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Message from Vice Chancellor Desk

Dear Readers,

The era of digitalization has opened up exciting opportunities for innovation in education, transforming how we teach, learn, and interact. Personalized learning powered by artificial intelligence (AI) is revolutionizing education by tailoring content to individual student needs and progress, while gamification introduces engaging, game-based elements to enhance participation and motivation. Virtual reality (VR) and augmented reality (AR) are creating immersive learning experiences, such as virtual field trips and lab simulations, bringing subjects like history and science to life. Blockchain technology offers secure, transparent systems for managing certifications and academic records. Meanwhile, collaborative digital platforms are enabling global classrooms, allowing students and teachers to connect and learn across borders.

The emphasis on coding and computational thinking ensures that students are equipped with essential skills for a tech-driven world, while initiatives like flipped classrooms use digital resources to maximize interactive learning. Digital wellness and online ethics have also become crucial, teaching students to navigate the online world responsibly and balance screen time. Innovations like STEM/STEAM education, supported by tools like 3D printing and robotics, are fostering creativity and problem-solving. Accessibility and inclusion have improved through assistive technologies, providing equitable education opportunities for students with disabilities.

Additionally, emerging trends such as esports, entrepreneurship education, and metaverse-based virtual campuses are reshaping the learning landscape. Green education leverages technology to teach sustainability, while cultural preservation through digital storytelling promotes multicultural understanding. Global collaborations and cross-border learning projects foster a sense of global citizenship, preparing learners to thrive in an interconnected world. By embracing these innovations, education in the digital era is moving toward a future that is inclusive, engaging, and tailored to the needs of 21st-century learners.

Prof. K.P. Singh

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Vol 2 Issue 3	EISSN: 2583-7575	July-Sept 2024
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Content

Cover Page	i-ii
Editorial Board	iii-viii
Editorial Message	ix
List of Authors	x

S. No.	Name of the Author	Title of the Paper	Page No.
1.	Ankit Sahu	Renewable Energy Cooperation for Sustainable South Asia: A Case Study of BBIN Countries	1-15
2.	Sulfath S	Expressed Emotions of Care Givers of Schizophrenia Persons from Kerala	16-23
3.	Meisungdai Gonmei Bhaskar Gurramkonda	Educational Services for Deaf and Mute Children: A Case Study of the Government School in Manipur	24-42
4.	Tasaduk Musood Birender Kaur	Female Graduate's Perceptions of Gender Inequality in Punjab: A Qualitative Study	43-55
5.	Anurag Kumar	A Sociological Analysis of the Working Conditions of Sanitation Workers: A Case Study of New Delhi Railway Station	56-71
6.	Shubhra Singha Chowdhury Asheesh Srivastava	Autonomy in Higher Education Institutions: From Colonial Period to 21 st Century India	72-84
7.	Lawmsangpuia Ralte	Disability in Animated Films: A Study on their Representation and Portrayal	85-95
8.	Yogesh Sharma Afrina Rizvi	Students' Ability to Distinguish Fact Vs Fiction from A Science Fiction Film	96-108
9.	Renu Bharti	Work Values: A Facet of Organizational Culture	109-122

Renewable Energy Cooperation for Sustainable South Asia: A Case Study of BBIN Countries

Ankit Sahu

Department of International Relations, South Asian University, New Delhi
Corresponding author: ankitsahu1017@gmail.com
Available at <https://omniscientmjprjournal.com>

Abstract

This paper examines the critical role of renewable energy cooperation in achieving Sustainable Development Goals (SDGs) within the BBIN (Bhutan, Bangladesh, India, Nepal) sub-region of South Asia amidst its vulnerability to climate change and low integration in trade and connectivity. By analysing the current status of SDG achievements, focusing on SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action), the paper highlights the disparity between the potential for renewable energy and its actual realisation in these countries. Despite being blessed with vast renewable resources, the BBIN countries possess a significant gap in harnessing these for sustainable development, primarily due to financial constraints, technological limitations, and lack of regional cooperation. The study underscores the importance of sub-regional initiatives like BBIN and interregional initiatives like BIMSTEC for fostering collaboration and leveraging renewable energy potential for sustainable development, offering a blueprint for peace and prosperity that aligns with the 2030 Agenda for Sustainable Development Goals. Through a detailed examination of policies, commitments (Nationally Determined Contributions or NDCs), and the current renewable energy landscape, this paper provides insights into the pathways for enhancing renewable energy uptake, addressing climate change, and achieving broader SDGs in South Asia.

Keywords: Regionalism, Renewable Energy, Carbon Emission, Climate Change, Sustainability.

South Asia is a region where countries prefer to avoid being called by what they are instead of what they are not (Nandy, 2005). Frequent political tensions, conflict, and hostility between India and Pakistan have derailed the Project of Regionalisation in SAARC, the South Asian Association for Regional Cooperation, a regional intergovernmental organisation and geopolitical union in South Asia. An alternative way to harness the opportunities is through sub-regional initiatives like BBIN (Bhutan, Bangladesh, India, Nepal) and interregional initiatives like BIMSTEC (the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation), where historical baggage is minor, that can prevent countries from sitting at a table. BBIN is a group of four countries, Bhutan, Bangladesh, India, and Nepal, endorsed in 1996 at the SAARC ministerial summit at Male, a formalised organisation focused on South Asia's northeast connectivity and development (Chaudhury et al., 2015).

The 2030 Agenda for Sustainable Development, adopted by all UN member countries, provides a blueprint for peace and prosperity for people and the planet. At its heart are the 17 SDGs, urgent calls for action by all developing and developed states (SDG, 2015).

SUSTAINABLE DEVELOPMENT GOALS



Source: <https://sdgactioncampaign.org/resources/>

With the rising awareness of climate change, there has been a rise in people's contributions to mitigating climate change. Greenhouse Gas (GHG) emissions are vital to increasing the global average temperature. Although Earth's net gases and molecules remain constant (Profumo, 2021), a significant amount of carbon is stored and trapped below the surface in fossil fuels and minerals. When we burn these fossil fuels to generate energy, they are emitted into the atmosphere, facilitating the release of these trapped molecules to be released into the atmosphere. Energy use is the most significant percentage of GHG emissions, contributing 73.2 per cent (Ho, 2023). In the atmosphere, GHGs absorb heat generated from sunlight, increasing the global average temperature. Rising temperatures have both causal and consequential relations to global emissions. Causal since the temperature is rising because of an increase in emissions. It is Consequential because more energy will be consumed to avoid burning at high temperatures (e.g. house cooling) in the rising global warming scenario, further alleviating the emission and temperature.

Global warming can be mitigated by maintaining the appropriate proportion of greenhouse gases in the atmosphere. One way to do this is by restoring the existing atmospheric GHGs below the surface, called carbon sequestering, and the other way is to restrict the conversion of minerals and fossil fuels into greenhouse gases. Carbon sequestration can be both natural and artificial. Forests, Oceans, Cryosphere, Soil, Grassland, etc., are natural carbon sinks. Since nature's capacity for carbon sequestration is limited (actually, it is decreasing) and to make the balance of GHGs in the atmosphere, we need to amplify the rate of carbon sequestration by

adopting technologies such as Direct Carbon Capture and Sequestration Techniques because of a lack of technology and efficient techniques; artificial carbon capturing is costly, it cost nearly USD500-800 per ton therefore unsustainable (CLEAR Centre, 2019). Another way of doing the same is possible by achieving zero emissions or being carbon negative, and over time, nature will balance the surplus GHGs from the atmosphere.

No sustainable technologies can absorb the atmospheric greenhouse gases; therefore, the only option left is to stop the release of GHG from the natural sink. This can be done by shifting energy requirements to sources devoid of GHG as a byproduct, called Renewable Energy. So, transitioning energy dependence from non-renewable to renewable sources can cut GHG emissions and be an emancipatory move for human civilisation.

Therefore, transitioning from non-renewable to renewable is critical to achieving SDGs. SDGs are not water-tight compartmentalisation; Achieving one can complement the other. Pushing for renewable energy sources can help meet SDG 7: Affordable and Clean Energy and Goal 13: Climate Action. It also has enormous potential to substantiate other remaining goals.

Status of SDG in BBIN Countries

While South Asia is one of the most dynamic regions in the world (ESCAP, 2019), it is also one of the least integrated in trade and connectivity (CITEE, n.d.). In addition, it is one of the most vulnerable to the risks of climate change. According to the Global Climate Risk Index (CRI), India is among the top 10 most affected countries, scoring 16.67 CRI. Bangladesh and Nepal are among the top 10 most affected from 2000-2019, scoring 28.33 and 31.33 CRI, respectively (Eckstein et al., 2021).

The greater the integration among the BBIN countries, the more likely cooperation for significant gains is by pooling resources or mutual collaboration of their relative advantages. According to the Sustainable Development Index 2023, Bhutan, Nepal, Bangladesh, and India rank 61, 99, 101 and 112, respectively, in terms of their performance toward achieving SDGs (Sachs et al., 2023). The regional score in the Sustainable Development Index for South Asia is 67.2 per cent. Among BBIN countries, Bhutan scored 72.3 per cent, above the regional average, while India, Bangladesh, and Nepal scored below the regional average with 63.4, 65.9, and 66.5 per cent. (ibid.) The Global Climate Risk Index reflects how vulnerable we are to climate change, and the Sustainable Development Index reflects how committed BBIN is to mitigating climate change. The above Data shows we are significantly ahead in vulnerability, but left behind in mitigation, so there is a void in what ought to be and what it is.

Table 1: SDG Report. (2023)

SDGs	Sub SDGs	Bhutan	Bangladesh	Nepal	India
SDG7: Affordable and Clean Energy	1- Population with access to electricity (%)	100%	96.2%	89.9%	99%
	2- Population with access to clean fuels and technology for cooking (%)	80.2%	25.0%	34.8%	67.9%
	3- CO2 emissions from fuel combustion per total electricity output (MtCO2/TWh)	0.1	1.2	2.1	1.5
	4- Renewable energy share in total final energy consumption (%)	12.1%	0.3%	7.1	15.9%
SDG 13: Climate Action	1- CO2 emissions from fossil fuel combustion and cement production (tCO2/capita)	0.6	0.5	1.9	2.0
	2- CO2 emissions embodied in imports (tCO2/capita)	0.2	0.2	0.1	0.5
	3- CO2 emissions embodied in fossil fuel exports (kg/capita)	NA	0.0	NA	NA

Country Profiles. dashboards.sdgindex.org. Retrieved April 10, 2024, from <https://dashboards.sdgindex.org/profiles>

Renewable Energy Potential in BBIN Countries

The BBIN countries have abundant renewable energy sources. These include the rivers from the Himalayas, which are ideal for hydropower generation; the expansive coastline along the Indian Ocean, suitable for tidal and wind energy; and the intensely efficient Thar Desert, which is perfect for solar energy production. The following table provides information on the potential capacity of India, Nepal, Bhutan, and Bangladesh in terms of hydro, solar, and wind potential.

Table 2: Comparative Renewable Energy Potential and Explored Capacity of Energy Generation

Renewable Energy	NEPAL			BHUTAN			BANGLADESH			INDIA		
	Potential ^a	Explored ^b		Potential ^c	Explored ^d		Potential ^e	Explored ^f		Potential ^g	Explored ^h	
Hydro	50,000	2,750		33,000	2,334		755	225		145,320	46,850	
Solar	47,000	68.38		1,200	0.72		50,174	392.62		748,990	67,078	
Wind	1,700	NA		760	0.6		2,000	2		1,163,856	42,868	
Total	98,700	2,818.38	2.85%	34,960	2,335.32	6.67%	52,929	619	1.16%	2,058,166	156,796	7.61%

Nepal and Bhutan possess abundant hydropower potential, yet their current infrastructure only harnesses a fraction—less than 10 per cent. In contrast, India's extensive and varied geography and climate make it rich in all three renewable energy sources. Conversely, Bangladesh faces limitations in hydropower due to its primarily riverine topography and lack of elevation.

However, it has high solar energy production potential and a lengthy coastline that offers wind power generation opportunities, both onshore and offshore. Despite these advantages, Bangladesh is still working to fully tap into its wind and solar energy resources.

Role of Renewable Energy in achieving SDGs

Out of 17 SDGs, no single SDG directly talks about Renewable energy. However, renewable energy has a significant role in achieving SDG targets. Renewable Energy technologies have become increasingly important as the world faces the challenge of mitigating the negative impacts of climate change and reducing the dependence on finite and polluting fossil fuels (Verma, 2023).

In the coming days, threats from climate change will increase, and energy consumption will be a pivotal contributor to total GHG emissions. It is difficult for countries to grow economically and significantly reduce energy consumption per capita. Either energy consumption can be made efficient, which means its mindful utilisation or demand for energy consumption can be fulfilled from clean energy sources. As per the trajectory of the world, where, thankfully, countries are lifting their population from the poverty line, their energy consumption is rising proportionately (USEIA, 2023). The only way to keep economic growth intact along with energy consumption is to deploy clean and green energy sources; for instance, the energy produced from renewable sources emits 90-99 per cent fewer GHGs and produces 70-90 per cent fewer pollutants (Verma, 2023).

As mentioned above, SDG Goals 7 and 13 actively require the support of renewable, and its share should go up in the total energy consumption basket. Increasing renewables share in the total energy basket pushes us closer to a Sustainable Future. This paper will systematically examine the nexus between renewable energy initiatives and Sustainable Development Goals 7 and 13 within the BBIN nations.

1- SDG Goal 7: Affordable and Clean Energy

Access to electricity and clean cooking fuel has improved in many parts of the world. The pandemic, the War in Ukraine and other global disturbances have created an atmosphere of uncertainty and diverted the attention of countries to other immediate goals. Globally, 91% of the population will have access to electricity in 2021; BBIN countries are also not too bad. (SDR, 2023) However, when it comes to access to clean cooking fuel and technologies, BBIN countries are far, e.g., the Global average is 71 per cent, Bhutan 80.2, India 67.9, Nepal 34.8, Bangladesh 25.0 per cent (SDR Country Profile, 2023), i.e. except Bhutan, all countries are below average. Access to clean cooking energy reduces emissions and is also directly related to SDG3 and SDG5, which discuss Health and Gender inequality, respectively. Still, a large

population in BBIN countries relies on biomass as a cooking fuel, creating indoor air pollution (IAP). Women and children are more exposed to IAP because it is only women who are traditionally responsible for these household works; this results in more exposure to the hazardous effects of smoke and has the potential to create eye irritation and watering, respiratory problems, poor obstetric outcomes and burns (NIH-US, 2020).

The share of Renewable energy out of the total energy basket globally was 19.1 per cent in 2020, in India 15.9, Bhutan 12.1, Nepal 7.1, and Bangladesh 0.3 per cent (Refer to Table 1). The difference among the countries is enormous. The renewable energy share of India and Bhutan is close to the global average, but Nepal and Bangladesh are too distant from the global average. Overall, BBIN countries are blessed with vast renewable potential, but their contribution to renewable energy needs to be higher, and in Nepal and Bangladesh, the situation is alarming.

A country like India, which is aspiring to be a global leader in renewable energy, takes initiatives like the International Solar Alliance 2015, National Green Hydrogen Mission 2022, Global Biofuel Alliance 2023, etc., have a low renewable share, making their claim to leadership in renewable energy contested.

2- SDG Goal 13: Climate Action

It calls for urgent action to combat climate change and its impacts. The world stands on the edge of a climate crisis, and the current measures and plans to tackle it are inadequate (UN DoES, n.d.). To limit the increase in global average temperature to well below 2°C above the pre-industrial level, it becomes implicit for the energy transition to a net zero energy sector. Renewable energy, energy efficiency, and end-use electrification can provide 90 per cent of the CO₂ emissions reductions needed by 2050 (IRENA, 2019). As of 2020, the existing renewable energy fleet in BBIN countries is avoiding the emission of CO₂ equivalent to, in Bangladesh 0.704 million Tonnes (MT), Bhutan 9.506MT, Nepal 6.357MT, and India 277.5MT (Avoided Emissions Calculator, 2020). SDG 13 discusses three main sub-goals: Carbon emissions from fossil fuel combustion and cement production, Carbon emissions embodied in imports and Carbon emissions embodied in fossil fuel exports (SDG, 2015).

As BBIN countries are import-dependent for fossil fuel needs, the third sub-goal is not applicable in these countries. The second sub-goal discusses emissions induced from imports: Bhutan 0.5, Bangladesh 0.2, Nepal 0.2, India 0.1 (ton CO₂/Capita) (see Table 1). Given India's geographical positioning and access to the coast, it has access to maritime routes and fair infrastructure connectivity in the hinterlands, and its carbon emissions from imports are relatively low. According to the above figures, Nepal and Bangladesh's emission per capita in

import is 0.2 (see Table 1); despite Nepal being a landlocked country and Bangladesh having an enormous coastline, their footprint is equal. This poses a question about Bangladesh's port and connectivity efficiency. Less efficient and poor technologically driven equipment incur more energy to function, raising overall emissions. Bhutan's position is also challenging to digest. Given that it is also a landlocked country and far from the coast, similar to Nepal, Bhutan's per capita income is more than Nepal's. One reason for this is the vast population gap between Bhutan and Nepal. Less population means contribution shared by fewer people, therefore high per headcount.

Actions and Commitments of BBIN countries over Renewable Push

As all member countries of BBIN are members of the Paris Agreement and have submitted their NDCs, NDCs are at the heart of the Paris Agreement and SDGs; observing their NDCs can tell us many things about their approach to Energy Transition and Climate Action. Comparative analysis of NDCs can help us understand member countries' approach to Renewable energy. What promises have countries made in NDCs aligned with climate action concerning renewable energy? We will now discuss the approach of each BBIN member country.

1. Bhutan: Bhutan, the world's 1st carbon-negative country (VIVES et al., 2023) and the only carbon-negative country in BBIN countries, will continue to be carbon-negative, as proposed in its 1st NDC (Royal Environment Commission, 2015) and reiterated in the updated 2nd NDC (Second NDC Bhutan, 2021). Some actions and targets concerning renewable energy are mentioned in NDCs. Bhutan expressed its commitment to developing Low Emission Development Strategy (LEDS) for Human Settlement; it will lead to cumulative mitigation potential of up to 4122 Gg CO₂e, LEDS for industries which will mitigate 999-1137 Gg CO₂e per annum, LEDS for Surface transport have the cumulative potential of carbon mitigation of 5283 Gg CO₂e by 2030 (MOAF Bhutan, 2021). These LED transitions are done only by replacing the emission sources with clean energy sources. On the Renewable energy production front, Bhutan came out with two commitments: Sustainable Hydropower Development Policy and Alternative Renewable Energy Policy. Under Sustainable Hydropower Development, Bhutan will harness its hydropower potential and anticipate the commissioning of Punatsangchuu-I (1200MW), Punatsangchhu-II (1020MW), Kholongchhu (600MW) and Nikachhu (118MW) Hydro-Electric Projects (HEP) by 2030. In addition to this, Sankosh HEP (2585 MW), Dorjilung HEP (1125 MW), and Nyera Amari (404MW) are priority projects that will be pursued based on evolving national circumstances (Second NDC Bhutan, 2021; pp13). Alternate Renewable energy

consists of mini-hydro, solar, wind, and waste-to-energy. According to medium term plan from 2020-2028, Bhutan will deploy 71.11MW of Solar and Wind, 500kW mini hydel to meet the energy demand of the remote Luana community and consider the feasibility of waste-to-energy production in Thimphu, some decentralised solar water heaters in the institutions and rooftop mounted solar plant will also add on to the Renewable fleet (ibid., pp14). Apart from reducing emissions, producing energy and being green, Bhutan is firmly committed to enhancing energy efficiency. The National Energy Efficiency & Conservation Policy and the Energy Efficiency Roadmap (NEECP) were adopted in 2019. It has the potential of 155GWh energy saving and 0.59MT CO₂e emissions reduction (ibid., pp15). So, Bhutan's strategy for Renewable energy contribution to SDGs can be categorised into Emission Reduction, harnessing Renewable energy potentials, and enhancing efficiency.

2. **Bangladesh:** Bangladesh came out with its first NDC in 2015 and submitted its updated version in 2021. Bangladesh's Action and Targets for Renewable Energy to achieve SDGs can be read under two sections: Unconditional and Conditional. Unconditional targets are not dependent on any externalities; such targets are declared based on particular countries' capacity. Conditional targets are dependent on some external variables, e.g., developing hydropower if the World Bank passes a loan; the target is dependent on World Bank decisions; therefore, the target is conditional. Under the business-as-usual scenario (BAU), GHG emissions in 2030 will be 409.41MT CO₂e. Still, Bangladesh's NDC targets under the unconditional scenario are to cut down 27.56MT CO₂e emission to 381.85MT CO₂e, but under Conditional targets, the goal is enormous, to cut down 61.9MT CO₂e emission to 319.94MT CO₂e (MOEFCC Bangladesh, 2021; pp7). Bangladesh targets to implement Renewable energy projects (combined of grid and non-grid connected solar energy, Wind, biomass hydropower) of 911.8 MW under the unconditional Scenario; under the conditional scenario, the target of implementing renewable energy projects of 4114.3, nearly four times more than unconditional sources (ibid. pp10). By improving traffic congestion, there is a 5 per cent unconditional scenario and a 15 per cent conditional improvement in fuel efficiency. Achieve a 10 per cent unconditional (ibid., pp9) and 20 per cent conditional scenario increase in energy efficiency in the industrial sector (ibid., pp12). The brick kiln is a primary polluting sector in Bangladesh, under unconditional 14 per cent, under conditional 47 per cent emission reduction, which is quite appreciable, by adding 5925 Solar irrigation pumps generating 176.38MW under an unconditional scenario and 4102 solar pumps generating 164MW energy for agriculture (ibid., pp3). Interestingly, the target of adding solar pumps is less in the conditional scenario than in the unconditional scenario.

Bangladesh also targets the unconditional building of 57,000 mini-bio gas plants and 107,000 plants, conditionally (ibid., pp10-13).

3. Nepal: Nepal is the most vulnerable country to climate change and has a high risk due to its fragile topography (Bhatta et al., 2024). Nepal submitted its first NDC in 2016 and updated the version of its second NDC in 2020. NDC of Nepal talks about expanding clean energy generation from approximately 1400MW to 15000MW, of which 5-10 per cent will be generated from mini and micro hydropower, solar, wind, and bioenergy, of which 5000MW addition is an unconditional target, and the rest is conditional. Nepal aims to supply 15 per cent of the total energy demand from clean sources (MoHP Nepal, 2020; pp3).

Nepal targets 25 per cent of vehicles to be sold electric by 2025, which will help reduce approximately 4 million GJ of 9 per cent of total fossil fuel dependency. By 2030, Nepal targets it to be 90%, which will reduce 13.5 million GJ, resulting in a 28 per cent decrease in fossil fuel consumption. Nepal targets the transition to clean energy in residential cooking and biogas sectors to reduce emissions from 1999 Gg CO₂e in the BAU scenario to 1774 Gg CO₂e (ibid.; pp3-16).

4. India: India presented its first NDC in 2015 and submitted its updated version in August 2022 (MOEFCC India, 2022). It includes a vast range of issues concerning the environment, climate change mitigation, capability development, sticking to renewables, and their role in achieving SDGs. India added several things to its revised NDC, such as

- a) To reduce the emissions intensity of its GDP by 45 per cent by 2030, starting from 2005: Emission intensity to GDP means a percentage increase in emission concerning the percentage increase in GDP, e.g. Indian GDP grew at an average rate of 7 per cent from 2005-2019, but emission increase by 4 per cent only, so emission was reduced to 33 per cent (The Hindu, 2023). Similarly, India wants to reduce emission intensity by 45 per cent from 2005 to 2030.
- b) India is dedicated to combating climate change by employing technology transfer and low-cost international finance, including the Green Climate Fund (GCF), to achieve approximately 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030. This commitment is reflected in various programs and schemes, such as the National Action Plan on Climate Change (NAPCC), which includes missions in specific areas like solar energy, energy efficiency, water, sustainable agriculture, Himalayan ecosystem, sustainable habitat, health, green India, and strategic knowledge for climate change. One of the key initiatives under the NAPCC is the National Solar Mission,

which aims to promote sustainable growth and address India's energy security (PIB Delhi, 2022).

Challenges and the Way Forward

We have discussed the importance of renewable energy for achieving SDG potential in BBIN countries and the targets set by these countries for renewable industry. Given the actual reality, we can find the gap between targets and policies deployed because of some hindrances that come in the way.

One primary challenge not only BBIN countries face but also all major developing countries face is a *need for more funds* for infrastructural development. The call for a significant renewable push requires much investment in infrastructure such as efficient and technically advanced grids, new solar, wind, biofuel, nuclear, etc., and power generation plants, which can provide an alternative to fossil fuel-based power generating plants. Countries have two types of goals in their NDCs, one Unconditional and the second conditional, and the gap between the target unconditional and conditional is vast, which we saw above; this shows how crucial it is to fund for transition.

The second most significant issue concerning energy efficiency is the *high transmission cost of electricity* in South Asia, where the world average power transmission and electricity losses are 8 per cent, and South Asia's is 19 per cent. In the same ranking, India is at 19 per cent, the same as the South Asian average; Bangladesh is at 11 per cent, and Nepal is at 32 per cent (World Bank, 2018). Nepal's transmission lines either do not have the efficient capacity or are on the verge of collapse. To invest in developing transmission lines with the USA under MCC, a USD500 million project in grant, became a political impasse. Most of the transmission lines between India and Nepal are below 400kV, except for one cross-border transmission line between India and Nepal, the Dhalkebar-Muzaffarpur line (Shrestha, 2022). Emerging technologies like Artificial Intelligence can transform energy systems' efficiency and sustainability. For instance, Predictive Maintenance can prevent equipment failures by predicting them before they happen. On the other hand, Energy Optimization uses advanced analytics and real-time monitoring to adapt to changing environmental conditions, predict energy production patterns, and optimize resource allocations. Doing so maximises energy yield from renewable sources, making them as reliable as traditional/non-renewable ones (Shedrack Onwusinkwue et al., 2024).

The third most significant challenge is the need for *interstate regional cooperation*; one country may have an advantage in something the second country needs, and vice versa. Here comes the significance of cooperation for mutual gains. Regional collaboration can decrease the total

transaction cost of energy production. India and Bangladesh are energy-hungry nations, and in the coming days, it will increase only, but countries like Bhutan and Nepal have rich hydropower potential. India can help fund hydropower and other infrastructure development, such as an efficient grid, and in return, member countries can fulfil their energy demands. India already has several such projects, but the potential is enormous. Firstly, India is also a developing country that limits its capacity to invest in other countries. Secondly, these countries are also cautious in any collaborative infrastructure development with India, primarily because of India's Big Brother attitude (Sharma, 2020). Countries try to keep only some of their eggs in a single basket. These countries fear that as much as we depend on India, India will have more leverage to influence our internal matters. India also shows resistance when these countries try to outsource funding from third countries (Bagchi & Dasgupta, 2017). Consequently, the culmination of all these things limits regional cooperation and consequently negatively impacts energy transitions in the long run.

Conclusion

Renewable energy plays a crucial role in the shift from non-renewable to clean fuel, which is of the utmost importance for achieving SDGs and preventing irreversible damage. We have seen how much the energy sector contributes to GHG emissions by examining various data sets. The BBIN countries have tremendous potential in renewable energy, which is significant in transitioning and moving towards sustainable growth. All Member countries have signed the Paris Agreement and declared their Sustainable Development Goals for 2030. Unfortunately, there has been a gap between targets and policies due to a need for more resources.

The Conference of Parties (COP) to UNFCCC, which is supposedly the supreme decision-making body of the UNFCCC convention, also reviews national communications, e.g. NDCs and reviews emission inventories submitted by parties (UNFCCC, n.d.). COP 29, held from 11-22 November 2024 in Baku, Azerbaijan, came out with 14 significant initiatives, out of which the Global Energy Pledge, Green Energy Pledge: Green Energy Zone and Corridors, Hydrogen Declaration and The Climate Action Fund are directly aligned with the promotion of renewable energy, green transition and energy efficiency (COP29, 2024). Under the above declaration and pledge, countries need to emphasise investment in grid and transmission infrastructure, integration of renewables to enhance energy security, promoting regional integration and international cooperation (GESGP, 2024), harnessing clean energy, implementing energy efficiency applications, maximising the benefits of energy (GEP, 2024). Hydrogen, which is considered a game-changer in the clean energy sector, was also discussed in COP 29, emphasising low-carbon hydrogen production and acceleration of the

decarbonisation of existing hydrogen production (Hydrogen Declaration, 2024). However, these recommendatory benevolent ideas and policies are always part of the discussion in such forums, and countries pledge to adhere to them. However, the problem lies in its implementation side. Out of several implementation side problems, most developing countries face perennial financial problems in executing these policies and ideas. Article 9 of the Paris Agreement stipulates that developed countries should provide financial assistance to developing and least developed countries (LDCs) (UNFCCC, 2015). At COP 15, it was decided that developed countries would mobilise USD 100 billion annually to developing and LDC countries till 2020 (UNFCCC, 2015; pp7). At COP 21, this deadline was extended till 2025, and it was also decided that a new climate finance goal to succeed this would have to be decided before 2025 (The Paris Agreement, 2015; pp7). This new financial goal is called the New Collective Quantified Goal (NCQG), declared in COP29, provisioning USD 300 billion of finance mobilisation to developing and LDC countries (DownToEarth, 2024). However, the number has increased from the previous USD 100 billion pledge but is still USD 200 less than the number called by group 134 developing countries. Given the dissatisfaction with the amount, several countries walked out of the negotiation. Indian delegate criticised it, calling the agreement an “illusion” (Aljazeera, 2020). This division between the Global North and the Global South, driven by a state-centric and realist approach, would only make the transition journey more difficult. The lack of resource mobilisation from international channels further strengthens the need for regional and subregional cooperation to prevent climate apocalypse. As members of one contiguous territory, an individual approach would produce a different benefit. A territorialised state-centric approach is unsuitable since borders can divide the territory but not the climate; boundaries are designed for humans, not nature. The territory is just a tiny fraction of Mother Earth.

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Expressed Emotions of Care Givers of Schizophrenia Persons from Kerala

Sulfath S

Department of Sociology, University of Kerala

Corresponding author: sfsulfath@gmail.com

Available at <https://omniscientmjprjournal.com>

Abstract

Expressed emotion (EE) is a measure of the family environment that is based on how the relatives of a psychiatric patient spontaneously talk about the patient – Butzlaff & Hooley (1998). It is a psychological term specifically applied to a person with mental illness. For the purpose of understanding expressed emotions of care givers of persons with schizophrenia, the researcher selected 250 care givers of persons with schizophrenia from various hospital of Kerala through simple random sampling. The study followed explanatory sequential research design. This study describes the reasons for expressed emotions as well. The result shows that There is no difference between care givers' age, gender, marital status, income, or job with the care giver's expressed emotions. Caregiving difficulties and warmth are different among various categories. Warmth is high in care givers with no difficulty in the caregiving category and low in care givers with difficulties in the daily routine category.

Key words: *Expressed Emotions, Care Giver, Schizophrenia, Care Giving Difficulties, Criticism*

Introduction

Expressed emotion (EE) is a measure of the family environment that is based on how the relatives of a psychiatric patient spontaneously talk about the patient – Butzlaff R. L., Hooley J. M, (1998). It is a psychological term specifically applied to a person with mental illness. The concept of expressed emotion was developed by George Brown and his colleagues in the Institute of Psychiatry in London in the 1950s. The original concept of EE includes a set of positive and negative emotions, among which the three major negative components are criticism, hostility, and emotional over-involvement. The positive conditions include warmth and positive regards. The families expressed emotion has been shown to be predictive of outcomes in mental and physical illness in a variety of cultural settings (B. P. Nirmal, N. M. Vranda and Reddy, 2010). The hostile attitudes of expressed emotion are negative toward the person with the disorder. The family members put the blame on this because of the disorder. The family perceives the person as the one who is in control of the course of illness. The relatives feel that the family member is selfish by choosing not to get better since the illness is an internal conflict. They have a hard time problem solving within the family because the answer to most problems is settled, with the disorder being the cause. Brewin, MacCarthy, Duda and Vaughn, 1991). The critical attitudes of expressed emotion are the combinations of hostile and emotional over-involvement. These attitudes are more open-minded than the

previous because they view more than one cause of the disorder (Brewin et al, 1991). Critical expressed emotion from siblings and parents are the cause of future and increasing problems for the patient. Bullock, Bank, and Buraston (2002).

The family members blame themselves for everything instead of the patient. They feel everything is their fault and become over-involved with the one who has the illness. Emotional over-involvement demonstrates a different side than hostile and critical attitudes but is still similar to the negative effect that causes a relapse. The relative becomes so overbearing that the patient can no longer live with this kind of stress from pity and falls back into their illness as a way to cope. (Lopez et al, 2004). It is assessed based on kindness, concern, and empathy expressed by the caregiver while talking about the patient. It depends greatly on vocal qualities with smiling being a common accompaniment, which often conveys an empathic attitude by the relative. Warmth is a significant characteristic of the low EE family. (Anekal 2012). Positive regard comprises statements that express appreciation or support for the patient's behavior and verbal/nonverbal reinforcement by the caregiver. (Anekal, 2012)

Significance of the study

Schizophrenia is a major mental disorder it affects the thought and behavior of an individual. It is characterized by hallucinations, delusions, and negative symptoms. Eugene Bleuler coined the term schizophrenia in 1908. Delusions, Hallucinations, Disorganized speech (e.g. Frequent derailment or incoherence), Grossly disorganized or catatonic behaviour, Negative symptoms (i.e., diminished emotional expression or avolition) are the symptoms of schizophrenia. Continuous signs of the disturbance persist for at least six months. This 6-month period must include at least one month of symptoms. Care givers of schizophrenia patients expressed both positive and negative emotions towards the patients.

Positive expressed emotions mean those emotions, which contribute to the wellbeing and prosperous living of the persons with schizophrenia. Warmth and positive regard add meaning to the lives and it brings happiness in their life. Warmth and positive regards include Care, concern, love, affection, good words, towards one self and towards his or her +disorder also. The negative expressed emotions mean criticism, anger, avoidance, torture, bad words from the care giver that harm the wellbeing of the person with schizophrenia. These negative emotions have negative impact on their life and it may worsen their recovery and treatment outcome. Emotional over involvement is the over protection from the part of caregiver, the care giver does all things for the person without considering his/ her health in relief that their over help will help the person to recover from illness. But this will harm the victim and make them

more dependent on care giver. A care givers expressed emotion has crucial role in sound life of person with schizophrenia, as they spent most of their time with their caregiver. Due to strain and stress in care giving the care giver may outburst emotionally and shows expressed emotion.

Objectives

The objective of the study to find out expressed emotions such as criticism, hostility, emotional over involvement, positive regard and warmth and also explore the reasons for expressed emotions of care givers

Research Questions

What are the emotions expressed by the care givers of schizophrenia patients at most and what is the least expressed emotion of care givers?

What are the contextual frame work in which the care givers of schizophrenia patients exhibit expressed emotions?

Methodology

The population of the research is the primary care givers of schizophrenia patients who are undergoing treatment for the last one year. For the purpose of understanding expressed emotions of care givers the researcher selected 250 care givers of persons with schizophrenia from various hospital of Kerala through simple random sampling. The researcher developed a Likert scale for data collection and its validity and reliability has been checked and administered for the research. The Cronbach's reliability value of the tool is 0.857 and the KMO and Bartlett's test value is 0.788. The study followed explanatory sequential research design. This study describes the reasons for expressed emotions as well. This research also throws light on the relapse in persons with schizophrenia. The study obtained ethical clearance from University of Kerala Ethical committee.

Hypothesis

There is significant relation between gender and expressed emotions of caregiver

Ethical clearance

Ethical clearance is obtained from concerned authority. Data collection started after getting consent from the participants. The research is conducted with University of Kerala PHD Fellowship

Conflict

None.

Data Analysis

Care givers expressed emotions such as criticism, emotional over involvement, hostility, warmth, positive regard and theses expressed emotions association or difference with various

socio-demographic variables have been studied in this chapter. These emotions were grouped into two categories; Positive emotions and negative expressed emotions. Positive expressed emotions include Warmth, Positive regard. Negative expressed emotions include, Criticism, Hostility, Emotional over involvement. The statistical techniques used for data analysis are percentage analysis, for comparing means t' test is used and ANOVA is also used.

About 30 percent expressed emotional over-involvement, sometimes with their family members. Around 50 percent of caregivers do everything for their family member without realizing they are endangering their loved one's life. They become overly protective and concerned about the personal affairs of family members suffering from schizophrenia. This emotional involvement occurs in all matters of a diseased one's life, from brushing and bathing to making decisions for them.

Husband of 55-year-old woman said that,

"She is very lazy in her personal matters as well as family matters, but I never made a complaint to anybody or criticize her. I am afraid that my criticism makes her angry and our relationship becomes worse. So I never criticized her. So, I manage cooking, washing, and cleaning my house along with my auto driving. As our children are married and are living separately in their own homes, no other responsibility we have. Children sometimes visit as and return back to theirs."

The caregiver of a 45-year-old woman told that,

"I become critical towards her when I remember her rejection of three PSC appointments. She has cleared 3 Public Service Commission exams and completed the verification process also, but she couldn't join any of the jobs by telling silly reasons. When I thought about her future after my death, I became nervous and anxious. Her only brother is married and has his own family. How can she depend on him always?"

Caregivers who are critical of their caregivers also have hostile attitudes toward their family members with illnesses. A hostile attitude is avoidance and a less critical state toward the patients, it has a negative impact on the patient's life. It may result in their hesitation to make medicines sometimes. Sometimes these negative emotions come without deliberately from care giver due to certain family circumstances. Almost 65.2 percent of caregivers not expressed hostility toward their family member with schizophrenia. Only 10.2 percent of care giver show hostility sometimes and 20.8 percent show occasionally. Only 8.4 percent (21) of

caregivers do not have warmth toward their care giver. 38.4 percent care givers expressed warmth occasionally and 36.4 percent of them expressed warmth always. It is clear that 80 percent of caregivers are passionate about caregiving and have concern for their family members with the disorder

Daughter in law of a 64-year-old man said that,

"I have no positive regard or warmth for my father-in-law, I have been fed up with caring for him, he uses abusive words so that my son is afraid of him and not go to his besides. He never does brush or bathing. It's been very difficult to care for him. I would like to send him to some rehabilitating centers. But no center is admitting him concerning his physical health".

Sister of a 50 year old man said that,

"My life is become void because of my brother. as he is ill my marriage was not happened. Now he is creating trouble to me by passing his urine and feces in front of the house. I have to clean all these all the time. He never uses bathroom. He destroys household items. He never goes for work. I have to give money for his cigarettes and alcohol. My mother is bedridden. So it is burden for me to look both of them".

Wife of a 55-year-old man said that,

"I have no difficult in caring my husband during this difficult time, as he cared well my family when he was well and good. He never criticized me during his good time. He gave all his earnings on my hand. He cared my children well. Then how can I be critical towards him now. I know that recovery from illness is difficult but doctor said that proper medicine will avoid the returning of his symptoms back".

Sister of a caregiver said that,

"I have been taking care of my brother after my mother's death. He is living with my family. As I am ill my daughter in law is cleaning his dress and giving him medicines. My other sisters often visit us and help by giving money. I am doing all these for god's love and blessings. otherwise, I will be answerable to god after my death.

There is no significant difference in criticism expressed by caregivers of persons with schizophrenia among male and female caregivers. The negative expressed emotion hostility expressed by the male and female caregivers is the same in its means (0.88) t value, 0.49, and the significant value is 0.961. So, in this case is and the total negative expressed emotion score (male sig 0.595 and female 0.596) has no significance. The positive emotions (warmth and positive regard) are also not significant among male and female caregivers (0.706, 0.722 males and 0.711, 0.725 females).

Hypothesis: There is significant relation between gender and expressed emotions of caregiver The 't' value shows that caregivers' gender has no difference in caregivers' expressed emotion. Male and female caregivers show criticism, hostility, emotional over-involvement, warmth, and positive regard equally. So, the hypothesis is rejected. Both male and female caregiver shows expressed emotions.

One of the caregivers said that,

"I have been taking care of my husband from the very first day of our marriage." It was a trap for me. But I didn't go for a divorce. I have sacrificed my whole life for my husband and daughter. My daughter is now 27 years old. My health is also weak and I am not able to go to work. My family's income is my husband's pension from the government. That is insufficient to meet our requirements. I don't have any complaints; I only need God's blessing in my life".

One-way ANOVA is used to analyze the caregiver's health and expressed emotions. F value obtained is not statistically significant and the results show that there is no difference between criticism, positive regard, hostility, emotional over-involvement, and warmth between healthy and unhealthy care givers. Healthy care givers express emotional over involvement than unhealthy care givers

Discussion

Expressed emotions are the factors affecting the recovery process of those diagnosed with psychological illness. The three attitudes pertaining to expressed emotion are known as hostile, critical, and emotional over involvement. These attitudes of the relatives determine the duration of the psychiatric illness after treatment. Ana Carolina Guidorizzi Zanetti found that, the levels of expressed emotion as 68 percent of care givers presented elevated levels of expressed emotion. In this study result shows that the negative expressed emotions like criticism, emotional over involvement, hostility are shown by almost 45 percent of care givers and the

positive expressed emotions like warmth and positive regard are shown by 92 percent of care givers. It is indicated that the people of Kerala show concerns, care, affections, love and empathy for their family member with schizophrenia more than criticism and hostility.

Aisha Ikram (2011) conducted studies on cross-cultural variations in rates of expressed emotion (EE) in relatives of patients with schizophrenia in Pakistani relatives, they showed higher levels of emotional over-involvement and hostility as compared to many other cultures. In this research about 44 percent of care givers never showed any emotional over involvement with their family member with schizophrenia. Only 2 percent of caregivers showed EOI always and 20.3 percent of them occasionally expressed emotional over involvement. 30 percent expressed emotional over-involvement, sometimes with their family members. 50 percent of caregivers do everything for their family member without realizing they are endangering their loved one's life

Results

There is no difference between care givers' age, gender, marital status, income, or job with the care giver's expressed emotions. Caregiving difficulties, marital status health condition of the care giver are related to care givers expressed emotions. Warmth and positive regard are high in married caregivers. Healthy care givers express emotional over involvement than unhealthy care givers. Warmth is low in caregivers who experience difficulty in making daily routines for the patient. Warmth is high in caregivers who have no difficulties

Conclusion

By considering the result, care givers expressed more positive emotions than negative emotions. The majority of them show concern, care, love, and affection toward their family members with schizophrenia. Only about half of respondents are very critical or very hostile towards the patient. Care givers are very understanding of the symptoms and situations that their loved ones undergo. Only a few caregivers were reluctant or rude towards the person with schizophrenia. The majority of caregivers are committed to the patient's well-being and are content with their role as caregivers.

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Educational Services for Deaf and Mute Children: A Case Study of the Government School in Manipur

Meisuangdai Gonmei, Bhaskar Gurramkonda

Central University of Kerala

Corresponding author: meisuangdai3@gmail.com

Available at <https://omniscientmjprjournal.com>

Abstract

The Deaf and Mute Government School of Manipur serves as an educational institution providing essential training and education for children with hearing and speech impairments in Imphal, Manipur. This case study investigates various aspects of the school, including its curriculum, facilities, student enrollment, retention, dropout rates, and teacher qualifications. The research aims to evaluate the current state of education offered to deaf and mute children, identifying gaps in infrastructure, teacher training, and overall educational provisions. The study uses qualitative and quantitative methods, collecting data through interviews with teachers and the Headmistress, observation schedules, and school records. Findings suggest the school follows a state board syllabus and employs various teaching methods, although it lacks adequate facilities such as vocational training resources and a comprehensive counseling section. Additionally, the study highlights teacher training challenges and the institution's absence of external financial support. The findings provide valuable insights for policy-makers, educators, and administrators to improve the quality of education for children with special needs in the region.

Keywords: *Special Education, Deaf and Mute Students, Assistive Technology, Teacher Training, Inclusive Education*

Education plays a vital role in transforming societies, especially in ensuring equal opportunities for children with special needs (Farswan, 2023). Children with hearing and speech impairments are often marginalized within conventional education systems, making specialized institutions essential (Hayes & Bulat, 2017). The Government Deaf and Mute School of Manipur exemplifies such an institution, focusing on providing tailored education and support for children with these disabilities. Recent studies indicate that specialized schools significantly contribute to reducing educational disparities for children with disabilities (Merrigan & Senior, 2023).

In Manipur, the school follows the state board syllabus and integrates pre-vocational training and co-curricular activities, fostering the holistic development of its students. This reflects global trends in inclusive education systems, which provide essential resources to ensure that children with disabilities are not left behind in terms of academic and social growth (Hayes & Bulat, 2017). Moreover, the school's ability to enroll, retain, and support students with disabilities aligns with similar efforts in other developing regions, where inclusive education is increasingly recognized as a key to overcoming educational inequalities (Freeman-Green et al., 2023).

The challenges in training and retaining qualified teachers also remain significant, and these challenges are common across institutions that provide education to children with special needs. (Gale et al., 2022). The study aims to analyze these aspects, providing valuable insights that can inform educational policy-makers and administrators in enhancing inclusive education frameworks.

Literature Review

The provision of education for children with disabilities, particularly those with hearing and speech impairments, has been extensively researched in various contexts. A global study by Ilkım et al. (2018) found that physical activity plays a significant role in the socialization of students with special needs, aligning with specialized schools' objectives in promoting academic and social development.

Similarly, Erdem (2017) explored the role of assistive technologies in special education and emphasized that integration of these tools significantly enhances learning outcomes for students with disabilities. This finding is particularly relevant in the context of Manipur, where the Government Deaf and Mute School has been incorporating various assistive technologies to help students overcome communication barriers.

Hornby & Kauffman (2021) conducted an important study focusing on the challenges faced by teachers in special education, specifically those working with children with hearing and speech impairments. His research revealed that more than 70% of these teachers struggled with their organizational roles and that teacher performance was highly influenced by salary and training levels.

Taneja-Johansson et al. (2023) explore the challenges faced by teachers in rural Indian government schools in educating children with disabilities. Despite recognizing the importance of inclusive education, teachers struggle with deficit-oriented views and lack support structures. The findings highlight the need for effective professional development and support networks to improve inclusive practices.

Despite these studies, there is a notable gap in research specific to the northeastern regions of India, particularly in the state of Manipur. Research suggests that regions with less developed educational infrastructure face additional challenges in providing quality special education services. This literature review thus emphasizes the need for further research on how local cultural, economic, and infrastructural conditions influence the quality of education provided to children with disabilities in Manipur.

Methodology

This study uses a case study design to explore the educational curriculum, facilities, and management at the Government Deaf and Mute School in Imphal. The population comprises the Headmistress and 14 teachers, who form the sample for data collection through interviews, questionnaires, and observations.

Results

Analysis of Opinions

The data collected through questionnaires, interviews, and observation were analyzed qualitatively and quantitatively by using descriptive statistics in an objective wise.

Objective I: To study the curriculum of Imphal Govt. School for Deaf and Mute.

This has been divided into Part A and Part B, depending on the data source.

PART A

The analysis and interpretation for this section have been taken from the Headmistress and the school records.

Syllabus:

Govt. Deaf and Mute school is under the state board, so they are following the state board syllabus, Board of Secondary Education Manipur (BOSEM). And the school offers an academic programme as well as pre-vocational training.

Medium of Instruction:

The medium of instruction used in the school is English. At the primary level, English and the mother tongue are also used whenever required.

School subjects:

The school uses both curricular and co-curricular activities, and the following school subjects are being offered to all the students-

Curricular:

English I and II, Mathematics, Science I and II, Social Science I and II, Environmental Education, Drawing, Manipuri (Meetei Mayek), Physical and Health Education, Commerce (Optional), Home Science (Optional), Higher Mathematics (Optional), Computer Science (Optional), MIL (Modern Indian Languages).

Academic Year:

The academic session starts in February and continues till December. They are allotted one month of summer break from mid-June to mid-July. The school also gives winter vacation immediately after the final examinations get over in December, which continues till the end of

January. The school follows the state government calendar and gets the other holidays as per the state government.

School Timetable:

Govt. Deaf & Mute School 2018 (TEACHERS ROUTINE CLS WISE)

Class	1st period	2nd	3rd	4th	5th	6th	7th
	10.30-11.10	11.10-11.50	11.50-12.30	12.30-1.10	1.30-2.10	2.10-2.50	2.50-3.30
R.G.II	Language (Kailayani & Kenny)		Drawing (Achoobi)	Maths (Shinning)	Game		
I	Maths (Booda)	Eng (Booda)		Language (Booda)	Manipuri (Kailayani)		Game
II	Maths (Sunitabala Mon-Thur, Anita-Fri-Sat)	Manipuri (Bimota)		Drawing (Achoobi)	English (Joyrani)		
III	Eng. (Priyadarshini)	EVS (Shinning)	Maths (Sanatombi)		Manipuri (Karan/Bimota)		Vocational (Monday to Tuesday) (Romik & Keidani)
IV	E.V.S (Tibolata)	Manipuri (Kiran)	Eng (Anita)	Maths (Sanatombi)	Drawing (Achoobi)		Game (Wednesday & Friday) (Tibolata & Bimota)
V	Maths (Sanatombi)	Eng. (Joyrani)	E.V.S (Tibolata)	Man (Kiran)			Vocational (Wednesday to Thursday) (Romik & Keidani)
VI	Eng. (Shinning)	Maths (Sanatombi)	Manipuri (Kiran)	Social Sc. (Priyadarshini)	Science (Sunitabala)		Game (Monday & Tuesday) (Tibolata & Bimota)
VII	Man. (Tondombi)	Eng (Kamala)	Social Sc. (Priyadarshini)	Science (Sunitabala)	Maths (Mina)		Vocational (Friday to Saturday) (Romik & Keidani)
VIII	English (Kamala)	Manipuri (Tondombi)	Science (Sunitabala)	Maths (Mina)	Social Sci (Priyadarshini)		Game (Thursday & Tuesday) (Tibolata & Bimota)
IX	Maths (Mina)	Science (Anita Mon-Thur, Sunitabala-Fri-Sat)	English (Joyrani)	Man. (Tondombi)	Geo/Civics (Kenny)		His/Eco (Kamala)
X	Science (Anita Mon-Thur, Sunitabala-Fri-Sat)	Maths (Mina)	Manipuri (Tondombi)	English (Joyrani)	His/Eco (Kamala)		Home Sci (Booda)
							Home Sci (Shinning jinish)

Figure 1. Daily School Timetable

Source: Computed from Primary Data

Evaluation Procedure:

The students are evaluated through the continuous and comprehensive evaluation (CCE) system. Some of the specific procedures that they follow to evaluate the students for the full academic year are as follows:

- Monthly Test
- First Mid-Term Exam
- Half- Yearly Exam
- Second Mid-Term Exam
- Final Exam

Board of Examination:

The respondent said the school followed the State Board examination pattern, i.e., Board of Secondary Education Manipur (BOSEM).

PART B

The analysis and interpretation of this section have been taken from the responses of the teachers' questionnaire.

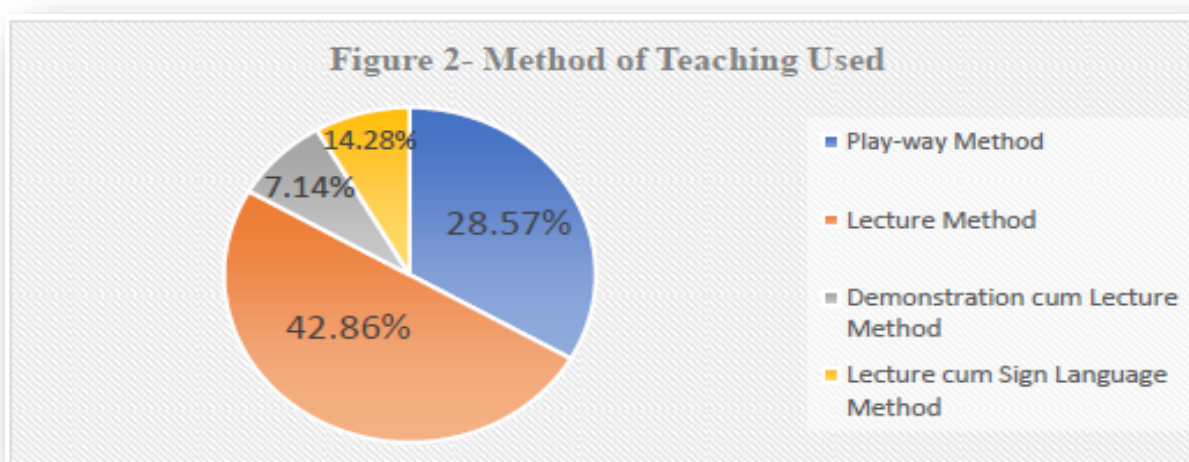
Method of Teaching:

The details of the teaching method used by the teachers are shown in Table 1.

Table 1 Percentage of the teaching methods being used

S. No.	Method of Teaching Used	Total No. of Respondents	No. of Respondents Using the Method	(%)
1	Play-way Method	14	4	28.57
2	Lecture Method	14	6	42.86
3	Demonstration cum Lecture Method	14	2	14.28
4	Lecture cum Sign Language Method	14	1	7.14

Source: Computed from the Primary Data



Source: Computed from Table 1

The percentage of positive responses to the different types of Teaching Methods used by the 12 respondents is shown in Table 1 and Figure 2. From the table and figure, it is understood that for the play-way method, the percentage of positive responses is 28.57%, for the lecture method is 42.86%, for demonstration cum lecture method is 7.14%, and for lecture cum sign language is 14.28%. The teachers also said they face different problems while teaching the students.

Co-Curricular Activities:

- Games and Sports: Physical exercises, cricket, football, tug of war, etc.
- Socially Useful Productive Work (SUPW): Cleaning the campus, plantation, making models, etc.
- Competitions: recitation, extempore speech, quiz, story-writing, debate, dancing, etc.
- Recreational activities: Listening to music, watching television, yoga, and outings.

Objective II: To find out the facilities available for children with disability in the government school.

Facilities provided by the school in terms of:

- a) Academic
- b) Infrastructure
- c) Training
- d) Counselling

The second objective is to find the facilities available for children with disability in government schools. To fulfill the second objective, the researcher uses the interview, observation schedule, and questionnaire.

a) Academic:

Table 2. Academic facilities provided by the school

S. No.	Facilities	Availability No.	Adequate	Inadequate
1.	Classrooms	12	Yes	No
2.	Textbooks	As per the no. of students	Yes	No
3.	Blackboard	12	Yes	No
4.	Computer	5	No	Yes

Source: Computed from the Primary Data

Table 2. Indicates the following: -

1. The school has a proper and adequate classroom for every class for instructional purposes provided with long desks and benches, as per the information received from the interview held with the Headmistress and observation of the school. The investigator found out that all the classrooms were in good condition. There were teaching materials and charts relating to their learning materials on the walls.
2. Concerning the textbooks, the textbooks were given free to all the students by the school, which were adequate for all the students.
3. As for the provision of the blackboard facility, the blackboards were all in good condition; they were long and big enough and were easily visible to the students, as was what the teacher was writing on the blackboard.
4. It also shows that the school has 5 computers in total for teaching-learning purposes for students and teachers. The number of computers the school possesses is inadequate for the number of students, but the Headmistress says they are acquiring more computers as soon as possible.

b) Infrastructure:

Table 3. Infrastructure facilities provided to the school

S. No.	Facilities	Availability	Adequate	Inadequate
1	Library	Nil	No	Yes
2	Science Laboratory	1	Yes	No
3	Auditorium	1	Yes	No
4	Drinking water	2	Yes	No
5	Hostel	2	Yes	No
6	Washroom/Toilet	2	Yes	No
7	Electric facility	As per the requirement	Yes	No
8	School building	1	Yes	No
9	Playground	1	Yes	No
10	Garden	1	Yes	No

Source: Computed from the Primary Data

Table 3. Indicates the following: -

1. The investigator found out that the school has no library facility, which is very important for the students and the school. It is highly necessary for a school to possess and maintain a library.
2. The school has one science laboratory, which is adequate for the students and teachers in their teaching and learning process, as they have given separate allotments for the different classes.
3. The school has one auditorium where the school conducts different types of programs.
4. It also shows that the school has proper drinking water facilities and is located in both hostels, boys' and girls' hostels.
5. Regarding the hostel, as the school is a residential school, there are two hostels for both boys and girls separately. The warden monitors the hostels.
6. The school also has two separate washrooms/toilets for both boys and girls, which are properly maintained.
7. There is proper electricity and adequate power supply for the school.
8. The school building is a pucca building, which is adequate with the number of students.
9. There is one playground for the students to play and enjoy their recreational time.
10. The school also has one garden where they plant different types of flowers according to the season.

c) Training:

The students were given speech therapy and audiology to improve their speaking and listening, especially those in need.

d) Counselling:

The school also has a counseling facility for the students, though they don't have a proper counseling section or a specific counselor; instead, the faculty act as counselors through which they extend their help to the students.

Pre-vocational Training:

Various career-related courses are imparted for the pre-vocational training of the students in the school.

The deaf and mute students were given some of the pre-vocational training in the school, such as:

- Tailoring
- Knitting
- Fine arts
- Wall hangings

The above are some of the important or various career-related courses being imparted to the deaf and mute students of the school in order to develop to the maximum and become self-dependent in their later lives.

Other Services and Programs:

The analysis and interpretation of data for this section were based on the responses of the Headmistress during the interview.

The school carries out other services and programs for the deaf and mute students.

The respondent said the school had rendered some services and programs for deaf and mute students. They are as follows: -

- a. Give free coaching to students in grades I to VI through the help of the Headmistress.
- b. Awareness programs
- c. Field trips
- d. Outings

Agencies that finance these programs:

The respondent said most of the programs were financed by the Deaf Welfare Association, the school fund, and the school headmistress.

Name of the schools/centers/organizations in which the school is working together:

The Headmistress said there are no schools/centers/organizations where the school works together.

Aims/purpose of working together with the schools/centers/organizations:

The respondent says the school does not work together or collaborate with other schools/centers/organizations, so there is no question of fulfilling any purpose with such organizations.

Objective III: To find out the status of Enrollment, Retention, Dropout, and Achievement of the Children with Disability of the govt. school for the last three years.

The third objective was to determine the enrollment, retention, dropout, and achievement status of children with disability in government schools for the last three years. In order to fulfill the third objective, the researcher uses the interview, observation schedule, and school information.

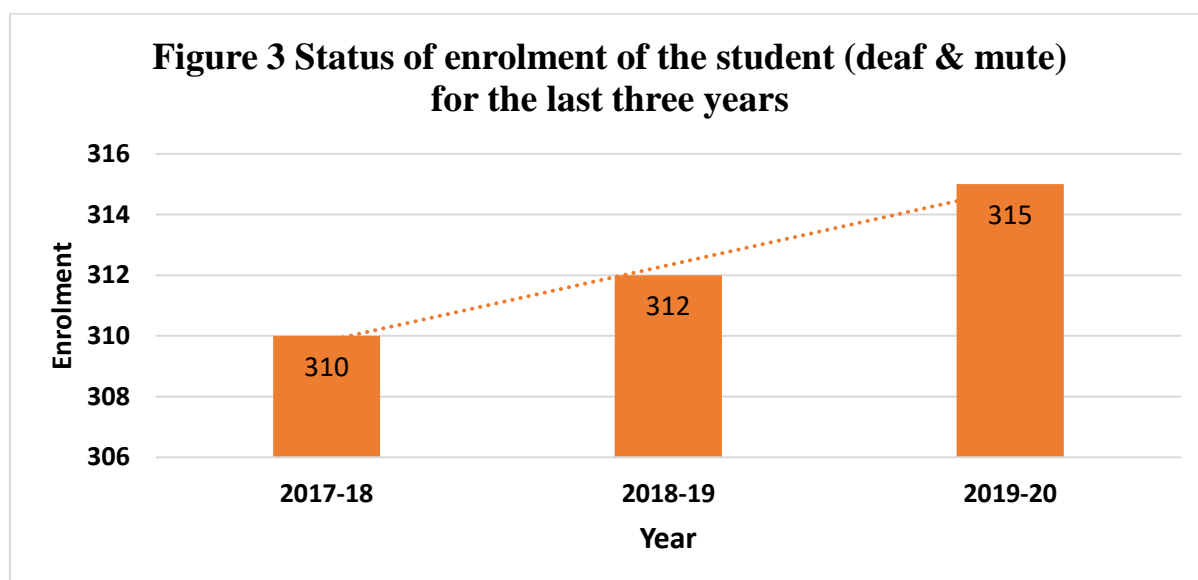
Details of enrolment, retention, dropout, and achievement are in the following tables.

Enrolment:

Table 4. Status of enrolment of the student for the last three years

Year	2017-18	2018-19	2019-20
Category of Student	Deaf & Mute	Deaf & Mute	Deaf & Mute
Enrolment	310	312	315

Source: Computed from the Primary Data



Source: Computed from Table 4

Table 4 and Figure 3 indicate the total number of students enrolled for the following years: 310 in 2017-18, 312 in 2018-19, and 315 in 2019-20.

Retention:

Table 5 Status of Retention of the student for the last three years

Year	2017-18	2018-19	2019-20
Category of Student	Deaf & Mute	Deaf & Mute	Deaf & Mute
Retention	Nil	Nil	Nil

Source: Computed from the Primary Data

Table 5. shows that because of the implementation of the no-retention policy, no student is retained till class VIII, but for the students of IX and X standards, no student is retained except those who fail the Board Exam.

Dropout:

Table 6 Status of Dropout of the student for the last three years

Year	2017-18	2018-19	2019-20
Category of Student	Deaf & Mute	Deaf & Mute	Deaf & Mute
Dropout	Nil	4	Nil

Source: computed from the Primary Data

Table 6 indicates that there were no dropout students in 2017-18, and in 2018-19, there were four total students: one student from class IV, two from class VI, and one from class VII.

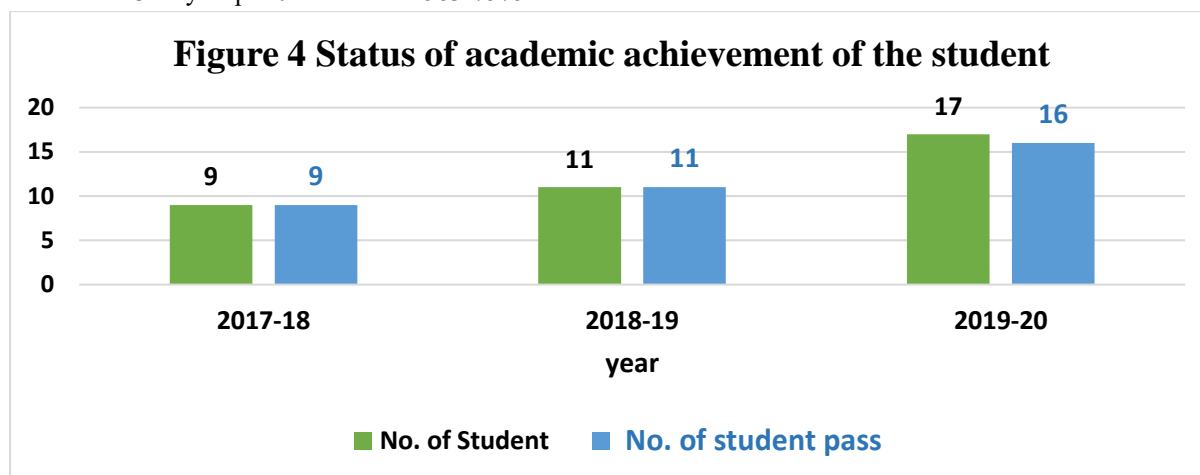
Achievement:

The investigator discovered that the school used different achievement tests, such as diagnostic, formative, and summative. The assessment is done through both curricular and co-curricular and is carried out weekly, quarterly, and yearly.

Table 7 shows the students' academic achievement status for the last three years.

Year	Total No. of Students	No. of Student Pass	No. of Student Fail	%
2017-18	9	9	Nil	100
2018-19	11	11	Nil	100
2019-20	17	16	1	94.12

Source: Computed from the Primary Data



Source: Computed from Table 7

Table 7 and Figure 4 indicate X standard students' total academic achievement. The investigator found out that 100% in the year 2017-18, 100% in 2018-19, and 94.12% in 2019-20.

Objective IV: To study the teachers' availability and the teachers' profile of the govt. school.

The fourth objective was to study the teachers' availability and the teachers' profile of the government. school. For this, the investigator collected the following information from the school teachers through the questionnaire:

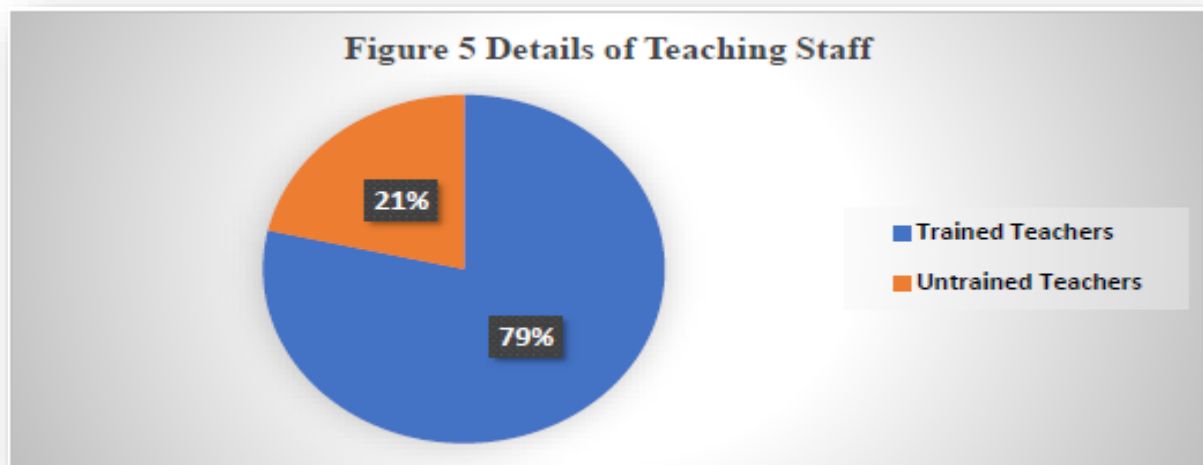
Details of Teaching Staff

The percentage of trained and untrained teaching staff is shown in Table 8.

Table 8 Percentage of trained and untrained teachers and instructors

Sl. No.	Teachers	N	%
1	Trained Teachers	11	78.57
2	Untrained Teachers	3	21.43
	Total	14	100

Source: Computed from the Primary Data



Source: Computed from Table 8

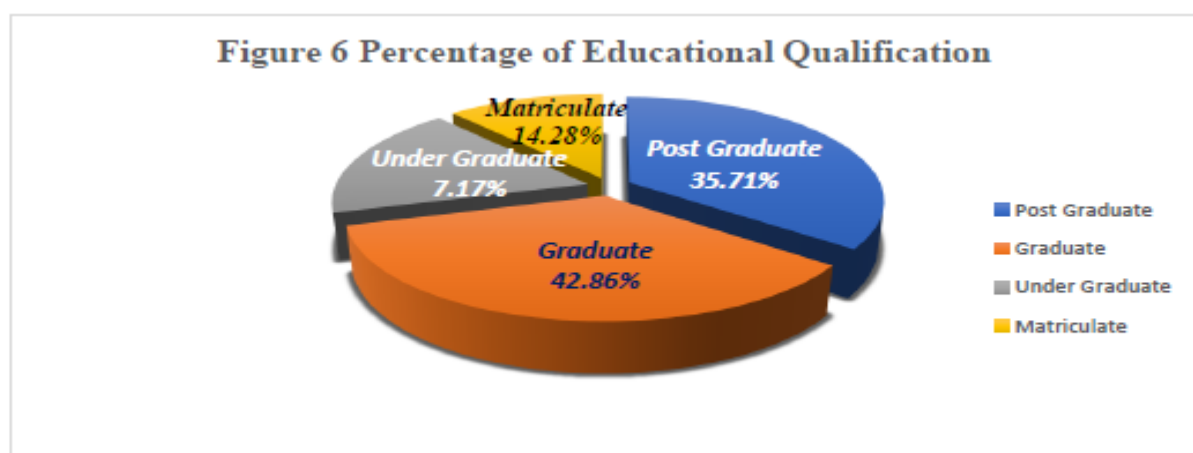
Table 8 Figure 5 indicates that 78.57% of the teachers, including the Headmistress, are trained, and 21.43% are untrained teachers.

Educational Qualification:

Table 9 Educational Qualification of the Teachers

Educational Level	Frequency	Percent
Post Graduate	5	35.710
Graduate	6	42.860
Under Graduate	1	7.142
Matriculate	2	14.285
Total	14	100

Source: Computed from Primary Data



Source: Computed from Table 9

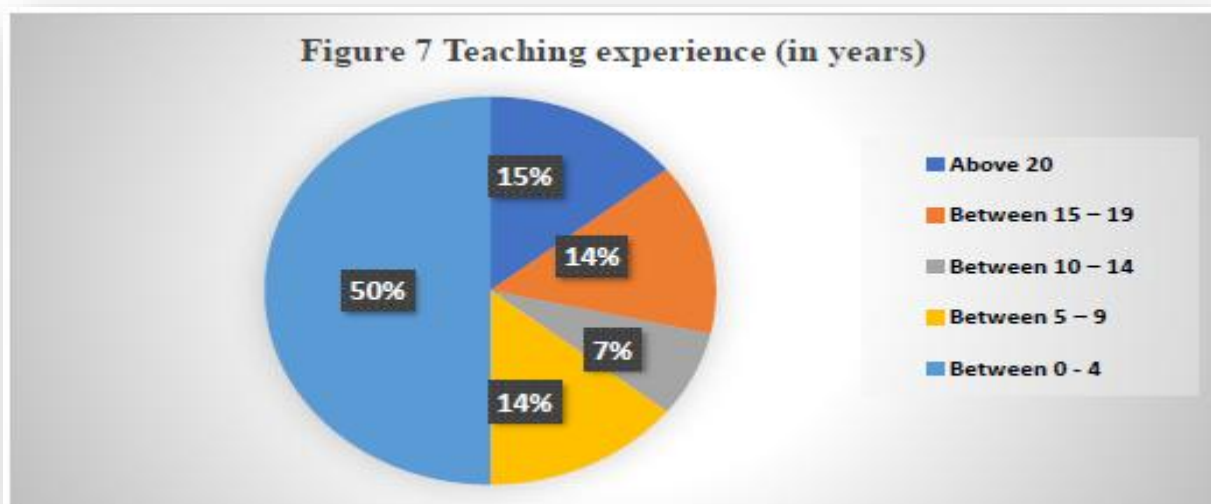
Table 9 and Figure 6 show the frequency and percentage of the educational qualifications of teachers of the Govt. Deaf and Mute School Imphal. The above table shows that out of 14 teachers, 5 are post-graduates, 6 are graduates, 1 is an undergraduate and 2 are matriculates. And from the figure shows that 35.71% of the teachers are post-graduates, 42.86% are graduates, 7.14% are undergraduates, and 14.28% are matriculates.

Teaching Experience:

Table 10 Percentage indicating the years of teaching experience

Sl. No.	Teaching experience in the school (in years)	N	%
1	Above 20	2	14.285
2	Between 15 – 19	2	14.285
3	Between 10 – 14	1	7.142
4	Between 5 – 9	2	14.285
5	Between 0 - 4	7	50
	Total	14	100

Source: Computed from the Primary Data



Source: Computed from Table 10

Table 10 and Figure 7 indicate that only 14.285% of the teachers have served the school for more than 20 years, 14.285% between 15 to 19 years, 7.142% between 10 to 14 years, 14.285%

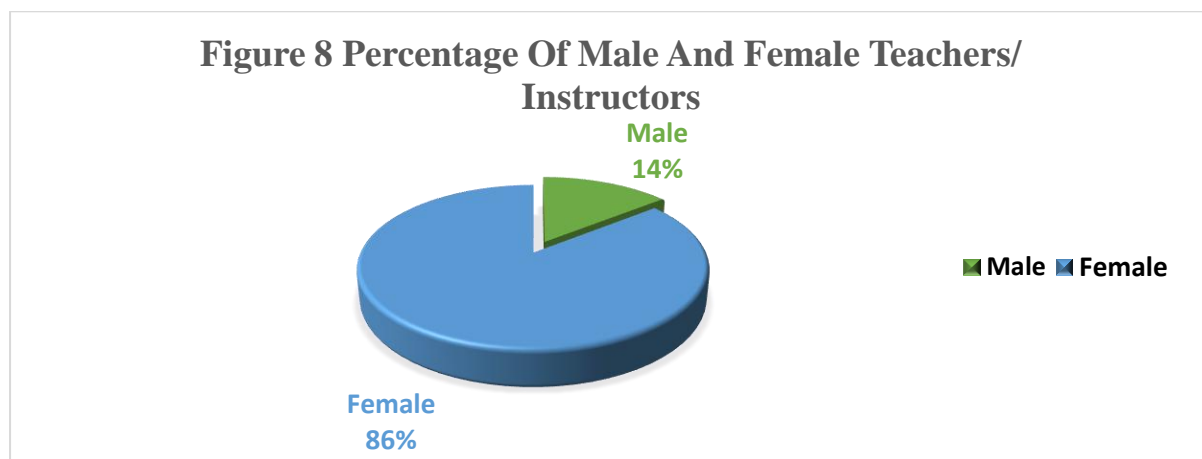
between 5 to 9 years, and majority of the teachers, that is, 50% have worked between 0 to 4 years.

Gender:

Table 11 Percentage of male and female teachers and instructors

Sl. No.	Gender	N	%
1	Male	2	14.28
2	Female	12	85.72
	Total	14	100

Source: Computed from the Primary Data



Source: Computed from Table 11

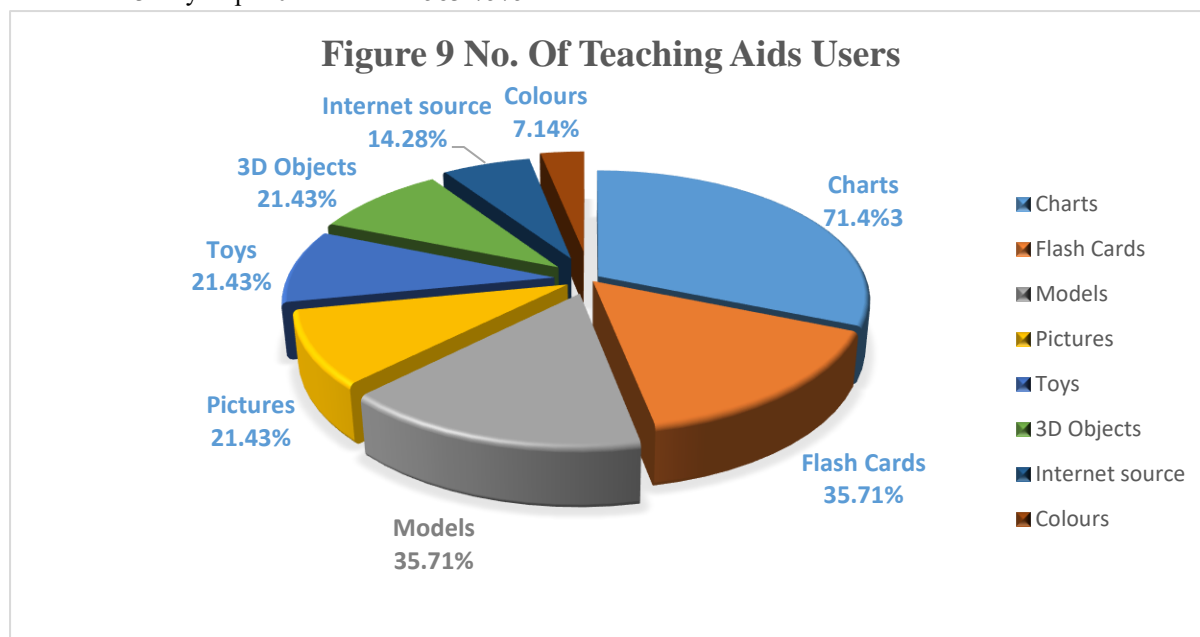
Table 11 and Figure 8 show that of the total number of teachers in the school, 85.72% are females, and only 14.28% are males.

Teaching Aids or Equipment:

Table 12 Teaching Aids or equipment teachers use in teaching and learning.

Teaching Aids	NA	No. of Users (%)	Total
Charts	4	10 (71.43)	14
Flash Cards	9	5 (35.71)	14
Models	9	5 (35.71)	14
Pictures	11	3 (21.43)	14
Toys	11	3 (21.43)	14
3D Objects	11	3 (21.43)	14
Internet Source	12	2 (14.48)	14
Colours	13	1 (7.14)	14

Source: Computed from Primary Data



Source: Computed from Table 12

The teaching aids used by the teachers for Deaf and Mute students are shown in Table 12 and Figure 9. From the given table, it is understood that 71.43% of the teachers' used charts, 35.71% used flashcards, 35.71% used models, 21.43% used pictures, 21.43% used toys, 21.43% used 3D objects, 14.28% used internet sources and 7.14% used colours.

Benefits derived by the students from the school:

The respondents have highlighted the following benefits of deaf and mute students from the school-

- i. They will develop their personality as a whole and will be able to become an independent person socially, emotionally, and physically.
- ii. They will develop academically as well as in the extra-curricular aspects.
- iii. The students benefit from the opportunity for food and lodging.
- iv. They will develop good behaviour and become friendly.
- v. They will develop their intelligence, confidence, and smartness.

Apart from the above-given points, the students get benefits such as:

- Computer education
- Vocational training
- Laboratory
- Library
- Games and sports equipment
- Free textbook, exercise book, and other stationary items
- Free school uniforms

- Trained teachers
- Counselling services
- Mid-day meal, as part of the Sarva Shiksha Abhiyan (SSA) scheme.
- The students learn many things apart from textbooks. They learn daily living skills, orientation, and important values like discipline, respect for elders' honesty, etc.

Thus, deaf and mute students benefit from special education centers in many ways. On the other hand, special education exposes them to different fields and enables them to learn as much as possible.

Objective V: To study the system of management and financial provision for deaf and mute children of the government. school.

The fifth objective was to study management style and financial provision for deaf and mute children of the government. school. For this, the investigator collected the following information from the school's Headmistress through interviews.

Management and Financial Provision

Table 13 shows the management and financial provision for the students.

Sl. No.	Questions	Response of Principal
1	Who provided the land for the school?	State government
2	Was the school initially located elsewhere?	Yes, at Wahengbam Leikai Imphal Manipur
3	Is the school building owned/rented/governed? Building/Any other?	Government building
4	Whether the school is- Private/Govt-aided/Deficit/Any other?	Government aided
5	What are the school's sources of finance?	Social Welfare Department
6	Does the school receive any grant from the central or state government?	State government
7	Does the school get financial help from political parties, political leaders, NGOs, or other sources?	No
8	Is there any international source of help in matters of finances?	No
9	Who financed the construction of the school building? –Self-financed/Government/NGOs/Mission/Any other	State government

10	What is the total expenditure on the purchase of equipment?	15 Lakhs- 20 Lakhs in a year
11	What is the total amount of money spent on teachers' monthly salaries?	420,000 approximately

Source: Computed from both Primary and Secondary Data.

Table 13 shows the management and financial provision of the school for the students, and it can be summarized in the following way:

1. The investigator found out that the state government provided the land for the school.
2. The respondent said the school was initially located in Wahengbam Leikai, Imphal, Manipur.
3. The school building is a government building, not owned or rented.
4. The investigator discovered that the school is government-aided, not private, deficit, or any other.
5. The school's sources of finance are from the state's Social Welfare Department.
6. As per the information received from the respondent, the school received a grant only from the state government.
7. The school does not get financial help from political parties, political leaders, NGOs, or other sources.
8. There is no international source of help for the school regarding finances.
9. The investigator has found out that the state government financed the construction of the school building.
10. Regarding the total expenditure on equipment purchases, the respondents said 15-20 lakhs are spent annually.
11. The total amount spent on teachers' salaries has been observed from secondary sources.

The monthly total amount spent on teachers' salaries is approximately Rs 4,20,000.

Discussion

The findings of this study on the Government Deaf and Mute School of Manipur demonstrate significant achievements and areas for improvement. The curriculum is well-rounded, offering academic and co-curricular activities such as sports and recreational programs. However, integrating more specialized resources tailored to the needs of students with hearing and speech impairments would further enhance its impact (Fernández-Batanero et al., 2022; Zdravkova et al., 2022). Studies have shown that using assistive technologies in special education contexts,

such as audiology and speech therapy, can dramatically improve learning outcomes (Erdem, 2017).

Teacher training is another key area of focus. While the majority of the teachers in the school are trained, only a few are specifically qualified to work with deaf and mute students. Prior research supports that specialized training for educators leads to better educational outcomes in special education settings (Gilson & Biggs, 2023).

Infrastructure is another major challenge. Although the school provides basic amenities like classrooms and textbooks, essential resources such as a well-equipped library and comprehensive counseling services are lacking. These deficiencies are likely to affect the holistic development of students, as found in research focusing on infrastructure in special education institutions (Barrett et al., 2019; Chan & Luk, 2022; Datnow et al., 2023).

Conclusion

In conclusion, the Government Deaf and Mute School of Manipur has made commendable progress by providing its students with a diverse curriculum and essential services. However, to unlock the full potential of its students, the institution must address gaps in several critical areas. Strengthening teacher training with specialized certifications, investing in assistive technologies, and improving infrastructure are pivotal steps toward ensuring inclusive and effective education.

Furthermore, collaboration with external partners—such as audiology clinics, speech therapists, and special education experts—could amplify the schools' impact. Research has shown that educational environments that integrate community partnerships and advanced learning tools foster better student outcomes. Similarly, creating a comprehensive support system, including counseling and vocational guidance, would facilitate smoother student transitions into higher education and employment pathways.

In summary, while the foundation laid by the school is intense, targeted enhancements will further promote its students' academic, emotional, and social development, paving the way for a more inclusive society. Continued monitoring and evaluation of these efforts will ensure sustainable growth and long-term success.

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Female Graduate's Perceptions of Gender Inequality in Punjab: A Qualitative Study

Tasaduk Musood, Birender Kaur

Department of Education, Akal University, Talwandi Sabo, Bathinda

Corresponding author: wanitassu6@gmail.com

Available at <https://omniscientmjprujournal.com>

Abstract

The study aimed to examine female graduates' perceptions regarding gender inequality that hinders access to higher education in the Mansa district of Punjab. Utilizing a qualitative approach, semi-structured interviews were conducted with 35 female students from rural areas, selected through purposive sampling. Thematic analysis revealed significant challenges, including uneducated parenting, patriarchal attitudes, economic hurdles, geographical barriers, safety concerns, and discriminatory practices, all of which impede women's access to higher education in rural Mansa. This study proposes several strategies, such as policy reforms, community social programs, and financial support initiatives, which can assist in transforming societal attitudes toward girl education and hence advancing a supportive environment for female education in rural Punjab. This research aligns with the United Nations Sustainable Development Goal 4, which seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, emphasizing the elimination of gender disparities in education.

Keywords: Perceptions, Gender Inequality, Female Graduates, Punjab.

Education is universally recognized as a fundamental human right and a crucial driver of socio-economic development (UNESCO, 2003). Women's participation in the education sector is an important pathway towards national development and gender equality. Numerous efforts at global and national level are initiated through various policies and programmes such as 1960 UNESCO Convention Against Discrimination in Education, 1979 Convention on the elimination of All Forms of Discrimination against Women (Hassan, 2020) Beti Bachao Beti Padhao scheme 2015, gender disparities persist, particularly in developing regions (UNESCO, 2024). The gender wise literacy rates at the national level demonstrate that female literacy rose from 53.71% in 2001 to 70.30% in 2021, marking an increase of 16.59 percentage points (Figure 1). Male literacy also saw steady growth, rising from 75.30% in 2001 to 84.70% in 2021. Focusing on Punjab state (Figure 2), in 2001 female literacy stood at 63.40%, compared to 75.20% for males. By 2021, female literacy had risen to 76.50%, an increase of 13.10 percentage points, while male literacy grew to 88.50%.

Figures 1 and 2 show the National and State-wise gender literacy rates for the period 2001-2021

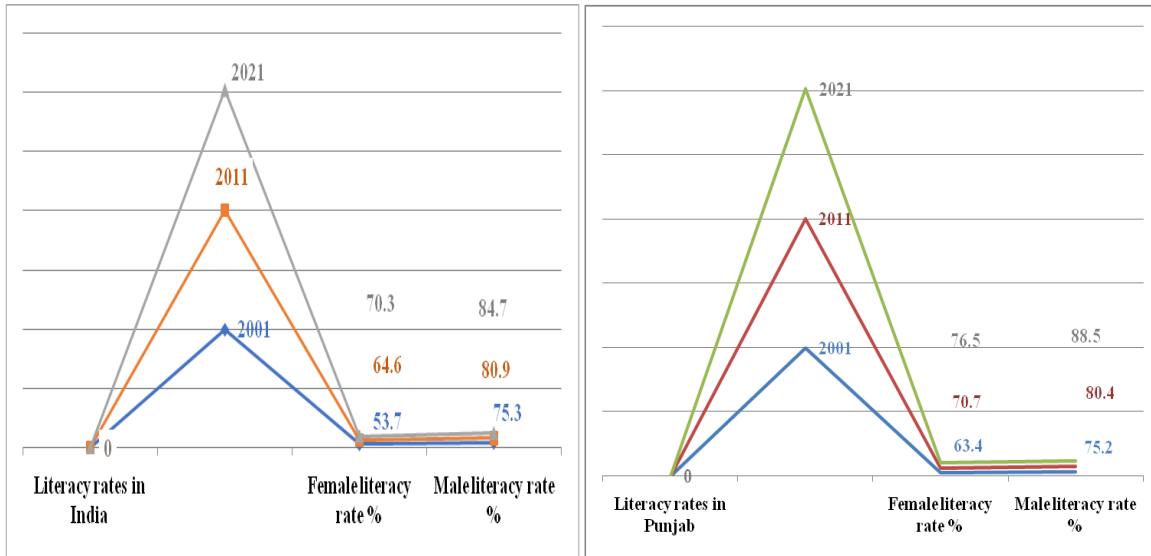


Fig. 1 Literacy rate: National level

Fig. 2 State level

Source: Ministry of Statistics and Programme Implementation, 2024

The notable increase in female literacy at national and state levels highlights the success of educational policies supporting women's education and reflects a socio-cultural shift toward valuing female education. Nevertheless, significant gender disparities remain, especially in rural regions, where female literacy rates trail male rates by up to 15% (Swargiary, 2024). Socio-cultural barriers and economic constraints (Chauhan, 2024) hinder educational access and contribute to elevated dropout rates among female students, impeding national efforts to achieve educational parity. This study aims to investigate the perceptions of female graduates in Mansa district, characterized by the lowest literacy rates (UNESCO, 2024), thus enhancing the discourse on gender equality in education.

Research objectives

1. To provide analysis of gender inequality in the Mansa district of Punjab by examining the challenges faced by the female graduates in receiving higher education.
2. To explore female graduates' perspectives on effective strategies for reducing gender inequality.

Literature review

Socio-cultural factors significantly shape educational opportunities for girls, particularly in rural communities (Bertsch & Warner-Soderholm, 2013). Research indicated that societal

expectations often prioritize girls’ domestic roles—such as household chores and preparation for marriage—over their educational aspirations (Choudhury et al., 2023). This cultural emphasis on domesticity leads to lower enrollment and higher dropout rates among female students, as education is deemed less crucial for their future as homemakers (Chauhan, 2024). Gender biases perpetuated by societal attitudes further diminish the perceived value of educated women in the workforce, creating a cycle of educational deprivation (Vadeyar, 2014).

Economic challenges compound these socio-cultural barriers, resulting in low enrollment rates for girls. Rural schools frequently lack essential infrastructure, such as adequate sanitation, safe transportation, and qualified teachers, hindering regular attendance, especially for girls (Singh & Dhillon, 2021). Inadequate facilities discourage continued attendance and contribute to dropout rates among adolescent girls (Sharma & Gill, 2019). Economic strain on families further exacerbates cultural biases against female education, heightening preferences for educating boys (Bansal, 2022).

Addressing these intertwined factors in rural Punjab necessitates a holistic approach that recognizes the cultural and economic realities influencing family decisions (Choudhury et al., 2023).

Methodology & Data Collection

This qualitative study employed semi-structured interviews to explore female graduates’ perceptions of gender inequality in education. A purposive sample of 35 female graduates, aged 18 to 25, from rural Mansa district, Punjab, was selected to highlight their educational challenges related to gender and rurality (Palinkas et al., 2015). Participants were interviewed in their local languages, ensuring confidentiality and comfort. Thematic analysis was conducted using Braun and Clarke’s (2006) framework, enhancing reliability and validity through rigorous coding and peer debriefing, reflecting the district's female literacy rate of 76.50% (MOSPI, 2024).

Table1. Demographic characteristics of the sample

Demographic Variable	Categories	Frequency	%
Age Group	18-22	26	74%
	22-25	9	26%
Father’s qualification	Primary	9	25%
	Upper primary	8	22%
	Higher	14	40%

	Illiterate	4	11%
Mother's qualification	Primary	7	20%
	Upper primary	11	31%
	Higher	8	22%
	Illiterate	9	25%
Family Income	₹5,00,000 – ₹10,00,000	0	
	₹2,00,000 – ₹5,00,000	1	2%
	1,00,000 – ₹2,00,000	4	11%
	Below ₹1,00,000	30	87%
Marital Status	Married	0	—
	Unmarried	35	100%

Table 1 outlines the demographic characteristics of the sample. A majority of participants (74%) are aged 18-22. Regarding parental education, 40% of fathers have higher qualifications, while 25% are only primary-educated. In contrast, mothers exhibit more varied educational backgrounds, with 31% having upper primary qualifications and 25% being illiterate, reflecting gender disparities. Additionally, 87% of families earn below ₹1,00,000, and the sample consists entirely of unmarried individuals.

Data Analysis

The qualitative data obtained from the in-depth interviews were transcribed verbatim and subjected to thematic analysis. This analytical process involved coding the data to discern recurring themes and patterns associated with gender disparities in higher education. Table 2 presents the results of the thematic analysis derived from the semi-structured interview transcripts, highlighting the identified themes along with the frequency and percentage of participants who referenced each theme in response to the interview questions.

The analysis part is divided into two sections: the first section highlights the challenges faced by participants, while the second section focuses on the strategies proposed to overcome these barriers.

Table2. Thematic analysis of challenges faced by female graduates and proposed strategies for achieving gender equality in education

Sections	Themes	Frequency	(%)
1. Challenges faced by the female graduates in pursuing higher education	Low Parental Education	16	45%
	Patriarchal Attitudes	9	25%
	Safety Concerns	10	28%
	Discriminatory Practices	17	49%
	Financial Hurdles	18	51%
	Geographical Barriers	6	17%
2. Strategies proposed to achieve gender equality in education	Policy reforms	8	22%
	Community Social Programs and Initiatives	7	20%
	Financial Support and Assistance Mechanisms	20	57%

First Section: Challenges faced by female graduates for higher education

This section highlights the challenges faced by female graduates for higher education which varies from low parental education to geographical barrier and other related aspects as discussed below:

(i) Low Parental Education

As shown in Table 2, 45% of female graduates reported that low parental education is a significant barrier to girls receiving an education or continuing their studies in college. Previous research supported the findings of the present study by reporting that parents with lower education levels often do not prioritize formal schooling for girls, focusing instead on traditional gender roles. These parents perceive education as less relevant or unnecessary for girls, believing that their primary responsibilities should revolve around domestic duties and care giving rather than academic or professional pursuits. These entrenched beliefs not only hinder girl's access to education but also contribute to broader cycles of poverty and inequality, as girls who are deprived of formal schooling are less likely to gain the skills necessary for economic

independence and empowerment (Kantova, 2024). The following responses from participants illustrate this barrier:

- **Respondent 1:** *“My parents didn’t go beyond primary school, and they don’t understand the importance of higher education, which makes it hard for me to continue my education.”*
- **Respondent 2:** *“Since my parents have only basic education, they don’t see the value in me going to college. They believe it’s not necessary for me to continue studying.”*

(ii) Patriarchal Attitudes

25% respondents identified patriarchal attitudes as a significant barrier to their education (Table 2). These findings align with previous research, which demonstrates that patriarchal norms reinforce traditional gender roles prioritizing domestic responsibilities for girls, thereby limiting their access to education, especially in rural and conservative communities. Girls are often expected to undertake household duties—such as caregiving, cooking, and cleaning—deemed more important than formal schooling. This emphasis on domestic roles reflects traditional views on femininity and reinforces the notion that a girl's value lies in her contributions to the household rather than her academic or professional potential. Consequently, families may perceive investments in daughter's education as unnecessary or counterproductive, particularly in the context of limited financial resources, corroborating the findings of Diamond (2022) and Psaki et al. (2022).

- **Respondent 1:** *“In our community, there is a belief that girls should focus on household duties rather than education. This traditional attitude makes it difficult for girls like me to pursue further studies.”*
- **Respondent 2:** *“Many people in my community think that educating girls is not as important as educating boys. This outdated mindset creates barriers for girls wanting to continue their education.”*

(iii) Safety Concerns

As shown in Table 2, 10% of respondents mentioned that safety concerns act as a barrier to higher education for girls. Prior research substantiated the findings of the current study by indicating that fear of safety significantly impacts girl's educational opportunities, particularly in contexts where security concerns, gender-based violence, and entrenched cultural norms prevail. In many regions, the pervasive threat of violence against girls, including harassment, assault, and

even abduction, creates an environment of fear that restricts their mobility and access to educational institutions. This fear is often exacerbated by reports of incidents involving gender-based violence, which not only heighten anxiety among families but also contribute to a societal narrative that prioritizes the perceived safety of girls over their right to education (UNESCO, 2023). Respondent's statements support these findings:

- **Respondent 1:** *"When I am in college, my parents are constantly worried about me due to the incidents involving girls in daily life. This concern makes it very tough for girls to receive an education far from home."*
- **Respondent 2:** *"The fear of safety on the way to college is a big problem. Many girls, including myself, face these concerns, and it often leads to us missing classes."*

(iv)Discriminatory Practices

As shown in Table 2, 49% of participants reported that traditional gender roles have a significant impact on their educational experiences. Previous research aligned the findings of the current study by reporting that unequal treatment of girls in educational contexts remains a pervasive issue, often manifesting through disparities in access, resources, and support when compared to their male counterparts. Previous research underscores that promoting gender equality is not merely a moral imperative but also a critical factor in enhancing educational outcomes for girls. When girls are afforded equal opportunities in education, the benefits extend beyond individual achievement; they contribute to broader societal advancements in health, economic development, and social cohesion (Guerrero & Puerta, 2023). Some respondents explained:

- **Respondent 1:** *"We often receive less attention and fewer resources compared to boys, which makes it harder for us to succeed academically."*
- **Respondent 2:** *"The lack of equal treatment for girls in our community affects our education significantly. Girls are often given fewer opportunities, which lead to lower enrollment and higher dropout rates."*

(v) Financial Hurdles

Financial difficulties were cited as a barrier by 51% of female students, as shown in Table 2. Earlier empirical evidence supports the results of this study by documenting that high education costs represent a significant barrier to educational attainment for girls, particularly in low-income families where financial resources are limited and often disproportionately allocated toward boys' education. This economic disparity arises from deeply entrenched socio-cultural norms that

prioritize male education due to perceptions of boys as future breadwinners, while girls are frequently viewed through the lens of traditional gender roles that emphasize domestic responsibilities over academic pursuits (Rodriguez, 2020). These financial challenges are reflected in the following statements:

- **Respondent 1:** *“The high costs of education are a major barrier for girls in our area. Many families can’t afford the fees, books, and other expenses, which forces them to pull their daughters out of school.”*
- **Respondent 2:** *“Because education is so expensive, my family struggles to pay for my college.”*

(vi)Geographical Barriers

Table 2 indicates that 15% of respondents identified geographical barriers as a significant challenge to their education. These findings align with prior research, which underscores that the physical distance to colleges is a critical obstacle for girls, particularly in rural areas where educational institutions are often limited and situated far from residential communities. This geographical separation complicates daily commuting and raises safety concerns that disproportionately impact female students. In many rural settings, traveling to educational facilities may require navigating unsafe terrains or areas with prevalent incidents of gender-based violence, leading families to hesitate in permitting their daughters to undertake long journeys to college (Varghese, 2021).

- **Respondent 1:** *“The College is too far from my home, and traveling there every day is not feasible. This distance makes it difficult for me and other girls to attend college regularly.”*
- **Respondent 2:** *“Since the nearest college is far away, it’s hard for me to get there regularly. The long distance makes it challenging and expensive.”*

Second section: Strategies suggested by female graduates to overcome these challenges.

This section proposed several strategies suggested by the female graduates to address gender inequality, including policy reforms, community social programs, financial support, and assistance.

(i) Policy Reforms

According to 22% of respondents (Table 2), policy reforms are crucial for improving girls’ access to education. Prior investigations corroborated the results of the present study by

demonstrating the importance of government interventions in enhancing girls' enrollment and retention in educational institutions, particularly in contexts where socio-cultural barriers and economic constraints disproportionately affect female students. Initiatives such as free education eliminate direct financial barriers, making schooling accessible to families who may otherwise prioritize expenditures for boys. This financial support is crucial in low-income households, where educational resources are often limited and competition for funding between boys and girls can lead to the latter being marginalized. (Mondal & Islam, 2021). Respondents emphasized the need for policy changes:

- **Respondent 1:** *“Policy changes are crucial for improving girls’ education, as current policies do not fully address socio-cultural and economic barriers. A targeted approach is needed to overcome limitations such as inadequate safety measures and lack of financial support.”*
- **Respondent 2:** *“Significant policy reforms are necessary for advancing girls’ education. We need policies that address gender bias, offer scholarships, and ensure safe environments to boost enrollment and retention rates.”*

(ii) Community Social Programs and Initiatives

20 % of respondents indicated that community social programs, such as awareness campaigns and support networks, are essential for enhancing girls’ education. These findings align with previous research suggesting that initiatives like mentorship programs and community workshops significantly improve female students' attendance and academic performance. Mentorship programs, which pair female students with experienced mentors—often female educators or community leaders—offer invaluable support beyond academic guidance. These mentors serve as role models, inspiring young women to overcome educational challenges and fostering a strong sense of self-efficacy and ambition. The personalized attention and encouragement from mentoring relationships positively influence girls’ motivation to attend school regularly and engage with academic content (McDaniel et al., 2015).

- **Respondent 1:** *“There should be mentorship programs and role models for female empowerment. Having someone to guide and inspire us, especially successful women from our own communities, would motivate girls like me to stay focused on our education.”*

- **Respondent 2:** *‘There should be parental engagement and education workshops. These programs can help parents understand the importance of girls' education and encourage them to support their daughters.’*

(iii) Financial Support and Assistance Mechanisms

57% of respondents emphasized that scholarships and financial support are crucial for girls' education. These findings align with prior research, which suggests that scholarship programs should be more inclusive, particularly targeting low-income students within the general category, who often encounter significant financial barriers to accessing quality education. Despite the existence of various scholarship initiatives, many inadvertently prioritize specific groups, excluding deserving students who do not fit traditional categories based on caste, ethnicity, or gender. To promote equitable educational opportunities, scholarship programs must be restructured to ensure accessibility for a broader range of economically disadvantaged students (Castleman & Meyer, 2018).

- **Respondent 1:** *“Scholarships and grants are really important because they help students who can't afford to pay for their education. Many talented students are unable to continue their studies because of money issues.”*
- **Respondent 2:** *“Without scholarships and grants, a lot of students miss out on education. These financial supports make it possible for students from poor families to go to school or college.”*

Discussion

Socio-cultural factors are deeply ingrained in many communities, significantly influencing educational opportunities for girls (Bertsch & Warner-Soderholm, 2013). Research consistently indicated that, particularly in rural areas, societal expectations often dictate that girls should focus on household chores or prepare for marriage, which frequently takes precedence over their educational pursuits (Choudhury et al., 2023). This cultural emphasis on domesticity leads to lower enrollment rates and higher dropout rates among female students, as education is often viewed as less essential for their anticipated roles as homemakers (Nayyar et al., 2023). Furthermore, societal attitudes that undervalue the contributions of educated women perpetuate gender biases, creating a cycle of educational deprivation for girls. Such biases are often mirrored in parental decision-making, where boys are perceived as future breadwinners who warrant greater educational investment (Guerrero & Puerta, 2023). This unequal allocation of

educational resources based on gender reinforces existing inequalities, especially in rural communities dominated by traditional norms (Choudhury et al., 2023).

Economic challenges further compound these socio-cultural barriers, contributing to low enrollment rates for girls in the education sector. Rural schools often lack essential infrastructure, such as adequate sanitation facilities, safe transportation, and qualified teachers, making regular attendance particularly challenging for girls (Singh & Dhillon, 2021). Inadequate facilities, such as poor sanitation, disproportionately affect adolescent girls, discouraging continued attendance and contributing to elevated dropout rates (Sharma & Gill, 2019). Bansal (2022) documented how economic strain intensifies cultural biases against female education, amplifying the preference for educating boys and exacerbating gender disparity.

Moreover, poverty and financial instability significantly limit girls' access to education. In rural areas, where agriculture is often the primary income source, the costs associated with schooling—such as fees, books, uniforms, and transportation—pose prohibitive challenges for families with limited resources (Nayyar et al., 2023). When financial constraints compel families to make choices regarding education, boys are often prioritized, widening the educational gap (Sharma & Gill, 2019).

The literature highlighted that the intersection of socio-cultural and economic barriers presents a multifaceted challenge to female education. These barriers are mutually reinforcing, complicating the ability of girls to access and succeed in educational endeavors. Addressing these challenges, particularly in rural Punjab, necessitates a holistic approach that acknowledges the intertwined cultural and economic realities influencing family decisions (Nayyar et al., 2023). Thus, enhancing opportunities for girls requires strategies that consider the complex interplay of these factors, as reflected in the perceptions of female graduates regarding gender inequality.

Implications

The findings underscore the urgent need for innovative strategies to enhance girls' access to higher education in Punjab. There is a need to establish mentorship programs that connect female graduates with role models who can inspire and guide them through educational challenges. Additionally, integrating technology in educational outreach can be pivotal. Virtual workshops and online resources can offer critical information about financial aid opportunities, scholarship applications, and educational pathways, especially in remote areas. Moreover, developing

partnerships with local businesses to create internship and apprenticeship opportunities can help bridge the gap between education and employment, reinforcing the value of education in a practical context. Lastly, involving male family members and community leaders in advocacy initiatives can shift patriarchal attitudes, promoting a more inclusive support system for girls' education. These approaches can complement existing frameworks and create a more conducive environment for female education in Punjab.

Conclusion

This study highlights the multifaceted barriers to girls' higher education in Punjab, encompassing socio-cultural, economic, and safety concerns. The need for innovative strategies, such as mentorship programs and community engagement, is essential to address these challenges effectively. Additionally, fostering partnerships with local businesses and utilizing technology for educational outreach can significantly improve access. By implementing comprehensive support systems, stakeholders can create a more equitable educational environment, ultimately promoting higher enrollment and retention rates for female students in the region.

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A Sociological Analysis of the Working Conditions of Sanitation Workers: A Case Study of New Delhi Railway Station

Anurag Kumar

Department of Sociology, Jamia Millia Islamia, New Delhi

Corresponding author: kumar.anurag2109@gmail.com

Available at <https://omniscientmjprjournal.com>

Abstract

The Indian Railways is the largest organisation of the Indian government, employing over a million people. Despite technological advancements, most of the waste from the rail tracks is still cleaned manually by sanitation workers, who collect solid and liquid waste with minimal equipment. This manual labour not only affects their health but also hampers their socioeconomic development. The present study focuses on the sanitation workers cleaning the railway tracks of New Delhi Railway Station, aiming to understand their socio-economic and working conditions. Data was collected through semi-structured interviews, and a structural tool was used to assess the information. This article highlights the categorisation of sanitation workers as manual scavengers. The results reveal that over 98 per cent of the respondents belong to Scheduled Caste groups, indicating a low socio-economic profile among the workers at the station. Despite technological advancement, most of the work is still done manually, and existing policies have failed to improve the workers' conditions despite state intervention. The findings suggest the need to reorient programs and policies to bring about necessary changes.

Keywords: Sanitation Worker, Safai Karamachari, Manual Scavenging, New Delhi Railway Station, Swachh Bharat Abhiyan.

Introduction

The term 'sanitation worker' refers to individuals involved in sanitation services, including both dry and wet waste management. Only a subset of these workers, specifically those who handle human waste, are classified as manual scavengers (W. Murphy, 2020). Sanitation workers are employed or engaged in cleaning, maintaining, and operating sanitation systems. They are known by various titles, such as sweeper, cleaner, 'Safaikaracmchari', and 'Safaiwalla'. However, in practice, they are more commonly referred to as 'Kachrawala' (garbage people) rather than 'Safaiwalla' (cleaning people) (Raghavendra & Kumar, 2022). Similarly, a joint report by the ILO (International Labour Organisation) and WHO (World Health Organisation) defines sanitation workers as individuals responsible for cleaning toilets and performing cleaning tasks in public, private, and institutional settings. This definition also includes workers who empty pit latrines and septic tanks, as well as those who clean sewers and manholes (Yuvraj et al., 2022). Reports indicate that five million people in India are engaged in sanitation work, of which two million partake in 'high-risk' activities, such as cleaning sewers (Garg, 2019). This study aims to develop an empirical understanding of the socio-economic and working conditions of sanitation workers who clean railway tracks and

participate in manual scavenging. Most workers express concerns regarding their job security, income, and social conditions in the workplace. This paper presents their concerns while systematically and statistically analyzing these conditions.

The Prohibition and Employment Act of 2013 states that individuals using protective gear while handling human waste should not be classified as manual scavengers. However, the act fails to clearly define what constitutes protective gear, resulting in ambiguity that could be exploited by government agencies. Sanitation work is often performed under unsanitary and degrading conditions, rendering it inherently contaminated. Workers in this field are typically underpaid and compelled to work in unsafe environments. Despite attempts to improve their situation, little progress has been achieved, and many promised developments remain unfulfilled.

Ghosh (2020) argues that public agencies significantly contribute to the perpetuation of manual scavenging. For instance, the Indian Railways, the largest employer of manual scavengers, claims to have eradicated manual scavenging from its sanitation operations. Nevertheless, workers continue to engage in manual scavenging but are labelled as "sweepers." Many trains utilise toilets that release waste directly onto the railway tracks, necessitating manual cleaning. This practice endures because hiring labour at minimal cost through contractors is cheaper than employing a generator jet machine, which incurs higher operating costs. Consequently, the lack of technological adoption hinders the eradication of manual scavenging.

The sociology of sanitation is the applied branch of action sociology, striving to ensure social equity and dignity for every underprivileged individual. Pathak (2013) explains that the sociology of sanitation is a scientific study aimed at addressing the societal problems associated with sanitation, water, health, hygiene, ecology, environment, and social deprivation, which impact not only one's life but also the lives of others. The sociology of sanitation is interconnected with the issue of sanitation workers, primarily based on the continuation of caste-based occupations. Sacchidananda (2001) argues that the practice of manual scavenging has received neither proper attention nor recognition regarding its inception, existence, desirability, or epistemology (Ziyauddin, 2022).

The increasing LPG (Liberalisation, Privatisation, Globalisation) reforms have further facilitated the exploitation of Scheduled Caste (SC) communities due to rising privatisation and contextualisation in the country (W. Murphy, 2020). Most sanitation workers are employed on a temporary or contractual basis. According to a study, only 11% of sanitation workers are permanently employed by the government, while approximately 43% work on

contracts, and the remaining 46% are casual workers (W. Murphy, 2020). This contractual system exacerbates the working conditions for these workers. Many toil for years at low wages, hoping to secure permanent employment, only to face exploitation by government agencies. Workers employed through contractors also indirectly benefit the government, as it can evade responsibilities in the event of accidents.

The railway sector primarily employs sanitation workers through a contractual system or private agencies, which means their presence often goes unrecorded. Although they may work as scavengers under the railways, they remain unrecognised (Singh, 2014). Each year, numerous scavengers die from inhaling toxic gases and a lack of protective gear, but the government seldom acknowledges these deaths. The families of the deceased must seek compensation, which is often not received, as municipalities evade responsibility by labelling the workers as privatised and blaming the contractors. In many instances, contractors flee after a workplace fatality (Kumar, 2014). Due to this contractual system and the informalisation of sanitation service employment, manual scavengers are denied credit from financial institutions, forcing them to borrow money from lenders at exorbitantly high interest rates.

Research Objectives

1. To examine the socio-economic background of sanitation workers at New Delhi Railway Station, including caste, income, education, and family structures.
2. To analyse the employment conditions of sanitation workers, particularly their contractual status, job security, and financial stability.
3. To assess the working conditions of sanitation workers, focusing on occupational hazards, protective measures, health risks, and behavioural Patterns.
4. To investigate the impact of caste-based discrimination and social exclusion on the lives of sanitation workers.

Research Questions

1. What are the socio-economic characteristics of sanitation workers at New Delhi Railway Station?
2. What are the working conditions of sanitation workers employed on platforms at New Delhi Railway Station, and how do these conditions impact their health, safety, and behavioural patterns?
3. How do sanitation workers experience caste-based discrimination and social exclusion in their workplaces?

Methodology

This study examines the working conditions of sanitation workers at New Delhi railway station using primary quantitative data collected via semi-structured interviews, observation, and in-depth interviews. Data were gathered from platforms 1, 3, 5, 14, 16, and 17-21. Purposive and snowball sampling identified over 60 participants, ensuring relevant and direct experience. Semi-structured interviews provided flexibility and consistency, while on-site observations and in-depth interviews enriched the data with detailed narratives. Secondary data were also analysed using thematic analysis to identify themes and socio-economic challenges. Verbal consent was obtained from all participants, who were informed about the research purpose and assured of confidentiality. Personal information was concealed to ensure privacy and safety, promoting confidence and genuine sharing of experiences.

Research finding:

Table 1: Age-Income profile

Age groups	Income profile				Total No of respondents
	Below Rs.10,000	Rs.10,000 to 15000	Rs.15000-20000	Rs.20000 above	
Below 30	8	15	0	0	23
31-40	1	6	10	0	17
41-50	0	2	9	1	12
50 above	0	0	4	4	8

Source: Fieldwork Data by Author.

The study comprised 60 respondents, categorised by age as follows: 23 were under 30, 17 were between 31 and 40, 12 were between 41 and 50, and eight were 50 or older. Regarding monthly earnings, nine respondents (15%) reported earning less than Rs 10,000 per month. Twenty-three respondents (38.3%) reported earnings between Rs 10,000 and Rs 15,000, another 23 reported earnings between Rs 15,000 and Rs 20,000, and five respondents (8.3%) reported earnings above Rs 20,000 per month.

The investigation revealed that permanent railway employees tend to receive higher remuneration compared to those on contractual systems or employed by private agencies. Moreover, a correlation was observed between age and income; younger workers reported lower salaries despite demonstrating higher levels of work engagement. Furthermore, respondents expressed concerns regarding salary deductions for leave and penalties for tardiness.

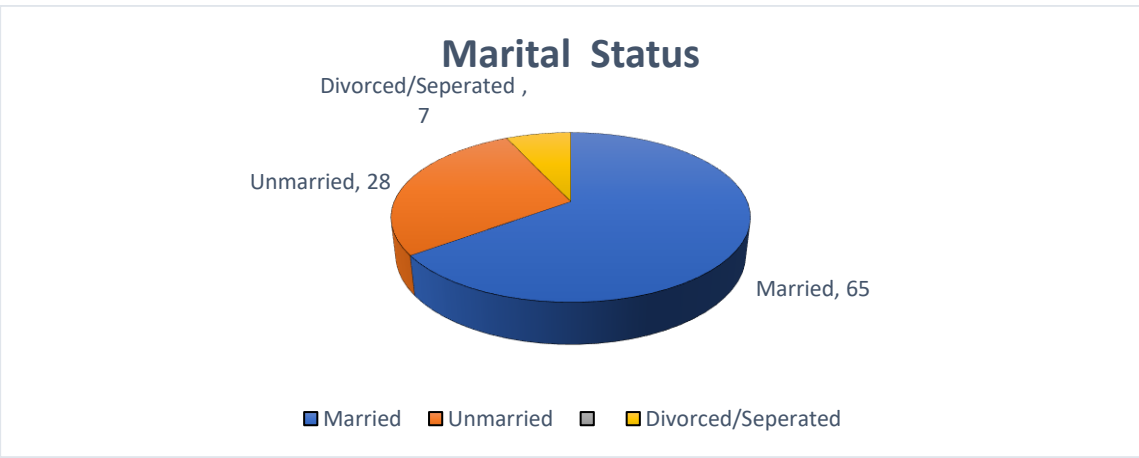
Table 2: Caste and Religion

Age groups	Religion	Caste	Subcaste			Total Respondents
			Balmiki	Bhangi	Others	
	Hindu	SC				
Up to 30	23	21	18	3	2	23
31-40	17	16	16	1	0	17
41-50	12	12	9	3	0	12
50 Above	8	7	4	3	1	8

Source - Fieldwork Data by Author.

The results reveal a direct connection between sanitation work and specific caste affiliations. Over 96% of the respondents belong to scheduled caste groups, with 98% identifying as Balmiki. The remaining respondents were from the Mehtar and Bhangi castes. All respondents adhered to the Hindu religion. The researcher found that, even within the same caste, some individuals held notions of superiority over others. This indicates the presence of horizontal stratification within the same caste group. Sundar (2002) argues that caste in India is not just a social identity; it is also deeply embedded in religious connotations, which become evident in everyday social interactions, including occupational roles. This intersection of caste and religion continues to shape the experiences of Dalit sanitation workers, perpetuating their marginalization within both social and religious hierarchies.

Figure 1: Marital Status



Source: Fieldwork Data by Author. Data in percentage.

In this study, the respondents were categorised into three variables: married, unmarried, and separated/divorced. Around 65% of the respondents were married, while 28% of the respondents were unmarried. Around 8 % of the respondents were those who were divorced or separated from their partner. Out of the 65% of married respondents, around 25% were married before the legal age of marriage. This fact has been deeply rooted in the context of the educational status of the surveyed people. Due to early marriage, they are compelled to take their family's social and economic responsibilities. It also limits their life opportunities. As a result, they started to work as sanitation workers.

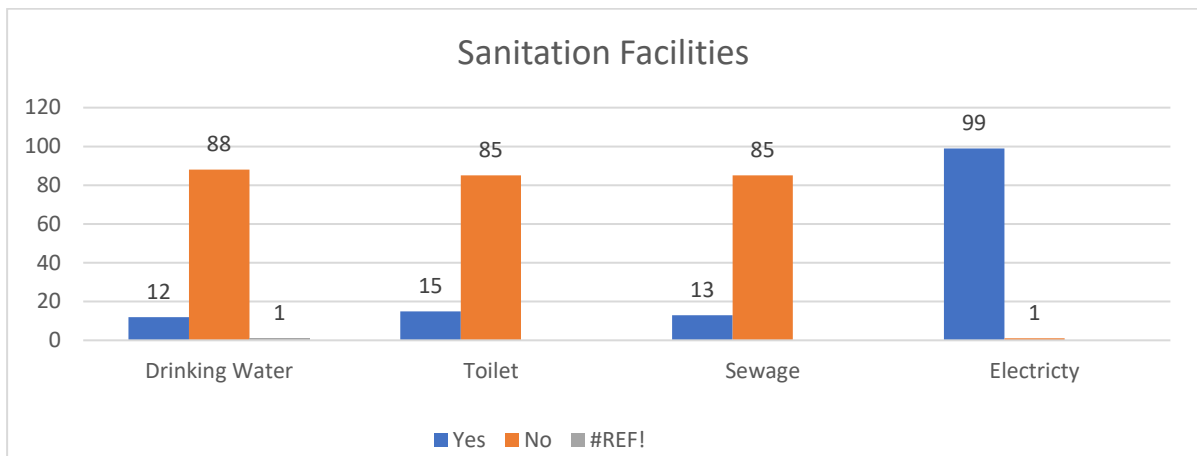
Table 3: Housing Profile

Age groups	Type of households		Type of housing		Housing type			Total number of respondents
	Nuclear	Joint	Owned	Rented	Kucha	Pucca	Semi-Pucca	
Up to 30	19	4	0	23	5	7	13	23
31-40	9	3	0	17	4	3	10	17
41-50	5	7	2	10	4	4	4	12
50 above	4	4	3	5	2	4	2	8

Source: Fieldwork Data by Author.

Out of the 60 respondents who were surveyed, around 76% of the workers lived in the area near the periphery of the railway station, which is considered a ghetto. They had access to community toilets in their areas but lacked other sanitation facilities. Around 16% of the respondents lived in thatched houses. They did not have access to basic sanitation facilities like toilets and drinking water, and they lived in unhygienic conditions. About 12% of the respondents lived in pucca houses, which had access to toilets and drinking water; the majority of these respondents were government employees. Around 6% lived in tiled houses, which were largely rented.

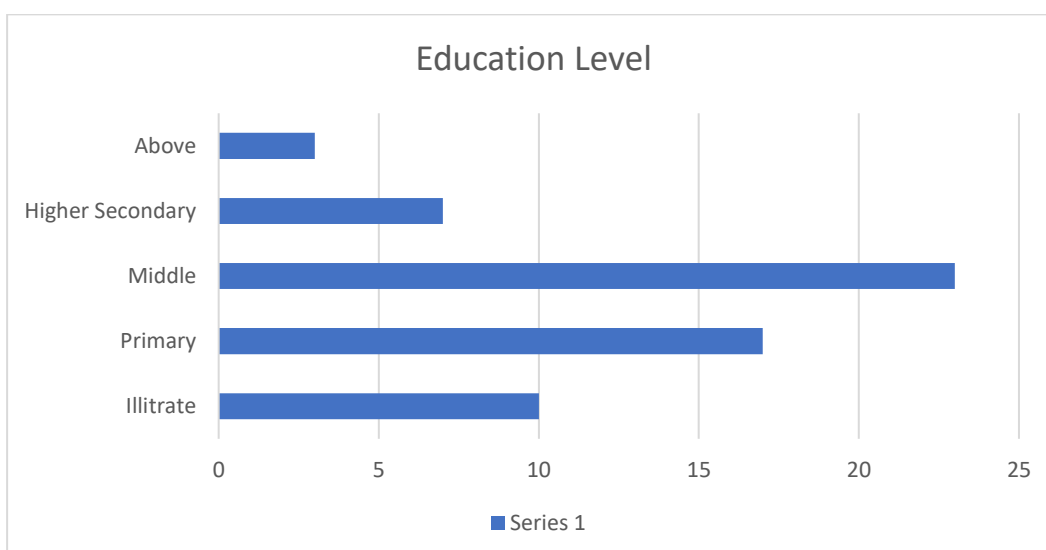
Figure 2: Sanitation facilities



Source: Fieldwork data by Author, Data in Percentage

The majority of respondents in the area where they live do not have access to sanitation facilities and are forced to rely on other sources. Lack of access to drinking water is a major issue in the ghettos of Delhi. The study revealed that over 88% of the respondents do not have access to drinking water facilities in their residential areas and have to rely on public water taps and neighbouring facilities. Many respondents mentioned that they are not allowed to use water from neighbouring areas with tap water facilities in public community areas or parks. Most respondents use community toilets near their residences as the area lacks a sewage network and developmental facilities. The researchers observed that the living conditions in these ghettos do not meet basic amenities such as drinking water, toilets, and sewage connection.

Figure 3: Education profile



Source: Fieldwork Data by Author.

The data presented aims to illustrate the literacy levels of the respondents. Literacy is defined as the ability to read and write in any language. The findings indicate that approximately 5 per cent of the respondents were unable to write, although many of them could read. Furthermore, about 10 per cent had completed primary school, 14 per cent had completed middle school, 4 per cent had finished higher secondary education, and 2 per cent had pursued education beyond the higher secondary level. The researcher observed that the challenging circumstances faced by the respondents were largely attributed to extreme poverty and the perpetuation of certain occupations across generations. A significant number of respondents had to support their parents in sanitation-related work, which resulted in their discontinuation of formal education.

Table 4: Family Occupational Association

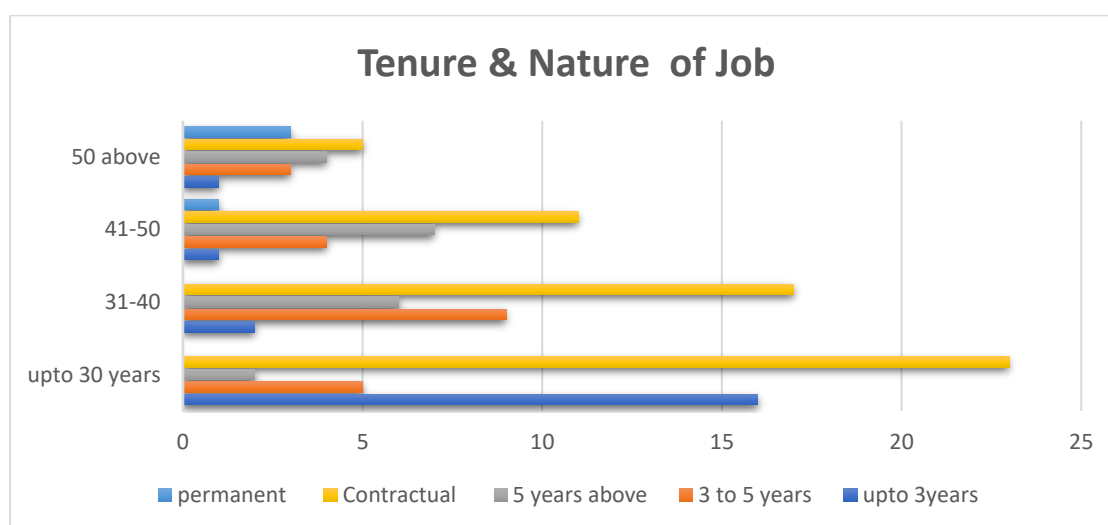
Age groups	Any family member working in the same occupation		Earlier generations worked in the same profession		Are children, if any, going to school?		Total number of respondents
	Yes	No	Yes	No	Yes	No	
Up to 30	19	4	18	5	22	1	23
31-40	14	3	14	3	15	2	17
41-50	8	4	9	3	12	0	12
51 above	6	2	7	1	8	0	8

Source – Field work data by Author.

The research findings indicate that over 76 per cent of the respondents work in the same profession, either at the same place or in different locations. Furthermore, more than 88 per cent of the respondents reported that their previous generations were also engaged in similar professions. This suggests that there is limited intergenerational mobility among sanitation workers. The study observed that despite being sanitation workers, almost every respondent expressed a desire for their children to pursue higher positions such as officer or skilled jobs. The new generation is showing a greater interest in education, with over 98 per cent of sanitation workers' children enrolled in government schools. According to the respondents, education is the primary means to improve their socio-economic status, making it an important tool for transforming their lives. The researcher also noted that despite migrating to urban areas, these individuals continue to work as sanitation workers, as they have limited economic opportunities due to their low caste and socio-economic background. This perpetuates a cycle

of untouchability, poverty, and illiteracy, leading to their overall backwardness compared to other caste groups. (Awasthi, 2023).

Figure 4: Job Tenure Profile



Source: Fieldwork data by Author.

Job tenure profile

The duration of employment is largely influenced by age and the relationship with the employer. Workers who follow instructions without questioning them tend to have longer job tenures. Research shows that over 94 percent of respondents are contractual workers operating within contractual systems, while only 6 percent are permanent employees who have been with the company for more than 20 years. Many workers hesitate to raise objections about necessary equipment and facilities due to the fear of losing their jobs. During discussions, it was noted that anyone who voiced concerns was promptly terminated by the employer. As a result, workers feel overwhelmed and are reluctant to express any issues they may have.

Reason for choosing this occupation

In response to the researcher's question about why they chose their current positions, 55 per cent of respondents cited a lack of opportunities in other sectors. It was noted that the workers have no other viable economic options in their villages, and their poor financial situations compel them to work as manual scavengers. 25 per cent of respondents had previous experience in this occupation and found working as urban sweepers more satisfying than cleaning human waste in their villages, which they perceived as more humiliating. 15 per cent of the workers joined with the misconception that they would secure permanent positions after a few years, despite this not being the case.

Table 5: Working conditions

Age Group	Face discrimination at the workplace		Protective Gears		S.S B		Accident at the workplace		Paid compensation		Total Respondents
	Y	N	Y	N	Y	N	Y	N	Y	N	
Up to 30yrs	19	4	14	11	2	1	20	3	2	21	23
31-40	14	3	15	2	1	5	13	4	2	15	17
41-50	10	2	11	1	9	3	11	1	5	7	12
50 Above	7	1	6	2	6	2	8	0	4	4	8

Source- Fieldwork data by Author; Y=yes, N-No, S.S.B- social security benefits

Officially, the working hours are set at eight hours, but in reality, there are no fixed working hours. The workload is arbitrarily determined and depends on the contractor's mood. The researcher noted a shortage of workers, resulting in an excessive burden on those who remain. Over 82 per cent of respondents indicated that they were never compensated with an extra allowance for additional work. If any respondent complained to the contractor, they risked termination or could face physical or verbal abuse. Thus, this modern slavery leads to socio-economic exploitation. The researcher further observed that while uniforms are provided, they do not offer any significant safety during cleaning tasks. Most workers rely on brushes or broomsticks, even after using the jet machine. The researcher pointed out that the jet machine has its limitations, as it can only fully clean dry and wet waste from the rail tracks. Manual cleaning is still necessary; thus, despite technological advancements, most work remains manual. The researcher noted that the majority of workers lack protective gear while cleaning the tracks. The results show that only 38 per cent possess protective headgear. Furthermore, over 75 per cent of respondents reported having experienced physical injuries at work, yet they did not receive any financial compensation for these injuries. The most compensation the majority of workers received was merely one day's leave.

Health and Behavioral patterns

Health is a major indicator of development. According to Borooah's 2010 study, there is an association between caste and health. The study found that lower caste individuals face more health problems, primarily due to exclusion from government health facilities. The research

noted that many workers were experiencing skin problems and poor physical health, possibly due to malnutrition or the use of addictive substances. Despite a monthly deduction of Rs 500 for a health card, over 92 per cent of the respondents did not possess health cards to access railway health services. The study also highlighted the lack of regular health check-ups for these workers, who are already engaged in unhygienic practices such as manual scavenging. The study also revealed that over 28 per cent of respondents had a history of chronic illness, while 73 per cent reported persistent health issues, including joint pain and respiratory problems—conditions likely exacerbated by occupational hazards and prolonged exposure to unsanitary environments.

A significant 75 per cent of respondents reported daily alcohol consumption after work, citing it as a source of psychological relief, temporary escapism, and social entertainment. While some denied these habits, their colleagues contradicted these claims, highlighting the normalisation of substance use in their occupational culture. Additionally, 83 per cent of workers consumed tobacco products, such as bidi or gutka, further underscoring the prevalence of substance dependency among sanitation workers.

Discussion

Many workers endure adverse socio-economic conditions. They lack adequate resources to live a dignified life, and most are paid less than the minimum prescribed wage. Many sanitation workers exceed the stipulated working hours, and many are compelled to work even when ill. These workers accept these conditions out of a sense of obligation. This exploitative labour arrangement is referred to as 'Structural violence' by John Galtung (1969, p. 171). They remain unaware of their rights and relevant legislation. Research by Anand (2018) highlights that precarious working conditions, lack of formal contracts, and absence of social security schemes exacerbate their vulnerability. Further, Desai and Mahadevan (2021) assert that sanitation workers, particularly in urban spaces like railway stations, are subjected to systematic neglect, with authorities failing to implement adequate welfare measures.

The researcher observed that although equipment like jetting and suction machines is required by law, it is rarely used in practice. Cleaning is primarily done manually, as many contractors avoid using expensive, fuel-powered machines to cut costs. The availability of Dalit labour makes manual work more convenient than investing in technology. This observation aligns with findings from Sharma (2020), who noted that despite the Prohibition of Employment as Manual Scavengers and the Rehabilitation Act (2013), manual scavenging continues in various parts of India, including railway stations. This persistence is due to entrenched caste-based labour structures and the cost-saving strategies employed by contractors.

Singh (2014) made similar observations when interviewing railway sanitation workers about their hesitance to use high-pressure jets. The workers claimed that these jets do not effectively clean excrement and cannot be completely removed without manual labour. Moreover, many workers are unaware of laws that require contractors to provide them with protective safety gear. Despite constitutional protections and labour regulations, these workers feel powerless to challenge their oppressive conditions due to fear and dependence on economic stability (Guru, 2009, p. 58).

The researcher also noted that contractors maintain a network with various offices to receive advance notice of inspection checks. This way, they ensure that workers use jet machines and water pipe machines only on the day of inspection. One respondent, who spoke under the condition of confidentiality, recounted: "*We know when inspections are coming because the contractor tells us to use the machines that day. But as soon as the inspectors leave, we go back to using our hands.*" The workers and sweepers live in constant fear of the contractor, dreading job loss or verbal and physical abuse if they speak out against him.

The respondents face social, cultural, and economic exclusion in society primarily because of their low caste, leading to their low social status and occupational status. Most of the workers admitted that they are not being treated well by the upper caste groups, and most people maintain a distance from them because of their nature of work and low caste status. This study also found that these respondents face religious-cultural exclusion in their native places. The respondents reported that they are being avoided in religious rituals and are generally included for sanitation and sweeping purposes in the name of participation. Thus, they face unfair treatment when participating in religious activities and rituals. Most of the respondents have never attended any upper-caste marriages or any family functions in their native place. Thus, they suffer religious and cultural exclusion, which further exacerbates their marginalisation. Dalits, particularly sanitation workers, are systematically excluded from community gatherings, festivals and religious events, thus reinforcing the notion of purity and pollution (Ilaiah, 2015, p. 21). Another respondent narrates, "*We reside in the same village as everyone, yet we are excluded from weddings or celebrations,*" she expresses. "*The only occasion we are asked to come is to tidy up after everyone as if we don't exist.*" These statements highlight how caste systems are evident in daily social interactions, fostering a sense of isolation and cultural oppression (Guru, 2009, p. 72).

Occupational mobility among sanitation workers remains significantly constrained, with over 80 per cent of respondents experiencing a lack of intergenerational mobility. This pattern reflects a broader sociological phenomenon wherein caste-based labour segmentation

reinforces occupational immobility, as marginalised communities remain confined to hereditary occupations with minimal upward mobility (Deshpande, 2011). Research on caste and labour markets highlights that sanitation work, predominantly performed by Dalit communities, is structurally maintained through social and economic exclusion, preventing access to alternative employment opportunities (Thorat & Newman, 2010). Furthermore, occupational exclusion is a pervasive issue, as upper-caste groups often exert control over employment hierarchies, limiting sanitation workers' access to more dignified and remunerative jobs (Jodhka, 2012). This systemic exclusion manifests not only through direct workplace discrimination but also through the denial of skill development programs and employment benefits, further marginalising sanitation workers in the labour market (Harriss-White, 2003). The compulsion to remain within these stigmatized occupations is thus not merely a matter of economic necessity but a result of entrenched caste-based labor practices that restrict social mobility and reinforce structural inequalities. Addressing these inequities requires a multidimensional approach, including affirmative action, labor rights protections, and inclusive policy measures that challenge caste-based discrimination in occupational structures.

The behavioural patterns of sanitation workers, particularly their consumption of alcohol, gutkha, and tobacco, are significantly influenced by their challenging working conditions, socioeconomic vulnerabilities, and psychological stress. Many sanitation workers engage in physically demanding and hazardous tasks, leading them to use these substances as coping mechanisms to manage fatigue, exposure to unsanitary conditions, and societal stigma. The lack of job security, low wages, and insufficient health support further contribute to their reliance on these addictive substances, creating a cycle of poor health and financial instability. Additionally, the normalisation of such behaviours within their social circles makes it difficult for individuals to break free from these habits, increasing the risk of long-term health issues such as respiratory diseases, cardiovascular problems, and oral cancer.

From a sociological perspective, substance use among marginalised labourers is not solely an individual choice; it is a coping mechanism conditioned by their circumstances. Research conducted by Kannothu Thazha Kuni (2024) on Dalit labourers and health behaviours highlights that alcohol and tobacco consumption among marginalised groups often serves as a response to chronic stress, systemic discrimination, and exploitative working conditions. This study's findings align with the understanding that sanitation workers, who are trapped in precarious employment with low pay, poor living conditions, and social exclusion, rely on substances to alleviate the psychological toll of their situation.

This phenomenon can also be understood through Bourdieu's (1986) concept of habitus, which explains how social structures shape individual dispositions and lifestyle choices in ways that often reproduce cycles of disadvantage. Within this framework, substance use among sanitation workers is not simply a personal habit but a reflection of their embedded social realities—where structural inequalities, caste-based occupational segregation, and economic precarity condition their everyday practices. As Bourdieu posits, social agents internalise their material and symbolic conditions, which in turn influence their health behaviours in ways that reinforce their marginalisation.

The signs of untouchability and discrimination are evident at various levels. The researcher observed that these workers reside in areas that lack basic amenities, resembling ghettos. During discussions with the workers, it was brought to the researcher's attention that people tend to avoid them, even during work-related interactions. This behaviour reflects the widespread practice of considering certain individuals as impure or polluting. This prejudice negatively impacts the socio-economic status of the workers involved in these occupations. The majority of the respondents expressed that they experience discrimination from those of higher castes, primarily due to their low occupational status and caste. The institutions that perpetuate discrimination contribute to the social exclusion of these communities. As a result, these communities endure significant social and cultural exploitation and oppression (Illaiah, 2015, p. 14).

Conclusion

The working conditions of sanitation workers at New Delhi Railway Station reveal significant issues of marginalization, stigma, and inequality within the Indian labor market. These workers endure hazardous environments, lack adequate safety measures, and face job insecurity, reflecting persistent social hierarchies. Despite existing legal frameworks, they experience structural violence that perpetuates their vulnerability, including brutal working conditions and insufficient pay (Wilson, 2015). Public agencies have failed to improve the living conditions of the most marginalized, neglecting their constitutional rights to life and dignity. Although some judicial interventions have had a positive impact, manual scavenging continues in various forms.

It is essential to raise legal awareness among the scavenger community and address the caste system that underlies occupational hierarchies. Abolishing the contractual employment system is crucial to accurately identify manual scavengers, as many remain unreported due to temporary work arrangements. These workers often face violations of their basic rights,

including inadequate wages. Providing proper uniforms, protective gear, and social security benefits is necessary to ensure accountability.

Therefore, the plight of sanitation workers highlights both state and societal failures in protecting marginalized individuals (Khanna, 2016). Eradicating manual scavenging requires more than just policy reforms; it demands a societal shift in attitudes toward labour performed by marginalized groups. Ultimately, improving working conditions for these labourers is a social and moral obligation that can foster equity and dignity for all, transcending caste and occupation.

Future Research Directions

The present study emphasizes the significant socio-economic and occupational challenges faced by sanitation workers at New Delhi Railway Station. However, there are several unexplored areas for future research. One important avenue to investigate is conducting comparative studies across different railway stations to understand the regional variations in working conditions. Other major railway stations in Delhi, such as Nizamuddin Railway Station, Delhi Cantonment Railway Station, and Old Delhi Railway Station, could provide a comprehensive understanding of the experiences of sanitation workers in railway stations throughout the city.

Additionally, the impact of technological interventions, such as mechanised cleaning and bio-toilets, requires deeper investigation to assess their effectiveness in reducing human involvement in hazardous waste management. There is also a need for longitudinal studies on health impacts, specifically examining chronic illnesses and access to healthcare for sanitation workers. Moreover, studying intergenerational occupational mobility can reveal how the children of sanitation workers navigate opportunities for advancement. There is also scope for future research that could involve women sanitation workers and investigate the intersection of caste, gender, and employment vulnerability to better understand the specific challenges faced by women in this field, including workplace harassment and wage disparities. Addressing these research directions can provide a comprehensive understanding of sanitation labour and drive meaningful social and policy changes.

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Autonomy in Higher Education Institutions: From Colonial Period to 21st Century India

Shubhra Singha Chowdhury, Asheesh Srivastava

School of Education, Mahatma Gandhi Central University, Motihari, Bihar
Inter-University Center for Teacher Education, Banaras Hindu University, Varanasi
Corresponding author: shubhra.vbu@gmail.com
Available at <https://omniscientmjprjournal.com>

Abstract

Autonomy is the backbone of Higher Education Institutions. Autonomy means independence or self-rule. When an institution has the power to prepare its guidelines, curriculum, syllabus, methods, evaluation procedures, and certificates, it is considered autonomous. This autonomy is not a new concept; it started after independence and is still in demand as institutions evolve. Many committees and commissions have recommended autonomy over the years, but some challenges remain obstacles to its implementation. Higher education should take this issue seriously and practice it from the ground level. In this study, the researcher discusses the recommendations and challenges of various committees and commissions from the colonial period to the present.

Key Words: Higher Education, Colonial Period, 21st Century

Education is the key to a progressive nation, helping to develop society economically. Educational institutions create skilled youth who will take care of the future nation with their knowledge. However, these institutions have been witnessing the ups and downs of higher education for several years. Recently, higher education institutions in India have been facing several challenges. Like the political influences and bureaucratic control in higher education bring stress and strain to the work of stakeholders, along with that, lack of academic standards, inadequate financing, poor governance, and leadership have caused the failure of higher education institutions in India. (J N Kaul, 1988). Further, NEP 2020 noted several key challenges facing the higher education system in India, including the rigid separation of disciplines, limited autonomy for teachers and institutions, lack of institutional leadership, ineffective governance, and a flawed regulatory system. These are common problems in today's higher education institutions (HEIs). Therefore, the policy recommends redesigning HEIs and granting them greater academic and administrative autonomy (Development, 2020).

Higher education institutions in India form a third large system after China and the US (AISHE 2021-2022). Since independence, the number of colleges and institutions has been increasing. The higher education system has become increasingly complex, dealing with various activities, including courses of study, methods, modes of examination, and the duration of examinations. These institutions need autonomy to govern these activities themselves. For example, when a

person manages their life by their own choices, they are seen as responsible and capable of leading a happy and independent life. Similarly, in academic life, autonomy means setting their own goals, study, method, curriculum, exams, etc., so that institutions can achieve their goals without external help. Autonomy is essential in higher education institutions.

Autonomy is derived from the Greek words "auto," meaning self, and "norms," (Pramanik, 2023) meaning laws, so the meaning of autonomy is self-laws or self-governance. Essentially, a person is responsible for controlling their own life. This means that no one will have control over another, and all stakeholders will have the power to make decisions. It indicates the freedom of institutions to manage, and take responsibility by themselves. A person or group with full autonomy can perform better than those who do not have it. According to (Sarup, 1998), autonomy helps to increase creativity and productivity because our minds are free from control. Specifically, autonomy is related to responsibility. When someone gets the freedom to manage something, it automatically reflects their responsibility towards the work, and the result of their work will be better. It also refers to the decentralization of work. When it comes to institutional autonomy, it automatically relates to the responsibility of all academic activities, including governance and financial management of the institution.

1.1 INSTITUTIONAL AUTONOMY IN HIGHER EDUCATION

Autonomy in higher education means academic freedom. According to UNESCO, academic autonomy is built on self-governance, providing stakeholders with academic freedom. The University Grants Commission grants autonomy to colleges so they can enjoy their freedom of work, govern their activities, and improve academic quality. The University Grants Commission's 2018 guidelines noted that excellence and quality education in undergraduate colleges would result from independence or freedom of work. Therefore, affiliated colleges should be separated from their parent universities. However, institutional autonomy indicates that the decision-making power of internal stakeholders (Sancheti, 2020). It has some dimension, Organizational autonomy, financial autonomy, and administrative autonomy. Stakeholders will get the power to involve and take decisions regarding all these factors.

1.2 NEED OF AUTONOMY

Higher education has been struggling for years to achieve autonomy. The reasons behind this push for autonomy include:

1. The UGC recommended increasing flexibility in higher education institutions in the Tenth Plan profile. As a result, higher education institutions have been changing their structures, curricula, methods, ICT, and CBCS systems. The UGC suggested providing sufficient funding to universities to enhance their flexibility (Pramanik, 2023)
2. Universities are financially controlled by external stakeholders.
3. Students have no choice in their learning.
4. Colleges have no direct role in social change and progress.
5. Universities have been unable to produce skilled manpower for the nation.

2. Methodology of the Study

This is a qualitative descriptive study and the author has collected the data from secondary sources like journals, books, policies, reports, and various committees. Data were analyzed through content analysis.

3. Discussion

3.1 UNIVERSITY AUTONOMY –A HISTORICAL PERSPECTIVE

Higher education has a long history, marked by many changes, ups, and downs. The journey towards the autonomy of higher education institutions began in the pre-Independence era.

Pre-Independence Era

In the pre-Independence era, the journey started during the Vedic period. During this time, Brahmins learned the Vedas and Dharmas, and the administration structure was autonomous. They could manage and direct the system independently, and students had the freedom to choose their teachers and institutions. Students enjoyed full autonomy in their work, including choosing their methods and assessment procedures. Teachers had the freedom to decide the admission procedures (Majhi, 2021). During this period, both teachers and students enjoyed the highest degree of autonomy and were responsible for their duties.

In the medieval period, many colleges were established in different places, but the responsibility for management and governance was vested in the hands of rulers. The state had no power to control the institutions. The contemporary rulers helped to build and maintain the colleges. These institutions were maintained by the kings of the country.

During the 19th century, the power of universities was shifted into the hands of the existing British Government. They had given priority to promote the effect of the English language all over the country. English education in Higher education began in 1817 at the Hindu College of Kolkata.

That was the first 'Europeanized' institution of Kolkata. Subsequently, they developed the contemporary Higher education institutions influenced by the London University Model, the first three universities in India were established in 1857: the University of Calcutta, the University of Bombay, and the University of Madras were governed by the London University Model. According to Narula Vaishali 2023, the structure of the university was so rigid and centralized.

However, the Sadler Commission recommended minimizing government control over institutions and making them more flexible. It also suggested granting institutions autonomy in recruitment, examination, and curriculum development (Calcutta Commission Report, 1917). The first campaign for an autonomous college was led by the principal of Presidency College, Kolkata, which was affiliated with Calcutta University, claiming the right to conduct their own examinations and curriculum.

Post-Independence Era

The direction of higher education has been changing since political independence. The pattern of higher education is transforming to meet the needs and demands of the youth. The first Education Commission (1949), headed by Dr. Radhakrishnan, emphasized the need for autonomy in affiliated institutions, likening them to machines. He mentioned that universities should have democracy and need government support in academic activities, but opposed government control over the institutions. In fact, the UP legislature enacted the Agra Amendment Act to revive institutional autonomy, which was successfully implemented.

The first instance of college autonomy was introduced by the Education Commission (1964-66). Teachers should not be ordered or forced; they should direct themselves independently, engage in discussions and debates, and address various national and international issues.

However, in 1962, the All India Federation of University and College Teachers' Associations expressed opposition to autonomy. They pointed out some drawbacks of autonomous colleges, including a lack of infrastructure and resources, which became burdensome for teachers. Teachers were anxious about maintenance.

According to the Education Commission (1964-66), all colleges should be granted autonomy to perform better. The UGC provided guidelines for autonomous colleges in 1974, detailing the structure required for a college to become autonomous. However, most colleges did not agree because they did not want to be overburdened with constructing syllabi and curricula, and did not want to take on additional responsibilities.

The National Policy of Education (1968) emphasized changing the affiliation system because the increase in affiliated colleges had created an unmanageable situation. In March 1979, CABE recommended that at least 5 percent of colleges should be autonomous by the end of 1979. The UGC guidelines recommended creating provisions for autonomous colleges. According to the National Education Policy, universities must have autonomy in admissions, recruitment, promotion of teachers, updating syllabi, etc. More deserving institutions should be provided with autonomy.

The National Policy of Education (1986) also suggested promoting autonomy. It noted that the structure of universities was rigid, and there was a need to promote flexibility and creative work. However, twenty colleges were established as autonomous institutions, having the opportunity to decide their own courses and curricula (CABE, 2005). However, these three universities managed 27 colleges and followed the same course structure pattern. These non-autonomous institutions faced many problems, such as a lack of teaching departments, faculty members, and residential facilities.

3.2 UNIVERSITY AUTONOMY (PRESENT PERSPECTIVE)

Autonomy is the backbone of higher education institutions. Various policies have been attempted to implement autonomy in colleges and universities over the past decades, but they have often failed. While many colleges have autonomy, several remain affiliated under universities, lacking the ability to govern themselves. After years of struggling to establish autonomous institutions, a new education policy, the National Education Policy 2020, has taken initiative to promote autonomy and self-governance.

The level of autonomy in higher education is still inadequate. Among over 45,000 existing colleges in India, only 995 are autonomous (The Times of India, 5 July 2024). Traditionally, colleges were governed under the supervision of parent universities, with no power to make decisions until 1978. Tamil Nadu developed an act to grant autonomy to its colleges, starting on June 8, 1978, when eight colleges under the University of Madras and four under Madurai Kamaraj University gained autonomy. By 1984, 21 colleges across 19 states in India had autonomy, including Bihar, Gujarat, Madhya Pradesh, Tamil Nadu, and Andhra Pradesh (The Times of India, 5 July 2024).

In 2011, the number increased to 374 colleges in 19 states, and by 2013, it grew to 441 colleges in 21 states in India. Additionally, on March 31, 2017, the University Grants Commission approved several autonomous colleges in India.

Sl No	Name of State	No of Universities	Total Autonomous College
1	Andhra Pradesh	11	83
2	Assam	1	02
3	Chhattisgarh	3	11
4	Goa	1	01
5	Gujarat	1	04
6	Haryana	1	01
7	Himachal Pradesh	1	05
8	Jammu & Kashmir	2	03
9	Jharkhand	2	05
10	Karnataka	11	70
11	Kerala	3	19
12	Madhya Pradesh	9	39
13	Maharashtra	9	42
14	Manipur	1	01
15	Nagaland	1	02
16	Orissa	7	41
17	Pondicherry	1	03
18	Punjab	4	08
19	Rajasthan	3	04
20	Tamil Nadu	12	176
21	Telangana	5	55
22	Uttar Pradesh	6	11
23	Uttarakhand	2	04
24	West Bengal	4	12

Source: Effectiveness of Autonomy in Higher Education Orissa (Deo, 2018)

This data shows us a picture of significant autonomy in India, but it is primarily concentrated in states like Maharashtra, Andhra Pradesh, and Tamil Nadu. However, many states in our country

have a low number of autonomous colleges, such as Jharkhand, Manipur, Rajasthan, and Goa. These issues cannot be overlooked.

The University Grants Commission released a notice regarding university autonomy, notified under the regulations of 2018. UGC granted autonomy to 8 central universities, classified into two categories (Authority & Delhi, 2018). The list is as follows:

NAME OF THE UNIVERSITY	CATEGORY
Central University of Rajasthan	Category 1
Central Sanskrit University	Category 1
University of Delhi	Category 1
Central University of South Bihar	Category 1
University of Hyderabad	Category 2
Maulana Azad National Urdu University	Category 2
Central University of Punjab	Category 2
Central University of Himachal Pradesh	Category 2

Source- (Authority & Delhi, 2018)

NEP 2020 recommended institutional autonomy, emphasizing "graded autonomy" encouraged by Prime Minister Narendra Modi. This promotes healthy competition between universities, believing that the best results come from competitive minds. NEP 2020 envisions transforming Higher Education Institutions into multidisciplinary institutions, categorizing them into Research Intensive Universities, Teaching Universities, and Autonomous Colleges. The policy aims to convert traditional single-stream HEIs into fully autonomous multidisciplinary institutions. Faculty will have autonomy to engage freely in curriculum and pedagogy construction. The CBCS system will be modified to enhance flexibility, along with revisions to the examination system. For non-autonomous institutions, a transparent system of graded accreditation will guide them towards autonomy. Colleges will be encouraged to achieve accreditation benchmarks to eventually become autonomous or constituent colleges of universities.

3.3 RECOMMENDATIONS OF NEP-2020 REGARDING INSTITUTIONAL AUTONOMY-

They emphasized on “graded autonomy” which was encouraged by Prime Minister Narendra Modi. It is basically promoting a healthy competition between the universities, because it believes that the best result will come from the competitive mind of universities. NEP 2020 also envisaged

that Higher Education Institutions will be transformed as multi-disciplinary institutions. So that it is classified into different institutions like Research Intensive Universities, Teaching Universities, and Autonomous Colleges. Along with that, National Policy Education tried to transform the traditional single stream HEIs into a multi-disciplinary institution, and that will be fully autonomous institutions. Faculty should have the autonomy they freely engage in the construction process for curriculum and pedagogy. CBCS system will be modified to enrich the flexibility of the system. They will revise the examination system as well. And those who are in an autonomous institution, for them a transparent system of graded accreditation will help the institution to become an autonomous institution. To achieve the benchmark required for the level of accreditation, all colleges will be encouraged. By the time all the colleges had transformed into autonomous colleges or constituent colleges of a university.

To implement the Policy, the University Grants Commission released a revised regulation for autonomous colleges in 2023. There will be no need to pay for affiliation fees to their affiliated university. UGC will be the mentor for the fee structure, the governing board members of the university. UGC also prepared a regulation for Ph. D programme. New revision of UGC has simplified the new provision of autonomous colleges. To run a regular morning college, an autonomous college will collaborate with another autonomous college. These autonomous colleges are free to offer diploma courses, postgraduate, undergraduate, Ph.D. programmes. Autonomous colleges will maintain their records in the examination cell. The governing body of the autonomous college will be the Academic Council, BOS, the Finance Committee, and a non-statutory committee.

3.4 Impact of Autonomy on Key Stakeholders of the university-

Autonomous institutions in India perform better than non-autonomous institutions. Non-autonomous institutions do not cater to the needs of stakeholders. These institutions are governed by authoritative bodies or external stakeholders, with decision-making power centralized in upper authorities. Consequently, stakeholders in lower positions have no voice and cannot express their needs (Ganesan, 2000).

According to the CABE Committee report on Autonomy and Accountability in Higher Education, the governing boards of higher education institutions determine admissions, curriculum construction, and fee structures. However, the autonomy granted varies from university to university, indicating a need for more consistent autonomy across institutions (CABE, 2005).

To run a university effectively, many actors work diligently, including faculty, students, non-teaching staff, and administration.

Student

Students are the central stakeholders in the development process of higher education institutions. The impact of autonomy on students can enhance learning outcomes by strengthening critical thinking. They also have the freedom to choose subjects. Tagorian thoughts on learning state, *"Where the mind is without fear."* With this ideology, autonomy provides students with various opportunities and freedoms related to admissions, scholarships, examinations, and curriculum. Moreover, universities will consider student feedback (Park, 2019).

Faculty

Autonomy in higher education ensures freedom for stakeholders in the teaching-learning process. Faculty members have the freedom to design curricula and choose teaching methods (Jones, 2019). They also have the opportunity to lead their own work, which contributes to their job satisfaction. Additionally, faculty members can participate in university governance (Brown, 2021).

Some benefits of faculty autonomy include:

1. Teachers can innovate and apply the best teaching methods in the classroom (Williams, 2020).
2. Teachers can participate in the university's decision-making process (Park, 2019).
3. According to Kim (2020), autonomy fosters a cooperative environment and builds rapport between teachers and students.

Administration

Autonomy supports a self-governance system where all stakeholders can participate in the governance process. It also improves research quality. Financial autonomy provides independence in financial matters, contributing to economic growth. Furthermore, it promotes diversity and inclusivity.

3.5 CHALLENGES FOR IMPLEMENTATION

The CABE Committee discussed issues of autonomy on November 30th and December 1st at the University of Madras, focusing on academic concerns. They highlighted that autonomy is not being properly utilized by universities as intended, but some universities do not allow complete autonomy because they are reluctant to handle the hassle of creating syllabi, curricula, and designing examinations.

Autonomy and fear of Privatization

The status of autonomy raises concerns about privatization. Affiliated universities receive funds from their affiliated colleges, but if these colleges become autonomous, they will no longer contribute to this financial pool. When colleges operate on a self-financed model, tuition fees will inevitably rise, creating economic disparities among students.

For example, an autonomous university like Calicut charges ₹1.2 lakh for a self-financing course, whereas a government-aided college charges only ₹33,090 (The Times of India, July 5, 2024).

In some cases, reputed colleges under Delhi University, such as St. Stephen's College and Hindu College, have protested against the University Grants Commission (UGC) guidelines on autonomy. The guideline states that a single university cannot meet the needs of multiple colleges, so affiliated institutions should be independent to pursue their own activities. However, the Delhi University Teachers' Association opposed this move, fearing it as a preliminary step toward privatization. They also expressed concerns that colleges would be forced into self-financing models. Moreover, they questioned how colleges could be granted autonomy when they are already governed by the Delhi University Act (Indian Express, March 8, 2017).

In a recent report by *The Times of India* (August 21, 2024), teachers' and students' organizations at Punjab University protested against the push for eight colleges to become autonomous, fearing that it would lead to privatization.

However, some other points are as follows-

1. A teacher in Thrissur district complained to UGC that they have additional workload. They have to evaluate papers from their own college as well as from other non-autonomous colleges. (The Times of India, 5th July, 2024)
2. Most colleges in India are affiliated and do not take on administrative responsibilities due to excessive autonomy, they primarily focus on teaching and learning. Due to the perceived workload of autonomous colleges, they prefer to avoid additional responsibilities.
3. There is a lack of teacher training, adequate funds, and resources in universities. Therefore, managing colleges independently becomes stressful.

There are several issues regarding autonomy. While the government promotes autonomy to enhance academic freedom, students and teachers complain that universities, with increased autonomy, introduce self-financing courses and raise student fees. This situation becomes problematic for socially disadvantaged sections of society. Additionally, accountability is often

misused alongside autonomy, highlighting the importance of maintaining a balance between autonomy and accountability.

4. FUTURE PERSPECTIVES REGARDING AUTONOMY-

Proper Guideline

There should be a proper set of rules and guidelines in the regulatory system of higher education because autonomy depends on the accreditation of educational institutions, which in turn depends on the quality of education. Improved rules and guidelines will enhance institution accreditation.

Governance. Leadership and Management

According to NEP-2020, all stakeholders of the university should have the power of decision-making. Therefore, all stakeholders should be given the opportunity to express their opinions, raise complaints against unethical practices, and engage in debates. So university must emphasize on share or participatory governance and shared leadership strategies.

Transparency

Universities should prioritize transparency. They should avoid providing incorrect information and engaging in corruption. All information must be disclosed on their websites and updated regularly.

Participation

Genuine participation and willingness of stakeholders are crucial for the effective implementation of autonomous colleges. Without these factors, autonomy cannot function effectively. NEP-2020 has developed guidelines for Individual Development Plans where every stakeholder, including faculty, staff, and students, will create plans regarding academic activities and curriculum. This allows all participants to have autonomy in the academic decision-making process.

Autonomy of colleges or university can't come alone, cooperation of every stakeholders whether it is Faculties, students, political parties, governments are much needed. Autonomy is not a force in itself: it should only be applied after consultation with the stakeholders. National Education Policy 2020 emphasized to implement autonomy within 15 years but it is suggestion here that, Instead of hastily imposing something, it should be done in a manner that prevent the difficulties. We must need to concern that quality should not be compromised for the coast. Before the implementation of autonomy, the university must take proper concern for the welfare of students, teachers, and parents.

5. CONCLUSION

Autonomy, individuality, and freedom have always been essential for us. India fought for its autonomy to free itself from slavery. Autonomy shapes us into open-minded individuals. Autonomy in education is not new; in the past, glorious higher education institutions like Nalanda, Taila, and Vallabhi provided the best quality education in India. Many autonomous colleges existed during pre-independence India. However, their autonomy was reduced by Lord Curzon in the Indian Universities Act of 1904 (IJMR). Several committees and commissions were formed to recover the autonomy in higher education institutions. Now, the NEP 2020 and UGC are trying to reconstruct higher education institutions with the guarantee of flexibility, autonomy, and self-governance.

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Disability in Animated Films: A Study on their Representation and Portrayal

Lawmsangpuia Ralte

Department of Sociology, Mizoram University
Corresponding author: lawmsangpuiaralte46@gmail.com
Available at <https://omniscientmjprjournal.com>

Abstract

In recent years, animated films have moved towards inclusion of different backgrounds and races in their respective plots. Media production giants like Disney have been lauded for their inclusive storylines and even stood their ground amidst the backlash received from swapping the original white-skinned characters to black-skinned characters, as observed in the films and plays like The Little Mermaid and Romeo and Juliet. However, even though inclusive criteria have increased in terms of races and gender, the representation of disability is still less in animated films and literature, and has an undesirable representation. This study is a qualitative study, which uses thematic content analysis to study ten animated films that contain characters with disabilities. The study analysed these characters through the lens of some theories and studied how they are being represented and portrayed in their respective films.

Keywords: Disability, Animated films, Representation, Media, Disney.

Introduction

The concept of “disability” has existed in society since time immemorial. The term has long been linked to a series of discrimination, hardships, and problems. World Health Organization (2011) has said that defining disability is complicated as it is “complex, dynamic, multidimensional and contested.” Centers for Disease Control and Prevention (2020) have defined disability as an impairment of any type of condition that is present in a person’s body or mind, which further restricts or prohibits a person from performing activities or interacting with others around them. “Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others” (United Nations Conventions on the Rights of Persons with Disabilities, 2006).

Many problems associated with disability still need to be solved, so, the study of disability poses a new challenge while already being a challenge. Disability is a broad term that encompasses a wide range of sensory, physical, intellectual, and mental health issues that reflects the diversity of the global population. Hence, the need arises to embrace an inclusive perspective towards disability which is crucial for fostering a society that supports persons with disabilities. They had little to no representation in various fields of society, particularly in the area of entertainment like media, films, theatre shows, and plays. Media plays an important role in shaping the way people

perceive something, and the positive or negative portrayal of disability in different sectors of media can shape the way the general public regards disability. Representation matters and goes a long way in solving various hardships associated with disability. Hence, this study focuses on the representation and portrayal of disability in selected animated films.

Literature review

The social model of disability arises in reaction to the given limitations by scholars, and it sees the issue of disability as a socially created problem. It deals with a matter of the full integration of individuals into society, which is largely favoured by disabled rights advocates (Jensen & Zuber, 2020). Union of the Physically Impaired Against Segregation (UPIAS) has said that,

“Disability is a situation, caused by social conditions, which requires for its elimination, (a) that no one aspect such as income, mobility or institutions is treated in isolation, (b) that disabled people should, with the advice and help of others, assume control over their own lives, and (c) that professionals, experts, and others who seek to help must be committed to promoting such control by disabled people.” (1976)

In this model, disability is not an attribute of an individual, but rather a complex collection of conditions, many of which are created by the social environment. Hence, the management of the problem requires social action and is the collective responsibility of society at large to make the environmental modifications necessary for the full participation of persons with disabilities in all areas of social life. The social model of disability is said to have emerged around the seventies from the works and pressures of various disability activists (Beaudry, 2016). This model states that disability stems from the oppression and exclusion meted out by society, which is inflicted upon persons with disabilities. The model also states that disability is not necessarily the impairment that exists within an individual (Chambers, 2016).

In the field of the social model, the two terms, which are impairment and disability, have different meanings assigned to them, in which impairment stems from the dysfunction of any part of the human body. Disability, on the other hand, is any type of activity restriction that is placed by society and the community on people who have impairments (Forhan, 2009; Goodley, 2010). In the development of the social model, Schipper (2006) has critically explained the importance of the distinction between impairment and disability by stating,

“These definitions provided a theoretical underpinning for the social model by making a clear distinction between social disability and physical impairment. While an impairment is universally constant (e.g., the inability to conceive children), the extent to which this impairment has social/political consequences shifts from culture to culture (i.e., the inability to conceive children may be more ‘disabling’ in ancient Near Eastern cultures than in industrialized Western ones).” (Schipper, 2006)

The issue is both cultural and ideological, requiring individual, community, and large-scale social change. Disability and impairment have raised many concerns among scholars and the social model of disability only stops at understanding the definition of disability. Through a social model of disability, persons with disabilities are marginalized and are therefore burdened with severe hardships.

Mowat (2015) has said that marginalization relates to social exclusion that specifically arise from unequal opportunities and barriers to social participation exerted upon certain sections of the populations like persons with disabilities, women, refugees, gypsies and other minorities. The theory of marginalization denotes that exclusion of the particular sections of the communities is intentional, and they were being shunned actively by the rest of society. The intentional rejection of individuals has deeply affected them more when compared to incidental rejection. Hence, representation matters for marginalized communities, like persons with disabilities and their dominant representation, especially in media and animated films, plays an important role in reinforcing stereotypes directed towards these communities by the rest of society (Krentz & Sanchez, 2021).

In terms of animated films, Disney and Pixar are the two giant media productions which have produced some of the most successful and popular films. Pixar gained notable success after releasing Toy Story in 1995, while Disney has long gained momentum since its inception in the 1920s. These two production houses are the pillars of creating childhood dreams across the world and in recent years, their films have started incorporating the inclusion of persons of colour as the main characters and also challenges gender stereotypes. However, the representation of persons with disabilities in animated films is still limited and the study of their portrayal in these animated films is also found in minimum quantity (Giroux & Pollock, 2010, Holcomb & Dayton, 2022).

Objectives

1. To analyze the portrayal of persons with disabilities in animated films
2. To examine the effectiveness of visual representation of disability in animated films to break stereotypes

Methodology

This study is a qualitative study which uses thematic content analysis to study the representation of disability in animated films. Data for this study were collected through primary and secondary sources, and the case study method was also used. The scope of this study includes ten animated films with disabled characters, which were released by Disney, Pixar, and Warner Bros. Animation, which were all released between 1937 and 2021. These ten animated films were selected through purposeful sampling. The primary sources of data for this study include the selection, review, and analysis of all the ten animated films, while secondary sources of data include all the reviewed literature related to disability and the significance of their representation and portrayal in these films. This study also uses the case study method for in-depth analysis and investigation of how disability and persons with disabilities were being portrayed in all the ten animated films. The main criterion for the selection of these animated films was the presence of disabled characters in the films. These selected animated films include only Western animated films with English as the first language being used in the films, and this study excluded other foreign animated films. After the selection of the films was done, each film was being reviewed, and the scenes including disabled characters were particularly reviewed in-depth.

Findings

The first film analyzed was Snow White and the Seven Dwarves, which was released in the year 1937. The disabled characters were the seven dwarves, and dwarfism is one of the disabilities included under the Rights of Persons with Disabilities (RPwD) Act 2016. The second film analyzed was a 1953 film titled Peter Pan in which the main antagonist, Captain Hook, was an amputee. The third film analyzed for this study was Batman: The Animated Series released in 1992 where the main antagonist, Joker, is believed to have antisocial personality disorder and a serious mental illness, although his actual diagnosis is not portrayed in the film. The fourth film is a 1996 animated film called The Hunchback of Notre Dam in which, the main character named Quasimodo has a physical deformity. The fifth film, Toy Story 2, released in 1999, had two characters called Woody and Wheezy, both of which had broken parts in their bodies in some part

of the film. The sixth film, Shrek, released in 2001, had an amputee named Gingerbread Man. The seventh film, Finding Nemo, released in 2003, had its main character, Nemo, who had fin length discrepancy, equivalent to limb length discrepancy in a human world. The eight-film reviewed was Monsters Inc., released in 2003, in which the main character Mike had only one eye and a short stature. The ninth film, Fancy Nancy, released in 2020, had an autistic character named Shawn. The tenth film, Luca is a 2021 film in which one of the characters, Massimo Marcovaldo, is an amputee. From the study of the ten animated films, issues arise with regard to their portrayal and how they were represented in the films. Two issues arise from analyzing their portrayal in their respective themes, which are issues of outcast and misunderstanding and strength within their disability.

Issues of Outcast and Misunderstanding

The most common feature and representation among all the disabled characters in the ten animated films is the issue of outcast. The issue of being outcasted and misunderstood by all other characters in the films is a common feature, where all the characters were outcasted and misunderstood by their peers due to their disability and the weakness associated with their disability. From the period of 1937 up to the modern day 2021, this issue is still relevant and still included in all these films. In 1937, the seven dwarves were portrayed to live in a forest located far away from the rest of the kingdom. They were portrayed to be engaged in an undesirable job of mining, which is a job already considered to be difficult even for normal abled persons. Even after Snow White lived with them, she treated and looked after them as small children instead of treating them as adults. This showed the misunderstandings often faced by persons with dwarfism. Captain Hook's representation in the animated film of Peter Pan is rather dark as he was portrayed as a villain. He was segregated from the rest of society and lived an isolated life along with his henchmen. He was the main antagonist of the main character and portrayed largely as someone who was evil. His evil deeds and his evil desires, along with his hideous figure added by the hook in place of his lost hand, led him to be outcast from the rest of the other people and feared by all. Joker was also portrayed as a character with evil desires, and his disturbing mental conditions led him to be feared by all and led him to be an outcast. His actual mental disability is not accurately portrayed, but his uncontrollable laughter seemed to be based on a medical condition known as pseudobulbar affect (PBA), which makes him misfit among others. Quasimodo, with his hideous and deformed figure, led him to be outcasted from all other characters in the movie. He was hiding away for fear of

being labelled as a monster by the public. He was even locked away in a tower by his caretaker for fear of being seen by the public who said,

“...I will look upon you without fear. How can I protect you, boy, unless you always stay in here, away in here...”

His disability was even compared by his caretaker as a crime by saying,

“...you are deformed and you are ugly and these are crimes for which the world shows little pity...”

In Toy Story 2, Woody and Wheezy did not originally have any disability, but having their parts broken placed them in the category of disabled characters. After their body parts were broken, it makes them become undesirable to be played with by children and their owner even refused to play with them after discovering their broken parts. The owner of Andy, upon seeing his broken arm, had said,

“Oh, I forgot, you’re broken. I don’t want to play with you anymore.”

They were both put away after having broken parts and were both outcasted. Wheezy even told Woody that there was no point in having their broken parts fixed because there was no escaping the inevitable, which was being sold off at a yard sale after being broken, which is equivalent to disability in the real world.

Gingerbread Man from Shrek was given only a limited screen time, and after having his legs broken by the antagonist in the movie, he was mocked and teased relentlessly by the antagonist who said,

“...run, run, run, as fast as you can...”

In one part of the clip, the Gingerbread Man was even labelled as a “monster” by the evil antagonist. He received less screen time after his legs were broken. In Finding Nemo, Nemo was overprotected by his father because of his medical conditions. He was weaker than the others and did not have many friends. On the first day of his school, his classmates had mocked him by saying,

“...what’s wrong with his fin? He looks funny!”

His disability worried his father and even when Nemo tried to swim out on his own, he faced a heated argument with his father which led him to be scolded harshly by his father by saying,

“...you think you can do this, Nemo, but you just can’t Nemo!”

This statement alone indicates how the other characters viewed Nemo’s disability as strange and something which is unusual. In Monsters Inc., Mike was always outcasted by his peers and nobody

wanted to interact with him. He was alone for the most part of his childhood and had no actual friends growing up. His uniqueness repelled others and was made fun of. When the time came to choose partners for their school trip, he was left alone without any partners, leading to his teacher pairing him with him and saying,

“...well Michael, it looks like it’s you and me again...”

Even on the day of the final Scare Competition, his main rival mocked his ability to win the contest by saying,

“Don’t take the loss too hard, you never belong here anyway.”

The short-animated film called Fancy Nancy had a character named Shawn who had autism spectrum disorder. He had a limited screen time, and even in his limited screen time, he was portrayed as having no real friends and was left off to be alone. He was also represented as someone who liked to be left alone and did not like the company of others. His disability was not understood by the other characters. His brother had to interfere and exclaimed that his brother,

“...does things differently...”

Massimo Marcovaldo from Luca was only having one arm and spoke little, which intimidated others to have a formal connection and communication with him. This led many characters in the movie to fear him and misunderstand him to a great extent.

Hence, the issues of outcast and misunderstandings are common features in all the ten animated movies. As stated by the social model of disability, all the characters with disabilities were not disabled by their physical inabilities but were all disabled by the nature of society towards them. They were initially considered as weak and weird, which led other characters to misunderstand them, which in turn led them to be in a state of “outcast.” Lack of awareness with regard to disability is what restricts the full capabilities of persons with disabilities in the real world, and similarly, the lack of awareness with regard to the issue of disability among the characters in these animated films is what propels the characters with disabilities to be outcasted by their peers.

Strength within their disability

Even though most of the films portrayed disability in a negative light, there arose strength from the disabled characters, which were all shown towards the end of the respective films. When the evil queen, in disguise as an old woman, killed Snow White, the seven dwarves gathered their strength and courage and chased the old woman to seek revenge. Their unwavering courage led to the death of the evil queen, and even after, they did not stop caring for Snow White by putting her

corpse inside a glass coffin and staying by her side till her recovery from death. Caption Hook also showed immense courage and strength, even if for the dark side, by fighting everyone who went against his way. His amputee did not hide away his evil desires but he made the best use of the hook placed in his lost hand by fighting off against his enemies, particularly Peter Pan. Joker showed incredible resilience against the policy makers and even Batman himself after being defeated and caught by them countless times. His strength and resilience, even though it was directed towards evil, seemed incredible coming from someone with frail mental conditions.

Quasimodo was laughed at by the general public when they saw his deformed figure, but in spite of the hatred and mockery directed towards him, he still gathered his strength and courage to save one of the main characters, Esmerelda, from being killed by the clutches of evil. He did not let himself succumb to his disability. His courage and timely actions saved the lady from being murdered and he was hailed as a hero towards the end of the movie.

In the scenes of Toy Story 2, Woody was the one who saved his friends, Jessie and Bullseye, towards the end of the movie, even though he himself faced certain turmoil towards the beginning of the movie. Gingerbread Man from Shrek also displayed his incredible spirit even though he had a limited screen time. He became the best supporter for his friends even while using his ginger cane to assist his disability. Nemo, despite having a disability feature, did not lose hope in his attempt to escape from the aquarium where he was being held captive by a dentist. Through his incredible courage, he managed to block the filter of the aquarium, which played an incredible role in helping him escape back into the ocean.

Mike from Monsters Inc. also showed incredible leadership in transforming his friends into a better version of themselves, which eventually led them to win the prestigious scare competition of their university. Shawn from Fancy Nancy also had a limited screen time, but the character played an important role in educating the public about the awareness of autism spectrum disorder. Massimo Marcovaldo, even though he was an amputee, was patient and transformed Alberto into a better version by teaching him certain skills and forgiving his mistakes.

So, the strength witnessed among the characters with disabilities did not directly equal physical strength but leaned more towards mental strength. They are not the best physically built characters, but they all displayed immovable courage within them. Their courage and endurance set a great example not only to the other characters but even for the viewers who watched the movies from the comfort of their own houses. These characters showed that the physical disability is not what

stopped them from pursuing their dreams, but rather, the attitude and roadblock from the society are what kill their aspirations. However, the strength they gathered from their inner-self can push them forward and help them to contribute in uplifting others around them.

Discussion

In analyzing the portrayal of disabled characters in the ten animated films, all the disabled characters faced the issue of “outcast” and “misunderstanding” in all their respective films, wherein towards the beginning of the film, they were misunderstood and were mostly left alone. Their impairments were rejected by the society and their peers and were initially not included in most of the events happening around them. In this manner, their disabilities were further increased as has been stated under the social model of disability. Their disability is generated by the society, which restricts their ability and functions and creates an unjust environment for them.

The relevance of marginalization theory towards this study is also observed, wherein the disabled characters in the animated films did not have equal opportunities with the rest of the society, and they have all faced tremendous barriers in freely participating in several social activities. As per the theory, the marginalization exerted towards the disabled characters was intentional, as has been observed when all the students refused to pair up with Mike on their school trip in *Monsters Inc.* As stated by Krentz & Sanchez (2021) in their study, representation matters for marginalized communities like persons with disabilities, as the representation of the hardships faced by them through these animated films shows in details the real-life struggles and hardships faced by them and the importance of providing safe space for them to improve their skills. Their representation in these animated films also showed that they were more than what society labelled them. They were also just as talented and strong but were differently abled and skilled in different ways. This calls for society to place trust in them instead of intentionally rejecting them merely because of their disability. The films showed that they were also capable of following their dreams and were also capable of displaying great leadership skills, and transformed others around them in a positive way. Hence, this representation reinforces stereotypes directed against persons with disabilities and shattered the limitations often directed towards their path.

Limitations and Scope for future research

This study has only explored ten animated films, which have all initially portrayed disability as something negative in the first half of their movies. However, the strength that lies within the characters with disabilities was also all represented in these animated films, and even though the

plot and storyline were all different, the issue of outcast, misunderstanding, and strength within disability were all present in these films. Disability is an evolving concept and there are many other stories and cinematic plots with regard to films with disabled characters that can be studied. The study also includes only English films and excludes foreign films with non-English languages, and so, the study did not focus on how disability is being portrayed in foreign animated films. Finally, this study did not include the technical aspect of film review, such as the uses of screen close-up to increase or decrease the sympathy of the disabled characters and the uses of dramatic music to further increase the struggles and hardships faced by disabled characters.

The limitations left a wide room for future research towards the portrayal of disability and disabled characters so as to have a deeper analysis in the topic. Future research can also study not only animated films but real-life action films with disabled characters to study about their representation and portrayal in these movies. Comparative analysis can also be conducted between older films with newer release movies to study how much disability has evolved in recent years.

Conclusion

This study moved beyond the limitations of stereotypes directed towards persons with disabilities and sow the seeds of sympathy and empathy among the viewers who were typically children and young adults. The study has celebrated the strength and intelligence beyond disabilities and captured the resilience and courage that blossom in the disabled characters. These animated films have great power and platforms to reflect and shape reality through the plots and characters in their respective films. The viewers who saw these films can thus have a sense of understanding of the term “disability” and also inculcate a sense of understanding of the hardships associated with their disabilities. Thus, this representation and portrayal of disability in animated films can create a society that empathizes and cherishes all persons with disabilities in society.

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Students' Ability to Distinguish Fact Vs Fiction from A Science Fiction Film

Yogesh Sharma, Afrina Rizvi

Department of Mass Communication, Aligarh Muslim University, Aligarh

Corresponding Author: sh9258278120@gmail.com

Available at <https://omniscientmjprjournal.com>

Abstract

In an age where media consumption is pervasive, students are frequently exposed to speculative fiction films that blur the lines between science and fantasy. The ability to critically assess these depictions is essential for developing scientific literacy and analytical thinking. This study investigates students' ability to distinguish fact from fiction in speculative fiction films and examines the role of prior scientific knowledge in this process. A quasi-experimental design was employed with 40 students divided into two groups of 20 each. Both groups watched the bullet curve sequence from the film Wanted (2008) and answered questions about the realism of the scene. One group received instruction on Newton's laws of motion prior to viewing, while the other did not. The research aimed to determine whether prior knowledge of scientific facts influences students' ability to distinguish fact from fiction and to explore if film exposure interacts with such knowledge. Results were analyzed using a t-test, revealing a significant relationship between scientific knowledge and the ability to discern realism in speculative fiction. The findings suggest that prior knowledge of scientific concepts enhances students' critical thinking and media literacy, highlighting the importance of integrating science education with media analysis.

Keywords: Science Fiction, Student Understanding of Science, Experimental Research, Fact vs Fiction, Science Education.

I. Introduction

Science fiction films have always been a source of fascination for students and young audiences. These films often blend imaginative storytelling with scientific concepts, sometimes making it hard to separate factual information from fictional elements. While these movies are meant for entertainment, they can influence the way students perceive science. For instance, some may believe fictional technologies or events shown in movies are real, leading to misunderstandings about science.

The idea for this study came from the observation that students often discuss science fiction movies with excitement but sometimes confuse fictional elements with actual scientific facts. Teachers and educators have also noticed that such movies shape students' understanding of science, sometimes in ways that are not accurate. This raises the question: how well can students differentiate between what is fact and what is fiction in such films? This research aims to explore this ability and understand whether science fiction films impact students' knowledge of science.

1.1 Fact vs Fiction

The distinction between fact and fiction has always been a critical aspect of understanding any form of storytelling, particularly in the realm of science fiction. Fact refers to information or events that are based on objective reality and supported by scientific evidence, while fiction involves imaginative or speculative elements that may not align with reality. Science fiction films often merge these two realms, presenting futuristic technologies, space exploration, and advanced scientific phenomena alongside entirely fabricated narratives. While this combination makes these films captivating, it also creates challenges in distinguishing what is real from what is purely imaginative.

Separating fact from fiction in science fiction films can be particularly complex for students. These films often incorporate real scientific principles but exaggerate or modify them to fit the storyline. For instance, concepts such as time travel, interstellar travel, or genetic modification are rooted in scientific theories but are often dramatized beyond what is currently possible or scientifically accurate. This blending of truth and imagination can make it difficult for students to discern what is achievable based on current scientific understanding and what remains speculative or fictional.

1.2 Background and context of the research

In an era of misinformation, distinguishing fact from fiction is critical for students, particularly when interpreting science fiction films that blur scientific accuracy. Research suggests factual knowledge (e.g., understanding Newtonian physics) aids in differentiating real science from fiction in media. Sci-fi films influence viewers' beliefs about science and technology (Nisbet, Brossard, & Kroepsch, 2003) and shape understanding of scientific concepts (Durant, Evans, & Thomas, 1989), emphasizing the need to study how prior knowledge interacts with media interpretation. Exposure to sci-fi films impacts attitudes toward science and technology (Nisbet et al., 2003), highlighting their potential role in promoting scientific literacy and STEM interest. Investigating how factual knowledge shapes students' ability to discern accuracy in sci-fi films can inform science education and media literacy programs.

1.3 Objectives of the study

The topic of this study directly addresses the main objective of this study. **The main objective of this study is to measure the relation between the factual knowledge of students and their ability of detecting facts and fiction in the visual media.** A quasi-experimental design is employed to collect the data. This study is an attempt to measure the strength of the mental shield

that science education provides to students when countering the misinformation. There is no doubt that science fiction inspires real life technology, but at the same time, it attracts unwanted harm when people try to imitate what's been shown in the film or Television.

Following are the main objectives of this study:

1. To study the effectiveness of theoretical knowledge on students' ability to distinguish fact vs fiction from a science fiction film.
2. To analyze the students' ability to differentiate between facts and fictional concepts in science fiction films.

1.4 Statement of the problem and research questions

The problem addressed in this research paper is whether factual knowledge about science concepts affects students' ability to distinguish fact from fiction in science fiction films. Given the importance of media literacy and scientific literacy in the 21st century, it is important to investigate how students make sense of science fiction films and the role of prior knowledge in this process. Research has shown that students' prior knowledge can play an important role in their ability to differentiate fact from fiction in media. In particular, understanding of scientific concepts such as Newton's laws of motion may be relevant for interpreting the scientific accuracy of science fiction films. Previous research has suggested that science fiction films can impact viewers' beliefs and attitudes about science and technology (Nisbet, Brossard, & Kroepsch, 2003), highlighting the need for further research into how students make sense of these films. Furthermore, understanding how prior knowledge and beliefs impact students' interpretation of science fiction films can have important implications for science education and media literacy.

This research will address the following research questions:

- (1) Does prior knowledge of scientific facts have a significant effect on students' ability to distinguish fact from fiction in science fiction films, as measured through experiment?
- (2) How does exposure to the science fiction films affect students' ability to differentiate fact from fiction in the post-test, and is there an interaction effect between exposure to the film and prior knowledge of science concepts?

1.5 Significance of the study

The results of this study enable us to know more about students' ability to distinguish fact and fiction from a science fiction film. It will help educators to build study material for making science learning more interesting for students and enabling their critical thinking. The study attempts to

provide a basic understanding of students' ability to distinguish fact and fiction displayed in a science fiction film based on their previous knowledge of scientific concepts. It is no hidden truth that science in sci-fi media leads to real life inspirations. For students' better understanding of science and technology, it is our duty to create models that will ease the process of learning and at the same time be interesting.

The study of science fiction films provides insights into how science and technology are perceived in popular culture, influencing societal attitudes (Nisbet et al., 2003; Yacoubian, Bou-Mikael, & Farajallah, 2017). Understanding how students interpret these films can help educators use them to promote scientific literacy and STEM interest. By examining the role of factual knowledge in distinguishing fact from fiction, this research contributes to improving science education and media literacy programs.

1.6 Overview of the research design and methodology

The purpose of this study was to investigate the impact of factual knowledge on students' ability to distinguish between fact and fiction in a science fiction film. The research design utilized was an experimental design, specifically a posttest-only control group design. **The study was conducted at a private coaching center in Aligarh district of Uttar Pradesh in the month of July 2023.** Since the study was more like an extension to the ongoing study, verbal consent was taken from the director of the coaching center.

II. Literature Review

The relationship between science fiction films and students' understanding of science has been explored by several researchers. Studies have shown that science fiction movies often present a mix of factual scientific concepts and fictional elements, making it difficult for young viewers to separate reality from imagination.

Science fiction has significantly influenced cultural attitudes, scientific literacy, and educational practices. Suvin (1979) describes the genre as one of "cognitive estrangement," wherein it challenges audiences' existing beliefs and perspectives. Gunn (2000) further emphasizes that science fiction serves as an inspiration for individuals, particularly young audiences, by presenting science and technology in an engaging and thought-provoking manner. By showcasing futuristic concepts and innovative technologies, science fiction motivates people to explore scientific possibilities and pursue careers in STEM fields.

The influence of science fiction on students' understanding of science has been a subject of extensive research. Dhingra (2003) examines the role of television-mediated science in shaping students' perceptions of the nature of science. The study highlights how different television genres, including fictional programming, contribute to students' understanding of scientific concepts. Ongel-Erdal, Sonmez, and Day (2004) explore the potential of science fiction movies as a pedagogical tool, noting that while they can enhance student engagement and motivation, they may also contribute to alternative conceptions and misunderstandings of scientific principles.

The potential for science fiction to create misconceptions about science has been studied in various contexts. Barnett et al. (2006) examine the impact of the science fiction film *The Core* on middle school students' understanding of Earth science concepts. The study finds that exposure to scientifically inaccurate content in fiction can reinforce misconceptions, highlighting the need for educators to address these inaccuracies in classroom discussions. Barnett and Kafka (2007) explore the pedagogical benefits of incorporating science fiction movies into introductory science courses. They present instructional strategies that use film scenes to engage students in critiquing the scientific validity of popular media representations.

Beyond its impact on science education, science fiction plays a crucial role in shaping cultural and political attitudes. Buker (2009) argues that science fiction introduces audiences to alternative worldviews, challenging traditional norms and inspiring social change. The genre frequently addresses themes of political ideologies, justice, and equality, encouraging critical engagement with real-world issues. Additionally, it raises awareness of social justice concerns such as discrimination and human rights violations by embedding these issues within speculative narratives.

The role of narrative transportation in influencing audiences' acceptance of scientific inaccuracies has been explored by Barriga, Shapiro, and Fernandez (2010). Their study investigates how the perceived centrality of science within a movie, as well as the gender of the viewer, affects the evaluation of incorrect scientific information. Findings suggest that men are more likely to detect inaccuracies when science is central to the plot, whereas women are more inclined to identify errors when science is presented peripherally and the story emphasizes relational elements.

Science fiction's contribution to science communication and public engagement has been widely acknowledged. Chan (2014) highlights its effectiveness in introducing complex scientific concepts to general audiences by presenting them in accessible and engaging narratives. Brode (2015)

discusses the impact of *Star Trek* in promoting diversity and multiculturalism, depicting an inclusive future where individuals of different races and genders work together as equals. Similarly, Brake (2018) explores how *The Martian* has reignited public interest in space exploration by portraying realistic scientific problem-solving. Likewise, *District 9* has been recognized for its allegorical depiction of xenophobia, using science fiction to encourage discussions on social and political issues.

Science fiction has also been examined in the context of digital and media-based learning. Wang, Chang, and Li (2007) investigate the impact of 2D versus 3D media representation on students' spatial visualization skills. Their study finds a medium effect size favoring 3D-based media, suggesting its potential for enhancing learning experiences. Prestiadi, Maisyaroh, and Zulkarnain (2020) explore the effectiveness of online learning through video-based instructional media, demonstrating improvements in student performance. Saputri, Marzuki, and Suyato (2022) conduct a quasi-experimental study on enhancing student understanding of Pancasila values, while Marithasari, Barus, and Resmayasari (2023) assess the impact of pre-test and post-test strategies in improving English communication skills among students.

The collective findings from these studies reinforce the role of science fiction as an educational and cultural force. While it has the potential to enhance scientific literacy and inspire curiosity, it also poses challenges related to the perpetuation of misconceptions. Therefore, educators and media consumers must critically engage with science fiction content to maximize its benefits while mitigating its potential drawbacks.

III. Methodology

The methodology employed in this study aimed to assess students' ability to distinguish fact from fiction in a science fiction film. A total of 40 participants from class 11th at a private coaching center in Aligarh district, Uttar Pradesh, took part in the research. A quasi-experimental design was utilized, where one group of participants received treatment in the form of a Chapter on Newton's laws of motion, while the other group did not receive any intervention. The study was conducted in July 2023, providing insights into the impact of specific educational strategies on students' discernment of factual versus fictional content in film.

3.1 Dependent and Independent variable

The independent variable in this study is the prior knowledge of students about the scientific concept. The film "Wanted" (2008) was used as an exposure material to assess the impact of factual

knowledge on students' ability to distinguish fact from fiction. Both groups were exposed to clips from science fiction films while the treatment group was also exposed to additional classes on the concept of laws of motion.

The dependent variable in this study is the students' ability to distinguish fact from fiction in the film, which was measured after exposure to the film. The study assessed the students' ability to differentiate between fact and fiction by administering a posttest, which presented a series of questions based on the film's content.

3.2 Hypothesis

Based on the extensive literature review and identification of dependent and independent variables in this study, one hypothesis is formed:

H₀1: There is no significant difference in the ability of students who have studied Newton's laws of motion and those who have not studied Newton's laws of motion to distinguish fact from fiction in science fiction films.

H_a1: Students who have studied Newton's laws of motion will demonstrate a greater ability to distinguish fact from fiction in science fiction films compared to those who have not studied Newton's laws of motion.

3.3 Posttest-only control group design

The study utilized a quasi-experimental design to investigate the effect of prior knowledge on students' ability to distinguish fact from fiction in the science fiction film "Wanted" (2008). This design involved the use of a control group, which was not exposed to the treatment (i.e., the chapter on laws of motion), and a treatment group, which was exposed to the treatment.

As noted by Campbell and Stanley (1963), the posttest-only control group design is appropriate when the researcher cannot randomly assign participants to groups, and when the selection of participants is not based on matching criteria. The design can help minimize the influence of extraneous variables that may affect the results, as the control group serves as a comparison group for the treatment group. The design is particularly useful in studies where random assignment is not possible, as it allows researchers to compare the effects of a treatment by creating two groups that are comparable in all aspects except for the treatment.

G1	X+Y	O1
G2	X	O2

G1 represents a sample group of participants in the treatment group.

G2 represents a sample group of participants in the treatment group.

X represents treatment, which in this experiment is sci-fi film *Wanted* (2008).

Y represents the treatment, which in this experiment is knowledge of facts on Newton's laws of motion.

3.4 Participant's Description and selection criteria

Forty Class XI students were divided equally into a treatment group (students who studied the laws of motion) and a control group (students who did not). This selection ensured that both groups were similar in age and educational level but differed in their prior knowledge of laws of motion. The study aimed to examine how this prior knowledge affected their ability to distinguish fact from fiction in clips from the film *Wanted* (2008).

3.5 Science fiction film "Wanted" (2008)

The film *Wanted* (2008) features the fictional "bullet curve" concept, where a marksman bends a bullet's path—a scenario that contradicts Newton's laws of motion. Advanced visual effects in the film create this illusion. In the study, students were asked whether curving a bullet is possible to assess how their prior knowledge of physics influences their ability to distinguish fact from fiction.

3.6 Procedure for conducting experiment

The experiment was conducted at a coaching center in Aligarh after informing the science teacher and obtaining permission from the center's director, while keeping the students unaware to prevent bias. Two groups of 20 students each were used: the treatment group received instruction on the laws of motion, and the control group did not. Both groups were then shown clips from the science fiction film *Wanted* on a large screen and subsequently took a test. The study employed a quasi-experimental posttest-only control group design, where the independent variable was the students' prior knowledge of laws of motion and the dependent variable was their ability to distinguish between fact and fiction as presented in the film.

3.7 Data collection and analysis

Following the viewing of film clips, both the experimental and control groups undertook a test specifically designed to assess their aptitude in differentiating between scientific fact and fiction as portrayed in the film.

The test contained the following four questions:

1. Is it possible to curve a bullet in real life?
2. Which law of Physics does the Buller Curve sequence follow or violate?

3. Is it possible to curve other objects like balls and arrows?
4. Can you define Newton's First Law of Motion?

A t-test was employed to evaluate the performance of the experimental and control groups on the test. This statistical analysis is used to assess whether there exists a significant difference between the mean scores of two groups. The objective of the t-test was to ascertain whether the factual knowledge intervention had a noteworthy influence on the experimental group's capacity to differentiate between fact and fiction in the film. A significance level of $p < 0.05$ was established for the test, signifying that outcomes with a p-value below 0.05 would be deemed statistically significant.

IV. Results

4.1 Descriptive statistics for the variables

A total of 40 students participated in this study. 16 were female and 24 were male. 18 of the 20 participants in the treatment group answered question 1 correctly. While only 14 were able to answer the same question as the control group. 1 mark was also granted to all participants who tried to give a somewhat okay explanation of the scientific concept. Mean score for the control group was .80, while mean score for the Treatment group was 1.20. The standard deviation for each group was 0.52315 and 0.61559 respectively.

4.2 Test for differences between the groups

A t-test was conducted using SPSS to test the hypothesis that there is no significant difference in scores between two groups. The null hypothesis was that the mean scores for the two groups were equal. The level of significance was set at $p < 0.05$, which corresponds to a confidence level of 95 percent. The obtained p-value was .033, which is below the significance level. As a result, the null hypothesis is rejected, and it can be concluded that there is a statistically significant difference in scores between the two groups. This indicates that the intervention had an impact on the experimental group's ability to differentiate between fact and fiction in the film, as compared to the control group.

→ T-Test

Group Statistics				
GROUP	N	Mean	Std. Deviation	Std. Error Mean
SCORE CONTROL	20	.8000	.52315	.11698
TREATMENT	20	1.2000	.61559	.13765

Independent Samples Test										
Levene's Test for Equality of Variances				t-test for Equality of Means						
	F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
SCORE Equal variances assumed	.530	.471	-2.214	38	.016	.033	-.40000	.18064	-.76569	-.03431
Equal variances not assumed			-2.214	37.037	.017	.033	-.40000	.18064	-.76600	-.03400

Based on the mean score, it can be stated that alternate hypothesis (H_{a1}) is accepted.

4.3 Findings related to research questions

RQ1: Effect of Prior Scientific Knowledge on Distinguishing Fact from Fiction in Sci-Fi Films

Results clearly state that prior knowledge of science facts positively aids students in distinguishing facts from fiction in a science fiction film. Demands of science fiction films have grown tremendously in recent years in India and the youth is the major consumer for it. These results give great insight for the inclusion of science fiction films in aiding science learning. Prior knowledge of scientific facts not only helped students to distinguish facts from fiction but also triggered sort of technological curiosity among students. After completion of the posttest, students had a very healthy discussion on the truth of the questions asked on the test.

RQ2: Sci-Fi Films and Fact-Fiction Differentiation: Role of Prior Science Knowledge

While observing the students during exposure with sci-fi films, it was clearly noted that none of the students initially thought about connecting the phenomenon in the media with basic science. It was only when presented with the test, participants started to think about science laws. Clearly, the group with better knowledge of facts was well able to guess the possibility of truth from fiction film. Better understanding of science will no doubt prevent people from attempting or mimicking bad science in film. Students were asked another question (Question 3) to establish a connection between their empirical knowledge of similar phenomenon and fiction in film. Almost all students were able to correctly answer this question. The reason behind this was that daily life observation is more effective than any theory, law, or model taught. There is no doubt that clips from these films can really work as a great assisting tool in science education. Participants were full of excitement throughout the study as it was a different and more interesting experience for them.

V. Discussion

5.1 Summary of the study

This study examined students' ability to distinguish fact from fiction in a science fiction film. Forty students were divided into a control group (no prior instruction) and a treatment group (taught Newton's laws of motion). Both groups watched clips from *Wanted* (2009) featuring the concept of curving bullets and then completed a four-question test. Data analysis using SPSS and a t-test showed a significant difference ($p = 0.033$), leading to the rejection of the null hypothesis. The findings indicate that students with prior knowledge of Newton's laws were better at distinguishing fact from fiction than those without.

5.2 Implications of the findings

The study's findings have important implications for science education, suggesting that science fiction films, combined with prior scientific knowledge, can enhance students' ability to distinguish fact from fiction. This supports the integration of such films into curricula to foster interest in science and critical thinking. The study also emphasizes the role of media in creating an engaging learning environment, encouraging discussions about scientific concepts. Additionally, these findings highlight the need for media literacy education, helping students become more critical consumers of scientific information and contributing to a more scientifically informed society.

5.3 Limitations of the study

Despite providing valuable insights, this study has limitations. The small sample size of 40 students may affect the generalizability of the findings, as a larger sample could provide a more comprehensive analysis. Additionally, the study focused solely on *Wanted* (2008), limiting the applicability of the results to other science fiction films, which may vary in scientific accuracy and present different challenges in distinguishing fact from fiction.

VI. Conclusion

The study suggests that integrating scientific concepts into science fiction discussions can enhance students' ability to distinguish fact from fiction. Educators can use science fiction films as teaching tools to make learning more engaging, encourage critical thinking, and demonstrate the relevance of science in everyday life. This approach fosters a more interactive and motivating learning environment, highlighting the benefits of incorporating popular culture into science education to improve student outcomes.

This study underscores the link between scientific knowledge and the ability to differentiate fact from fiction in science fiction films. The findings indicate that students with prior knowledge of scientific principles, such as Newton's laws of motion, are better equipped to assess the accuracy of cinematic portrayals. While the study provides valuable insights, its limitations—including a small sample size and focus on a single film—must be acknowledged. Nevertheless, it serves as a foundation for further research into the role of popular culture in science education.

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Work Values: A Facet of Organizational Culture

Renu Bharti

Department of Management, Agra Public Group of Institutions, Agra
Corresponding author: prittydj08@gmail.com
Available at <https://omniscientmjprjournal.com>

Abstract

Organizational culture plays a pivotal role in shaping employee identity and fostering a sense of belonging, aligning workplace behaviours with shared values (Smircich, 1983). Conversely, individual values, including beliefs, expectations, and behavioural patterns, actively contribute to shaping and adapting organizational culture (Daft, 1986). Work values significantly impact organizational dynamics, particularly at the managerial level, where leaders' personal values influence decision-making, behaviour, and overall cultural ideology (Chusmir & Parker, 1992). Ambiguities in managerial values can shape organizational culture by driving leadership approaches and strategic direction (Russell, 2001). Given its critical significance, this theoretical and conceptual review paper aims to holistically examine the relationship between organizational culture, leadership, and work values. It explores (i) the impact of organizational culture on decision-making and behaviour, (ii) key factors shaping organizational culture, (iii) the role of personal values in management, (iv) the interconnection between leadership and culture, and (v) the influence of leaders' personal values on organizational culture. This research contributes to a deeper understanding of how work values influence organizational culture in contemporary workplaces, offering insights into leadership effectiveness and value-driven decision-making.

Keywords: Organizational culture, Employee identity, Work values, Leadership, Managerial values

1. Introduction

We must investigate the idea of culture to comprehend organisational life. Social culture either intentionally or unconsciously establishes what behaviors are acceptable and unacceptable. By offering direction and establishing norms of behaviour, culture also makes sure that the demands of the individual and the community are compatible (Hofstede 1980; Smircich 1983). There are two ways in which the idea of organisational culture can be explained. According to the first, culture is seen as a component of the organisation that enables people to adapt to their surroundings. This approach assumes that every organisation has a culture, and it is typically sufficient to construct a list of a few traits that define the organisation. The second strategy views the organisational culture as a framework for self-interpretation by each member. The idea of corporate identity is then introduced because of this strategy, which enables the social system to have a dynamic structure despite its complexity. they themselves interpret. The idea of corporate identity is then introduced because of this strategy, which enables the social system to have a dynamic structure despite its complexity (Komiski and Obój 1989, p. 202).

Organizational culture controls how individuals behave inside the organisation and is crucial in ensuring that, in extreme circumstances, the organisation behaves. The members of the organisation develop specific behavioral styles and accept some successfully accepted standards if the organisation runs in a consistent and comparable manner throughout time, achieving goals and achievements. For this reason, "idealisation of a common experience" is sometimes referred to as organisational culture (Daft 1986). Therefore, organisational culture can either efficiently encourage or hinder teamwork, information sharing, experience sharing, and idea sharing. For instance, a workplace culture that encourages innovation and teamwork creates an atmosphere where people can take initiative and be successful (Schein 1983).

The same is true for how values shape organisational culture and influence employee behaviour and judgement. Numerous researches in the literature discusses how values, attitudes, beliefs, and behaviors interact. A value system can be thought of as a largely permanent frame of perception that moulds and has an impact on how people behave in general. Values are comparable to attitudes, but values are more deeply ingrained, long-lasting, and stable. A value also seems to be more abstract and unrelated to any specific thing. Values are more closely associated with ideology or philosophy than attitude. The values are principles that guide a person's wants, emotions, and actions on a more practical level (Bernthal 1962; Shah 1985).

Additionally, values at a certain level predict most behaviors. However, if the values are not built on prior cultural learning, they may just be endorsed values that have no bearing on how employees behave. If the accepted values are logically compatible with the fundamental presumptions, they can be turned into a philosophy that can unite the community, forge an identity, and establish fundamental tasks (Ouchi 1981). Since values begin at the individual level, a small number of people's values make up a group's values, and a group's values make up an organization's values (Harrison 1975).

2. Literature review

Concept of values: According to Carolpio, Andrewartha, and Armstrong (2001), values are a person's fundamental norms and ideas about what is right and wrong, appropriate, and inappropriate, moral, and immoral. According to Rokeach (1973), values are guidelines that help people who hold them make decisions about their own behaviour as well as the behaviour of others.

Concept of work values: SUPER'S (1973) DEFINITION OF WORK VALUES: Super emphasizes the different motivations that drive an individual to work in his or her explanation

of work values. Work values can be understood as the byproducts or outcomes of the job as well as those that men and women seek in their work activity. Work values can be seen as values intrinsic to as well as extrinsic to work satisfaction.

The person maintains an evaluative attitude or tendency toward employment in general. According to Van Plesten (1986), the orientation a person has toward work in general is referred to as work valued. According to Zytowski (1970), a person's affective orientation and classes of external items providing comparable satisfaction are mediated by their job values. According to Wollack (1971), work values serve as a better indicator of a person's attitude toward work in general than his feelings regarding a particular employment.

The usefulness or general value that a person attaches to a certain behaviour or perception of work (such as physical exertion and amount of time on task/job) and non-work activities is referred to as work values by Wayne (1989). (e.g. leisure, benefits, and rewards). In conclusion, it can be claimed that values associated with the workplace are indicative of a person's (a worker's) inner attitude or way of thinking about his work, if it applies to work in general and not only to his particular post or a specific task.

Dimensions of work values: There are many different viewpoints on how to categories work values, ranging from one-dimensional to multi-dimensional perspectives. Morse and Weiss (1995) used only one item to quantify the value people place on their work in a one-dimensional approach of work values (e.g., Monetary gains). Many authors adopted a two-dimensional perspective when looking at work values. The greater the degree to which a worker concurrently prefers activity, takes pride in his work, etc., according to Wollack et al. (1971) and Stone (1975). Contrary to earlier theories, Ginzberg, Ginzberg, Axelrad, and Herrna (1951) introduce the idea of concurrent work values as a third dimension to work values (Salary, prestige, and interpersonal relationship).

Core values and Dominant culture: According to Robbins (1998), the organization's core values are its major or dominant values. Management wants new hires to embrace the fundamental cultural values of the company, but they also want to respect the unique perspectives that these workers bring to the workplace. The fundamental principles that the majority of an organization's members adhere to are represented by its dominant culture.

Work values and psychological contract: Everybody has a different idea of what work is worth or means to them. Many authors in the career literature believe that each person has a distinctive set of personal values applicable to various facets of life, with some being especially suitable for the workplace (e.g. Roe & Ester, 1999; Sagie & Kozlowski, 1998;

Schein, 1978; 1993; Schwartz, 1999; Super, 1990). It is precomputed that values organise an individual's wants, aspirations, and objectives into a hierarchy based on the relevance of those goals to that person (Dawis, 1991).

According to the Meaning of Work (MOW) International Research Team (Super & Sverko, 1995), work values are the universal and largely constant objectives that people want to achieve through their employment. Numerous studies in this area show that individual outcomes including job involvement, work motivation, and turnover intentions depend on the fit between an individual's work values and the resources provided by the business (e.g. Taris & Feij, 2000; Vianen, 2000). Individuals will differ in the promissory beliefs that are a part of their psychological contract based on the type of work values they desire to achieve during their working lives, according to an integration of existing theories and studies on work values.

Studies related to values and work values: In his research, Rokeach (1973) distinguished between values and interests based on two factors: how values serve as standards, how many people have values, and how values compare to interests. Interests are preferences or likes, not benchmarks by which people assess both their own and other people's performance. Additionally, while people may develop a variety of interests, they tend to develop relatively few values. Needs can also act as a guide for action, although Rokeach (1973) argues that once met, they are ephemeral and may not continue to do so for a variety of durations. Values emerge for people to satisfy their wants in socially acceptable ways, but unlike needs, they transcend circumstances and have a consistent impact on conduct.

Research by Judge and Bretz (1992) and Ravlin and Maglino (1987) clearly suggests that options that are connected to the decision maker's deeply held values are frequently selected during the decision-making process. Additionally, Schulenberg, Vondracek, and Kim (1993) discovered a strong correlation between the individuals' degree of vocational confidence and the strength of their values. Although values predominate in the decision-making process, other considerations might also have an impact. Interests and self-efficacy will also affect how decisions are made (Bandura, 1986; Feather, 1988).

When respondents were asked to rank the values, they aspired to uphold within various roles, Flannelly (1995), who conducted the study using a modified version of the LVI, discovered that their scores varied dramatically from role to role. Success in a life role typically depends on four factors: (1) the alignment of the person's values with those of others in the role; (2) role-related skills that the person had honed before taking on the role; (3) the person's

capacity to adapt as the demands of the role change; and (4) the way the role interacts with other roles that the person plays.

In their research, Ravlin and Meglino (1987) discovered a direct link between job happiness and the alignment of supervisors' and employees' ideals. This claim has also been supported by research on the Theory of Work Adjustment (Dawis & Lofquist, 1984). Various value-based issues occasionally call for therapeutic interventions. These include: (1) values that are not clearly defined and/or prioritised; (2) conflicts between one's own values; (3) conflicts within one's own role; (4) conflicts between roles that may or may not be based on values; and (5) the feeling that one's ability to fulfil one's values is being hindered, which can lead to depression. Currently, there is no direct evidence to support this claim.

To change the attitudes and behaviors of those who work for the organisation is one of the key reasons for developing a value statement, according to LeMon's study from 2000. Additionally, it makes apparent to prospective employees what is regarded as vital within the company. To accomplish organisational goals, a clear and specific value statement helps direct and drive employees' work behaviour. It can also help employers find candidates who are compatible with the organization's stated values and can relate to them.

In recent years, the ability of value statements to channel an organization's activities and inspire its staff has grown in significance. Numerous studies highlight the significance of common corporate values and the function of the value statement (Sullivan & Sullivan & Buffton, 2002; Dearlove and Coomber, 1999; LeMon, 2000; Kouzes, 2003).

Empty value statements, according to Lencioni (2000), make employees skeptical and demoralized, alienate clients, and erode managerial credibility. It is also well recognized that younger generations are considerably more in touch with their own values than older generations are, and that when considering job alternatives and potential employers, the younger generations consider how their personal beliefs may be fulfilled (Sullivan, Sullivan & Buffton, 2002). It is crucial to remember that defining the values of the firm and the employees can contribute to a situation where everyone benefits. People can find fulfilment in their work, and businesses can build loyal workforces that can successfully navigate times of transition (Sullivan & Sullivan & Buffton, 2002).

According to Bryce (2002), creating a compelling organisational value statement, when combined with a few long-term recruiting strategies, can lower both recruitment expenses and employee attrition. It is suggested that if the organization's value statement is confusing,

job applicants may not be individuals who hold the right personal values, and the organisation may not hire the right people.

Significant research by Kar and Thivari (1999) revealed that employees who were appropriately informed of the organisational values and ethics have promoted improved civic behaviour. Additionally, it may be inferred from the current findings that some of the most delicate aspects of company culture, such as risk tolerance and support, have a significant influence on employees' civic activity. The religious, commercial, spiritual, and governmental domains of social conduct within a culture all depend on values. Values should become an inherent part of a particular culture by being anchored in the religious, spiritual, and governmental spheres of social life. This will allow for cultural diversity (Sheth, 1995). It is presumed that values organise an individual's wants, aspirations, and objectives into a hierarchy based on the relevance of those goals to that person (Davis, 1991).

The claim that cultures have a magical impact on conduct at work (New Storm and Davis) is supported by the social construction of work behaviour and individual group expression that symbolise culture (Hofstede, 1990). (1995). Romero (2000) According to research by Adler (1991), managerial values and personal values both influence corporate strategy and all aspects of organisational behaviour, such as the selection and reward processes, superior-subordinate relationships, group dynamics, communication styles, leadership styles, and levels of conflict.

According to work character ethics, the recognition and responsible growth of admirable reflective practitioner traits at work, such as proficiency, originality, honesty, fairness, trustworthiness, coworker appreciation, task competition, honour, loyalty, shared work pride, diligence, resourcefulness, level-headedness, tolerance, dependability, civility, empathy, conscientiousness, discretion, patient urgency, cooperativeness, and supportiveness, determine both the instrument and the outcome of the work environment (Patric and Quinn, 1999). Power orientation, accomplishment orientation, hedonism, stimulation conformance, and compassion are a few of the factors that have an impact on how people behave at work. Understandably, personality formation, which occurs in a certain cultural milieu, plays a big role in how people behave (Schwartz et. al 1997).

Organ (1988, among others) and other authors have demonstrated the importance of these values for organisations' survival and success, as well as the fact that altruistic ideals underlie all helping behaviours in organisations (Podsakoff, Mackenzie, Paine & Bachrach, 2000). Studies on work values have demonstrated that these values are important for influencing

people's career decisions as well as work-related attitudes and behaviours like job satisfaction and turnover (Butler, 1983; Judge & Bretz, 1992; Meglino, Ravlin & Adkins, 1991; Roe & Ester, 1999).

The literature frequently discusses a corporate culture as being strongly tied to its principles and leadership. Schein's (2004) culture and leadership theory, which emphasizes the role of leaders in developing, sustaining, and changing the substance of an organisational culture, is one of the most well-known theories. According to Schein's view, leaders' decisions set the tone for culture. In this situation, the leader has greater control over his or her followers' actions than the followers have over the leader.

Furthermore, as stated by Schein, cultural traits can be changed in accordance with necessities, such as behavioral patterns. The need for organisational renewal may occur in the event of strategic conflicts in values, norms, philosophy, organisational rules, and organisational culture (Schein 1984). By outlining the crucial connection between these factors and defining the conceptual framework, it is anticipated that this study will add to the body of literature.

3. Research gap

Despite extensive research on organizational culture and work values, existing studies often focus on traditional leadership frameworks and static cultural models, overlooking the dynamic shifts caused by digital transformation, generational diversity, and remote work environments. While past research (e.g., Smircich, 1983; Daft, 1986) emphasizes the role of values in shaping organizational culture, there is limited exploration of how evolving work values influence modern leadership, employee engagement, and ethical decision-making. This study aims to bridge this gap by examining the interplay between leadership, personal values, and organizational culture in contemporary workplaces, offering a holistic perspective that integrates both classical theories and recent empirical insights.

4. Objectives

The study aims to:

1. To Examine the role of work values in shaping organizational culture.
2. To Analyse how individual beliefs, expectations, and behaviours contribute to organizational culture.
3. To Investigate the impact of managerial values on decision-making and leadership within an organization.
4. To Explore the interplay between leadership, organizational culture, and work values.

5. To Develop a comprehensive framework for understanding work values as a facet of organizational culture.

5. Research Questions

1. How do work values influence organizational culture and employee identity?
2. In what ways do individual values, beliefs, and expectations shape the cultural dynamics of an organization?
3. How do managers' personal values affect leadership styles and organizational decision-making?
4. What factors contribute to the alignment (or misalignment) of leadership and organizational culture?
5. How can organizations integrate work values into their culture to enhance employee engagement and performance?

6. Research Methodology

This study aims to explore the theoretical foundations of work values as an integral aspect of organizational culture. A comprehensive review of the literature will provide a deeper understanding of the values, assumptions, and beliefs that shape organizational culture.

The study follows a descriptive approach, examining a wide range of literature to conceptualize work values and their role within the organizational culture framework. This analysis will aid in interpreting an organization's existing culture while also informing strategies for fostering a desired cultural environment. Additionally, the study explains other dimensions of organizational culture, contributing to the development of a holistic and well-structured framework.

7. Contemporary Research Evidence

To enhance the paper's relevance and scholarly rigor, it is essential to integrate contemporary research evidence that builds on or challenges the foundational works cited. Here are some updated sources and ideas that can be incorporated:

1. Evolving Nature of Organizational Culture in the Digital Age: While foundational works (e.g., Smircich, 1983; Daft, 1986) emphasize organizational culture's role in identity formation and employee alignment, recent studies highlight the impact of digital transformation, remote work, and AI-driven decision-making on organizational culture.

New Perspective: Organizational culture is now shaped not only by leadership and values but also by technological integration, hybrid work models, and knowledge-sharing platforms.

This challenges the traditional view that culture is primarily influenced by hierarchical structures and leadership norms.

2. Contemporary Work Values and Generational Differences: The concept of work values has evolved with the entrance of Millennials and Generation Z into the workforce, who prioritize work-life balance, diversity, inclusion, and sustainability over traditional loyalty-based models.

New Perspective: Unlike older studies that focus on organizational stability, contemporary research suggests that values now shift more rapidly due to generational differences and socio-political factors, requiring adaptive and inclusive culture-building strategies.

3. Ethical Leadership and Value-Driven Decision-Making: Recent studies emphasize ethical leadership and corporate social responsibility (CSR) as key components of organizational values and culture.

New Perspective: While earlier research focused on leadership styles shaping organizational culture, modern scholarship stresses that leaders' ethical decision-making, transparency, and sustainability initiatives play a crucial role in value alignment and long-term organizational success.

4. Impact of Remote Work on Work Values and Organizational Culture: The COVID-19 pandemic reshaped organizational dynamics, challenging traditional cultural frameworks and shifting work values toward flexibility, autonomy, and digital collaboration.

New Perspective: Unlike earlier studies that emphasize physical workplace culture, recent findings indicate that virtual work environments create new challenges in fostering organizational culture and aligning values, necessitating digital-first leadership approaches.

Bridging Classic Theories with Contemporary Insights: By integrating recent research from the last five years, this paper will remain academically relevant while maintaining a strong foundation in classic theories. The inclusion of contemporary perspectives ensures that the study reflects current workplace realities, making it more applicable to modern organizations and leadership practices.

8. Discussion

To strengthen the discussion in the paper "Work Values: A Facet of Organizational Culture," it is essential to incorporate refutation and argumentation by addressing counterarguments and providing critical analysis. Below are points that can be integrated into different sections of the paper to enhance its depth and critical perspective:

1. **The Complexity of Work Values and Organizational Culture:** While work values are widely regarded as integral to shaping organizational culture, some scholars argue that organizational culture is primarily shaped by structural and institutional factors rather than individual values (Martin, 2002). Critics suggest that rigid hierarchies, market forces, and regulatory frameworks exert a stronger influence on culture than employees' personal values. However, this argument overlooks how organizational culture evolves dynamically, influenced by both top-down leadership decisions and bottom-up employee contributions. A balanced perspective recognizes that while institutional factors set the foundation, work values serve as catalysts for cultural transformation.
2. **The Universality vs. Contextual Nature of Work Values:** A common counterargument against the universality of work values is that values differ significantly across cultures, industries, and organizational structures (Hofstede, 1984). For instance, collectivist cultures emphasize teamwork and loyalty, whereas individualistic cultures prioritize autonomy and innovation. Some critics argue that promoting a standardized set of work values might lead to cultural insensitivity and resistance within diverse workforces. However, organizations can bridge these differences by adopting a flexible values framework that aligns core organizational goals with culturally adaptive practices, ensuring inclusivity and cohesion.
3. **Managerial Influence vs. Employee-Driven Culture:** The paper posits that managers' personal values shape leadership styles and decision-making, thereby influencing organizational culture. However, some scholars argue that employees collectively create culture through informal interactions and shared experiences, rather than managers dictating cultural norms (Schein, 2010). While it is true that employees contribute to cultural development, managerial decisions regarding hiring, rewards, and communication practices create a structural environment that enables or restricts certain values from flourishing. Thus, an integrated approach that considers both managerial influence and grassroots cultural evolution is necessary for a holistic understanding of work values.
4. **Work Values and Organizational Performance: A Direct or Indirect Relationship?** Another key debate revolves around whether work values directly impact organizational performance or if they play a more indirect role. Critics argue that performance is largely driven by external market conditions, technological advancements, and financial strategies rather than cultural factors (Barney, 1986). While external factors are undeniably influential, research suggests that organizations with a strong cultural alignment

experience higher employee engagement, reduced turnover, and improved collaboration, all of which indirectly contribute to long-term performance gains. Thus, while work values may not be a sole determinant, their synergistic effect on employee motivation and retention enhances organizational success over time.

By addressing these counterarguments, the discussion on work values as a facet of organizational culture gains greater depth and analytical rigor. A nuanced approach that considers opposing viewpoints while reinforcing the significance of work values through empirical and theoretical insights will enhance the paper's academic credibility and practical relevance.

9. Conclusion

Managerial authority has an impact on how the organisation runs, but so do underlying cultural forces. Therefore, the cultural value basis serves as a key organising factor for how employees perceive their work, how they approach it, and how they expect to be treated. Values serve as a significant indicator of behavioural patterns since they reveal the mental state of the individuals who make up a society organisation in question. The analysis of the literature makes it clear that when management procedures and practices are at odds with these principles, employees are likely to experience unhappiness and discomfort. On the other side, employees display good performance outcomes when management methods are in line with their valued value system.

Therefore, work values are crucial in defining company culture. Furthermore, it has been found that organisational members' cherished ideas, upheld ideals, and held views are influenced by organisational culture and are influenced by situations in organisations. In other words, organisational factors, and variations in personality development within a certain cultural setting that governs human behaviour both influence work values and ethical convictions. Research on work values has revealed that these values have a big impact on people's career decisions as well as work-related attitudes and behaviours like job satisfaction and turnover.

There is a lot of research to suggest that people tend to be happier in professions where they can pursue their important work ideals. Such circumstances create a solid culture that results in long-term improved performance and high productivity for the organisations.

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Mahatma Jyotiba Phule Rohilkhand University, Bareilly
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