air classrooms for schools to teach Ecology, sustainable agriculture, traditional environmental knowledge. This approach would then link into regional cultural customs given the environmental issues at hand.
- i. Initiatives which allow to recreate the traditional knowledge of holy trees. Saplings [sacred groves] can then be educated on significance of sacred groves and their place in the history and spiritual life of the community through community-based workshops, storytelling sessions and other methods of cultural transmission. Governments can pass the laws to save holy forests from ecological degradation and encroachment. If sacred groves are recognised as ‘protected cultural heritage sites’, this would be legally valid

and provide a conduit for their preservation.

Conclusion

The Holy Trees are also incorporated in the concept of education for the tribes, which is seen as an overall improvement in both academics and preservation of culture. Aside from being ecological treasures, sacred groves are repositories of indigenous knowledge, traditions, and values. Similar to this, it is also imperative that schools put in place some type of curriculum that includes the importance of these sacred sites, allowing tribal students to develop a stronger identity and pride in who they are as a society. This will help them feel more connected to their culture. Integrating indigenous knowledge with standard education would strengthen the target communities, ensuring the learning is more relevant and interesting for tribal societies. Sacred groves could also serve as living higher education centres that inspire the youth to work towards sustainability and ecological guardianship, at scales commensurate with the goals of the Global Community on biodiversity conservation and sustainable development. This mission can only be realized through collaboration among local communities, educators, politicians and environmentalists. This way they will be able to evolve a culturally sensitive curricula which, on the one hand, honours the intrinsic disposition of the tribal people of Odisha and on the other hand, empower them with knowledge and skills to grapple with contemporary challenges. In Odisha's tribal hinterlands, therefore, holy woods can act as both markers of the resilience of the culture as well as sites for dissent pedagogy. Tribal education, as a social institution, should be inclusive in nature.

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Prospects of Education Among the Tribal Students in Odisha: A Focus on Sacred Education

Anil Tadingi *, Dr. Manoj Kumar Behera, , Gomeya Among*****

* Anil Tadingi, Ph.D Scholar, School of Tribal Heritage and Tribal Indology and Centre for Sacred Groves, Kalinga Institute of Social Sciences (KISS) Deemed to be University, Bhubaneswar

** Dr. Manoj Kumar Behera, Associate Professor, School of Tribal Heritage and Tribal Indology and The Centre Head, Centre for Sacred Groves, Kalinga Institute of Social Sciences (KISS) Deemed to be University, Bhubaneswar

Gomeya Among, Ph.D Scholar, School of Tribal Heritage and Tribal Indology and Centre for Sacred Groves, Kalinga Institute of Social Sciences (KISS) Deemed to be University, Bhubaneswar

Abstract

In India, remote avenues such as Odisha, where tribal communities make up a sizeable portion of the citizenry, education represents an important tool for reducing socio-economic inequities. However, despite their government and non-government efforts, including the 64 Scheduled Tribes, accessing high-quality education remains a major challenge for these groups. Due to their geographical isolation, socio-economic challenges and very limited development in the mainstream, the challenges they face are exacerbated in the case of Particularly Vulnerable Tribal Groups (PVTGs). Consequently, many tribal communities have literacy scarcity, their rates, particularly for women, are below state and national averages. This paper presents the possibility of making education among tribal students of Odisha more effective through sacred education. A culturally relevant framework that is grounded in oral histories, ecological wisdom, and tribal customs can help bridge the divide between conventional education and ancient wisdom schools of thought. Integrating sacred education with a traditional curriculum that honours and follows tribal ways of life to help meet the educational goals of tribal students is one strategy for developing a much-needed holistic educational system.

By observing the benefits of this integrated approach, this research delves into the link between sustainable development and cultural heritage in Odisha and how this approach works towards improving literacy and reducing dropout rates while also empowering the tribal communities.

Keywords: Tribal Education, Sacred Education, PVTGs, Tribal Communities, Socio- economic Barriers, Educational Inclusivity.

1. Introduction

Education is a strong driver that helps us not only tackle social inequities but also promote empowerment. Within Odisha's tribal communities, education also promises to complement their rich culture even as it opens doors for their economic development. Odisha a state well known for its tribal diversity is home to 64 tribal groups, and many well-known tribes like the Santhal, Gond and Kondh. However, despite many such initiatives by government and non- government organizations, these tribal populations still have literacy rates far below the state and national average. These differences can be blamed on ongoing systematic struggles, economic pressures, & a lack of alignment between traditional tribal life and formal schooling systems. By blending holistic learning experiences with traditional practices, sacred education could provide new pathways for engaging Aboriginal students in learning in meaningful ways. Sacred education represents the quintessence of tribal knowledge systems, steeped as it is in the traditions of oral storytelling, rituals, and ecological wisdom. Next to a fishing camp, a young storyteller demonstrates the old way of learning, which is essential to maintaining their way of life for so many generations. Balanced with formal education, sacred education can work to provide a curriculum that incorporates and uplifts indigenous knowledge, while still catering to the rigorous academic requirements of students. The study examines the opportunities to advance education among the tribal children of Odisha, through the lens of sacred education. This research presumes engaging in exploring the intersection of sacred and formal learning systems and finding pathways through the divide of segregation of the sacred and the educational to find new ways of learning. Instead, we want to prove how adopting a blended approach can play a crucial role in shaping the holistic

development of their community while also enabling the tribe to gain access to twenty-first-century education without sacrificing its values. This would lead to more inclusive growth and sustainable progress for these historically disadvantaged communities.

2. Overview of Tribal Education in India

India has a large tribal population, however, with over 700 Scheduled Tribes comprising 8.6% of the country's total population as per the 2011 Census. These tribes largely reside in remote mountain and forest areas, where socio-economic constraints severely restrict their educational opportunities. Education is one of the most important mechanisms for improving the standard of living of tribal populations but the educational status of tribal peoples is still inhibited by many geographical, cultural, and economic barriers.

The literacy rate of STs has been continuously rising now, it is 59.00% in 2011 as compared to only 8.53% in 1961. At the same time, this falls far below the national average, which is 74%. In addition to lower male literacy, tribal women have the lowest literacy levels, which speaks volumes of gender inequity. Indigenous children also have high dropout rates. Moreover, Indigenous children display alarmingly high drop-out rates, especially at the secondary level, largely due to financial constraints, subpar facilities, and language barriers. To solve these problems, the government has taken several actions. Ekalavya Model Residential Schools (EMRS) provide free, high-quality education for tribal children, while Ashram Schools provide a residential learning environment that acknowledges their cultural heritage. Pre-matric and post-matric scholarships help to lessen the financial burden for tribal families. Universal education programs such as Samagra Shiksha Abhiyan also allow some special provisions for rural and indigenous people. Also, vocational training programs are being included in the school curriculum to prepare tribal students for getting into jobs.

While there have been steps forward, including improved literacy rates and a greater number of people in tertiary education, many challenges still exist. This can help bridge the educational gap through technology, enhanced infrastructure, teacher training, and an inclusive curriculum that harnesses the potential of tribal communities.

2.1. Tribal Education in Odisha:

The focus on the education of tribal communities in Odisha is noteworthy given that the state is home to a significant tribal population, estimated to be over 22.85% of the total population (2011 Census). Though measures continue, literacy in tribal groups remains below the state average, focusing on combating educational inequalities. The inability of this group to access education has been attributed to geographic isolation, low socioeconomic status, diverse cultural backgrounds, and lack of educational facilities. Odisha has taken steps like the establishment of EMRS, Ashram Schools and hostels specifically for tribal children to address the concerns. These institutes are managed by the Odisha Model Tribal Education Society (OMTES) which has been pioneering different education initiatives specific to tribal-oriented education. However high dropout rates, language differences and a sense of cultural detachment remain stubborn barriers to progress. One such is Sacred education which has a crucial role in tribal culture and may serve as a transition between tribal roots and modern- formal education. The current educational structure is unfortunately rarely aligned with the cultural values and identity of a tribal student. When we find a disconnect like this, culturally relevant teaching methods, engagement from the community and incorporating tribal languages into the curriculum are inclusive methods to make students feel relevant in school. It can help tribal communities evolve themselves socially and economically without losing their rich culture.

Odisha is inhabited by 64 Scheduled Tribes from the 2021 Census, which include popular tribal communities like Santhal, Gond, Kondh, Bonda, Juang, and Saora. Percentage of India Total Tribal Population: 22.85%Q2) Which is the largest tribe in India? Though highly significant to Odisha's rich cultural heritage, they encounter great hardships in obtaining quality education. Due to their geographical remoteness, fragile socio-economic conditions, and under-integration into mainstream developmental programmes, Particularly Vulnerable Tribal Groups (PVTGs) of the Bonda and Juang tribes find it difficult to sustain. Annexed are the relative literacy status of Odisha's tribal populations, easily placing them above the state and national averages but by no means anywhere close to closing the gender gap. Cultural ideals and economic limitations make tribal women's access to education even more challenging. Many of the most critical educational resources schools, qualified teachers, and ample learning materials are missing in at least some Indigenous environments. Similarly, students belonging to tribes whose native languages differ from the two languages mainly used for instruction (Odia and English) find themselves out of sync which contributes to a high dropout rate. Sacred education that springs from oral tradition, ecological wisdom, and tribal practices offers a path forward. Your approach helps preserve cultural identity in tribal communities, empowers them, bridges the gap between cultures, and promotes inclusion and literacy. In many Indigenous communities, basic educational resources such as schools, trained teachers and adequate learning materials are minimal. Sacred education emerging from the sacred traditions of human beings, oral traditions, ecological wisdom and the sacred traditions of human beings is a powerful solution. Among those, the above approach can play a key role in protecting the cultural identity of tribal communities or empowering them at the same time bridging the cultural gap between the natives and the tribal communities and promoting inclusive education and literacy.

2.2. Present Scenario:

The present scenario of tribal education in Odisha reflects both the strides and the challenges that remain. The state has 64 distinct tribal communities, 13 of which are designated as Particularly Vulnerable Tribal Groups (PVTGs) and is home to a sizable tribal population. Even with several government interventions, literacy among these communities continue to be significantly lower than the state average. There are significant gender inequalities, while dropout rates, especially for girls, continue to hinder progress in education. As per the recent statistics, the literacy rate in Odisha's tribal population is approximately 52% against the state average of 72.9%. Many villages are located in remote areas that are difficult to reach, making it challenging to provide education for tribal children. Financial challenges also make it difficult for families to just survive, with sending their children to school becoming an afterthought. However, language is another hurdle, since tribal students cannot learn things in Odia or English, none of which are their mother languages. To address these problems, the government has implemented multiple initiatives including the Ekalavya Model Residential Schools (EMRS), Kasturba Gandhi Balika Vidyalaya's (KGBVs), and Ashram Schools. Initiatives like the Odisha Model Tribal Education Society (OMTES) attempt to enhance the infrastructure and quality of education. However challenges persist, like funding gaps, insufficient teacher training and a curriculum that does not represent tribal culture. Methodological has seen a growing movement toward the inclusion of Traditional knowledge in Methodological teaching with the rise of Culturally Responsive Pedagogy. As much as some may mean well with the use of these terms, the answer lies in a broader, more inclusive approach that recognizes tribal identities while also dismantling systemic oppression. At large, a much more systematic and inclusive plan that respects and builds on tribal identities, which is derived as a strong general feature that should lead to continuous progress and improvement in the education of the tribal communities in Odisha, is the need of the hour along with addressing systemic disabilities.

3. Government Measures in Furtherance of Tribal Education in Odisha

The Odisha government has launched several schemes for enhanced quality of education and accessibility for the state's large tribal population. They tackle some of the challenges faced by tribal communities' geographic isolation, financial constraints and cultural differences. Focusing on better infrastructure, community support and culturally relevant education systems.

- i. Ekalavya Model Residential School (EMRS): They are fully residential schools for tribal students from class VI to class XII that provide them with a positive environment and learning opportunities with free meals, boarding and lodging, and study materials. The curriculum is designed to help students excel academically and participate in non-academic activities.
- ii. Ashram School: These are schools for children in far-off tribal zones and they also give them lodging and boarding facilities. These schools offer basic education in localities lacking formal schools.
- iii. Kasturba Gandhi Balika Vidyalaya (KGBVs): The schools are known as KGBVs or Residential Schools, which are primarily for Jashita girls, from backward classes, including Scheduled Tribes (ST) These schools provide them with free education, lodging and other centres related to gender issues.
- iv. Odisha Model Tribal Education Society (OMTES): This is a nodal agency that provides a platform for a paradigm shift in managing tribal education programs which includes EMI & special schools. They also conduct teacher training sessions for better learning, improve teaching practices, infrastructure, etc.
- v. Financial Assistance and Scholarships: Pre-matric and post-matric scholarships from the government reduce economic barriers for Indigenous students. These scholarships cover tuition, exam fees, and related expenses, enabling more students to follow their studies.
- vi. Conducting Specialized Coaching Programs: A specialized coaching programme is also conducted by the government for tribal students to give them better success rates in competitive exams such as NEET, JEE, and UPSC, among others.

- vii. **Multilingual Education (MLE):** This is an important step taken by the government where tribal students have had to deal with the challenge of learning in a language that is not their mother tongue, therefore, the government is implementing MLE programs and introducing tribal languages as part of the curriculum in the early stages. It encourages a gradual transition into public school systems and, simultaneously, preserves students' mastery of their language roots.
- viii. **Digital Education Initiatives:** As part of the efforts to strengthen education with modern methods of learning, the government is working to integrate e-learning resources and smart classrooms into tribal schools. These programs are designed to improve teaching standards and increase student engagement.
- ix. **Hostel Facilities:** The government hosts students from remote areas in government hostels that provide free lodging and food and a colligate environment for continuous education. Although these intentional strategies have been elevated to the policy level, barriers like insufficient teacher training, limited resources, and an absence of culturally responsive curricula remain prominent. Importantly, tribal traditions and sacred education are being embedded in the model more so than ever.

4. Sacred Education and Cultural Identity

- **Issues Faced by Tribal Communities:**

Odisha tribal globe recognized for its rich cultural heritage, stumbles to access education as a top hurdle. One way forward is developing sacred education, combining traditional knowledge, spirituality, and ceremony with regular education; This strategy preserves their tribal identity while broadening their education options.

- **Sacred Education and Its Core:**

Sacred education is the transmission of cultural knowledge, skills and values through a spiritual discipline to the next generation. Tribal communities such as Kondh, Santal and Munda transmit essential knowledge through oral traditions and rituals on agriculture, sustainable practices, medicinal plants, and leadership, amongst others. These teachings are essential for maintaining tribal culture and providing tribal members confidence and a feeling of self.

- **Gaps in Mainstream Education:**

One of the biggest challenges for tribal students is the disconnection of indigenous knowledge with formal education systems. Contact between mainstream schooling and tribal tradition is limited/diluted, which in itself builds the cultural gap and has the possibility of alienating the students and increasing dropout rates. This can be bridged through the integration of parts of sacred education, such as tribal languages, traditional narratives, and artistic expressions, guiding the way for those things to be integrated into the schools making it relevant and accessible to tribal students.

- **Dynamic Political Economy of Cultural Identity and Empowerment:**

Sacred education can include cultural rituals, art and ceremonies and this can play a significant role in keeping cultural identity alive. Students feel empowered and self-esteem when tribal heritage is part of the learning process. For example, using modern scientific methods alongside traditional ecological knowledge prepares tribal students to address contemporary challenges such as climate change without abandoning their cultural legacies.

- **Government and NGO Efforts:**

An initiative of the Odisha government and non-governmental organisations to address these issues. The Ekalavya Model Residential Schools and the use of culturally relevant textbooks fall in the right direction. However, additional steps are needed to live sacred education.

5. Integration of Sacred and Formal Education

- i. **Bringing Together Sacred and Formal Education for Tribal Students**

The merger of religious education and modern schooling here is a modern solution to the educational problems of Odisha's tribal children. This allows for inclusion and enrichment that broadens the scope of education, combining traditional ways of understanding and spiritual understanding with formal academic structures.

ii. **Defining Sacred Education**

It strengthens practices like storytelling or folklore, rituals and community events for transmitting cultural and spiritual wisdom. The epistemological orientations driven by actionable knowledge have also, to a significant extent, pre-saged recent movements towards green conservation, sustainable governance and living within many tribal communities such as the Santal, Kondh and Munda in Odisha, where livelihood is driven by that knowledge. These principles now hold more relevance than ever for any crisis that has a global implication in the modern world.

5.1. **Importance of Integration**

- a) Saving Tribal Culture: Tribal students are frequently disregarded by education systems that don't speak to their traditions. Acceptance of sacred education in their schooling enables them to retain and honour their heritage.
- b) Enriching Interest: When tribal knowledge music, art and legends are infused within classrooms, learning becomes more interesting and relevant for tribal children.
- c) Cultural education: Such teachings instil self-esteem in tribal students as they are prepared to maintain a balance between their roots in traditional occupations and modern opportunities.

5.2. **Strategies for Implementation**

i. Curriculum Development:

- Introduce the basis of tribal languages as languages of instruction or optional subjects.
- Use learning resources that highlight tribal folklore and stories.
- Shipping additional ecological wisdom with modern environmental studies.

ii. Educator Training:

- Prepare educators to recognize and integrate tribal traditional knowledge into their practices.
- Include tribal elders and community leaders to educate about cultural values and practices.

iii. Engaging the Community:

- Engage tribal leaders and parents in the creation of educational programs.
- Conduct and celebrate tribal traditions through school events and festivals.

iv. Policy and Support:

- Create tribal culture-oriented schools like Ekalavya Model Residential Schools which combine academic and cultural education.
- Provide financial assistance and scholarships to help motivate tribal children to get educated.

5.3. Complications to Integration

- **Overwhelming factors limiting your CRSB:** Resource are not enough trained educators or culturally relevant resources.
- **Motivation for Spirits of Cultural Ancestors:** Opposition from those who prefer traditional education systems instead of culturally-embracing schools.
- **Preserving Equilibrium:** Balancing academic standards and religious instruction without sacrificing either.

• Advantages of Integration

- **Equal Opportunities:** It connects mainstream and tribal education and brings down dropout rates.
- **Community Empowerment:** Helps Indigenous children to embody cultural values and to become contributing members of society.
- **Sustainability:** Reinvigorates cultural traditions that promote ecological balance, this social harmony.

1. Anticipation of Learning among Tribal Communities of Odisha: Implication of Holy Learning

Odisha's tribal endogamous communities, with their diverse and profound cultural and spiritual histories, face serious hurdles to getting an education. Integrating sacred education with schooling that is, those teachings based on Indigenous wisdom, spiritual values, and traditional practices can pave new

pathways to help the progress of formal schooling. Tribal students have the potential to experience meaningful learning both as members of their community and as learners.

1.1. Sacred Education and Tribes of Odisha

In a culture where spiritual influences in education are dominant, sacred education is integral to the community-made meaning of life. Odisha, which is home to 64 Scheduled Tribes ranging from the Particularly Vulnerable Tribal Groups (PVTGs) such as the Bonda and Juang is a treasure house of traditional knowledge systems. Oral narratives, ecological wisdom, rituals, folklore, and community participation in education are sacred in these communities. In doing so, these traditional practices serve both the rich cultural heritage of the tribes who uphold their value while also providing the imperative life skills and values needed to maintain social as well as environmental equilibrium.

Tutoring is extremely unparalleled for the students, as they have cultural thoughts and unique linguistic culture which formal systems deny, and spiritual education, as offered through sacred education to tribal juvenile fellows in Odisha, serves as an educational means, bearing the conventional terms in process and day-to-day learning. The over-dependence on mainstream curricula taught in Odia and English acts as barriers for tribal learners leading to alienation, exclusion, disengagement and high rates of dropouts. Formal schooling of sacred education can weave together Indigenous wisdom and how it should be in context to the modern education system but not bind them; Integrating sacred education can be a powerful system of growth for tribal students, fostering cultural identity, instilling pride and self-confidence, and providing the tools to flourish in both traditional and contemporary spaces. (i.e. an inclusive approach) More so, this can play a significant role in improving literacy, reducing the educational divide, and facilitating the overall development of tribal communities across Odisha.

1.2. High Hopes of Cultured Learning among Tribal Students

The incorporation of sacred knowledge into the education of our children has great potential for the success of our students in school and life. The unofficial educational frameworks are provided by the rich ecological, spiritual and cultural traditions that exist in tribal societies. These practices, called “sacred education,” include community-based learning, storytelling, folklore, rituals, and environmental activities. Does sacred education have a place in the official curriculum? Yes! Implementing sacred education into the official curriculum will lay a pathway for your students not only to be successful academically but while be culturally conscious

For example, in the state of Odisha, sacred education has the potential to address critical issues faced by the diverse tribal population, including 64 Scheduled Tribes and more than 10 Particularly Vulnerable Tribal Groups (PVTGs) in the state, particularly within the context of low literacy rate, high dropout rates, and cultural discrimination against the tribes (Tripathy, 2021). Sacred education encompasses the curriculum the embrace of indigenous languages, morals, and ecological responsibility, thus making the education process more relevant for tribal students and facilitating learning more meaningful for them. In addition, the sacred education that Indigenous students get more closely relates to their sense of culture and identity. Recovering the cultural wisdom of Indigenous groups through this paradigm enforces the idea that students can positively impact their surroundings and society. Integrating sacred education within established formal educational systems creates a real opportunity to improve sustainable growth, eliminate educational disparities, and foster the holistic development of Indigenous communities.

5.4. New Opportunities in Sacred Education

- *Safeguarding Cultural Identity:* Custodial education helps preserve tribal unique cultural identity with the other groups we find in Odisha, e.g., Kondh, Santal, Munda etc. Traditional knowledge is stored in these communities and involving them in formal education systems keeps students in touch with their roots while helping them also be relevant to the needs of the current society. In such a direction, teaching folklore, rituals, tribal practices along academics promotes pride in one's culture and binds inside a community.
- *Increase Participation and Retention:* Due to a lack of cultural fit both in terms of curriculum and teaching style, tribal students often feel alienated in mainstream education and rates of dropout are high. Incorporating spiritual instruction can help ensure that schools foster a culturally inclusive environment where students feel a sense of value. For example, it is well known that adding Indigenous languages, arts, and storytelling as teaching resources leads to significantly higher rates of student engagement and retention.
- *Ensuring Economic and Social Development:* Integration of sacred knowledge bolsters their formal academics, making them better-fitting candidates for employment opportunities. Traditional handicrafts, for instance, can help inspire students to establish businesses where they are promoting their ethnology and scanning their cultural ideology when tied to entrepreneurship education.
- *Government and Nonprofit Efforts:* The Odisha government has initiated programmes to enhance tribal education in collaboration with several NGOs. These include Ekalavya Model Residential Schools and Tribal Ashram Schools which are envisioned to provide culturally appropriate quality education. Such initiatives can motivate tribal students to pursue higher professional opportunities without forfeiting their tribal identity.

6. Discussion and Suggestions

This is even though the potential for introducing religious education is great and not a few obstacles (limited resources, reluctance to change, lack of training of teachers, etc.) To make progress on these issues, policymakers, educators, tribal leaders and NGOs will need to collaborate. Overcoming such hurdles requires efforts like developing culturally relevant curricula, providing funding and getting tribal elders to instruct students.

7. Conclusion

Education among tribal students in Odisha owing to distance, poverty, and cultural differences, tribal students living in Odisha are faced with many challenges in obtaining an education. However, the need to establish sacred education, firmly entrenched in the existing practices, knowledge, and traditional wisdom of indigenous communities, within the existing educational systems is becoming more apparent. This practice maintains tribal culture and deepens students' sense of identity and community connection. Various government initiatives, such as the establishment of residential schools, provision of scholarships and changes in curricula were aimed at tribal populations to enhance their literacy level. But more needs to be done for education to be inclusive, holistic and culturally responsive. By mixing modern learning with ancient knowledge, we can integrate sacred teachers with normal school/ academic subjects to help them evolve click relevancy and interest. Enhancing community involvement, awareness-raising campaigns and education facilities would further facilitate this. A newly proposed way of integrating Indigenous cultural norms in a Primary School. Integrating tribal traditions and cultural norms into traditional educational structures can help empower students and elevate their cultural legacy. Developing a holistic, sustainability- oriented, and integrated educational model requires cooperation between policymakers, educators, and tribes. Communities with strong representation will help tribal students of Odisha excel academically while upholding their culture which would contribute to a more just and progressive society by way of well-designed policies and targeted interventions.

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