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(AN INDEXED IN SIS DATABASE)

MAHATMA JYOTIBA PHULE ROHILKHAND UNIVERSITY  
NAAC ACCREDITED A++  
BAREILLY UTTAR PRADESH

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## Message from Vice Chancellor Desk

Dear Readers,

The rise of generative AI is undeniably transforming the academic landscape, reshaping how we write, research, and think. Tools such as OpenAI's GPT models have revolutionized academic writing by streamlining content generation, refining language, and assisting with literature reviews. These technologies offer considerable benefits, particularly for researchers and students, by enhancing productivity and improving writing quality. For non-native speakers, AI also serves as a bridge across language barriers, promoting inclusivity in academic communication. However, these advantages come with pressing ethical concerns, particularly regarding plagiarism, authorship, and originality, thus challenging the traditional notions of academic integrity.

As AI becomes more embedded in academic practices, the distinction between authentic authorship and AI-assisted work becomes increasingly blurred. This prompts important questions: How do we ensure intellectual honesty and accountability in AI-influenced work? It is essential that institutions take proactive measures to address these challenges by setting clear guidelines that define acceptable AI use and revising plagiarism policies to account for AI-generated content. Transparency is crucial—students and researchers should be encouraged, or even required, to disclose their use of AI, fostering accountability and allowing educators to accurately assess true comprehension.

In this evolving landscape, educators play a pivotal role. Rather than banning AI tools, they should guide students on how to use them ethically and responsibly. This includes fostering critical thinking and independent learning while emphasizing ethical AI use. Assignments focused on drafting, reflection, and idea development can ensure that students remain active participants in their learning journey, rather than passive consumers of AI-generated content.

Fortunately, several technical tools can assist in maintaining academic integrity while improving writing skills. Platforms such as Turnitin and Grammarly have incorporated AI-detection features, aiding educators in identifying AI-generated work. Additional tools like SafeAssign, Copyleaks, and WriteCheck offer further layers of plagiarism detection, helping to enforce adherence to academic integrity standards. Paired with a strong ethical framework, these technologies provide practical solutions to the challenges posed by AI.

Simultaneously, the development of strong writing skills remains crucial in this AI-driven era. Tools like Hemingway Editor simplify complex sentences to enhance clarity, while Quillbot assists with paraphrasing and summarizing, ensuring that students can rephrase content without sacrificing meaning. Ref-N-Write supports academic writing with its specialized academic phrase bank, helping students maintain originality while adhering to ethical standards.

As we look to the future, a hybrid model of academic writing is likely to emerge—where AI takes care of routine tasks, allowing scholars to concentrate on critical thinking and original research. While AI undoubtedly enhances efficiency, human creativity, insight, and intellectual rigor remain irreplaceable. Striking a balance between leveraging AI's capabilities and preserving academic integrity is not only possible but essential.

I extend my heartfelt appreciation to the contributors for their insightful research and thought-provoking analyses, which have made this issue possible. I also thank the editorial team for their steadfast commitment to maintaining the highest standards of publication. Together, we continue our mission to advance knowledge while upholding the core principles of academic integrity.

**Prof. K. P. Singh**

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## **Determinants of Tea Exports: An Empirical Evidence from India**

Deepakshi Sharma & Qamar Alam

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### **Abstract**

*Exports contribute to the economic growth of developed and developing countries. Due to the increase in the pace of exports, developing countries like India are on the path of development by earning international liquidity. Tea constitutes one of the major agricultural exportable commodities of India. India's tea export prices have fluctuated over the period causing an impact on agricultural exports. Several other factors also influence India's tea exports. This study has focused on the determinants of Indian tea exports. For empirical verification, the Augmented Dickey-Fuller (A.D.F) test, Johansen Co-integration test, and O.L.S model had been applied. There was a long-term equilibrium relationship between India's tea exports and all the selected variables. The O.L.S model reveals the positive relationship between exports of tea and the real effective exchange rate, exports of agricultural goods, the price of the good (tea), and the price of the substitute good (coffee).*

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**Keywords:** *Tea Exports, REER, A.D.F. test, Johansen Co-integration Test, O.L.S. Model.*

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### **Introduction**

When goods are produced in a country and consumed by another country, it is called exports of goods. Export is one of the components of international trade. An economy needs to increase its exports because more exports will help increase the competitive advantage. India's agrarian tradition and diverse regional climate have greatly benefited the global food supply. Indian agriculture has contributed to foreign trade even in its traditional form. Agriculture has been a source of exchange for India in the past. However, most of the export earnings of agriculture came from standard items like tea, cashews, and spices. These days, there are many agricultural products are exported from India. This study focuses on India's exports of tea products and describes the export pattern of tea from 2001 to 2018. The present study mainly focuses on identifying the variables that influence tea exports. Tea has played a crucial role in the Indian economy. It is one of the most popular as well as lowest-cost hot drinks in the world and is consumed by 85 percent of individuals. The tea industry of India was sort of two hundred years old. A British national discovered tea plants, which were growing in Assam (higher Brahmaputra valley). In 1838, tea was cultivated in Assam and was shipped to the United Kingdom for Dutch auction [Nathan and Sreeniva, 2014: pp1-22]. India incorporates a dual tea base, compared to other tea-exporting countries. C.T.C (crush, tear, curl) and Orthodox both types of tea were produced in India. There is leaf as well as dirt tea in both the CTC and Orthodox Grades available on the market. India is a global generous

manufacturer as well as a consumer of tea. According to one of the estimates of the Tea Board of India, the global tea production in India is 27 percent. The top leading tea companies in India are Wagh Bakri Ltd., Goodricke Group Ltd., Duncan's Industries, Hasmukhrai & Co., Hindustan Lever Ltd., Tata Tea Ltd., Girnar Food & Beverages Pvt. Ltd. and Sapat Packaging Industries. There is a range of opportunities in the Indian tea industry. The tea industry is an agro-based labor-intensive industry, providing employment approx. 1,000,000 people. According to the statement of the Tea Board of India, India stands the fourth number in exporting tea at the global level after China, Sri Lanka, and Kenya. The quantity of exported tea from India to the world was worth USD 785.92 million over the financial year 2018. Crush, tear, curl (CTC) and well-established tea, additionally, black tea and biotic tea were the most effective wrathful tea from India and were widespread within the worldwide market. The most traded tea from India to other nations across the globe is black tea. India's exports of black tea increased by 80.46 per cent of all tea exports, compared to regular tea's recorded rate of 15.66 per cent. Additionally, tea was primarily exported in the forms of green tea, herbal tea, masala tea, and lemon tea. Some of the studies related to determinants of tea export have been reviewed as follows: Nayyar (1987) analysed that many internal and external factors are responsible for the performance of tea exports. A decrease in the growth of agricultural production reduces exports of agricultural items; As a result, the increasing internal demand was a discouragement to exporters of manufactured goods, while external factors are favourable like foreign demand from India to sustain export growth during this period. Nagoor (2009) examined factors that affect tea exports in India. An increase in internal demand, a slow rise in harvest, and slow growth of the range below growth are the prominent factors that account for the bad results of tea exports in India. These were unable to maintain the situation for a tea rise in the global supply related to global demand as domestic demand more than the international demand. Tea becomes income elastic, and it is highly elastic in growing nations. Kumar (2013) analysed the trends of India's tea imports. Assam is one of the major tea emerging states which constitute half of the country's overall production. Around 70 percent of the consumption of tea is from China, Kenya, Sri Lanka, and India. They have used time series analysis to analyse the data. The tea leaves manufacturing differs according to the area, natural weather, and its responses more than production or low production as well as quality which causes different prices in India's north and south regions. So, implement several technologies to raise production and regulate the tea price variation in India. The portion of the agriculture sector contributed 14.6 percent of India's Gross Domestic Product in 2009-2010. They suggested that the government should

implement the EXIM (export-import) policy to raise the amount of tea exported and diminish the volume of tea imports. Sahni (2014) analysed the trend in India's exports. The performance of India's exports was significant at the time of the post-reform era. India's exports were changed by increasing the proportion of rising economies, OPEC, Latin America, Africa, and Asia. Athukorala (1991) examined the determinants of agricultural exports in developing countries by using the time-series regression approach. The factors of agricultural export (the comparative importance of external demand conditions, competitiveness, and commodity diversification) were analysed. World demand, the index of competitiveness in ancient export, and the export diversification index were the used variables. It is observed that export variety and competitiveness contribute to the export growth of agricultural goods in developing countries. It has been suggested that demand-side factors are unfavourable and supply-side factors are contributing to diversification and competitiveness to stimulate the agricultural exports of developing countries. Saikat (2002) analysed the determinants of India's exports. The error-correction method is used to examine the demand-supply model of export determination. In the short run, individual demand and supply factors were found to be important, but in the long run, their confluence is very likely determined. Were, et al. (2002) analysed the factors affecting Kenya's export quantity. An experimental method was used along with the typical trade model which incorporated the rate of exchange and external earnings. The rate of exchange was identified as an influencing factor in the export patterns. The reaction of the supply side in the direction of value inducement for exporting goods and services was significant. Alternative descriptive variables are given varied outcomes. The results showed that other non-valuable factors like the prices of participation, cost of labour, and access to recognition performance are important parts of manufacturing and export.

Shrabanti and Maumita (2015) observed tea exports as the basis of exchange rates in India for a long period. India's involvement in world tea manufacturing and distribution declined in recent years. They concluded that the diminishing trend of the growth rate of exports and fluctuations is an issue for the Indian tea market. Tarek and Sultan (2015) analysed the determinants of agricultural export in India. Time-series data were used. ADF and PP tests were used to check the stationary. Co-integration analysis has been done for a long-term link among agricultural exports of India as well as REER, production, demand for agricultural commodities, and per capita income of India. They found that one of the elements that affect export growth is the REER. Muthamia and Muturi (2015) analysed the contributing factors of earnings from the tea trade such as RER (real exchange rate), the inflation rate, and external

revenue. Unit root and co-integration tests were applied to analyse the data. They found external profits have an inverse connection with tea export gains. They suggested that a better monetary policy would support price stability and gains from tea exports. Bala and Sudhakar (2017) examined the overall performance of the export of agricultural goods in India. India's comparative advantage in exports was examined by revealed comparative advantage (RCA). It exhibits an increasing advantage in cotton, maize, fruits, and many vegetables, but decreases in some spices, rice, and wheat. They suggested that yield betterment through growth in TFP (total factor productivity) is a conceivable factor that would affect the creation of exportable investments and improve the conditions of export in India. Sivakumar (2018) used secondary data to analyse the performance of tea industries in South India. He suggested that the government should fix bearable value for tea plants to raise the tea trade of a country towards raising the earnings from the external trade. Uwimana (2018) analysed the causal relationship between tea exports and its determinants. Aggregate savings, revenue of main trading partners, real effective exchange rate (REER), and global market prices of tea were the determinants that influence tea exports.

### Trend Analysis of India's Tea Exports

Tea is one of the most popular drinks (beverage) in the world. Tea is the 2<sup>nd</sup> most consumed drink after water globally. India is the 4<sup>th</sup> largest tea exporter at the global level after China, Sri Lanka, and Kenya. In FY2018 export quantity of Indian tea was USD 785.92 million.

**Figure1. India's Total Tea Export**



*Source: International Trade Centre-Trade Map*

Figure 1 shows the total tea export of India measured on the -axis whereas time in years on-axis. In 2001-02 the quantity of total tea exports was 29,65,945t and it showed an increasing trend until 2013 then a sudden decline in the quantity of total tea exports was observed from

2013 to 2015. An improvement in the quantity of total tea exports was found from 2015 to 2017.

### **Methodology**

This research investigates the relationship between exports of tea products as the described variable and many descriptive variables that influence tea, transfers: REER (real effective exchange rate), total agricultural export, and price of tea and its substitute good i.e., coffee. The secondary data is used from the period 2001 to 2018. The data is fetched from the RBI- Handbook (Reserve Bank of India-Handbook of Statistics on Indian Economy), World Bank-World Development Indicators, Tea Board of India-Tea Statistics and International Trade Centre-Trade Map. To analyse the data, the statistical package E-views are used.

### **Model Specification**

This research uses export as a supply function which can be classified as follows:

$$Y_t = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + \dots\dots\dots + u_t$$

Where:

$Y_t$  represents total tea export at time  $t$ .

$b_0$  is constant.

$x_1$  stands for the price of tea (real producer price of tea) at time  $t$ .

$x_2$  shows the price of coffee (real producer price of coffee) at time  $t$ .

$x_3$  indicates the REER (real effective exchange rate) at time  $t$ .

$x_4$  defines the total export at period  $t$ .

$u_t$  is the error term.

$b_1, b_2, b_3, b_4$  are coefficients of regressors.

### **Test for Stationarity: Augmented Dickey-Fuller Test**

Loosely speaking, all the variables will be stationary if their statistical characteristics (mean as well as variance) do not fluctuate over time. In time series, it is necessary to test the stationarity to enquire about the relationship between all the selected variables. A.D.F. test is a modified version of the Dickey-Fuller test because the error term was unexpected to be white noise.

### **Co-integration: Johansen Co-integration Test**

Co-integration explains the long-term and equilibrium association among two or more variables. After applying the A.D.F. test, Johansen's Co-integration test was used for the long-term and equilibrium relationships, assuming that all the variables are stationary on the



same level. Trace Statistics and Maximum Eigen Value are two test statistics that are used in Johansen's co-integration model.

### O.L.S. Method

The OLS (Ordinary Least Square) method is used for assessing the unknown constraints in a linear regression method.

$$Expt_t = b_0 + b_1unitP_t + b_2unitQ_t + b_3REER_t + b_4TE_t + u_t$$

Where,

$Expt_t$  represents total tea export at time t.

$unitP_t$  refers to the unit price of tea at time t.

$unitQ_t$  indicates the unit price of coffee at time t.

$REER_t$  shows the real effective exchange rate at time t.

$TE_t$  defines total agricultural export at time t.

$u_t$  is an error term.

### Results and Discussion

To check the stationarity of the selected variables the A.D.F. Test was used. Table 1 demonstrates the outcomes of the A.D.F. test at a level and at first difference. All the variables are verified for stationarity through E-Views. At the level, none of the variables is stationary because the probability values of total tea export (0.7658), the real producer price of tea (0.0805), the real producer of coffee (0.4755), the real effective exchange rate (0.6952) and total exports (0.7544), these values are much higher than the 0.05 significance level of probability.

**Table 1: Results of A.D.F. Test**

Variables	At Level		At First Difference	
	P-value	t-statistics	P-value	t-statistics
Total Tea Export	0.7658	-0.889679	0.0053	-4.251959
Real Producer Price of Tea	0.0805	-2.789986	0.0001	-6.241477
Real Producer Price of Coffee	0.4755	-1.569891	0.0008	-5.239938
REER	0.6952	-1.087763	0.0044	-4.398370
Total Agricultural Exports	0.7544	-0.924564	0.0225	-3.495306

Source: *Authors computation*

As a result, we accept our null hypothesis ( $H_0$ ) and conclude that all variables have a unit root. All the variables are stationary at first difference as the probability values of total tea export (0.0053), the real producer price of tea (0.0001), the real producer of coffee (0.0008),

REER (0.0044) and exports of total agricultural products (0.0225), which are less than 0.05 significance levels of probability. Now, these variables can be used to check the long-run equilibrium linkage among the selected variables. Co-integration (Johansen co-integration) test was used to determine whether the selected variables had a long-run equilibrium association and for that, all variables were required to be stationary.

**Results of Johansen co-integration test (Table 2 and Table 3) are as follow:**

**Table 2 Trace Statistics**

Hypothesized No. of CE(s)	Trace Statistics	Eigen Value	Critical value of 5%	P-value
$r = 0$	126.5676	00.974288	69.81889	00.0000
$r \leq 1$	67.99499	00.932657	47.85613	00.0002
$r \leq 2$	24.82781	00.641090	29.79707	00.1677
$r \leq 3$	8.432871	00.264159	15.49471	00.4203
$r \leq 4$	3.525003	00.197732	3.841465	00.0604

Source: Authors computation

**Table 3 Max-Eigen value**

Hypothesized No. of CE(s)	Max-Eigen Statistics	Eigen value	Critical Value of 5%	P-value
$r = 0$	58.572610	00.974288	33.876870	00.0000
$r \leq 1$	43.167180	00.932657	27.584340	00.0002
$r \leq 2$	16.394930	00.641090	21.131620	00.2026
$r \leq 3$	4.9078690	00.264159	14.264600	00.7534
$r \leq 4$	3.5250030	00.197732	3.8414650	00.0604

Source: Authors computation

There were three co-integrating equations as the p-values are larger than 0.05 (the critical value at 5%). As a result, co-integration connections mirrored the long-term equilibrium association among all the selected variables (i.e., in long-run, all the variables are moving together). As a result, we accept our alternative hypothesis and conclude that there is a long term relationship between tea exports and its determinants.

The results of the O.L.S. method are given in Table-4.

**Table 4 Results of the OLS Model**

**Dependent Variable: Total Tea Export**

<b>Variables</b>	<b>Coeff.</b>	<b>Std. Error</b>	<b>t- statistics</b>	<b>P-value</b>
C	-259445.	1675413.	-0.154854	0.8793
Real Producer Price of Tea	5.363133	21.09949	0.254183	0.8033
Real Producer Price of Coffee	48.55845	28.15995	1.724380	0.1083
Real Effective Exchange Rate	20359.07	18536.65	1.098314	0.2920
Total Agricultural Export	0.015073	0.001470	10.25423	0.0000

Source: *Authors computation*

The above results are divided into three parts as follows: The first part informs us that the dependent variable is Total tea export. The second part is characterized by relative statistics as a result, this part communicates all the variables used in this research. In this part there are five columns: 1) Variables; 2) Coefficient value; 3) Standard Error; 4) T-statistic and 5) Probability. The First Variable is recognised as C which means constant. It is a value of the dependent variable which will take place in the lack of relation to all the variables recognised in this research. After that, we will go to the second variable which is the tea price (Real Producer Price). The coefficient of the tea price is 5.363133. This value means that there is a direct association between the price of tea as well as total tea export with the repercussion that the rise in the price of tea is anticipated to increase by 5.363133 units in total tea export. The value of the standard error regression coefficient is 21.09949 and the value of the t-statistic is 0.254183. After that, the third variable namely the price of coffee (Real Producer Price). The coefficient of the price of coffee is 48.55845. This value means that there is a direct association between the price of coffee and total tea export with the inference that the rise in the price of coffee is forecasted to increase by 48.55845 units in total tea export. The value of the standard error regression coefficient is 28.15995 and the value of the t-statistic is 1.724380. The fourth variable is named REER and its coefficient value is 20359.07 which means that there is a directional connection between the REER and total tea export. The value of the standard error regression coefficient is 18536.65 and the value of the t-statistic is 0.2920. The last variable is named total agricultural export. From the results, the coefficient of total agricultural export is 0.015073. This value indicates that there is a directional relationship between total agricultural export and total tea export with the repercussion that an increase in total agricultural export is predicted to increase by 0.015073 units in total tea export. The value of the standard error regression coefficient is 0.001470 and the value of the

t-statistic is 10.25423. The third part named global statistics as the result in this portion does not deal with a particular variable but explains the goodness-of-fit of the identified method or technique to test the relationship of the given variables.

The adjusted R-square (0.98) shows that the variables involved in the model describe 98 percentage variations in tea product exports. The equation can now be rewritten by adding the value of coefficients. Hence, the equation is: -

$$\begin{aligned} Expt_t &= b_0 + b_1unitP_t + b_2unitQ_t + b_3REER_t + b_4TE_t + U_t \\ Total\ tea\ export &= -259445.0 + 5.363133\ unitP + 48.5584\ unitQ \\ &\quad + 20359.07\ REER + 0.015073\ TE \end{aligned}$$

### **Conclusion**

The research focused on determining the pattern of tea exports from India during this period and looks forward to the determining factor of India's exports of tea. There are many factors that influence India's tea exports some of them are tea price, the price of its substitute good, the real effective rate of exchange, and export volume. The price of tea is identified to have an impact on tea export from India, which demonstrates that when the price of tea increases, farmers respond by increasing the amount of tea, they produce, possibly by increasing the strength of their production of variable factors, as well as increasing the amount of tea they export. If the price of tea influences tea export, then the price of its substitute product (the price of coffee) is also established to have an impact on tea export from India. This shows that when the price of the substitute product (the price of coffee) declines, farmers react by increasing coffee quantity possibly by a decline in the strength of the variable factor's production as well as it will reduce tea's export. The real effective rate of exchange was supposed to be a significant factor in manipulating the quantity of goods produced. The direction of the relationship indicates that tea manufacturers must respond to price encouragement well before the exchange rate (Miano, 2010). The Government of India ought to sustain those aspects that affect positively the export of tea like a rise in the price of its substitute good (coffee), good quality production of tea, etc. And try to minimize those factors that negatively affect tea exports like a rise in the price of tea, domestic demand for tea, etc. Concerning the optimistic relationship between tea export, tea price, and tea export volume, the government should ensure that tea-producing states such as Assam, Kerala, Tamil Nadu, West Bengal, etc. attain great tea exports.

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## **Portrayal of Aging in Bollywood: A Study of Senior Characters in Hindi Cinema**

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### **Abstract**

*Media shapes how we view groups like senior citizens. It's crucial to analyze these portrayals, as stereotypes can be formed based on age, gender, etc. Hindi cinema, with its massive audience, can influence how we treat the elderly. This study examined how characters over 60 are depicted in these films. Researchers used a visual analysis, examining features, objects, and situations surrounding the characters. While some general portrayals exist, each film and the character's social standing influenced how they were shown. This suggests Hindi cinema can play a role in shaping attitudes towards older adults.*

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**Keywords:** Cinema, Elderly characters, Stereotype, Semiotics.

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### **Introduction**

India's aging population demands a shift in societal attitudes, particularly as families become nuclear. Media, especially movies, plays a crucial role in shaping these perceptions. Films can portray the elderly positively, promoting respect, or negatively, reinforcing stereotypes. This study focuses on how Hindi commercial films depict characters over 60.

Media, unlike formal education, offers continuous learning opportunities. It shapes social behavior by portraying senior citizens in various lights – leading fulfilling lives or struggling with loneliness and weakness. Media coverage can either advocate for the elderly or completely overlook their needs. Movies, a powerful source of information and entertainment, leave lasting impressions. The portrayal of different groups, including age groups, shapes how viewers perceive them.

Ageist stereotypes in movies can lead to discrimination against the elderly. Media content can influence people's thinking and behavior. Given the widespread popularity of Hindi cinema, examining how it portrays older characters is essential. This research aims to understand how these films depict people above 60 and the potential impact on viewers' perceptions.

### **Objectives**

- To analyze the portrayal of older people in Hindi commercial movies.
- To examine how cinema visually represents older adults.

- To learn how individuals use items and props to depict old age.

### **Review of Literature: Aging and Media**

The portrayal of older individuals in media has been a focal point for numerous scholars examining the interplay between aging and media consumption. Research in this area often highlights the influence of media on audience perceptions of aging, as well as how older individuals engage with media content.

A significant body of research has centered on the depiction of older individuals, particularly women, in film. Bazzini et al. (1997) analyzed 100 motion pictures from the 1940s to the 1980s, revealing an underrepresentation and negative portrayal of older women. This trend persisted in subsequent decades, as evidenced by Smith's (2016) study of top-grossing films in 2015. She found that ageist rhetoric was prevalent, with older characters often misrepresented and demeaned. Similarly, Masterson's research on romantic comedies highlighted the underrepresentation of individuals over 50, often depicted as weak and inept.

Television has also been a subject of scrutiny. Cohen's (2002) study on "The Golden Girls" revealed that while the show challenged some stereotypes, it also reinforced others. Harwood's research on television-watching habits indicated a preference for younger characters among younger viewers and an underrepresentation of older characters in programming. Venkatasubbaiah et al. (2011) examined the portrayal of the elderly in Telugu daily television programs, finding that the media often perpetuated negative stereotypes.

While some studies have focused on the negative portrayal of older adults, others have explored the potential impact of positive representations. Fung et al. (2015) found that while positive portrayals of aging can have beneficial effects on older individuals, they are more likely to appreciate accurate depictions of old age.

Lauzen and Dozier's (2002) analysis of top-grossing films revealed an underrepresentation of both male and female elder characters, with women often portrayed in less prominent roles. Gatling's (2013) study on comedy films offered a more nuanced perspective, highlighting the increasing portrayal of sexuality in older characters while also acknowledging the prevalence of ageist tropes.

Overall, the literature consistently demonstrates an underrepresentation and misrepresentation of older individuals in media. While some progress has been made in challenging stereotypes, ageism remains a pervasive issue in film, television, and other media forms. Future research



should continue to examine the impact of media representations on attitudes towards aging, as well as explore strategies for promoting more positive and inclusive portrayals of older adults.

By understanding the historical and contemporary trends in media representations of aging, researchers and policymakers can work towards developing interventions to challenge ageist stereotypes and promote a more age-friendly media landscape.

**Methodology:** This chapter outlines the methodology employed to explore the portrayal of elderly characters (above 60 years old) in Hindi commercial films. The research adopts a qualitative approach, aiming to gain a nuanced understanding of how filmmakers represent this demographic.

**Research Design:** A descriptive design is utilized, focusing on observing and interpreting the depiction of elderly characters within chosen films. The study leverages Roland Barthes' semiotic analysis to delve into the connotative meaning behind these portrayals.

**Sample Selection:** A purposeful sampling strategy was employed. Three Hindi commercial films released between 2000 and 2010 were selected. The primary criterion for film selection was the presence of an elderly character in a prominent role (lead or second lead) to ensure significant screen time for analysis.

### **Qualitative Method Adopted: Visual Analysis**

Specifically, the research employs a form of visual analysis known as Semiotic Analysis.

#### **Key Characteristics of the Method:**

- **Focus on Visual Data:** The study primarily analyzes visual elements (frames from films) rather than textual or verbal data.
- **In-depth Interpretation:** It seeks to uncover deeper meanings and connotations embedded within the visual representations of older characters.
- **Theoretical Framework:** The research is grounded in Roland Barthes' concept of semiotics, which explores the relationship between signs, signifiers, and signified.
- **Descriptive and Interpretive:** It combines detailed observation of visual elements with interpretation of their underlying meanings and cultural significance.

By employing visual analysis and semiotic interpretation, the research offers a rich and nuanced understanding of how older characters are portrayed in Hindi commercial cinema.

## Data Collection

Data collection involved a multi-step process:

1. **Film Selection:** As mentioned, three films (3) were chosen based on the purposeful sampling strategy selected films are 1. Baghban (2003), 2) Khosla Ka Ghosla (2006) and 3) Cheeni Kum (2007)
2. **Scene Selection:** Within each film, three distinct scenes were identified. The selection focused on scenes featuring the elderly character in different settings (e.g., one scene indoors, one outdoors).
3. **Frame Selection:** From each scene, a single frame was chosen for in-depth analysis. The primary criterion for frame selection was location variation to capture the portrayal across diverse settings.
4. **Frame Analysis:** Each chosen frame was analyzed based on the following elements:
  - Character: Hair, makeup, clothing, physique, body language, and outfit.
  - Props: Any objects used by the character, including accessories, devices, and tools.
  - Setting: Location, space, and time of day depicted in the frame.

## Data Analysis

The analysis involved interpreting the observed elements within each frame using Barthes' semiotic framework. This framework focuses on two key questions:

- **Representation:** How are elderly characters portrayed on screen (clothing, posture, surroundings)?
- **Hidden Meanings:** What concepts and values are associated with these portrayals (e.g., wisdom, frailty)?

The interpretations aimed to identify recurring representational patterns across the analyzed frames.

## Case Study Example

**Film:** Piku (2015)

**Scene:** The opening scene where Bhaskor Banerjee (played by Amitabh Bachchan) is introduced. The frame focuses on Bhaskor sitting on a toilet in a cluttered bathroom.

## Analysis

- **Character:** Disheveled hair, lack of makeup, and loose-fitting clothes suggest informality and potential health concerns. Hunched posture and reliance on the toilet seat for support might imply physical limitations.
- **Props:** The cluttered surroundings with overflowing medicine bottles could signify Bhaskor's dependence on medication and potential difficulty with daily tasks.
- **Setting:** The confined bathroom space might represent Bhaskor's limitations or feeling restricted by his physical condition.

**Interpretation:** This frame, using Barthes' method, could be interpreted as filmmakers portraying Bhaskor's old age with a focus on his physical limitations and dependence on medication.

By including additional case studies from different films and scenes, the research aims to identify recurring patterns and gain a deeper understanding of how elderly characters are portrayed in Hindi commercial cinema.

## Data Analysis and Interpretation:

### 1. Baghban (2003)

Raj and Pooja, an elderly couple, are forced apart by their ungrateful sons after Raj's retirement. Despite sacrificing their savings for their sons' futures, they are now deemed a burden. Separated and mistreated, Raj and Pooja find solace in letters and eventually reunite with their adopted son. Raj pens a book about their experience, achieving success and financial independence. Though their sons plead for forgiveness, Raj and Pooja remain unforgiving, finding joy only in their grandchildren's love.

**Scene 1** is Pooja's introduction scene.



Despite recently retiring at 60, Raj's salt-and-pepper hair and fit physique in a tracksuit suggest he prioritizes health. Subtle wrinkles hint at his age. A simple breakfast scene with teacups

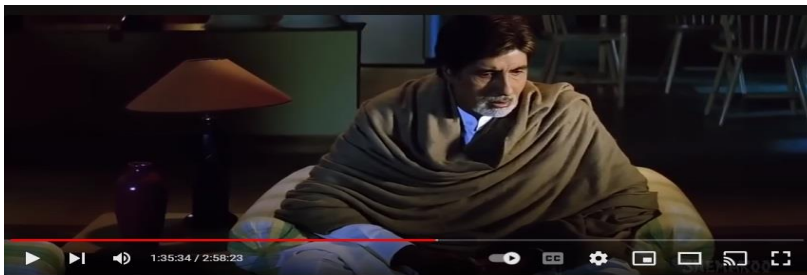
reveals their loving routine. The traditional decor - a kada bracelet, antique lamp, and wooden couch - points to a comfortable bungalow filled with plants they care for. Notably, the analysis should have included Pooja, who waits for Raj with tea and sweets, showcasing their deep affection.

**Scene 2:** Raj and Pooja leave their house to live independently.



A somber mood hangs over Raj's outdated ancestral home at dawn. Sunlight cuts through, highlighting the family gathered outside with suitcases by waiting cabs. Raj, in a suit (unlike his usual tracksuit), stands distant from Pooja, emphasizing their enforced separation. Their faces reveal grief as they face a life crisis – forced relocation to separate houses by their children. Raj's gaze towards Pooja suggests his sadness at the separation, despite initially opposing it.

**Scene 3:** Raj sits in the dark at his son's house.



Sanjay, the son, is dressed in comfortable clothes typically worn by older men at home, hinting at his age. Wrinkles, a worried expression, and a dimly lit environment suggest his unhappiness. Despite a formal haircut and watch, his posture and downward gaze portray sadness and dissatisfaction. The scene implies a tense conversation with his father, possibly about feeling unsupported throughout his life.

## **2) Khosla Ka Ghosla (2006):**

Kamal, a trusting man, buys land but gets scammed. His impulsive older son tries violence, landing Kamal in jail. The younger son hatches a clever plan to trick the scammer, which Kamal reluctantly agrees to. With his land back, Kamal prioritizes keeping his family in India over his

son's American dreams. The film portrays how aging can make people more reliant on loved ones.

### Scene 1: Kamal Kishore's introduction



The man, likely over 60 with white hair and a thin build, is waking up with discomfort. His wrinkled face and hand on his chest suggest stomach issues. He wears a sleep vest, typical of middle-class Indian men. A wristwatch hints at his scheduled life, while the fiber belt and used bedding solidify his middle-class status. His wife sleeps next to him, separated by a cushion. He complains about gas trouble, a common ailment among older people, and blames his wife for eating Rajma at night.

### Scene 2 : Kamal and his family are seated in their living room.



An elderly man, likely North Indian with fair skin, is fuming on his old-fashioned couch at home. Loose neck skin, a white mustache, and tired eyes reveal his age. He wears a light-colored kurta, typical of older men for comfort. A towel on his head suggests he's recovering from an event. Despite reclining in comfort, his sharp gaze and angry expression convey his frustration. A wristwatch and rings hint at his middle-class status. The evening light casts an orange glow on the room, highlighting the outdated furniture and somewhat dirty upholstery. We can infer he's upset with his children from the scene following his release from police custody for trying to reclaim his land, which has now been offered at a discounted price.



**Scene 3:** Kamal warns his son not to get entangled with Khurana.



The scene depicts Kamal in Khosla's hallway, looking discouraged. His slumped posture and clothes (old shirt and pants) reflect his low spirits. A metal wall mirror and framed black-and-white pictures with wide margins hint at the traditional setting. The presence of a landline phone and a lock on the entrance door further reinforces this. Kamal warns his son, holding up two fingers (possibly signifying caution), that their plan to trick Khurana won't work. He believes Khurana is too smart and their attempt won't lead to a call from him.

**3) Cheeni Kum (2007)**

This film follows Buddhadev, a successful 64-year-old Indian restaurant owner in London. Despite having a mother and a young friend (with whom he confides in), Buddhadev has never been in love. He's a demanding chef known for his harsh treatment of staff. Everything changes when Nina, a 34-year-old customer, returns a dish for being too sweet. They fall in love despite the age gap and decide to marry. Buddhadev seeks Nina's father's approval, who initially disapproves due to their age difference and resorts to a hunger strike. Eventually, Buddhadev convinces him, and the film highlights the idea that love can blossom at any age, especially for older characters. This movie is chosen because it portrays an elderly Indian man living abroad, contrasting the typical portrayal of older people in India.

**Scene 1:** Buddhadev is introduced.



Buddhadev, a fit 64-year-old chef, embodies a contrast between his active profession and his aging features. Wrinkles, loose neck skin, and white hair with some black patches reveal his age.

A neatly trimmed white French beard adds a touch of sophistication. His demanding personality shines through his hand gestures and sharp gaze, emphasizing his role as a perfectionist and authoritative head chef. We see him in a chef's uniform, barking orders in a kitchen filled with equipment, highlighting his meticulous nature and intolerance for mistakes in the kitchen.

**Scene 2:** When Buddhadev gets home, he sees his mother and the kid, Sexy.



Buddha, a successful Indian chef in London, relaxes in his modern, well-lit living room filled with expensive furniture. Books and a box on a table suggest his family's love for reading. Despite being dressed in black outdoor clothes and formal shoes, hinting at him just arriving home, Buddha appears frustrated. His gaze is fixed on his attractive companion, possibly his girlfriend, while his face is turned towards his mother who is presumably talking to him. This scene suggests tension between Buddha and his mother, possibly regarding his social life or habits like going to the gym, which his mother inquires about.

**Scene 3:** Buddhadev hands Nina his umbrella.



Despite his 64 years, Buddha, a weary-looking chef with wrinkles and tired eyes, beams with delight outside his restaurant. Ditching his usual neckerchief and chef's attire (possibly because he's not working or focused on a woman), he's dressed in his chef's coat. His messy hair lacks its usual neatness. The key element here is the umbrella - Buddha has offered it to a woman, and this exchange sparks their first connection. His subtle smile hints at his budding interest. This scene showcases Buddha's initial meeting with Nina at his cafe, where their love story begins,

marked by the significant age gap between the 64-year-old man and the 34-year-old woman, a central conflict in the film that ultimately leads to their marriage.

### **Findings and summary**

All three characters had slender bodies, with Baghban being fit and healthy due to his age and job. Khosla and Buddhadev seemed feeble. Buddhadev and Raj possessed erect postures. However, Kamal Khosla's shoulders were somewhat down, mainly when chatting with someone. Raj's hair was black with white spots, Kamal was bald with hair just on the side, and Buddhadev had more white hairs on his head. He also wore a ponytail only for stylistic purposes. The indication of white hair represents old age. Raj and Buddhadev's hair was well organized, and they wore a formal appearance.

The faces of Buddha and Raj were slender, but Kamal had a round face. Buddha and Raj wore French beards, while Kamal had a mustache, both in white. The facial skin is wrinkled, and the characters have loose skin around their necks, which is another evidence of old age. The characters' eyes are weak and dim due to their age. Raj and Kamal had sight and wore glasses, but Buddhadev wore a fashionable spectacle for flair. The make-up on all the characters was minimal and bare; there was little attempt to make them seem ancient since the performers were truly aged.

The costumes of the three personas differed; in Baghban, Raj wore formal clothes as a banking employee. When he went out, Kamal favored half shirts, full shirts, and parallel trousers. Buddhadev donned oversized jackets and cold clothing. He was stylish and trendy. Inside the house, Kamal and Raj wore long white kurtas and Indian pajamas, while Buddhadev wore long t-shirts at home and his uniform at work. Raj wore a blanket across his upper torso, which was done to represent his age. The characters wore formal hues such as black, white, and blue. Raj and Kamal both wore watches, with Kamal's including a fiber belt since he is a middle-class guy. Wearing a copper bracelet and threads around the wrist indicates that they are Hindus. Kamal wore several rings for luck and fortune, one of which featured a bead. These were the several signals that the directors utilized to indicate elderly age. The character's job and socioeconomic background were essential for depicting older folks. Kamal was employed and wore largely formal dress, Buddhadev was a chef who wore his uniform, and Raj was a bank employee who favored suits. Raj and Buddhadev were monetarily well-off. Therefore, their portrayal was quite



different from Kamal, who was from the middle class. Since he was from London, Buddhadev's image was also affected by rural culture.

### **Limitations**

While this study explored three films from the recent past, it's important to remember that the portrayal of elderly characters in cinema is vast and ever-evolving. These snippets offer a glimpse into a few cinematic lives, but there are countless other stories to be told.

The narrative within each film focused solely on the older characters themselves, leaving out how others perceived them. This might limit our understanding of the characters' social dynamics and the societal attitudes they navigate.

Finally, the technical aspects of filmmaking, such as camerawork and music, were not considered here. These elements can play a powerful role in shaping how audiences perceive characters, including older ones. A gentle close-up might evoke empathy, while a dramatic score could heighten the portrayal of an older character's struggles.

Despite these limitations, this brief exploration offers a starting point for delving deeper into the portrayal of elderly characters in cinema. By considering a wider range of films and incorporating additional elements of film analysis, we can gain a richer understanding of how these characters are represented on screen.

### **Conclusion**

The silver screen of Hindi cinema has long been a mirror reflecting Indian society. But how accurately does it portray the lives of senior citizens? This study explores this question by examining three films: *Baghban* (2003), *Khosla Ka Ghosla* (2006), and *Cheeni Kum* (2007). While the sample size is modest, it offers a glimpse into the diverse ways filmmakers use visuals and storytelling to depict aging.

The first brushstrokes come through physical appearance. Wrinkles etched like roadmaps across faces, a shift from raven locks to silver strands, and a weariness in the eyes – these are the undeniable markers of time. But the filmmakers go beyond the surface. Clothing becomes a narrative device. Raj (*Baghban*) and Buddhadev (*Cheeni Kum*), both financially secure, command respect through their formal attire. In contrast, Kamal (*Khosla Ka Ghosla*), from a humbler background, is seen in simpler clothes, reflecting his social standing. These details paint a richer portrait, where age intersects with socioeconomic realities.

The stories themselves defy stereotypes. Raj and Pooja in *Baghban* face the gut-wrenching betrayal of their children, highlighting the complexities of changing family dynamics. Kamal, in *Khosla Ka Ghosla*, embodies the vulnerability of dependence as he navigates a land scam. Yet, there's also a celebration of life. Buddhadev, a vibrant chef in London, defies age norms by finding love with a younger woman. This spectrum of experiences showcases the multifaceted realities of aging.

However, the study acknowledges its limitations. Focusing solely on the characters themselves creates a vacuum. How do younger generations perceive these elders? Do they see them with respect, or are there undercurrents of resentment? The analysis also doesn't explore the power of technical aspects like camerawork and music. A gentle close-up might evoke empathy for a frail character, while a dramatic score could heighten the portrayal of their struggles. These elements play a crucial role in shaping audience perception.

Despite these limitations, the research offers a valuable springboard for further exploration. It underscores the need to examine a wider range of films, encompassing diverse characters, narratives, and filmmaking techniques. This would provide a more comprehensive picture of how aging is depicted in Hindi cinema.

Ultimately, the goal is to move beyond the limitations of stereotypes. Hindi cinema has the potential to celebrate the rich tapestry of senior lives, capturing the resilience, wisdom, and even the spark of love that can blossom in golden years. As Indian society grapples with its own aging population, a more nuanced portrayal on screen can foster empathy and understanding between generations. The silver screen has the power to not just reflect, but also to shape reality. By showcasing the vibrant tapestry of aging experiences, Hindi cinema can play a vital role in ensuring a society that respects and cherishes its elders.

### **Key Findings**

- Filmmakers use visual elements like clothing, hairstyles, and props to portray elderly characters.
- Wealthier characters are often shown in formal wear, while middle-class characters dress more simply.
- The stories depict a range of experiences, including challenges faced by seniors and their capacity for love and resilience.

- The study acknowledges limitations: it only analyzed 3 films and focused solely on character portrayal; not how younger generations perceive them.

### Overall Importance

- Hindi cinema can influence societal attitudes towards elderly people.
- By portraying a wider range of senior characters and experiences, films can challenge stereotypes and promote empathy between generations.

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## **The Tapestry of Power: British Maneuvers in Punjab and the Genesis of Kashmir**

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### **Abstract**

*This paper examines the deliberate strategies employed by the British Empire to assert and consolidate control over northern India, with a particular focus on the subjugation of the Sikh State of Punjab and the establishment of the Princely State of Jammu and Kashmir. Through a multifaceted approach encompassing political manipulation, economic exploitation, and military intervention, the British gradually eroded Punjab's autonomy and integrated it into their colonial empire. And later they created the Princely State of Jammu and Kashmir by separating it from Punjab and making it an independent state to safeguard their commercial interests and establish a strategic buffer zone in the north. The interconnected histories of Punjab and Kashmir illustrate the enduring impacts of the British in northern India, shedding light on the complex dynamics of colonial power in the region.*

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**Keywords:** *British Empire, Sikh State of Punjab, Kashmir*

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### **Introduction**

The 19th-century history of Punjab and Kashmir is a tapestry woven with political intrigue, cross-cultural interactions, and the collision of empires. The destiny of these regions was entwined with the goals of many political players, from the establishment of the Sikh Empire under Maharaja Ranjit Singh to the complex schemes of British colonial forces. The intricate relationships that molded the princely state of Jammu and Kashmir and the Sikh state of Punjab during this crucial juncture in Indian history. At its height, the Sikh Empire was a powerful force on the Indian subcontinent, distinguished by its innovative agricultural practices, vibrant culture, and strong military might. Punjab went through a time of comparatively stable and prosperous times under Maharaja Ranjit Singh's administration, despite the evolving political landscape in the province. However, a period of unpredictability and internal conflict followed Ranjit Singh's death, opening the door for British interference in Punjabi politics. At the same time, Kashmir found itself at the intersection of two empires, going from Afghan to Sikh sovereignty and then finally to British suzerainty as a princely state. Kashmir was a sought-after prize for rival nations looking to increase

their influence in the region due to its strategic importance and abundance of natural resources. The British East India Company emerged as a dominant power against this backdrop of political unrest and imperial ambition, influencing Punjab and Kashmir's future through a combination of military conquest, diplomatic maneuvering, and strategic partnerships.

### **How the British Leveraged Punjab for Imperial Gain**

With the Sikh faith spreading over northern India around the fourteenth century, the Sikh Community began to exert political and military influence. The Sikhs built a strong kingdom with a robust military, cutting-edge agricultural techniques, and a rich cultural history between 1799 and 1823. The Sikh community originally organised itself into various military groups, known as misls, in the late 18th and early 19th centuries. These units were subsequently unified and formalized under Maharaja Ranjit Singh. The first Sikh king of Punjab, Maharaja Ranjit Singh, declared the Sikh Empire in Punjab and officially assumed the title. He established a capital there in 1799 and considerably enlarged his dominion, eventually taking control of a territory bounded by the Jhelum and Sutlej Rivers by 1808. In addition to enlarging the empire's realms and modernizing its governance, Ranjit Singh brought peace and prosperity to the region. "Maharaja Ranjit Singh was one of the greatest leaders of the Indian Sub-Continent and the last independent ruler of Punjab, who was able to unite the province and provide safety and security to its inhabitants by securing the turbulent western frontier. His reign brought economic prosperity to its citizens, which ultimately led to the Golden Age of Punjab (G. S. Sandhu)" The Sikh State of Punjab was one of the several local kingdoms that existed when the British were trying to gain control of the Indian Subcontinent. The formation of the Punjabi Sikh State and British interference in its internal affairs were convoluted and complicated processes that had a lasting impact on the region and its inhabitants. The Punjab Sikh State's influence gradually waned under British rule, and towards the middle of the 19th century, it was absorbed into their colonial empire. British involvement in Punjab's political and military issues was minimal in the early years and they followed a policy of benign neglect towards the Sikhs, allowing them to establish their state and solidify their control without interference. The British, however, had already seized control of most of India by the early 19th century and sought to expand their influence there. Because they believed that the Sikh state's escalating strength may jeopardize their interests, they began to play a more active role in Punjab. An appeasement approach by the British was used to calm tensions between the two rising powers. The consequence was the signing of The Anglo-Sikh Treaty, also known as the Treaty of Amritsar,

on April 25, 1809, in Amritsar, between Maharaja Ranjit Singh and Charles T. Metcalfe of the East India Company. As a result of the treaty's stipulations, the British Indian boundary was moved from the River Jumna to the Sutlej. After all, it was this line that marked the British Indian colonies' first actual international boundary. For a generation, the treaty ended hostilities between the British and the Sikhs. The goal of the Anglo-Sikh Treaty for the East India Company was to secure Singh's backing if the French invaded India, and for Singh, it was to further solidify his territorial gains south of the Sutlej River once the river had been established as their respective border. The Treaty of 1809 gave the Sikh king some advantages even though it stopped Ranjit Singh from seizing the Sutlej and stopped the creation of a new Khalsa commonwealth by unifying the Majnu and Malva Sikh populations. With a firm southern frontier, it allowed him to establish his dominance in Punjab, construct a centralised administrative structure, strengthen his military, and expand his conquests into the north, northwest, and southwest. But with Ranjit Singh's passing in 1839, the Sikh Kingdom descended into anarchy marked by poor leadership, factionalism, and power battles amongst parties. There was no longer the Lahore Government, which had been mostly composed of Dogras and Sikhs during and after Ranjit Singh's rule, and the powerful Dogras in Jammu were preparing for war. The concern of Hardinge was that the 'Sikhs' would soon lose their hold on the kingdom and be unable to govern the vast area that Ranjit Singh had granted them. In addition, he feared that the Dogras and Muslims would annex the state's northeast and north, leaving the Sikhs with a meagre kingdom in Punjab. Although the Treaty of 1809 had long since cemented Anglo-Sikh relations, the British authorities were worried about possible new threats emanating from Punjab's fractured status in light of the changing circumstances. The pretext of further Anglo-Sikh collaboration came to an end in 1845 when the Khalsa army crossed the Sutlej River, in violation of the 'Treaty of 1809.' This forced the British to stop using diplomatic ploys and start acting more aggressively towards the Sikhs. The Sutlej River breach had a significant impact on the region and served as a trigger for the First Anglo-Sikh War in 1846. "The British thought it a conducive situation rooted out the Sikh dispensation from Punjab permanently (Schofield, 2001, p.6)". To combat the Sikhs and protect the north-western and north-eastern boundaries of the country, the British had to take over the Punjab Kingdom and cut off Kashmir which was part of the Sikh Kingdom and was strategically located along the border with Afghanistan and Russia. For the security of the north-west and the north-east frontiers of the country and a counterpoise against the power of Sikhs before the annexation of Punjab, the creation

of Jammu and Kashmir as an independent, powerful and friendly buffer state was considered necessary since both Sikhs and Dogras 'will have' to quote Lord Hardinge, "a common interest in resisting attempts on part of Mohammadan power to establish state on side of Indus (Parmu, 1977. p56). British dominance over the region was cemented and new relationships between the British and the Sikhs were brought about by the struggle. The British imposed colonial rule over Punjab after capturing the region and instituted several political, economic, and social reforms. "Following its annexation by the British in 1847 the Punjab province witnessed several significant developments—individualization of property rights in land, fixation and rigorous collection of land revenue in cash, the introduction of a new legal-administrative system, construction of a road and railway network, canal-building activities and a colonization program, commercialization of agriculture and increased monetization of economic transactions."

### **At the Zenith of Ranjit Singh's Reign: Exploring Kashmir's Dynamics within the Sikh Empire**

Al Masudi (941-43), who visited the Indus Valley, records about Kashmir, "This territory, he writes is unapproachable except from one side so that he (the king of Kashmir) can shut up the whole of his dominion with one gate for it surrounded by mountains of such height that neither men nor wild animal can climb over them... the natural fortification of this country is well known in Khurasan and other provinces, and it is wonderful things in the world." (Al Masudi, 941-43) Kashmir has provided strategic advantages due to its unique location to its occupiers throughout its entire history. In addition, the region was abundant in natural resources and had a great economic possibility for its occupants. Naturally, this treasure trove attracted the attention of numerous powers throughout its existence. Muslim sovereignty in Kashmir began in 1320 with autonomous Sultans (1320–1586), then passed to the Mughals (1586–1753) and Pathans (1753–1819), before being taken over by the Sikh monarch of Punjab. The Durarini rulers of Afghanistan held the last reigns in Kashmir and after that, it merged with the Sikh Kingdom of Punjab. Pathans also administered Kashmir through their governors like the Mughals. During their 67-year reign, Pathan governors brutally controlled Kashmir. Under their rule, Kashmir suffered significant political, economic, and cultural setbacks. One of the worst eras in Kashmir's history is regarded to be the time between 1752 and 1819 AD. At this time, Afghans controlled Kashmir and terrorised the local population. Records Tyndale Biscoe — "It is said during the Afghan rule in Kashmir, the Afghans were in the habit of riding into the Kashmiri houses on their horse-back, stabling their

horses in the lower portion and occupying the rest for themselves. The Kashmiris were unable to check these outrages by force. They devised therefore the plan of having so low doors that not only the intruder had to dismount, but also to bow his head on entry. As the Afghans were haughty and no one of them was willing to make obeisance to a local person, they were forced to remain outside.” (Tyndale Biscoe) The collapse of Kashmir's central authority after Zaman Shah's death, caused all routes of passage between Kashmir and Afghanistan to be disrupted. Kashmir was thus famished and unable to export her commodities from either India or Afghanistan. As a result, Kashmir experienced a severe economic crisis and terrible poverty. During times of starvation and drought, Kashmir was reliant on the Sikh Kingdom for the delivery of essential goods because of its proximity to that kingdom. The main supply of wheat and rice for Kashmir was Punjab. Infighting among the tribes rendered Afghanistan powerless, demoralised, and decimated after 1800; Kashmir's sole chance lay in Punjab, led by Maharaja Hari Singh. The transition of power from Muslim to Sikh rulers was brought about by Birbal Dhar, a Kashmiri Pandit. “Throughout the Afghan period, different classes of people vied with each other for political control. Thus it was the conflict of interests that ultimately led to the establishment of Sikh rule in Kashmir. Birbal Dhar a very high official during the period of Afghans invited Maharaja Ranjeet Singh of Punjab to invade Kashmir when he feared punishment at the hands of Afghan ruler for embezzling public money.” (A.S. Dar and A.M. Shah) Maharaja Ranjit Singh did not officially annex Kashmir into the Sikh Kingdom. He did, however, seize control of a few locations in the region and have some influence on the government. In 1819, Ranjit Singh struck an agreement with the Raja of Kashmir after he had vanquished the Afghan forces that had taken possession of Kashmir. The Raja was granted the right to keep his throne as a vassal of the Sikh Empire following the terms of the treaty, but he was also obligated to pay Ranjit Singh tribute and recognise Sikh rule over the territory. Although Kashmir was never legally included in the Sikh Kingdom, this arrangement gave Ranjit Singh the ability to have control over the region. The agreement preserved the independence of both the Sikh Empire and the local Kashmiri tyrants while establishing a balance of power. The rulers of Kabul ruled over Kashmir for almost 67 years when Maharaja Ranjit Singh's expedition captured Kashmir in 1819, ending Afghan sovereignty. On July 3, 1819, the Durrani Empire's governor of the Kashmir valley region, Jabbar Khan, and an expeditionary army from the Sikh Empire engaged in the Battle of Shopian. Maharaja Ranjit Singh was able to take control of Kashmir because of the brewing political unrest within the



Afghan Empire. The battle between Ranjit Singh and Kabul's prime minister, Vazir Fateh Khan, led to the collapse of the Afghan Empire and the eventual incorporation of Kashmir into the "Sikh Empire." From 1819 through 1846, Kashmir was under Sikh sovereignty.

### **The fate of the Sikh State of Punjab and the Princely State of Jammu and Kashmir was intertwined**

Sikhism and the Muslim Mughal Empire both saw parallel growth in South Asia. Sikhism and Islam share ideals such as monotheism, equality, tolerance, and love for all people. Sikhism's message of tolerance and religious coexistence was consequently warmly accepted by both Sikhs and Muslims, including many saints and sages. These parallels established a very solid foundation for collaboration between the two religions. The Sikhs of Punjab, therefore, appeared to be the perfect alternative for Kashmir as a result of the Afghan terror, and Birbal Dhar and others were naturally drawn to Punjab. Kashmir was a division of 'The Afghan Province' when the British rose to power in India, and the ambition to rule this territory led to a struggle between Sikhs and Afghans, British and Afghans, and British and Sikhs. The disintegration of the Afghan Empire and the gradual integration of Kashmir into the 'Sikh Empire' was the result of a confrontation between the Prime Minister of Kabul, Vazir Fateh Khan, and Ranjit Singh, the head of the Sikh Empire. The political turmoil inside the Afghan Empire made the annexation of Kashmir easy for the Sikh ruler. Due to its unique location Kashmir offered strategic advantages to its occupiers throughout the history of its annexations. In addition, Kashmir was very rich in natural resources and had the huge market potential to boost the economy of its possessors. To quote an example, Mughal emperors and the Durrani kings of Kabul in the past reaped huge economic benefits by commanding this region. As a result, Kashmir became a point of conflict for many powers during the course of British occupation. Finally, Ranjit Singh triumphed and wrested sovereignty of Kashmir (1819) from the Afghans. From around 1819 until 1839, Sikhs ruled Kashmir. However, after Ranjit Singh's death, Kashmir saw a period of abhorrent ineptitude and mismanagement. The Sher Singh administration in Punjab nominated Sheikh Gulam Muhy-ud-din as governor of Kashmir to strengthen ties with Punjab. Sheikh Gulam Muhy-ud-din and his son Imam-ud-din's fates were sealed after Ranjit Singh's death by political upheaval in Punjab and conflict with the British, but they were unable to prevent the aspirant Raja Gulab Singh from seizing control of Kashmir. During the first Anglo-Sikh war, Raja Gulab Singh aided the British and was rewarded by them. The British were able to combine Kashmir with the Dogra Kingdom of Jammu because

of Raja Gulab Singh's cooperation, creating the regal state of Jammu and Kashmir. In the First Anglo-Sikh War, which lasted from 1845 to 1846, the British East India Company mainly crushed the Sikh Empire. The 'Treaty of Lahore' and 'Treaty of Amritsar' were signed on March 9, 1846, and March 16, respectively. The Treaty of Amritsar formalised the agreements made in the Treaty of Lahore between Raja Gulab Singh of Jammu and Kashmir and the British East India Company. Gulab Singh was designated the Maharaja of Jammu and Kashmir under the stipulations of the Treaty of Lahore (1846), while Maharaja Delep Singh received authority over Punjab. To counter Sikh supremacy and safeguard the nation's northwest frontiers, the British had to take control of the Punjab Kingdom. To serve as a buffer zone, a single state called Jammu and Kashmir had to be established concurrently. The British benefited equally from this arrangement, which allowed them to keep control over British India's troublesome northwest frontier with Afghanistan and Russia. On March 16, 1846, Maharaja Gulab Singh of the Dogra Kingdom signed the 'Treaty of Amritsar,' sometimes referred to as the 'Sale Deed' of Kashmir. He had to give the British around 7.5 million rupees in exchange for Kashmir. The creation of the independent state of Jammu and Kashmir, which includes Jammu, Kashmir, and Ladakh, as a result of this accord, is noteworthy.

### **Conclusion**

In short, the complex histories of Kashmir and Punjab in the 19th century serve as an example of the deceitful strategies used by the British Empire to increase and solidify its hold over northern India. Through a mixture of economic exploitation, military intervention, and political scheming, Punjab's sovereignty was steadily undermined and it was incorporated into the British Empire. They purposefully founded the Princely State of Jammu and Kashmir at the same time to protect their business interests and provide a safe haven from possible intruders. Because of the intricate interactions between regional politics, cultural dynamics, and imperial aspirations, the fate of these regions became entwined. Punjab had peace and prosperity during Maharaja Ranjit Singh's rule, but after his passing, the Sikh Kingdom descended into anarchy, opening the door for British involvement. Anglo-Sikh relations underwent a sea change with the signing of the Anglo-Sikh Treaty, which eventually resulted in Punjab's absorption into the colonial empire. Similar to this, outside forces and changing allegiances influenced Kashmir's course. Kashmir's destiny was closely tied to the power battles of the era, spanning from Afghan authority to Sikh sovereignty under Ranjit Singh and ultimately to British suzerainty. The Princely State of Jammu and Kashmir

was established as a result of Raja Gulab Singh and the British working together during the First Anglo-Sikh War, establishing British rule over the area.

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## **Embracing Differences: Understanding Intercultural Sensitivity in Mixed Marriage Families**

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### ***Abstract***

*This article examines the Intercultural Sensitivity of mixed-marriage families in their home environments. These families consist of couples and family members with different mother tongues from various Indian regions, specifically first-, second-, or third-generation migrants to Maharashtra now residing in Mumbai. A mixed-method approach, including questionnaires and semi-structured interviews, assessed Intercultural Sensitivity. Eighteen families, representing 15 mother tongues and diverse Indian regions, were selected through purposive, volunteer, and snowball sampling. Results indicated that most participants from mixed-marriage families exhibited high intercultural sensitivity. However, 'language' and 'nature of opinions' were both facilitating and hindering factors. Barriers included differences in 'perceptions,' 'situations,' 'upbringings,' and 'communication styles.' These findings align with the Sadharanikaran Model of Communication (SMC) and Chen and Starosta's Model of Intercultural Sensitivity.*

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**Keywords:** *Intercultural Sensitivity, Intercultural Communication, Family Studies, Mixed-marriages, Multiculturalism, MAXQDA PRO.*

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### **1. Introduction**

Mixed marriages are increasingly common, yet remain stigmatized in Indian society. A substantial proportion of Indians- 64% believe it is crucial to prevent women from marrying outside their castes, and 62% hold the same view regarding men. The variation in these views across different castes is minimal (Pew Research Center, 2021). Intercultural Sensitivity is an important aspect of family dynamics, particularly in mixed-marriage families. (Bhawuk & Brislin, 1992), as cited in (Altan, 2018) suggests that Intercultural sensitivity is an individual's reaction to people from other cultures, which can predetermine their ability to work successfully with those people. They (1992:416) state that to be effective in other cultures, people must be interested in other cultures, be sensitive enough to notice cultural differences and also be willing to modify their behavior as an indication of respect for people of other cultures. A reasonable term that summarizes these qualities of people is intercultural sensitivity. (p.03)

Examining intercultural sensitivity in mixed-marriage families within their home environment may reveal how partners empathetically accept each other's cultures, strengthen their relationships, and form a positive cultural identity for their multi-ethnic children.

Mumbai, the financial capital of India, is also known as the 'city of dreams.' According to the 2011 Census, 25.54% of inter-state migrants migrated to Mumbai, with Uttar Pradesh leading the list, followed by Karnataka and Gujarat (Chaapia, 2019).

"Mumbai is increasingly becoming a predominantly Hindi-speaking city due to demographic changes driven by migration, with a growing number of Hindi speakers" (Shaikh, 2019). From 2001 to 2011, notable shifts occurred in the Mumbai Suburban and Thane districts of Maharashtra. In Mumbai Suburban, Hindi speakers rose by 43.46%, Gujarati by 3.4%, and Marathi by 2.74%, while Urdu speakers declined by 3.09%. In Thane, Hindi speakers increased by 80.45%, Marathi by 33.66%, Urdu by 33%, and Gujarati by 19.22%.

### **1.1. Scope of the Study**

This study examined the Intercultural Sensitivity of individuals in mixed-marriage families within their home environments, focusing on "interaction attentiveness" and "respect for cultural differences." Participants, hailing from 15 different mother tongues across India but currently residing in Mumbai, included speakers of 14 scheduled languages—Telugu, Tamil, Malayalam, Konkani, Marathi, Gujarati, Sindhi, Kachchhi (a Sindhi dialect), Punjabi, Hindi, Nepali, Odia, Bengali, Assamese—and one non-scheduled language, Lotha.

### **1.2. Objective of the Study**

To study Intercultural Sensitivity among mixed-marriage families in their home environments.

## **2. Materials & Methods**

This section describes the type of data, method of data collection, universes, sampling design/framework, and techniques used for data analysis that were followed to conduct the research study.

### **2.1. Type of Data**

The data were collected from primary sources. It includes different mixed-marriage families that belong to different parts of India but are currently residing in Mumbai.

### **2.2. Methods of Data Collection**

A mixed-methods approach was used to collect data, which was divided into two stages. In the first phase, the data was collected by using a questionnaire. For that, a 2-item Likert scale was used and preliminary data were collected. The scale was used by using 5-point-Likert response options viz. *strongly agree, agree, uncertain, disagree and strongly disagree*. Based on the

data collected from the questionnaire, semi-structured interviews were conducted. The main purpose of the interviews was to collect qualitative inputs.

### **2.3. Universes, Sampling Design and Framework**

**Universe:** This research study was conducted in two districts of Maharashtra: Mumbai Suburban and Thane. As per the Census 2011, 'Thane' (approx. 1.11 crore), and Mumbai Suburban (approx. 93.57 lakh) ranked 1 and 5 among the most populated districts of India (<https://www.censusindia.co.in/>, n.d.).

### **2.4. Sampling Design/Framework**

#### **2.4.a. Sampling Procedure**

A non-probability sampling procedure was used in this study.

#### **2.4.b. Sampling Method**

Purposive, volunteer and snowball sampling were used to select families with mixed marriages.

#### **2.4.c. Sampling of respondents**

18 mixed-marriage families (n= 47) participated in the study by filling out the questionnaire, whereas 12 (n= 34) of those 18 families gave their consent to continue their participation in the study by participating in semi-structured interviews. Demographic variables like 'mother tongue' and 'immigrant generations' were considered while choosing these families.

#### **2.4.d. Sampling Unit:**

The sampling units were defined differently for the inputs collected from the questionnaires and semi-structured interviews, as described below.

Questionnaire: 1 respondent = 1 unit

Semi-structured interviews: 1 family = 1 unit

### **2.5. Data Collection and Analysis**

Respondents from ethno-linguistic families completed the questionnaire in English. For interviews, they used English, Hindi, and Marathi, as these languages were familiar to both the researcher and participants. Interviews were conducted in person and via Zoom, recorded with participants' consent, and later transcribed and translated into English. Quantitative data was analysed using IBM SPSS Version 26, while qualitative data was coded and analysed with MAXQDA Pro 2022 through content analysis, focusing on pattern-matching and explanation-building.

The following section discusses the data findings on Intercultural Sensitivity among mixed-marriage families in their home environment.

### **3. Data Analysis & Interpretation of Data:**

The research objective was to determine the Intercultural Sensitivity of mixed-marriage families in their home environment. This study was conducted in two stages. First, a 2-item Likert scale was used to measure intercultural sensitivity. In the second stage, the data collected on a Likert scale were used to frame follow-up questions for semi-structured interviews conducted with respondents from mixed-marriage families in their home environments.

The details of the Likert scale are as follows:

Statement I: "I am very observant when interacting with family members from different cultures"

Statement II: "I would not accept the opinions of people from different cultures."

The following section discusses the data derived from the Likert-scale responses and semi-structured interviews in detail.

#### **3.1. Intercultural Sensitivity**

The level of 'intercultural sensitivity' exhibited by individuals towards their 'immediate family members' from different cultures was studied. This was accomplished by examining two domains of intercultural sensitivity, which are discussed below.

##### **3.1.a. Discussion of Questionnaire Results:**

Two domains of Intercultural Sensitivity, "interaction attentiveness" and "respect for cultural differences," were assessed using two Likert scale statements to determine Intercultural Sensitivity levels in mixed marriage families in their home environments. The "interaction attentiveness" domain measured the observance level among individuals from ethno-linguistic families during cross-cultural family interactions. The "respect for cultural differences" domain evaluated whether individuals accepted the opinions of culturally diverse family members.

The total scores were categorized into quartiles to reflect different levels of intercultural sensitivity: 2-4 signified low, 4-6 low-to-moderate, 6-8 moderate-to-high, and 8-10 high sensitivity.

Please refer to Figure 1 for data visualisation of the distribution of the levels of intercultural sensitivity among the respondents.

Figure 1 Levels of Intercultural Sensitivity with frequency of respondents

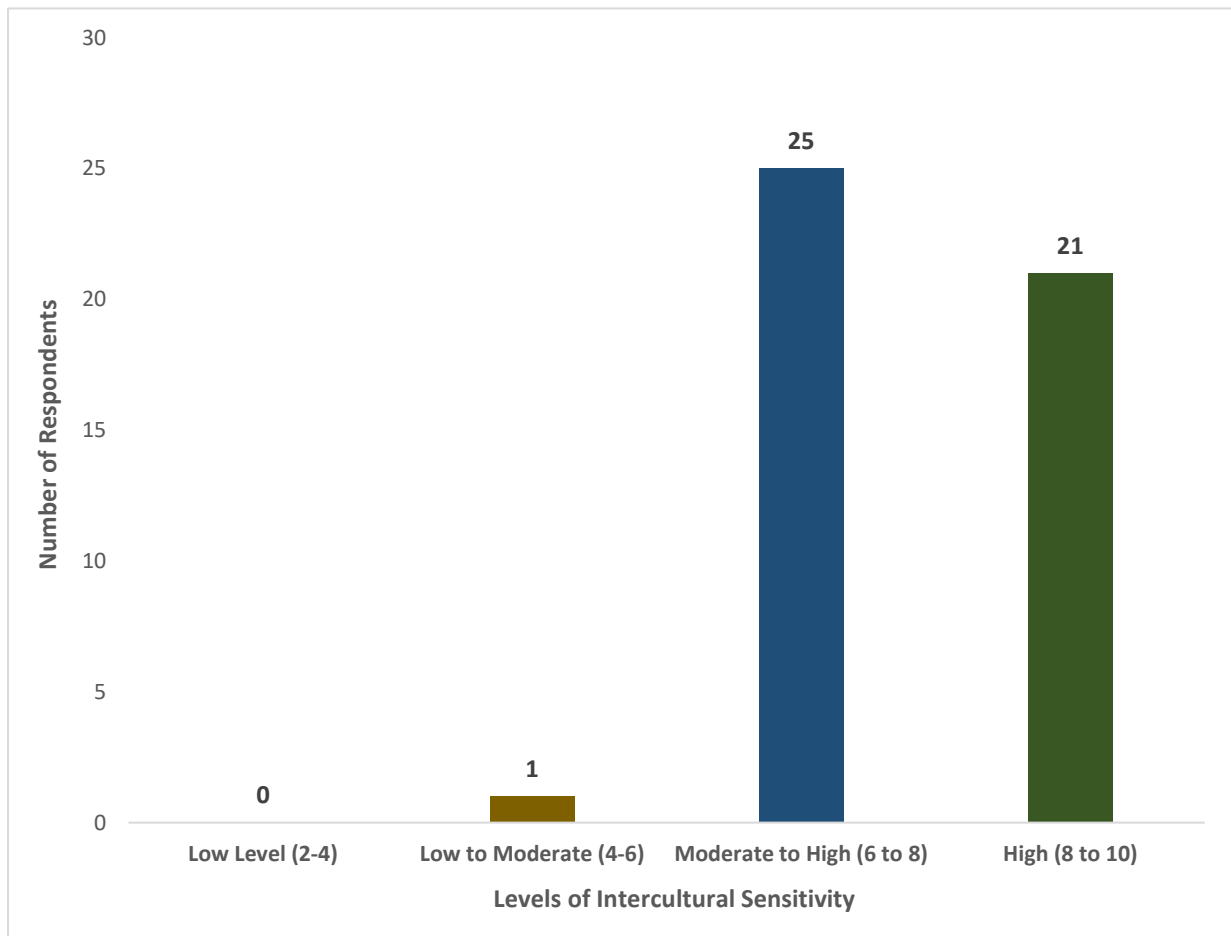


Figure 1 indicates that Intercultural Sensitivity levels are negatively skewed towards moderate to high and high levels (skewness value,  $-0.120 < 0$ ). Logical consistency was observed in the respondents' responses to the two questions.

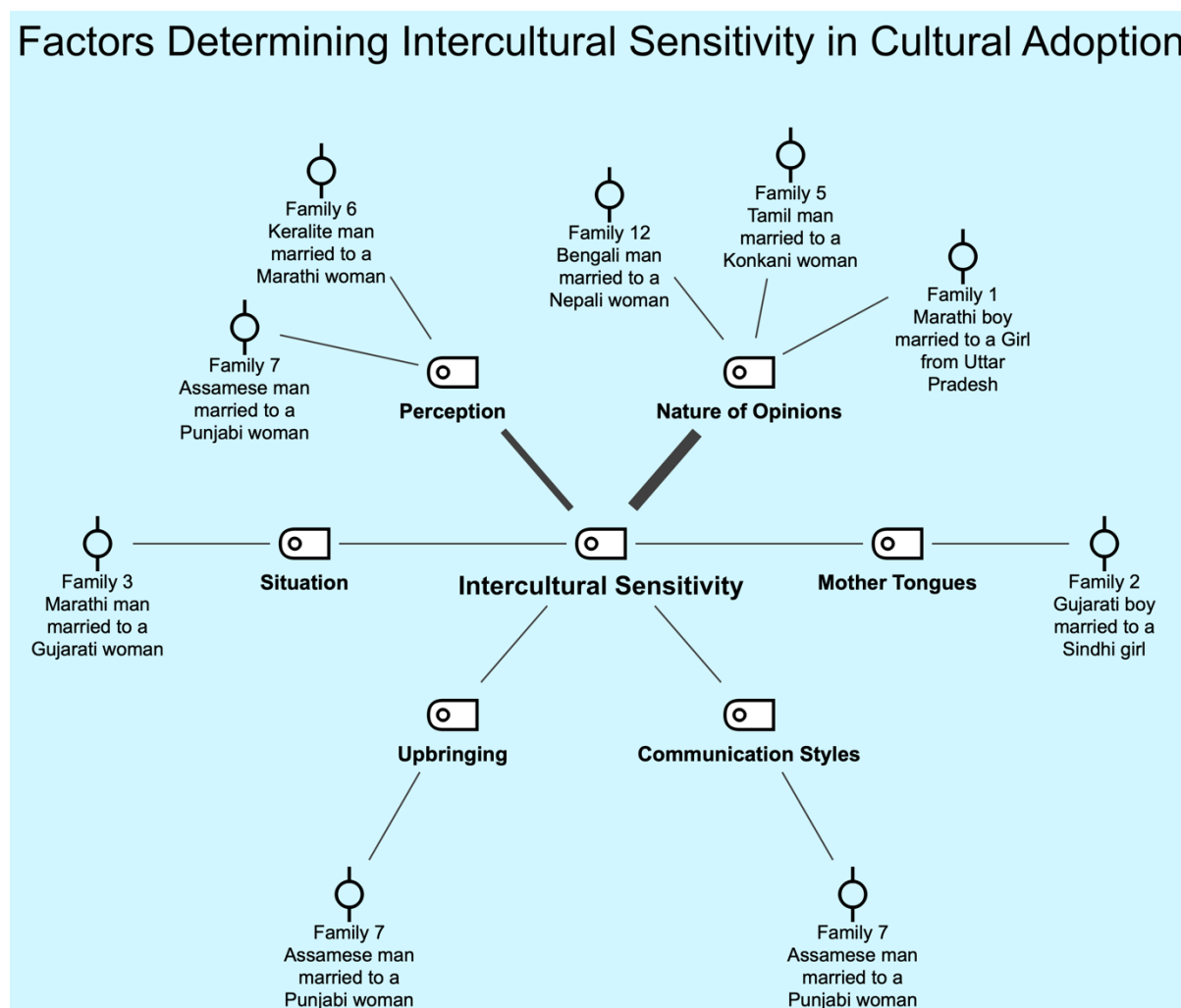
### 3.1.b. Discussion of the Interview Results

In the follow-up semi-structured interviews, respondents were asked to explain the reasons for their responses to Likert scale statements.

Refer to Figure 2 for a visual representation of factors influencing moderate and low intercultural sensitivity among ethno-linguistic families in a home environment. The weight of each factor is determined by the number of families listed alongside it. For instance, the 'nature of opinions' emerged as the dominant factor, cited by three mixed-marriage families.



Figure 2 Factors Determining Moderate and Low levels of Intercultural Sensitivity with frequency of ethno-linguistic families



The key reasons for determining the intercultural sensitivity among mixed-marriage families are discussed below.

Regarding the first statement, **“I am observant while interacting with people from different cultures”**, respondents pointed out that **'sharing different mother tongues'** was the only key reason that led to a moderate level of IS among its members, as reported by one ethno-linguistic family.

*“My spouse’s family communicates with each other in ‘Sindhi’ language. Still, I try to observe things, but I could not grasp them as I am not familiar with the language.” said a Gujarati boy from Family 2 married a Sindhi girl.*

**Regarding the second statement, "I would not accept opinions of people from different cultures,"** the primary reason was the 'nature of opinions,' leading to moderate intercultural sensitivity. Other factors like differences in perception, situations, upbringing, and

communication styles resulted in low intercultural sensitivity among respondents from mixed-marriage families.

**a. Nature of Opinions:**

The nature of opinions led to a moderate level of intercultural sensitivity among respondents from the three **ethno-linguistic families**.

*A man from family 1 who is Marathi and married to a girl from Uttar Pradesh shared that, "I don't follow my own culture strictly. I also believe that people from other cultures do not necessarily have knowledge of my culture. Why should I consider their opinions? I may accept or ignore their opinions"*

**b. Perception:**

**Differences in perception** between men and women led to a low level of intercultural sensitivity, as reported by **the two ethno-linguistic families**.

A man from Family 6, a Keralite married to a Marathi woman, believes his worldview differs from those of other cultures, leading him to reject their opinions. Likewise, an Assamese man from Family 7, married to a Punjabi woman and raised in Assam, felt his emotions and thought processes did not align with his spouse's culture.

**c. Situation:**

**One nuclear ethno-linguistic family** reported a low level of intercultural sensitivity, which they attributed to their lack of experience receiving opinions from family members from different cultures.

A man from Family 3, Marathi, married to a Gujarati woman, asserts that he never received suggestions or opinions from his spouse's family, thus eliminating the need to accept or reject their input.

**d. Upbringings:**

**Differences in upbringings** caused low levels of intercultural sensitivity, as reported by **one ethno-linguistic family**.

A man from an Assamese family 7, married to a Punjabi woman, feels that upbringing differences affect his thinking. He finds Assamese people to be very 'emotional' and 'touchy,' making it difficult for him to accept opinions from his spouse's cultural background.

**e. Communication Styles:**

**Differences in communication styles** cause low levels of intercultural sensitivity, as reported by **one ethno-linguistic family**.

An Assamese man from family 7 who is married to a Punjabi woman shared that: *“There are communication differences between Assamese and Punjabis. The Punjabi people **interact in a very direct manner**. They frequently use abusive words while communicating which hurts me as we don’t communicate in such manner in my culture.”*

The following section discusses the findings of the current objective in relation to the existing literature.

### **3.3. Discussion of the Current Study’s findings with the Existing Literature**

The existing literature indicates that some studies support the findings of the current research objective, whereas others show inconsistency or partial consistency.

**Family members from ethno-linguistic backgrounds exhibit high "interaction attentiveness" and "respect for cultural differences," enhancing intercultural sensitivity. Influencing factors include language competency and incompetency, perception and communication style differences, and upbringing.**

This is consistent with the findings of (Hou, 2010; Moradi & Ghabanchi, 2019; Chen & Hu, 2023) identified "respect for cultural differences" and "interaction attentiveness" as major factors contributing to intercultural sensitivity.

However, (Wattanavorakijkul, 2020) found that ‘language proficiency’ alone could not predict intercultural sensitivity, which is not in line with the findings of the present study.

The present study's findings are partially consistent with (Savage, 2018) conclusion that adaptability to different communication styles and socialisation norms facilitates intercultural sensitivity. However, the study also stated that ‘language competency’ alone is not sufficient for living and working abroad, which is inconsistent with the findings of the current study.

After discussing the present study's findings in relation to existing literature, the following section explores the theoretical linkages with the significance of intercultural sensitivity in mixed-marriage families.

### **3.4. Theoretical Linkages of the Current Findings**

A couple of theories, such as the “Chen & Starosta’s Model of Intercultural Sensitivity” and “Sadharranikaran Model of Communication” (SMC) were used to provide a theoretical foundation for the findings of the current research objective.

#### **I. Chen & Starosta’s Model of Intercultural Sensitivity (2000)- Prof. Guo-Ming Chen and Prof. William Starosta**

The model of Intercultural Sensitivity was developed by Guo-Ming Chen and William Starosta in 2000 which measures five domains: interaction engagement, respect for cultural differences,

interaction confidence, interaction enjoyment, and interaction attentiveness. This study focused on two domains—"interaction attentiveness" and "respect for cultural differences"—to examine intercultural sensitivity in mixed-marriage families at home. **The findings confirm the model, showing that these two domains enhance intercultural sensitivity in such families.**

## **II. Sadharanikaran Model of Communication (SMC) (2003)- Dr Nirmala Mani Adhikari**

The 'Sadharanikaran' theory/model, derived from the 'Rasa Sutra' in Bharata's Natyashastra, posits that communication results in commonalisation, fostering compassion (atmiyata). Individuals with shared emotions (Saharidaya) experience Rasa Utpatti (production of Rasa) and Nishpatti (realisation of Rasa). The Rasa theory identifies four bhavas: Sthayibhava (permanent emotions), Vibhava (excitants), Anubhav (responses), and Vyabhichari or Sanchari bhava (transitory feelings), which collectively generate the necessary rasa for communication. **The findings endorse the 'Saharidaya' concept within the Sadharanikaran Model of Communication (SMC).** 'Language competency' through a 'shared language' among family members enhances 'Saharidaya' and intercultural sensitivity, while 'language incompetency' or differing mother tongues undermine these feelings and sensitivities.

## **4. Conclusion**

Individuals from mixed-marriage families exhibited high "interaction attentiveness" and "respect for cultural differences," indicating Intercultural Sensitivity towards their family members' cultures. Factors such as 'language' and 'nature of opinions' both facilitated and hindered Intercultural Sensitivity. Barriers included differing perceptions, situations, upbringings, and communication styles. The study underscored the importance of Intercultural Sensitivity in mixed-marriage families, highlighting it as a crucial aspect of 'intercultural communication' that fosters an 'inclusive' home environment.

## **5. Limitations and recommendations**

This study investigated Intercultural Sensitivity in mixed-marriage families in Mumbai and Thane, Maharashtra, India. Future research should explore intercultural sensitivity among inter-state and intra-state migrant families in various regions of India and globally. The findings offer valuable insights, but further research is essential to enhance our understanding and support cultural diversity and inclusion.

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## **Adolescent Wellbeing and Academic Achievement: A Correlational Study**

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### **Abstract**

*Adolescence is the phase of transformation between childhood and adulthood. It comprises some big changes in the body. Adolescence is the most impressionable and teachable period of life. In this period, teens are exploring their own identity with the guidance of their parents. Subjective well-being (SWB) plays a major role in people's lives. Subjective well-being, or SWB, refers to a person's own assessment of their happiness and satisfaction with life. Subjective well-being (SWB) is a relatively new field of positive psychology. The concept refers to how people experience the quality of their lives and includes both their emotional reactions and cognitive judgments. This research paper explores the relationship between subjective well-being and academic achievement among adolescents. It begins by defining subjective well-being and academic achievement, highlighting their importance in the development and success of adolescents. The paper then reviews existing literature to analyse how subjective well-being impacts academic performance. Furthermore, the suggestion given is for improving subjective wellbeing. The paper concludes with the educational implications and contribution of the research. The present study is an attempt to examine the relationship between subjective well-being and academic achievement in adolescents. The sample for the study consisted of 480 (240 boys and 240 girls) adolescent students. The co-relation technique was used for the analysis of the data. The findings of the study revealed a statistically significant positive linear relationship between subjective well-being and academic achievement in adolescents.*

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**Keywords:** *Subjective Wellbeing, Academic Achievement.*

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### **Introduction**

According to Edward Diener, et al. (2004), "subjective well-being (SWB) is the scientific term for happiness and life satisfaction—thinking and feeling that your life is going well, not badly. According to Richard Lucas, "within psychology, subjective well-being refers to a person's overall evaluation of the quality of life from his or her perspective. Traditionally, psychologists have focused on three specific components of subjective well-being: life satisfaction, positive affect, and negative affect." Diener, et al. (2004) defines subjective well-being (SWB) as "a person's cognitive and affective evaluations of his or her life"

The cognitive element refers to what one thinks about his or her life satisfaction in global terms (life as a whole) and domain terms (in specific areas of life such as work, relationships, etc.). and the affective element refers to emotions, moods, and feelings. Affect is considered positive when

the emotions, moods, and feelings experienced are pleasant (e.g. joy, elation, affection, etc.). Affect is deemed negative, though, when the emotions, moods, and feelings experienced are unpleasant (e.g. guilt, anger, shame, etc.).

Academic achievement is the extent to which a student, teacher, or institution has achieved their short- or long-term educational goals. Cumulative GPA and completion of educational benchmarks such as secondary school diplomas and bachelor's degrees represent academic achievement. Academic achievement is commonly measured through examinations or continuous assessments.

Borland, (2006) studied student academic performance in rural versus urban areas, and the results indicate that the academic performance of students from both rural and urban areas is similar but less well in terms of the educational achievement of students from moderate areas. Hasida, (2003) studied the link between subjective well-being, an adolescent's internal resources, and parental factors. Results showed that demographic variables did not relate to positive or negative effects except for gender. Female adolescents show higher levels of negative affect. Bradshaw, et al. (2011) examined subjective well-being across countries and within the UK, comparing results at macro and micro levels to suggest that personality is one of the strongest and most consistent predictors of SWB. Manzoor, et al. (2014) investigated determining the impact of subjective well-being on the academic achievement of children. Results demonstrate a significant positive relationship between subjective well-being and academic achievement. It is concluded that subjective well-being and academic achievement are positively associated with each other. Buecker, et al. (2018) conducted a study on 'Subjective well-being and academic achievement: A meta-analysis, and the results showed that a low-achieving student reports low well-being and a high-achieving student doesn't need to have high well-being.

Many factors influence the performance of students' peers, including school atmosphere, teachers, teaching method, positive schooling, socioeconomic status, motivation, and parent involvement, but good subjective well-being is the most significant factor. During their academic career, students face various challenges and responsibilities, and this could be the main reason for their stress and anxiety. In the majority of cases, adolescents are unable to handle the difficulties that they face; however, in several cases, these challenges may have a serious impact on the adolescent's psychological well-being. Some of these types of behavior, such as hate, anger, jealousy, frustration, misbehaviour, crime, adjustment problems, misbehaviour, etc., arise from a

lack of subjective well-being of the student. For adolescents to achieve their life goals and obtain academic success, it is important to be in a psychologically healthy condition. Only good subjective will can help eradicate this behaviour in the child. That is why the current study found a relationship between subjective well-being and academic achievement.

### **Significance of the Research**

This study, titled "Adolescent Wellbeing and Academic Achievement: A Correlational Study," holds significant implications for understanding and enhancing adolescent development. By examining the relationship between subjective well-being and academic achievement, the study provides crucial insights into how emotional and psychological factors impact students' academic performance.

Firstly, the study elucidates how subjective well-being influences academic outcomes, offering a comprehensive view of the interplay between emotional health and academic success. This understanding is pivotal for identifying key areas where interventions can be made to improve both well-being and academic performance.

Secondly, the findings are instrumental for educators, policymakers, and parents in designing targeted policies and programs. By highlighting the specific challenges that adolescents face, the study enables the development of more effective strategies to support academic achievement and emotional health.

Furthermore, the research uncovers barriers to adolescent well-being, such as socio-emotional difficulties and stress, which affect academic performance. Addressing these barriers is essential for creating an educational environment that fosters both emotional and academic growth.

Additionally, the study has practical implications for reducing critical issues such as suicide and school dropout rates. By addressing the underlying causes of adolescent distress and disengagement, the study contributes to the development of strategies that promote a supportive and positive educational environment.

Lastly, the exploration of psychological predictors of well-being provides valuable insights into the factors that influence adolescents' mental health and academic success. This knowledge is crucial for designing comprehensive support systems that enhance students' overall development and achievement, ensuring their well-being and academic potential are maximized.

**Objective of Study:** The present study has been conducted to achieve the following objectives:

- To study the influence of subjective well-being on the academic achievement of adolescents.



**Hypothesis of Research:** To achieve the above-mentioned objective, the following hypothesis was formulated and tested:

- There will be no relationship between the subjective well-being and academic achievement of adolescents.

### Methodology

A descriptive survey research design has been employed in the present study. The sample for the study consists of 480 (240 boys and 240 girls) students who were selected from eight senior secondary schools in Lucknow City by the simple random sampling (lottery) method. Academic achievement was assessed using the student’s final examination marks, and for the assessment of subjective well-being, a Subjective Well-being Scale developed by Chaturvedi and Chandra was used as tools for the study. Cronbach’s alpha value of the SWB scale is .930. The co-relation technique was used for the analysis of the data. In the present study, academic achievement acted as a dependent variable and subjective well-being as an independent variable.

### Analysis and Result

The objective of the study is to find out the influence of subjective well-being on the academic achievement of adolescents. To fulfil this objective, a correlation technique was employed, and the findings are presented in the below table:

Table:1

Showing Relationship between Subjective Well-being and Academic Achievement.

		Correlations	
	SWB	SWB	Academic Achievement
SWB	Pearson Correlation	1	.902**
	Sig. (2-tailed)		.000
	N	480	480
Academic Achievement	Pearson Correlation	.902**	1
	Sig. (2-tailed)	.000	
	N	480	480

\*\* . Correlation is significant at the 0.01 level (2-tailed).

In table 1, the calculated value of r (Pearson correlation) is 0.902 with a sig value of 0.000. This value is less than 0.01% alpha level of significance and clearly shows a high degree of positive correlation between subjective well-being and academic achievement.

It is concluded that there is a relationship between subjective well-being and academic achievement in adolescents, and academic achievement gradually increases with increasing SWB.

Manzoor, et al. (2014) studied 'Determining the Impact of Subjective Well-Being on Academic Achievement of Children', and the result is that Subjective Well-Being and Academic Achievement are positively associated with each other.

In this way, this study supports the findings of the present study that there is a relationship between subjective well-being and academic achievement in adolescents.

The findings of the study indicate a high degree of positive correlation between subjective well-being and academic achievement, and academic achievement gradually increases with increasing SWB.

Much prior research has investigated that type of school, the climate of the school, administration, teachers, peer groups, school facilities, etc. affect student's academic achievement and happiness, satisfaction, positive and negative effects, self-efficacy, interest, etc. also show significant associations with SWB and with academic achievement of adolescents.

Several studies have already explored the link between SWB and academic achievement. If adolescents have good subjective well-being, they can be satisfied with their lives, be influenced by the positive effects of life, and ignore the negative effects, which help increase their academic achievement. So, it concludes that if any adolescents have a high level of SWB, no other factor easily affects them, and they achieve success in their lives.

### **Suggestions of the Study**

Suggestions to Parents for improving Subjective Well-being of Adolescents:

- Love your child unconditionally and show them through action.
- Don't spy and put restrictions on your child. Teach your child morality—"what's right and what is wrong.
- Never discipline, scold, or beat your child in front of others.
- Always focus on the reason behind the child's behaviour.
- Avoid comparisons and labels.
- Develop resilience in your child.
- Allow your children to make mistakes and learn from them, which will make them emotionally stable and adjustable in all situations of life.
- Teach your child the importance of self-worth and self-esteem.
- Motivate your children to do meditation, yoga, and play outdoor games.
- Adopt acknowledging and complimenting behaviour to increase the well-being of your child.

- Pay attention to your well-being.
- Maintain a home environment that is happy, pleasant, healthy, and safe.
- Avoid making a loaded statement, criticizing tone, or using words as weapons.

### **Suggestions to School for improving Subjective Well-being of Students**

- Should pay attention to student's practical knowledge instead of just pushing them towards rote learning and putting emphasis on e-learning to reduce dependency on books and increase happiness in a child.
- As per NEP 2020, every school management must appoint a counsellor or psychologist for the school as permanent staff and also encourage their teachers to take up a diploma in child psychology, guidance, and counsellors. This rule should be strictly followed in all schools so that students can discuss their issues with counsellors, psychologists, and their teachers when they need it.
- It is important to teach adolescents how to cope with their emotions, and a 48 counsellor therapist, or psychologist can identify the unusual behaviours of adolescents early and help the child express their emotions in a healthy, positive way. So, a full-time counsellor should be appointed in every school.
- As per 2018 NCRB (National Crime Records Bureau) reports, 109 children are sexually abused every day in India. This affects their subjective well-being. This is why, according to NEP 2020, children have to be informed about the child helpline number 1098, the Protection of Children from Sexual Offences Act (POCSO), and the Prohibition of Child Marriage Act. They should be educated about the difference between good touch and bad touch to prevent harassment and also create awareness about the importance of learning martial arts. This step will be helpful to increase the self-confidence and subjective well-being of adolescents.
- We must assign some team activities to the children that enhance positivity, creativity, and communication and also provide training on self-management, social competency skills, meditation, yoga, and physical exercise for the happiness of the child.
- According to the new education policy, a vocational internship should be given to children in class VI. These skill-based vocational programs may be helpful for youths to develop the skills and attitudes necessary to attain employment. Skill gains and positive changes in work attitudes will be seen in the youth of the future. Skilling each child during schooling will increase the stature of skill-based education and increase the employability and well-being of youth.

- Class 10<sup>th</sup> and 12<sup>th</sup> board exams should be easier. This is helpful to increase subjective well-being and decrease dropout and suicide cases.

### **Educational Implications of the Study**

The following educational implications could be drawn from the findings of the study:

- This study contributes to the understanding of the subjective well-being (life satisfaction, positive and negative effects of adolescents).
- This study is useful for parents to know their parenting style and ways of improving it.
- This study is helpful to understand the parent-child relationship.
- This study is helpful for teachers and counsellors to identify the parenting styles of parents of adolescents.
- This study helps analyse the different levels of subjective well-being of adolescents.
- This study helps improve the subjective well-being of adolescents.
- This study is useful for counsellors in the process of counselling.
- This study provides many suggestions to parents on how to improve their parenting style to enhance the subjective well-being and academic achievement of adolescents.
- This study provides meaningful suggestions to schools and colleges for improving the parenting styles of parents, which may help them improve and change their parenting styles according to the present scenario.
- This study is useful in reducing the cases of suicide, delinquency, school dropouts, etc.
- This study is helpful for the overall development of adolescents.
- With the help of this study, both educators and policymakers can make effective plans and policies related to the subjective well-being and academic achievement of adolescents.

### **Contribution and Conclusion of the Study**

The contribution of this study in the field of adolescent psychology has multifaceted directions and contributes to the existing knowledge of subjective well-being and its effects on academic achievement. This study gives general and specific suggestions to parents, teachers, and school administrators for improving student's happiness, subjective well-being, and academic achievement. Thus, it can be concluded that this study is a great contribution to adolescent psychology and educational psychology. Thus, it is concluded that subjective wellbeing affects adolescents' academic achievement. So, it is necessary to increase subjective wellbeing for better academic achievement and the overall development of adolescents.

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## **Behavioural and Morphological responses in Fishes in Response to Aquatic Toxicants: A Review**

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### **Abstract**

*Fishes receive stimuli from their surroundings and respond in several ways. Fish behaviour may be considered a sensitive index of environmental stress and may act as a tool for assessing aquatic pollution. Fish is an economically important aquatic animal that responds first when its surrounding environment is contaminated with chemicals. Aquatic toxicants change the physico-chemical characteristics of water and thus impose a drastic negative impact on the health of aquatic inhabitants, particularly in fishes. Therefore, the purpose of this review article is to scan the behavioural and morphological responses in the fishes as a result of exposure to various toxicants. The regular behaviour of fish may be altered due to the toxicant stress and can vary depending on time and dose of exposure. In the present article, behavioural changes reviewed are swimming activity /erratic swimming, opercular movement /surface air gulping, a loss of balance /sluggishness; and morphological changes studied are discoloration of skin/change in body colour /pigmented patches on body and mucus secretion with the sedimentation of chemical on body.*

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**Keywords:** Fish, Behavioural Changes, Morphological Changes, Stress.

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### **1. Introduction**

Monitoring aquatic toxicity is crucial for risk assessment in aquatic ecosystems, especially due to the increasing threats from industrialization, urbanization, and agricultural waste disposal. These activities introduce various toxicants into aquatic environments, overwhelming the natural biological cycles and self-purification capacities. When toxicants exceed threshold levels, they stress aquatic biota, particularly fish, leading to decreased immune responses, increased susceptibility to diseases, and mortality, ultimately reducing fish production. Fish are key indicators of aquatic pollution due to their sensitivity to environmental changes, with hazardous substances like pesticides and heavy metals posing significant threats due to their persistence in aquatic environments (George, 1990). Changes in fish behaviour, influenced by these toxicants, can indicate the health of aquatic ecosystems.

The effects of toxicants can be examined across various levels, from biochemical and cellular changes to population and community impacts. Early biochemical and cellular responses

serve as biomarkers for dangerous chemical exposure, although the connections between these levels and broader ecological impacts remain poorly understood. Behaviour, as a response at the organism level, is closely linked to biochemical effects, such as neurotoxicity, and can provide early warnings of environmental stress (Scott and Sloman, 2004). The concept of stress, defined by Hans Selye (1936, 1973) as the body's non-specific response to demands for change, has been applied to understanding the impact of contaminants on both land and aquatic species (Clotfelter et al., 2004; Zala and Penn, 2004), especially fish (Scott and Sloman, 2004; Robinson, 2009).

Fish behaviour is a sensitive indicator of low dissolved concentrations of trace elements, often detectable before other sub-lethal effects. Toxicant-induced stress in fish is reflected in behaviours such as swimming, opercular movement, surfacing, loss of equilibrium, and sluggishness, as well as morphological changes like skin discoloration, pigmented spots, mucus secretion, and descaling (Remyla et al., 2008). The skin, as a biological barrier, not only protects but also signals systemic defence responses, indicating internal disruptions in enzyme activity, neural function, and metabolic pathways. Despite their significance, behavioural and morphological changes in fish are less frequently studied, prompting a need for further research into the impact of environmental contaminants on fish behaviour.

## **2. Material and Method**

This paper is a review of different behavioral and morphological changes recorded against a variety of environmental toxicants to understand toxicological studies in a better way. For this various scientific databases viz., PubMed, Web of Science, Scopus, and Google Scholar were retrieved, reviewed, and compared. The last retrieval time of each database was March 30, 2022.

The keywords for searches are mainly: “environmental toxicant”, “toxicant and fish”, “heavy metal and fish”, “fish behavioral alteration against heavy metal”, “fish behavioral alteration against pesticides”, “fish behavioral alteration against insecticides”, “tannery effluent and fish behavior”, “name of tools for fish behavior study”, “morphology of gill epithelium”, “Histology of fish gill”, “fish morphology and toxicants”, “mechanism of fish morphological alterations”, “discoloration in fish mechanism” and “mechanism of mucous secretion + fish+ toxicants”. The literature searched for environmental toxicants mainly heavy metals, pesticides, and herbicides against their acute and chronic exposure experiments.

Unpublished data and incomplete data like only graphical results were excluded. Attempts have also been made to summarize extracted mechanisms from various searched data and integrate them to outline behavioral and morphological alteration (Fig. 1).

### 3. Behavioural and Morphological changes

Fish reactions to stress, according to Barton (2002), may be classified into three stages: primary, secondary, and tertiary. Catecholamines and cortisol are produced during the first phase of the neuroendocrine response (Reid *et al.*, 1998). The aforementioned hormones have a secondary effect that affects physiologic and metabolic pathways, leading to hyperglycemia because of increased glycogenolysis and gluconeogenesis, gill filament artery enlargement, and depressed immune function (Gratzek and Reinert, 1984). As these processes support fish survival by maintaining internal homeostasis, the first two steps are regarded as adaptive. On the other hand, tertiary responses involve systemic changes that render animals incapable of responding to stressors, having a detrimental effect on the animals' overall health, including performance, growth, reproduction, disease resistance, and behaviour (Barton, 2002). Depending on its intensity and duration, stress can affect fish at all organisational levels, from the cellular and physiological to the population and community (Adams, 1990) (Fig. 1).

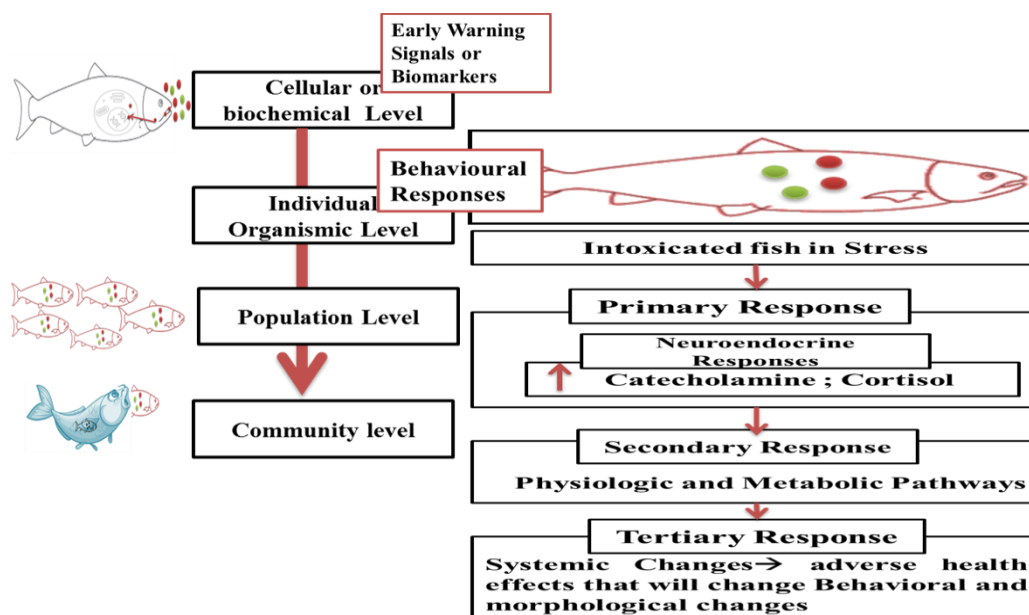


Fig.1. Systemic representation of fish responses against environmental toxicants  
 Behaviour may be the best way to study the impacts of environmental toxins since it may serve as a link between physiological and ecological systems. Many behavioural acts of fish can be easily observed and quantified in a controlled environmental setting that could be of great relevance for ecological study. Furthermore, behavioural observation in correlation with



the well-studied physiology mechanisms of fish will provide an insight for toxic behaviour of toxicant in in-vivo. Indeed, numerous researchers have advocated behavioural indicators in fish to monitor environmental contamination in an ecologically meaningful way (Atchison *et al.*, 1987). Now days with advancement of technology, these behavioural changes can be measured and recorded both in lab and field easily. There are a variety of tools available to study the behaviour of fish living in remote areas, such as bio-telemetry and bio-loggers, for example, electromyogram (EMG) telemetry. (Cooke *et al.*, 2004)

The available data on the effects of environmental toxicants on fish behaviour and morphological changes are sparse and variable. Table 1 shows some previous studies that explain the behavioural and morphological changes in different fish species against variety of toxicants.

**Table 1.** Summary of behavioural and morphological alterations in fish induced by exposure of aquatic pollutants.

Fish Species	Toxicant	Behavioural & Morphological Changes	Reference
Stickleback	Lead nitrate	Resistance at low concentration and migration toward high concentration	Jones, 1947
Bluegill	Cd, Cr, Zn	Hyperactivity	Ellgaard <i>et al.</i> , 1978
<i>Oreochromis alcalicus grahami</i>	Highly Alkaline Lake (pH~ 10)	Hypoxia	Maina, 1997
<i>Channa punctatus</i>	Cd	sluggishness	Maruthanayagam <i>et al.</i> 2002
<i>Ctenopharyngodon idellus</i>	Cd	Loss of balance, excessive mucus secretion, slowness in motion	Yorulmazlar and Gul, 2003.
<i>Channa punctatus</i>	Mercuric Chloride & Malathion	Fast swimming, Opercular movement, gulping of air, loss of equilibrium	Pandey <i>et al.</i> , 2005
<i>Cyprinus carpio</i>	PCB mixture	Swimming behaviour	Katja <i>et al.</i> , 2005
<i>Barilius vagra</i>	CuSO <sub>4</sub>	Mucous Secretion	Bisht and Agarwal, 2007
<i>Channa punctatus</i>	Cr	Increasing in rate of swimming and opercular activity, loss of balance, hyperactivity	Mishra and Mohanty, 2008.
<i>Cyprinus carpio</i> (Linn)	chlorpyrifos	Discoloration of skin, thin chemical deposition on skin, shedding of scales	Halappa and David, 2009
<i>Chanos chanos</i> (Milk fish)	Cd	Mucus secretion, convulsions, loss of balance,	Amrolahi <i>et al.</i> , 2010
<i>Chanos chanos</i> (Milk fish)	Lead nitrate	Hyper excitability, erratic swimming, jumping and restlessness	Hesni <i>et al.</i> (2011)
<i>Channa punctatus</i>	endosulfan	decreased swimming, increase in surfacing frequency	Harit and Srivastava, 2017
<i>Danio rerio</i> , <i>Oryzias latipes</i> , <i>Gobiocypris rarus</i>	chlorpyrifos & limidacloprid	hyperactivity	Hong and Zha, 2019
<i>Channa punctatus</i>	Cd	restlessness, jumping, erratic swimming and gulping of air; discoloration of skin and pigmented patches on body	Singh and Saxena, 2020
<i>Clarias batrachus</i>	chlpyrifos 50% & cypermethrin 5%EC.	irregular and erratic swimming; body decolouration	Kumar <i>et al.</i> , 2020
<i>Hetropneustes fossilis</i>	Chromium Chloride	restlessens, jumping, erratic swimming, gulping of air, loss of equilibrium, sluggishness, opercular movements	Khan, 2023

### **3.1. Behavioural changes**

Behavioural monitoring can help to investigate environmental conditions by examining the behavioural responses of aquatic animal species and studying their relations to the surrounding environments. Behavioural monitoring is an efficient approach for long-term monitoring of the aquatic ecosystems and water quality assessment.

#### **i. Swimming Activity (erratic swimming)**

One of the most frequent and simple to-measure behavioural responses during toxicological investigations is swimming activity which can be utilized as a bioindicator of sub-lethal stress related to exposure to toxicants (Little and Finger, 1990). Swimming can be assessed and monitored in a variety of styles such as burst, critical swimming speed, and endurance. (Beamish, 1978). When exposed to toxicants, fish are likely to get stressed, and they may respond by showing odd behaviours such as swimming swiftly or erratically. Swimming is a sensitive and ecologically significant response in a fish to sublethal exposure to a toxicant (Little and Finger, 1990). The swimming behaviour of young bluegill sunfish (*Lepomis macrochirus*) was substantially altered after 60 days of exposure to a 6:1 dissolved selenate: selenite ratio (Cleveland et al., 1993). Two to three days of short-term exposure to chlordane, dichlorodiphenyltrichloroethane (DDTs), endosulfan, and polychlorinated biphenyls (PCBs) at concentrations of 1-2 ug/L affected predator avoidance behaviours such as schooling and swimming, and lowered the chance of survival in predator interactions in goldfish, rainbow trout, and medaka (Scott and Sloman, 2004). The impacts of persistent organic pollutants on fish behaviour seem to be caused by two different mechanisms: by altering thyroid function or by altering brain neurotransmitters like serotonin. Serotonin, dopamine, and norepinephrine levels in the brain are affected by DDTs and PCBs, which alter spontaneous activity, learning, and locomotor activity (Khan and Thomas, 2000, 2006; Khan et al., 2001). Hesni et al. (2011) investigated lead-induced alterations in milkfish behaviour. They observed hyperexcitability, erratic swimming, jumping, and restlessness. Walia et al., (2013) noticed erratic swimming in fish *Labeo rohita* exposed to different concentrations of tannery effluent. Harit and Srivastava (2017) noticed that endosulfan exposure altered the typical behaviour of the fish *Channa punctatus*. They observed a decrease in swimming activity as well as an increase in surfacing frequency. Singh and Saxena (2020) studied the acute toxicity of cadmium in a freshwater fish, *C. punctatus*, and the principal behavioural changes they saw during the experiment were restlessness, leaping, irregular swimming, and surface gulping of air. Kumar et al., (2020) also recorded the irregular and erratic swimming pattern in freshwater fish *Clarias batrachus* exposed to chlorpyrifos 50% & cypermethrin 5% EC.

## **ii. Opercular Movement/ rapid gill movement**

When a fish is exposed to a toxicant another behavioural change, we might observe frequently is opercular movement or rapid gill movement. Fish gills are always moving while they breathe, but if the gill movement becomes considerably quicker than usual, this might be an indication of stress. Rapid gill movement might be interpreted as a sign of stress. In fish, the gill epithelium serves a variety of functions including gas exchange, ionic control, acid-base balance, and the elimination of nitrogenous wastes. Since the gills are constantly exposed to the environment, the morphology of the gill epithelium has been discovered to be changed by pollutants such as heavy metals and pesticides from agricultural run-off, and also provide a primary site of action for these environmental contaminants (Macirella, Curcio and Brunelli, 2020; Alesci et al., 2022).

According to Skidmore and Tovell (1972), rainbow trout treated with zinc (40 ppm) for 3 hours showed significant secondary lamellae curling and edoema, as well as epithelial separation from the basement membrane. Partially dislodged and enlarged chloride cells were also present. After exposing rainbow trout to either mercuric chloride or methylmercury (approximately 50 ppb for 1 week or 0.25 ppb for 6-8 weeks), insignificant morphological alterations such as reduced height of lamellar cell ridges, vacuolated epithelial cells, and chloride cell degradation were reported by Olson et al. (1973). The gill epithelium of yearling coho salmon (*Oncorhynchus kisutch*) exposed to the herbicides dinoseb (100 ppm concentration for 114 hr), paraquat (100 ppm concentration for 120 hr), and atrazine (15 ppm concentration for 140 hr) exhibited necrosis, desquamation, hypertrophy, hyperplasia, and telangiectasia (Meyers and Hendricks, 1985). These changes lead to impaired gaseous exchange resulting in rapid opercular movement. Escape response observed was dose-dependent in larval zebrafish *Danio rerio* when exposed to mercury (Weber, 2006). Walia et al., (2013) noticed fast opercular movement in fish *Labeo rohita* just after the exposure of tannery industry effluent.

## **iii. Sluggishness**

Normally, fish stay active at all times; if it gets sluggish, it is most likely a symptom that the fish is stressed. Ammonia toxicity, for example, can make aquarium fish drowsy. Sometimes too cold temperature also affects the fish movement. Air-breathing fish, *Channa punctatus* exposed to different test chemicals (Mercuric chloride and Malathion) showed abnormal behaviour. In response to the dramatic shift in the surrounding environment, they stopped swimming, became attentive, and remained still in place. After a while, they attempted to avoid the hazardous water by swimming and leaping quickly. As surfacing and gulping of air

occurred, faster opercular activity was seen. Finally, fishes lose their equilibrium, get fatigued, lose consciousness, and become sluggish (Pandey *et al.*, 2005). Surfacing or gulping of air may occur as a result of a greater oxygen demand following toxicant exposure (Katja *et al.*, 2005). Hesni *et al.* (2011) noticed sluggishness in milk fish exposed to lead nitrate and stated that it might be related to energy loss via irregular swimming, leaping, and restlessness. Walia *et al.* (2013) made similar observations in fish *Labeo rohita* exposed to various concentrations of tannery effluent. Maruthanayagam *et al.* (2002) and Singh and Saxena (2020) reported sluggishness in fresh water fish, *Channa punctatus* exposed to cadmium.

### **3.2 Morphological changes**

#### **i. Discoloration of Skin /change in body colour/ dermal ulceration**

The skin, with its scales and mucous, serves as a physical barrier for the fish. However, it is vulnerable to damage caused by handling, fighting, viruses, and environmental toxins, and this damage can result in opportunistic infections. Skin ulceration was the most noteworthy finding in a series of research studies in which striped bass (*Morone saxatilis*) and striped bass hybrids were subjected to acute confinement stress, despite the fact that fish skin has not been widely explored as a stress response target. (Noga *et al.* 1998; Udomkusonsri *et al.* 2004). Pandey *et al.* (2005) have reported that when fish *Channa punctatus* was exposed to mercuric chloride and malathion, body pigmentation was decreased. Discoloration of skin, thin chemical deposition on skin, shedding of scales have also been reported by Halappa and David (2009). According to Singh and Saxena (2020), *Channa punctatus*, a freshwater fish, was found to have pigmented areas on its body and discoloured skin after being exposed to the heavy metal cadmium. Body decolouration was also noticed by Kumar *et al.*, (2020) in fresh water fish *Clarias batrachus* exposed to chlopyrifos 50% & cypermethrin 5%EC.

#### **ii. Mucus Secretion**

Fish mucus serves as a crucial barrier and interface between fish and their environment, playing a significant role in chemical communication (Beklioglu *et al.*, 2006) and immune defense. Composed primarily of mucins, similar to mammalian mucus (Shephard, 1993), it contains immune molecules like mycosporine-like amino acids (Zamzow, 2007). Stress can alter mucus production and composition, leading to increased susceptibility to infections and indicators of poor health, such as increased secretion (Rosseland and Skogheim, 1984; Youson and Neville, 1987), altered chemical composition, and impaired osmotic balance (Rosseland and Skogheim, 1984; Mueller *et al.*, 1991). Mucus production and its chemical changes are adaptive responses to environmental stressors, such as acid exposure

(Zuchelkowski et al., 1985), and may prevent toxins from entering the body (Bisht and Agarwal, 2007). However, excessive mucus, particularly on the gills, can hinder gas exchange, leading to hypoxia and potential mortality (Maina, 1997). Exposure to toxicants, such as mercuric chloride, malathion (Pandey et al., 2005), and tannery effluent, can induce significant mucus secretion, along with other health issues like scale loosening, eye damage, and hemorrhages (Walia et al., 2013).

#### **4. Mechanisms underlying behavioural and Morphological changes**

##### **4.1 Mechanisms underlying behavioural changes**

Toxicant exposure in fish damages structural and functional components of the nervous system, including nerve cell bodies, axons, and myelin sheaths, leading to altered neurotransmitter synthesis and release, which in turn causes behavioral changes. Neurotransmitters like serotonin, dopamine, acetylcholine, and GABA influence behaviors such as locomotion, aggression, schooling, and feeding (Smith, 1984). Toxicant-induced rapid swimming is an effort to increase oxygen intake to meet the energy demands of elevated muscular activity, as demonstrated by Katja et al. (2005). Mercury exposure in striped mullet (*Mugil cephalus*) was linked to lower serotonin levels and a progressive loss of motor function. Both organic compounds and metals can influence neurotransmitters and behavior. For instance, DDT treatment increased spontaneous activity and disrupted schooling in goldfish (*Carassius auratus*) (Weis and Weis, 1974), while parathion decreased brain serotonin and elevated dopamine levels (McDonald, 1979). In killifish (*Fundulus grandis*), polychlorinated biphenyls (PCBs) altered brain dopamine and norepinephrine levels, affecting locomotor activity (Fingerman and Russell, 1980). Additionally, rainbow trout (*Oncorhynchus mykiss*) exposed to carbamate insecticides exhibited altered catecholamine levels (Block and Nilsson, 1990).

##### **4.2 Mechanisms underlying Morphological changes**

Heavy mucus exudation and depigmentation are thought to be caused by a disturbance in endocrine dysfunction under environmental pollutant stress, resulting in altered number and area of mucus glands and chromatophores (Pandey et al., 1990). Increased mucous secretion is thought to be an adaptive or defense mechanism used to counteract the effects of toxicants for their survival (Santha et al., 2000 and Sivakumar et al., 2006). Bisht and Agarwal (2007) have suggested that mucous neutralizes the effect of toxicants by coagulation and prevents the entry of toxicants into the body.

## 5. Conclusion

Environmental protection is the major challenge and requirement of the world. Fish is important in an important dietary and nutritional source since it contains high-quality proteins, vitamins, and minerals that are necessary for life and growth. Fish occupy a higher position in the trophic level and hence, accumulate toxicants at high levels and their resultant implications are easily passed on to man. Fish behavioural and morphological impairments can be considered biomarkers to assess the health of toxicant-affected fish and aquatic ecosystems. A combination of multiple behavioral endpoints can provide more comprehensive and valuable information for discerning the impacts of potential aquatic environmental contaminants. The above studies can be useful in studying the effect of aquatic toxicants on fish to find safe ambient concentrations for both humans and fish that do not cause stress or mortality to fishes.

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## **Balancing AI and EI: Enhancing Educational Outcomes in the Digital Age**

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### ***Abstract***

*This paper intends to explore the intricacies of balancing AI and EI in education, exploring their respective roles, synergies, and ethical considerations. By examining the impact of these two domains on education, it aims to provide insights into how educators can leverage AI technologies while preserving the humanistic aspects of education. Through a multidimensional approach, the researcher seeks to elucidate strategies for maximizing the potential of AI in tandem with fostering Emotional Intelligence, ultimately leading to enhanced educational outcomes in today's technology-driven world.*

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**Keywords:** *Artificial Intelligence (AI), Emotional Intelligence (EI), Educational outcomes.*

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### **Introduction**

In the rapidly evolving landscape of education, integrating Artificial Intelligence (AI) and Emotional Intelligence (EI) has emerged as a pivotal paradigm for enhancing educational outcomes in the digital age. AI, with its capabilities in data analysis, personalized learning, and automation, offers immense potential to revolutionize teaching and learning experiences. Conversely, Emotional Intelligence, encompassing skills such as empathy, self-awareness, and social interaction, is crucial in fostering holistic development and well-being among students. As educators navigate the opportunities and challenges of technological advancements, striking a balance between AI and EI becomes imperative. While AI holds promise in optimizing learning processes and addressing individual needs, the human touch provided by Emotional Intelligence is irreplaceable in cultivating meaningful relationships, nurturing creativity, and promoting resilience in learners. Therefore, understanding how to synergize AI and EI effectively is essential to harnessing their combined power for the benefit of students in the digital era. In recent years, both Artificial Intelligence (AI) and Emotional Intelligence (EI) have garnered significant attention in the field of education due to their potential to revolutionize teaching and learning practices. In a systematic review, “de Oliveira and Rodrigues” (2021) discovered that 60% of recent studies on human behaviour and AI, specifically from the past three and a half years, focus on emotion-driven organizations. This trend highlights the growing interest and novelty of the field. Recent advancements reveal that artificial intelligence (AI) can not only recognize but also predict emotions (Alm et al., 2005; Lin et al., 2023; Singh et al., 2023). This capability extends beyond identifying current

emotional states, enabling systems such as virtual assistants and Intelligent Tutoring Systems (ITS) to proactively adapt and respond more effectively to students' emotional needs, thus enhancing the learning experience.

### **AI in Education**

Artificial Intelligence (AI) is a blend of three academic disciplines: psychology (cognitive modelling), philosophy (philosophy of mind), and computer science- with further strands from linguistics, mathematics, and logic. It encompasses a broad range of technologies and techniques aimed at enabling machines to perform tasks that traditionally require human intelligence. In the context of education, AI holds significant promise for transforming teaching and learning practices by offering innovative solutions to various challenges and opportunities. AI technologies offer a wide range of capabilities that can transform traditional educational approaches. These include personalized learning experiences, adaptive assessments, intelligent tutoring systems, natural language processing, automated assessment and grading, predictive analytics and data-driven decision-making processes. By analysing vast amounts of data, AI can provide valuable insights into student performance, preferences, and learning styles, enabling educators to tailor instruction to individual needs more effectively. Moreover, AI-powered educational tools can facilitate immersive and interactive learning experiences, enhancing student engagement and motivation. One of the key elements of Artificial Intelligence is the ability to learn. Intelligent systems are designed to learn from data and experiences, identify patterns and trends, and improve their performance over time. This is achieved through the use of machine learning algorithms and artificial neural networks, which allow machines to process information, identify patterns and make predictions or decisions based on them. Reasoning is another crucial aspect of Artificial Intelligence. Intelligent systems are able to use available information to make logical decisions and solve complex problems. They can use rules and algorithms to analyse data, extract relevant information and generate desired results or solutions. Problem solving is the essential skill of artificial intelligence that uses intelligent systems to approach and solve various problems, be they mathematical, logical or related to information processing. They can use specific algorithms and methods to find optimal solutions or make decisions based on the objectives and constraints involved.

### **EI in Education**

On the other hand, emotional intelligence plays a crucial role in shaping students' social and emotional well-being, which are integral components of overall academic success and personal

development. Emotional intelligence is the ability of individuals to recognize their own and others' emotions, discern between different feelings and label them correctly, use emotional information to guide thinking and behaviour, and manage and adjust emotions to adapt to the environment or to achieve their own goals. EI encompasses skills such as self-awareness, self-regulation, empathy, and relationship management. Educators recognize the importance of fostering EI in students as it contributes to better interpersonal relationships, effective communication, conflict resolution, and resilience in facing challenges. Additionally, research has shown that students with higher levels of EI tend to demonstrate improved academic performance and classroom behaviour. Chao et al. (2019) introduced a deep learning framework that employs a multiband feature matrix and a Caps Net model to improve emotion recognition from multi-channel EEG signals, outperforming common models. This innovation underscores the importance of advancing deep learning techniques to increase the accuracy and efficiency of emotion recognition in educational settings. By integrating multiple EEG channels and utilizing the generalization capabilities of CapsNet models, this framework sets a new standard for detecting emotional states, significantly impacting our understanding of emotions in academic performance and engagement in online and virtual learning environments.

### **Rationale for Synergizing AI and EI**

While AI and EI are often viewed as distinct domains, their integration in educational settings offers numerous benefits and synergies that can enhance learning outcomes in profound ways-

#### **a. Holistic Development**

By combining AI-driven personalized learning experiences with EI-focused interventions, educators can create holistic learning environments that address both cognitive and socio-emotional needs. This integrated approach ensures that students receive individualized support tailored to their academic requirements as well as their emotional and social development.

#### **b. Enhanced Learning Experiences**

Synergizing AI and EI enables educators to design learning experiences that are not only intellectually stimulating but also emotionally engaging and relevant to students' lives. AI-powered educational platforms can adapt content and activities based on students' emotional states, preferences, and feedback, fostering deeper connections and increasing overall engagement.

#### **c. Support for Educators**

Integrating AI tools with EI principles can provide valuable support for educators in managing diverse classroom dynamics, addressing students' socio-emotional needs, and promoting a positive learning environment. AI-driven analytics can help educators identify students who may require additional emotional support or intervention, enabling timely and targeted interventions.

#### **d. Preparation for the Future**

In an increasingly digital and interconnected world, students need to develop not only academic competencies but also essential skills such as empathy, collaboration, and adaptability. By synergizing AI and EI in education, schools can better prepare students for success in the 21st-century workforce, where the ability to navigate complex social and technological landscapes is paramount.

### **Synergy Between AI and EI**

AI, with its multifaceted capabilities, stands at the forefront of educational innovation. By leveraging AI technologies, educators can revolutionize pedagogical practices through personalized learning experiences, adaptive assessments, intelligent tutoring systems, and data-driven decision-making processes. The ability of AI to analyze vast datasets empowers educators to gain valuable insights into student performance, preferences, and learning styles, thereby facilitating more targeted and effective instructional strategies. Furthermore, AI-powered educational tools have the capacity to create immersive and interactive learning environments, enhancing student engagement and motivation. Concurrently, Emotional Intelligence (EI) has emerged as a critical component of student development and academic success. EI encompasses a spectrum of skills—including self-awareness, self-regulation, empathy, and relationship management—that are fundamental to fostering social and emotional well-being. Educators recognize that nurturing EI in students contributes not only to improved interpersonal relationships and effective communication but also to enhanced academic performance and classroom behaviour. The convergence of AI and EI in educational settings offers a wealth of synergistic opportunities to optimize learning outcomes. By integrating AI-driven personalized learning experiences with EI-focused interventions, educators can create holistic learning environments that address both cognitive and socio-emotional needs. This integrated approach ensures that students receive tailored support that caters to their academic requirements as well as their emotional and social development. In educational settings, when integrated with artificial intelligence, affective computing can personalize teaching by adapting content to align with students' emotions and individual needs (Kratzwald et al., 2018; Marín-

Moreover, synergizing AI and EI enables educators to design learning experiences that are not only intellectually stimulating but also emotionally engaging and relevant to students' lives. AI-powered educational platforms have the capacity to adapt content and activities based on students' emotional states, preferences, and feedback, fostering deeper connections and increasing overall engagement. Furthermore, integrating AI tools with EI principles provides valuable support for educators in managing diverse classroom dynamics, addressing students' socio-emotional needs, and cultivating a positive learning environment. AI-driven analytics can help educators identify students who may require additional emotional support or intervention, enabling timely and targeted interventions to promote student well-being and academic success. Ultimately, the synergy between AI and EI in education is essential for preparing students for success in the 21st-century workforce, where the ability to navigate complex social and technological landscapes is paramount. By equipping students with both academic competencies and essential skills such as empathy, collaboration, and adaptability, educators can empower them to thrive in an increasingly digital and interconnected world.

### **Potential Challenges**

#### **Expensive Initial Capital**

When it comes to the application of AI in education, there is usually a need for a huge amount of money spent on buying complex software and hardware as well as setting up appropriate infrastructure. This issue usually becomes an obstacle for schools that are underfunded especially in developing countries.

#### **Digital Divide**

The digital divide is further widened because the potential benefits of deploying AI are not shared equally among all learners. Students from rural areas or low-income families may be disadvantaged since they have limited access to required technologies hence making education disparities wider.

#### **Sustaining Ongoing Maintenance and Upgrades**

Continuous updates, maintenance and even expensive AI-driven tools can create budgetary constraints thus rendering long-term sustainability hard.

#### **Narrowed Teachers' Skills**

To properly use AI tools towards teaching, educators might lack enough know-how which necessitates extensive training that is both costly and time-consuming.

### **Lack of Willingness to Embrace Change**

There may be some teachers who would not like to adopt new technology particularly when they think that artificial intelligence would take over traditional instruction positions or impede humanity in learning.

### **Continued Learning**

On top of this, the changing face of AI means that teachers must continually learn so as to always remain knowledgeable on new ways to use this technology.

### **Implications for future Research and Practice in AI-EI Integration in Education**

Educators need to understand the importance of using AI to enhance personalized learning, and on the other hand, it is quintessential to accept that no digital tool can imitate human emotions, so emotional intelligence comprehension will always hold its place in the teaching-learning environment. Future research should delve into identifying optimal models for integrating AI and EI in educational settings. This includes investigating the most effective strategies for balancing AI-driven personalized learning with EI-focused pedagogy to maximize learning outcomes and student well-being. There is also a need for further exploration of ethical considerations surrounding AI-EI integration, particularly regarding issues of privacy, bias, transparency, and equity. Research should examine ways to mitigate potential ethical risks and ensure that AI technologies promote fairness, inclusivity, and social justice in education. In the field of research, educators should focus on developing effective teacher preparation programs and professional development initiatives that equip educators with the knowledge, skills, and resources to integrate AI and EI in their instructional practices. This includes training teachers in AI literacy, EI competencies, and pedagogical approaches that foster a balanced approach to technology integration.

### **Conclusion**

In summary, understanding Artificial Intelligence in education involves recognizing its diverse applications, potential benefits, and associated challenges. By leveraging AI technologies thoughtfully and ethically, educators can harness their transformative power to create more personalized, efficient, and inclusive learning environments that empower students to succeed in the digital age. Fostering a balanced approach to the integration of Artificial Intelligence (AI) and Emotional Intelligence (EI) in education is essential to ensure that students receive personalized, effective, and holistic learning experiences. Here are several strategies for achieving this balance:



- 1) **Align AI and EI Goals:** Begin by aligning the goals of AI integration with those of EI development. Recognize that both AI and EI aim to enhance learning outcomes, albeit through different means. Ensure that AI technologies are leveraged to support and complement EI goals, such as promoting empathy, self-awareness, and social skills, rather than overshadowing or replacing them.
- 2) **Integrate AI with EI-focused Pedagogy:** Design instructional strategies that integrate AI-driven technologies with EI-focused pedagogy. Incorporate opportunities for students to engage in activities that promote self-reflection, empathy-building, collaborative problem-solving, and social-emotional learning. Use AI tools to facilitate these activities, such as personalized feedback on social interactions or adaptive learning experiences that foster emotional regulation.
- 3) **Humanize AI Interactions:** Humanize AI interactions by incorporating elements of empathy, warmth, and personalization into AI-driven educational tools and interfaces. Design AI agents and virtual tutors to exhibit empathetic responses, active listening skills, and sensitivity to students' emotional states. Ensure that AI technologies complement human teachers' efforts to build rapport, trust, and meaningful connections with students.
- 4) **Promote Digital Citizenship and Well-being:** Educate students about digital citizenship, ethics, and responsible use of AI technologies. Foster critical thinking skills to help students evaluate the reliability, bias, and ethical implications of AI-generated content and recommendations. Provide guidance on maintaining a healthy balance between screen time and offline activities to support students' overall well-being.
- 5) **Provide Professional Development for Educators:** Offer professional development opportunities for educators to build their competencies in both AI integration and EI support. Provide training on effective pedagogical strategies for integrating AI technologies into the classroom while fostering students' social-emotional skills. Empower educators to leverage AI tools as enablers of personalized, inclusive, and equitable learning experiences.
- 6) **Encourage Student Agency and Ownership:** Empower students to take ownership of their learning and emotional development by involving them in decision-making processes related to AI integration and EI support. Encourage student voice and choice in selecting AI-driven learning activities, setting learning goals, and providing feedback on their experiences. Foster a culture of autonomy, self-regulation, and mutual respect in the classroom.

7) **Evaluate and Iterate:** Continuously evaluate the effectiveness of AI and EI integration efforts through formative assessments, student feedback, and data analysis. Identify areas of strength and areas for improvement in promoting a balanced approach. Iterate instructional strategies, technology usage, and support mechanisms based on feedback and evidence of impact.

By adopting these strategies, educators can foster a balanced approach to AI and EI integration in education, ensuring that students benefit from the strengths of both AI-driven technologies and social-emotional learning principles. This approach enables educators to leverage the transformative potential of AI while preserving the humanistic aspects of education and supporting students' holistic development.

In conclusion, the synergistic integration of Artificial Intelligence (AI) and Emotional Intelligence (EI) holds tremendous promise for transforming educational outcomes and experiences in profound ways. By combining the capabilities of AI-driven technologies with the humanistic principles of EI, educators can create learning environments that are personalized, inclusive, and supportive of students' holistic development.

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## Impact of Marketing Analytics on Key Trends in the Banking Industry

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### **Abstract**

*As the need for marketing transparency and accountability has grown in tandem with advances in information and communication technologies, so needs marketing analytics and statistical tools to underpin academic and management inquiries. Therefore, the statistical technique is used in many research reports, marketing strategies, dissertations, and articles. It just takes a cursory examination of academic publications and conference proceedings to confirm this. Equally, businesses are increasingly relying on big data and marketing analytics to assess the efficacy of existing marketing initiatives and develop novel ones. Throughout this study, we will investigate the several prospects available and the integration and scalability issues that prevent financial institutions from treating analytics as a unified field. Next, we will discuss banks' strategic and organizational components to bring the analytics vision to life.*

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**Keywords:** *Marketing Analytics, Operational Efficiency, Non-Performing Assets (NPAs), Workforce Expansion, Performance Indicators, macroeconomic Factors.*

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### **Introduction**

In recent years, the banking industry has endured significant transformations driven by developments in information and communication technologies. Among these advancements, marketing analytics has emerged as a pivotal tool for enhancing transparency and accountability in banking operations. Marketing analytics involves the use of statistical techniques and big data to assess the efficiency of marketing strategies and to inform decision-making processes.

The importance of marketing analytics is underscored by the increasing reliance of businesses to evaluate existing marketing initiatives and develop innovative strategies. Financial institutions have recognized the potential of analytics to provide insights that drive strategic decisions and operational efficiencies. However, integrating and scaling analytics within the banking sector presents unique challenges that need to be addressed to realize their full potential.

This finding investigates the effect of marketing analytics on four key trends in the banking industry: changes in the number of bank employees, credit growth, operating results of credit institutions, and the NPA (Non-Performing Assets)-operating cost ratio. By investigating these key parameters, the study aims to elucidate the role of marketing analytics in shaping these trends and to feed an inclusive identification of its impact on the banking industry.

**Marketing Analytics** The importance of marketing responsibility, along with the constant advancement of information and communication technology, has steadily boosted the use of marketing analytics and statistical tools to assist academic and management research.

As a result, the statistical technique is used in many research reports, marketing strategies, dissertations, and publications. A simple search of conference proceedings and peer-reviewed publications demonstrates this claim. Similarly, businesses increasingly rely on analytics to analyse their marketing activity and develop new strategies (Prabhu,2019)

As far as banking is concerned, analytics may be much more than a collection of separate tasks. Analytics becomes a meaningful business discipline if banks set their substantial strategic and organizational strength behind it. Banking predated the establishment of marketing and sales as recognized business disciplines, for example, in the 1970s, and today's business leaders may only have vague memories of what it was like. They may recall the days of the six-person IT department and the IBM mainframe in the basement. Looking at the various IT-supported businesses and processes in today's banks is a sobering reminder of the radical potential for change that a new discipline represents. Analytics has such capability. Following are the three pillars; in combination, they can kick-start the coming boom in the banking business (Working Paper: Are more productive banks always better?) Vardhan, 2023.

### **Role and Impact of Analytics in Banking**

**Accelerate Growth in an Anaemic Environment:** Client acquisition, retention, cross- and upselling might all benefit from more in-depth customer profiles that include transactional and business strategies (Trelewicz, 2017).

**Increasing Productivity:** All banking processes have been optimized to be more rapid and effective. For instance, banks may use advanced analytics to provide teams with data management decision support and to speed up and improve their responses to regulatory obligations. To save money, one bank uses machine algorithms to predict the cash supplies for ATMs throughout the nation and combines this with route-optimization strategies (Saxena, 2023).

**Enhancing Risk Management:** Digitizes credit evaluation, pre-event warning systems, upcoming stress testing, and debt analytics are all examples of analytics-assisted operations that might help banks lower risk costs (Kalyani, 2023). Banks may utilize analytics to perceive the best possible financial return on their substantial investments in compliance and control, which have escalated in price in recent years. According to our estimates, a

streamlined portfolio of information sources and new analytics that create more accurate FDA reviews and present them immediately might save G-SIBs up to \$100,000,000, annually. It has been estimated that D-SIBs may annually save up to \$400,000,000. Analytics will allow banks to decrease credit losses in the future (Wolgast, 2016).

### **Key Indicators for Banking Performance**

**Credit Growth Rate:** The credit growth rate in banking reflects the tread at which banks extend loans, offering insights into economic health. High growth rates indicate economic vigor, boosting bank profits, while low rates suggest economic slowdown, constraining investments, and consumer spending. Central banks use this data to adjust interest rates, impacting borrowing costs and economic activity. In India, the credit growth rate of scheduled commercial banks serves as a barometer for the country's economic momentum. During high growth periods, such as pre-COVID years, credit growth rates surged, reflecting strong industrial and consumer activity. In contrast, the pandemic-induced slowdown saw reduced credit growth, highlighting economic challenges and cautious lending practices (Rozyck, 2006).

**Operating Costs:** *Operating Costs* are the expenses incurred by a company in its normal course of business operations. It includes costs such as salaries, utilities, rent, and other expenses related to producing goods or services (Varshney, 2022).

**Average Total Assets:** This represents the average value of a company's assets over a specific period. *Operating Costs to Average Total Assets* are usually calculated by adding the beginning and ending total asset values for a period and dividing them by two.

**Pre-Provision Operating Profit (PPOP):** This represents the operating profit of the bank before accounting for loan loss provisions. It includes income from interest, fees, and other operating activities, minus operating expenses such as salaries, rent, and other administrative costs (Mohanty, 2018).

*PPOP (Pre-Provision Operating Profit) to Average Total Assets* is a financial ratio used specifically in the context of banking to measure the efficiency and profitability of a bank's core operations relative to its asset base. This ratio is particularly relevant in the banking sector because it focuses on the bank's ability to generate profits from its core activities before accounting for loan loss provisions (Mohanty, 2018).

**Gross Non-Performing Assets (NPA):** GNPA as a percentage is a measure of the proportion of a bank's loans that are considered non-performing relative to its total loan portfolio. Non-performing assets are loans where the nonpayer has stopped making interest or

principal payments for a specified period, typically 90 days (Mukherjee,2003). Total Gross Advances are the total value of all loans disbursed by the bank. A higher percentage of gross NPAs indicate a higher proportion of loans in the bank's portfolio that are not making earnings due to defaults by borrowers. This can signify higher credit risk and potential financial stress for the bank. A lower percentage of gross NPAs is seen as positive, indicating a healthier loan portfolio with fewer defaults (Vagrecha, 2022). *NPA to Operating Costs Ratio* measures the effectiveness of a bank in managing its non-performing assets relative to its operating costs. A higher ratio implies that a sizable portion of the bank's operating costs are associated with managing non-performing assets, which could indicate inefficiencies in the bank's operations or higher credit risk. A lower ratio suggests that the bank is managing its non-performing assets more efficiently relative to its operating costs.

### **Background and Significance of the study**

Consider the recent phenomena of use of analytics' power in banking are set the tone for the background of this study. A European bank focused on inactive consumers to fight a dropping client base, but it had little effect. The bank used algorithms to predict which active clients would leave. This new understanding reduced turnover by 15%.

### **Research Objectives**

Following objectives has listed out for this study:

1. Evaluate the Effect of Employment Trends in Banks
2. Evaluate Credit Growth in Relation to Banking in India
3. Analyse the Operating Results of Credit Institutions
4. Investigate the NPA-Operating Cost Ratio

### **Methodology**

This quantitative research aims to offer a study of the banking industry and present market environment to identify issues, opportunities, and future innovations using market analytics. Empirical research, papers, interviews, and bank publications have been utilized. Using conventional banking key numbers, the market is statistically appraised through 2022, and the impact of analytics is examined.

### **Analysis and Result**

Although low rates of interest and value measures have put a strain on the conventional banking sector, digitization has opened new prospects in consumer banking, such as the

Omni channel and sale assistance via market analytics. The following describes the impact of these changes on the banking market.

The use of marketing analytics in the Indian banking system has significantly influenced employment trends from 2015 to 2024. This impact is particularly evident when examining the changes in the workforce across banks.

Table 1:- Employee Data for the Schedule Commercial Banks

Year	Scheduled Commercial Banks	Public Sector Banks	Private Sector Banks
2015	11.41	7.97	3.43
2016	11.86	7.98	3.88
2017	11.99	7.73	4.26
2018	12.21	7.54	4.67
2019	12.50	7.48	5.02
2020	12.75	7.37	5.38
2021	13.02	7.22	5.80
2022	13.11	7.11	6.00
2023	13.35	7.05	6.30
2024	13.50	7.00	6.50

Source- RBI publications.

From 2015 to 2024, the number of employees in private sector banks nearly doubled, rising from 3.43 lakh to 6.50 lakh. The rise in employment also reflects the banks' need to innovate and diversify their product offerings based on data-driven insights. As private banks introduce new financial products and services tailored to the specific needs of their customers, they require more specialized staff to develop, market, and manage these offerings. This strategic use of analytics not only drives customer engagement but also supports the banks' competitive advantage in a rapidly evolving market (Arora & Agarwal, 2009). Marketing analytics has significantly enhanced CRM efforts across the banking sector. By providing detailed insights into customer interactions and satisfaction levels, analytics enables banks to offer more personalized services and proactive engagement.

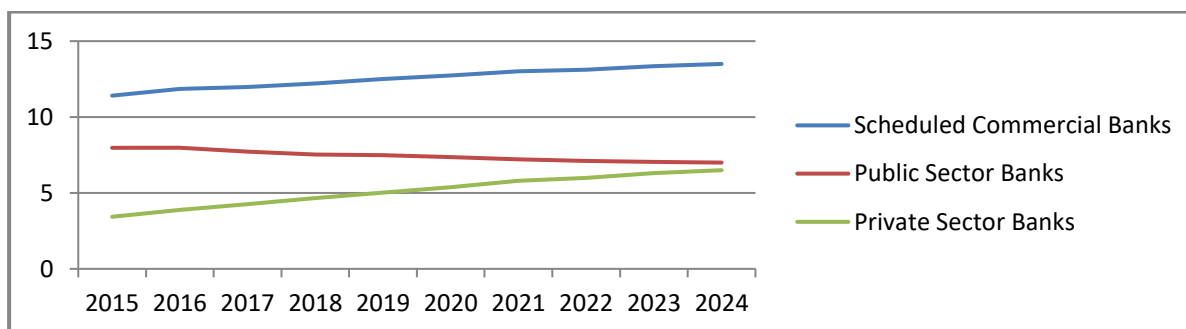


Figure 1: Employee Data

The adoption of marketing analytics has had a profound impact on employment trends in the Indian banking. Private sector banks have significantly increased their workforce to support growth driven by customer-centric strategies and product innovation. Public sector banks, in contrast, have focused on operational efficiencies, resulting in a more streamlined workforce.



This analysis highlights the analytical function of marketing analytics in determining the opportunity for employment in the Indian banking industry.

Table-2 shows the representation of the Credit Growth Rate (%) for both banks in India across the years 2015 to 2024. The credit growth for PSBs has shown significant recovery post-pandemic, with a growth rate of 14.3% in 2023. This trend is projected to stabilize slightly at 13.5% in 2024. PVBs have consistently exhibited higher growth rates compared to PSBs. For 2023, the growth rate was 18.5%, with a slight projected decrease to 17.2% in 2024.

Table 2: Credit Growth Rate (%) Year-on-Year

Year	Net Credit Growth	Public Sector Banks	Private Sector Banks
2015	8.8	7.0	14.5
2016	5.4	4.0	14.2
2017	8.3	3.1	15.1
2018	9.9	6.3	21.3
2019	14.4	8.0	20.9
2020	6.1	3.6	11.3
2021	7.3	4.6	13.5
2022	15.1	12.1	17.9
2023	16.2	14.3	18.5
2024	15.5	13.5	17.2

Source- RBI publications.

**Analyzing the data reveals several trends and insights.**

The adoption of marketing analytics played an essential function in shaping these credit growth trends. Marketing analytics empowers banks to influence data-driven perceptions for customer segmentation, targeted marketing campaigns, credit risk assessment, and product innovation. By analyzing customer behavior, creditworthiness, and market trends, banks can optimize their lending strategies to identify profitable market segments, mitigate risks, and enhance customer experience.

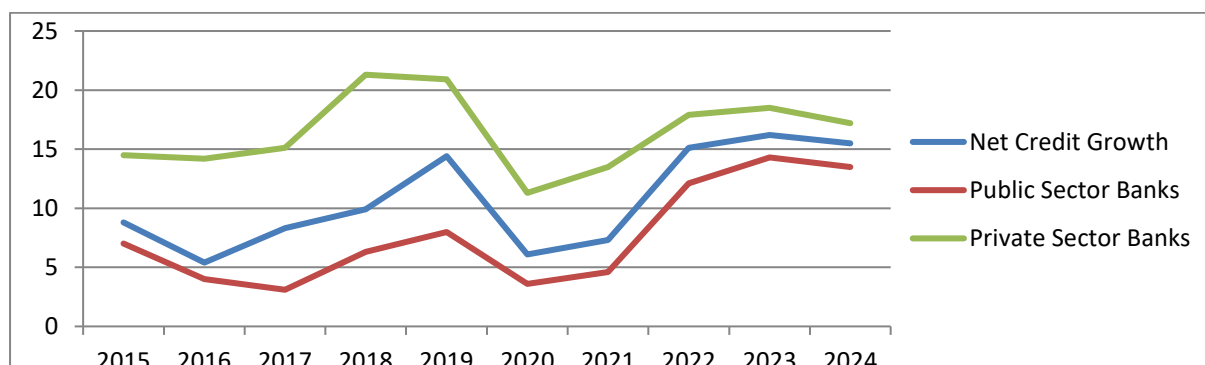


Figure 2: Credit Growth Rate (SEN), 2024

The observed peaks in credit growth rates, especially in 2019 and beyond, coincide with the increasing integration of marketing analytics into banking operations.

In conclusion, the data-driven analysis underscores the transformative influence of marketing analytics on credit growth within Indian banking system.

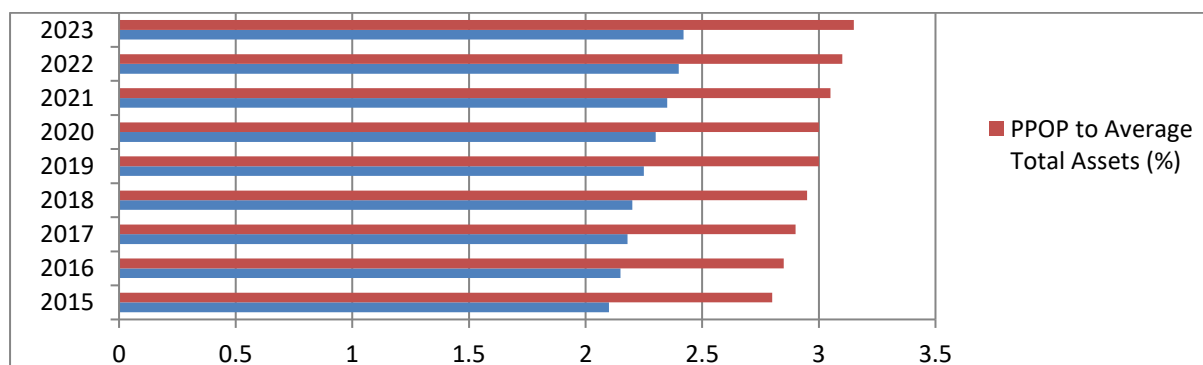
Table-3 presents the operating costs and PPOP to Average Total Assets Ratios data. Examining the trend in Operating Costs to Average Total Assets (%) over the years reveals a gradual increase from 2.10% in 2015 to 2.42% in 2023.

**Table 3: Operating Costs and PPOP to Average Total Assets Ratios**

Year	Operating Costs to Average Total Assets (%)	PPOP to Average Total Assets (%)
2015	2.10	2.80
2016	2.15	2.85
2017	2.18	2.90
2018	2.20	2.95
2019	2.25	3.00
2020	2.30	3.00
2021	2.35	3.05
2022	2.40	3.10
2023	2.42	3.15

In parallel, the trend in PPOP to Average Total Assets (%) displays a steady increase from 2.80% in 2015 to 3.15% in 2023. PPOP represents the operating profit of a bank before accounting for loan loss provisions, and this ratio assesses the bank's ability to generate profits from its core operations relative to its asset base. The consistent uptrend in this ratio reflects recovering productivity and functioning proficiency over the years.

The observed increase in Operating Costs to Average Total Assets (%) could be partially attributed to investments in marketing analytics infrastructure, software, and talent acquisition to support data-driven decision-making and customer-centric initiatives. While these investments may initially contribute to rising operating costs, they can yield long-term benefits by enhancing the value of marketing operations, raising customer arrangement, and driving business outcomes.



**Figure 3: Operating Costs and PPOP**

Conversely, the upward trajectory in PPOP to Average Total Assets (%) indicates that banks are successfully translating their operational efficiencies and strategic initiatives, including those driven by marketing analytics, into improved profitability. In conclusion, the data-driven analysis highlights the transformative ability of marketing analytics in the Indian banking system.

Analyzing the data provided in Table-4 on Gross NPAs (%) and the NPA to Operating Costs ratio across the years 2015 to 2023 offers valuable insights into the effectiveness of Marketing Analytics in the Indian banking system.

Table 4: GNPA to Operating Costs Ratios

Year	Gross NPAs (%)	NPA to Operating Costs
2015	2.8	2.1
2016	3.8	2.5
2017	6.8	2.4
2018	11.2	2.5
2019	9.7	2.3
2020	8.21	2.2
2021	7.33	2.1
2022	5.82	2.2
2023	3.87	2.1

Meanwhile, the NPA to Operating Costs ratio measures the efficiency of a bank in managing its non-performing assets relative to its operating expenses. A higher ratio suggests that a higher fraction of the bank's operating costs are allocated towards managing NPAs, potentially indicating inefficiencies in credit risk management practices or higher credit-related expenses.

The observed trend in Gross NPAs (%) reveals a fluctuating pattern over the years, with a peak of 11.2% in 2018 and a decline to 3.87% in 2023. This trend reflects the dynamic nature of credit risk within the banking sector, influenced by aspects such as monetary environments, regulatory changes, and the effectiveness of credit risk management frameworks.

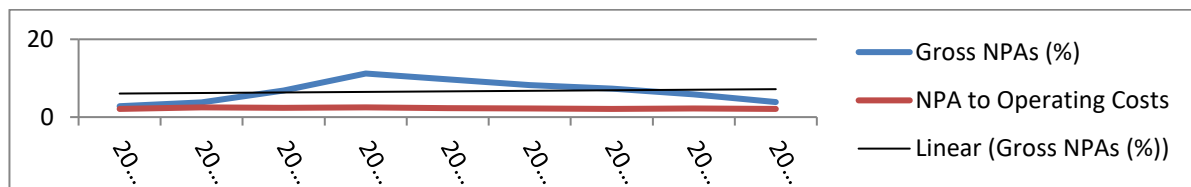


Figure 4: GNPA to Operating Costs Ratios

The role of marketing analytics in managing credit risk and optimizing operational efficiency cannot be understated. By leveraging data-driven perceptions, banks can enhance their credit

underwriting processes, identify early warning signals of potential defaults, and tailor recovery strategies to minimize NPA levels.

**Research Findings** Based on the analysis the research findings for each of the set objectives are listed as follows:

***Objective 1: - Assessment of the Impact of Employment Trends in Banks***

- From 2015 to 2024, the figure of employees in scheduled commercial banks increased from 11.41 lakh to 13.50 lakh.
- Private sector banks saw a significant rise in employment, nearly doubling from 3.43 lakh to 6.50 lakh. This growth is driven by the adoption of marketing analytics, which facilitated customer acquisition, product innovation, and targeted marketing strategies.
- Public sector banks experienced a decline in employment from 7.97 lakh to 7.00 lakh. This is attributed to efforts in operational efficiency and automation, reducing the workforce.

***Objective-2: Evaluation of the Credit Growth in Relation to Banking in India***

- Private sector banks consistently showed higher credit growth rates compared to public sector banks. For instance, in 2023, the growth rate for private banks was 18.5%, while it was 14.3% for public sector banks.
- Public sector banks exhibited significant credit growth recovery post-pandemic, stabilizing at 13.5% in 2024.
- The integration of marketing analytics contributed to optimizing lending strategies, risk assessment, and customer segmentation, leading to enhanced credit growth.

***Objective-3: Analysis of the Operating Results of Credit Institutions***

- The operating costs to average total assets ratio increased from 2.10% in 2015 to 2.42% in 2023. This rise may reflect investments in marketing analytics and other operational improvements.
- The PPOP (Pre-Provision Operating Profit) to average total assets ratio also showed an upward trend from 2.80% to 3.15% over the same period, indicating better productivity and operating effectiveness.
- Investments in marketing analytics have improved customer engagement, targeted marketing, and revenue generation, positively impacting operational results.

***Objective-3: Investigate the NPA-Operating Cost Ratio***

- Gross NPAs (Non-Performing Assets) showed fluctuations, peaking at 11.2% in 2018 and declining to 3.87% in 2023, indicating varying credit risk levels over the years.
- The NPA to operating costs ratio remained stable, ranging from 2.1 to 2.5. This suggests a consistent allocation of resources towards managing NPAs.

- The decline in Gross NPAs in recent years points to effective credit risk management aided by marketing analytics, which helps in early detection of defaults and optimizing recovery strategies.

The research highlights the transformative influence of marketing analytics.

### **Discussion**

The correlation coefficient of +1 indicates a strong positive monotonic trend in employment numbers in the studied period. This finding suggests a considerable change in workers. The correlation coefficient of -1 for 2015-17 indicates a decline in credit growth, but a substantial shift took place towards the end of fiscal year 2016-17. The correlation coefficient of +1 suggests a strong positive trend during 2017-24. The initial slowdown in credit growth, felt across organizations, underscores the confronts by the banking sector, potentially influenced by macroeconomic factors and changes in consumer behavior. The correlation coefficient of 0.12 for operational costs indicates a mild monotonic rise, which is statistically insignificant. This suggests that while operational performance has been volatile yearly, there has not been a consistent trend of increasing operational costs over the period studied. However, the banking industry's operational performance has remained flat, indicating potential challenges in cost management despite fluctuations in performance.

The statement mentions a significant decline of about ten percentage points in the GNPA Ratio between 2015 and 2018, followed by a reversal by 2018. While not explicitly mentioned, the data and trends support the notion that the ratio of NPA to operating costs has been steadily deteriorating over time. This indicates challenges in managing non-performing assets relative to operating costs, potentially influenced by issues such as economic restrictions and credit risk management practices.

The interpretations align with the provided correlation and hypotheses, contributing acumens to the changing dynamics of the banking sector, including workforce trends, credit growth shifts, operational performance, and the management of non-performing assets. These findings highlight the embryonic environment of the banking industry, shaped by digitization, economic factors, and regulatory changes, highlighting the requirement for effective strategies to navigate challenges and capitalize on emerging opportunities.

### **Conclusion**

The data and analyses presented provide a comprehensive view of the impact of marketing analytics on various aspects of the Indian banking sector, including employment trends, credit growth, operational performance, and management of non-performing assets (NPAs). The

correlation analysis reveals a strong positive trend in employment numbers from 2015 to 2024. This employment growth is attributed to the aggressive adoption of marketing analytics by private-sector banks, leading to increased customer acquisition and retention. In contrast, public sector banks have focused on operational efficiencies through automation, resulting in decreased employment.

The correlation analysis indicates fluctuations in credit growth, with a notable shift towards positive trends in later years. The initial slowdown in credit growth is attributed to macroeconomic factors and changes in consumer behavior. However, the adoption of marketing analytics has played a foremost role in improving credit disbursement and risk management, leading to a reversal in credit growth trends and supporting sustainable lending activities in banking. While operational costs have shown a mild monotonic rise, the correlation analysis suggests that there has not been a consistent trend of increasing operational costs over the period studied. This indicates potential challenges in cost management despite fluctuations in operational performance. The data reveals fluctuations in Gross NPAs (%) and the NPA to Operating Costs ratio over the period studied. While the Gross NPA ratio experienced a decline followed by a reversal, the NPA to Operating Costs ratio indicates challenges in managing NPAs relative to operating costs.

The adoption of marketing analytics has significantly influenced various aspects of this sector, contributing to positive employment trends, improved credit growth, and enhanced operational performance. While challenges remain, particularly in managing NPAs, the strategic integration of marketing analytics has positioned banks to navigate dynamic market conditions and capitalize on emerging opportunities.

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## उत्तर प्रदेश के बुंदेलखंड क्षेत्र में पशुपालकों की बढ़ती समस्याएं

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### सारांश

उत्तर-प्रदेश पशुपालन एवं दूध उत्पादन में भारत में प्रथम स्थान होने के बावजूद महानगरो में केवल श्रम आपूर्ति वाला राज्य बनकर रह गया है। ग्रामीणों द्वारा पशुपालन से विमुख होकर रोजगार की तलाश में शहरों की ओर पलायन में वृद्धि एवं अन्ना गोवंश पशुओं की संख्या में वृद्धि किसी भी ग्रामीण अर्थव्यवस्था के लिए शुभ संकेत नहीं है। उत्तर-प्रदेश के बुंदेलखंड क्षेत्र के परिप्रेक्ष्य में पशुपालन से सम्बंधित अनेक अध्ययन प्रस्तुत किये गए हैं, इन अध्ययनों में पशुपालन की समस्याओं का भिन्न-भिन्न कारण दिया गया है। इन कारणों से बुंदेलखंड क्षेत्र में पशुपालन की समस्याओं की जानकारी प्राप्त होती है। अतः इस अध्ययन से हमें पशुपालन की समस्याओं की रुचिकर जानकारी प्राप्त होगी।

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**कुंजी शब्द** – पशुपालन, पशुपालन योजनायें, वर्गीकृत पशुपालन

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### प्रस्तावना

पशुपालन भारत की अनमोल धरोहरो में एक है। मनुष्यों के पूर्वज जब फसल उत्पादन के विषय में कुछ नहीं जानते थे, जंगलों में झुंड के रूप में जीवन व्यतीत करते थे। मनुष्य अपने आहार के लिए छोटे-छोटे पशु पक्षियों का शिकार कर वनस्पतियों फल फूलों का सेवन करके अपना जीवन यापन करते थे। जैसे-जैसे मनुष्य का विकास हुआ वह अपनी आवश्यकताओं के अनुरूप विकास करता गया, सभ्यता के प्रारम्भिक काल से ही मनुष्य ने अपने भोजन तथा कार्य के लिए पशुओं को पालतू बनाया। उसने दूध के लिए गाय, भैंस, बकरियों आदि का पालन प्रारम्भ कर दिया। कृषि कार्य के लिए बैल, यातायात के लिए घोड़े तथा माँस, ऊन के लिए बकरी, भेड़ों का पालन प्रारम्भ किया।

पहले मनुष्य के लिए पशुओं पर आश्रित रहना मजबूरी थी, आज आधुनिकीकरण, शहरीकरण के युग में पशुओं से प्राप्त खाद्य पदार्थों की उच्च गुणवत्ता के कारण आज मनुष्य पशुओं से प्राप्त खाद्य पदार्थों का सेवन करने लगा है। यह सभी विकसित देशों में देखने को मिल रहा है कि जनसंख्या के बढ़ते दबाव कृषि जोत के आकार में कमी बेरोजगारी आदि समस्याएं पशुपालन की महत्ता को बढ़ा रहे हैं क्योंकि आज का मनुष्य उपरोक्त समस्याओं का निराकरण पशुपालन व्यवसाय से होता देख रहा है। इसीलिए पशुपालन की प्रासंगिकता आज और भी महत्वपूर्ण प्रतीत होती है।



## शोध प्रश्न

प्रस्तुत शोध समस्या हेतु निम्नलिखित शोध प्रश्नों का निर्माण किया गया है -

1. बुंदेलखंड के पशुपालकों को मुख्यतः किन समस्याओं का सामना करना पड़ता है?
2. पशुओं के लिए चारा और पानी की उपलब्धता में आने वाली चुनौतियाँ क्या हैं?
3. बुंदेलखंड में पशुपालन योजनाओं के तहत कितने लोग लाभान्वित हो रहे हैं?
4. सरकारी योजनाओं और अनुदानों का लाभ पशुपालकों तक कैसे पहुँचता है?

## अध्ययन का उद्देश्य

1. बुंदेलखंड के पशुपालकों की समस्याओं का अध्ययन करना।
2. बुंदेलखंड में पशुपालन योजनाओं के लाभार्थियों का अध्ययन करना।

## अध्ययन विधि

प्रस्तुत अध्ययन हेतु संख्यात्मक एवं गुणात्मक विधि का प्रयोग किया गया है। यह अध्ययन प्राथमिक सर्वेक्षण के आकड़ों पर आधारित है अध्ययन क्षेत्र उत्तर प्रदेश के चित्रकूट जनपद का चयन उद्देश्य पूर्ण ढंग यादृच्छिक चयन प्रक्रिया द्वारा किया गया है। तत्पश्चात चित्रकूट जनपद के दो ब्लॉकों मऊ एवं रामनगर लिया गया है। मऊ ब्लॉक से 3 गाँव बरगढ़, बम्बुरी, खन्डेहा एवं रामनगर ब्लॉक के 3 गाँव लौरी, बसिंधा, खोर गाँव को यादृच्छिक नमूना विधि से लिया गया। प्रत्येक गाँव से 48-48 सोदेश्य पूर्ण कुल 288 पशुपालकों को लिया गया है। जो कि पशुपालकों एवं दूध उत्पादकों के निष्पादन सम्बन्धी जांच एवं बाधाओं की पहचान हेतु उपयुक्त है। अध्ययन उद्देश्यों की पूर्ति हेतु स्वनिर्मित प्रश्नावली का प्रयोग किया गया है। प्रदत्त विश्लेषण हेतु प्रतिशत विश्लेषण विधि का प्रयोग किया गया है।

## अध्ययन निष्कर्ष एवं विवेचना

शोध अध्ययन के उद्देश्यों के अनुसार प्राप्त निष्कर्षों की विवेचना निम्नलिखित है-

## पशुपालकों की समस्याएँ

प्राप्त प्रदत्तों के गुणात्मक विश्लेषण के आधार पर यह कहा जा सकता है कि उत्तर प्रदेश का बुंदेलखंड क्षेत्र मुख्यतया ग्रामीण असंगठित क्षेत्र है, जहाँ पशुपालकों द्वारा लागत, लाभ, कीमत, उत्पादन, उत्पादकता, सीमांत उत्पादन इत्यादि के विश्लेषण की कमी पायी जाती है, बाजार की उपलब्धता की कमी पायी जाती है, अर्थात् बाजार उनके ग्रामीण इलाकों

से दूर होता है। जहां पर आने-जाने के लिए साधन तथा समय की समस्या होती है। दूध एवं दूध से बने उत्पाद को रखने की अवसंरचना की कमी होती है, और प्रसंस्कृत उत्पादों पर पर्याप्त ध्यान नहीं दिया जाता है तथा पारंपरिक उत्पाद दही, घी, छाछ, खोवा आदि बनाएं एवं बेचे जाते हैं, जिनका कीमत प्रचलित बाजार से कम ही उन्हें प्राप्त होता है, जबकि उन्हें पशुओं के लिए पोषक तत्व तथा दवा एवं अनाज उनको बाजार की प्रचलित कीमत पर ही खरीदना पड़ता है, जिसका प्रभाव प्रत्यक्ष या परोक्ष रूप से किसानों पशुपालकों तथा पशुओं पर होता है जिसकी वजह से वह पशुपालन से विमुख हो जाते हैं तथा पशुपालन को समाप्त करने के लिए सोचते हैं या तो वह पशुपालन व्यवसाय को स्थिर अर्थात् पशुओं की संख्या में वृद्धि नहीं करते हैं एवं वह अपने परिवार एवं युवाओं को इस व्यवसाय से दूर रहने की सलाह देने लगते हैं।

वर्तमान समय में उत्तर प्रदेश के बुंदेलखंड क्षेत्र में पशुपालन एवं डेयरी उद्योग में मृत पशुओं के शरीर को नष्ट करने के लिए व्यक्तियों एवम् स्थाई स्थान की समस्या मुख्य है क्योंकि मृत पशुओं को उठाने तथा उनके चमड़े, सीघ तथा हड्डियों को निकालने एवं उनको एकत्र करने के लिए आज कोई भी तैयार नहीं होता है। उसका सबसे बड़ा कारण सामाजिक है ऐसे व्यक्तियों जो मृत पशुओं के चमड़े, सीघ तथा हड्डियों को एकत्र करके बेचते हैं उनको समाज में उचित सम्मान नहीं प्राप्त होता है एवं उन्हें छुआ छुत का सामना करना पड़ता है तथा उन्हें हमेशा समाज से दूर रखा जाता है जिससे वर्तमान समय में कोई भी व्यक्ति इस कार्य को करना नहीं चाहता है जिससे कि वर्तमान में पशुओं के मृत शरीर को कहीं भी सड़क के किनारे फेंक दिया जाता है जिससे कि पर्यावरण प्रदूषण तथा अन्य प्रकार की बीमारियां बढ़ रही है।

उत्तर प्रदेश के बुंदेलखंड क्षेत्र में अधिकतर पशुपालक पशुपालन को व्यवसाय के रूप में ना अपनाकर केवल और केवल सहायक व्यवसाय के रूप में सीमित रखते हैं जिससे कि पशुपालन का ग्रामीण क्षेत्रों में उचित विकास नहीं हो पाया है एवं पशुपालकों के द्वारा पशुपालन पर अपना पूरा ध्यान नहीं देते हैं जिससे कि उनका उत्पादन, लागत एवं लाभ प्रभावित होता है एवं उन्हें यह व्यवसाय घाटे का प्रतीत होने लगता है और वह इसे कम करने या बंद करने के बारे में सोचने लगते हैं एवं अपनी भावी पीढ़ी को इसे ना करने की सलाह भी देने लगते हैं यदि पशुपालक द्वारा पशुपालन को मुख्य व्यवसाय के रूप में अपनाया जाए तो बेरोजगारी की समस्या का समाधान हो सकता है तथा महिलाओं एवं बच्चों के अतिरिक्त समय का उपयोग भी आसानी से घर पर उत्पादक रूप में ही किया जा सकता है।

### पशुपालन हेतु विभिन्न कारक एवं पशुपालकों का वितरण

वर्गीकृत पशुपालन	पशुपालकों की संख्या
लाभ अधिक है	15
व्यवसाय के रूप में	10
खेतों के उर्वरक रूप में	93
कृषि कार्य में सहायता हेतु	28
हरी घास या चारा उपलब्धता के कारण	142
कुल पशुपालक	288

#### अध्ययन क्षेत्र के प्राथमिक सर्वेक्षण के आंकड़ों पर आधारित निष्कर्षों की विवेचना

उपरोक्त विश्लेषण से यह स्पष्ट हो रहा है, की अध्ययन क्षेत्र में पशुपालन को लाभ का व्यवसाय मानने वाले पशुपालकों की संख्या बहुत कम इसके विभिन्न कारण हो सकते हैं। जैसे कि अध्ययन क्षेत्र में पशुपालकों के द्वारा अधिकतम देशी नस्ल के पशुओं का पालन किया जाता है जिससे की उनसे प्राप्त होने वाला उत्पादन भी कम होता है। जबकि लागत दुधारू पशुओं के बराबर ही होती है, एवं अनुउत्पादक पशुओं की संख्या अधिक होती है। व्यवसायिक रूप से अपनाने वाले पशुपालकों की संख्या भी अच्छी नहीं होने के विभिन्न कारण है। जैसे की अध्ययन क्षेत्र में पशुपालकों को किसी प्रकार का प्रशिक्षण प्राप्त नहीं होता है। जिससे की वह पारम्परिक पशुपालन ही करते हैं तथा उन्हें किसी प्रकार की सरकारी सहायता प्राप्त नहीं होती है।

#### पशुपालन सम्बन्धी योजनाओं के जानकारी और लाभ आधारित पशुपालकों का वितरण

लाभार्थी / गैर लाभार्थी	योजनाओं की जानकारी है(%में)	योजनाओं की जानकारी नहीं है (%में)	कुल
लाभ प्राप्त है	18	12	30
लाभ प्राप्त नहीं है	20	238	258

#### अध्ययन क्षेत्र के प्राथमिक सर्वेक्षण के आंकड़ों पर आधारित।

उपरोक्त विश्लेषण से यह स्पष्ट हो रहा है, कि अधिकांश उत्तरदाताओं को योजनाओं की जानकारी का अभाव होने के कारण उनका समुचित लाभ नहीं प्राप्त हो पा रहा है। इसके विभिन्न कारण है जैसे कि पशुपालन सम्बन्धित योजनाओं का व्यापक प्रचार-प्रसार ना होना एवं अधिकांश पशुपालकों का अशिक्षित एवं निरक्षर होना आदि है। अतः पशुपालन

सम्बन्धी योजनाओं एवं नीतियों के व्यापक प्रचार प्रसार की आवश्यकता है जिससे कि अध्ययन क्षेत्र के पशुपालकों को लाभ प्राप्त हो सके एवं वह पशुपालन एवं डेयरी उत्पादन से अपनी आय में वृद्धि कर सके।

### निष्कर्ष

अतः इस प्रकार से देखा जाये तो अभी भी पशुपालन एवं डेयरी उद्योग में किसी ऐसे व्यवस्था का जन्म नहीं हुआ है कि कृषक कीमत प्रणाली के रास्ते से लाभ सृजित कर सके, प्रोत्साहित होकर रोजगार बढ़ा सके, कुल उत्पादन बढ़ा सके पशुओं के नस्ल में सुधार हो सके, बाजार का आकार बढ़ा सके यदि हुए भी है। तो उनका उचित किर्यान्वयन ना हो पाने के कारण उसका शत प्रतिशत लाभ ग्रामीणों को प्राप्त नहीं हो सका है। उपरोक्त जैसी समस्याओं के कारण अंततः रोजगार सृजन के मौजूदा स्तर पर एवं उसके संभवनाओं पर बुरा प्रभाव डालता है। इस प्रकार की समस्या को देख कर या समस्या से आहत होकर या तो पशुपालक पशुपालन व्यवसाय को समाप्त करने के बारे में सोचता है या मौजूदा स्तर पर व्यवसाय को रोके रखता है या अधिक बढ़ाने की इच्छा नहीं रखता है इसी प्रकार की समस्या को देख कर देश के ग्रामीण युवा इस व्यवसाय से जुड़ना नहीं चाहते हैं। यंहा तक पशुपालक स्वयं ही अपने परिवार के युवाओं को इस व्यवसाय से बाहर कर दे रहे हैं तथा व्यवसाय नहीं करने की सलाह देते हैं, क्योंकि ग्रामीण क्षेत्रों में पशुपालन केवल जीवनयापन का साधन मात्र रह गया है।

प्रस्तुत शोध अध्ययन से स्पष्ट होता है कि उत्तर प्रदेश में पशुपालन एवं डेयरी उद्योग में सुधार हेतु सरकार द्वारा हस्तक्षेप की आवश्यकता है। जैसा कि रोजगार की प्रवृत्ति से स्पष्ट होता है। ग्रामीण क्षेत्रों में भूमिहीनों एवं मजदूरों के रोजगार के लिए मनरेगा जैसी योजनाएँ चलाई जा रही हैं, जिसमें भ्रष्टाचार के कारण रोजगार की स्थिति अच्छी नहीं है। पशुपालन एवं डेयरी उद्योग द्वारा ग्रामीण क्षेत्रों में स्वरोजगार सृजन आसानी से किया जा सकता है तथा प्राथमिक क्षेत्र से भूमिहीन मजदूरों एवं किसानों की निर्भरता कम किया जा सकता है एवं पशुपालन डेयरी उद्योग से सम्बन्धित योजनाओं की समीक्षा कर समस्याओं के समाधान के साथ योजनाओं को पारदर्शी बनाने की आवश्यकता है।

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## बी.एड. प्रशिक्षुओं की अधिगम शैली पर एक अध्ययन

क्षमा पाण्डेय एवं राज कीर्ति रस्तोगी

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### सारांश

वर्तमान समय में शिक्षा के क्षेत्र में, विद्यार्थियों की विविध आवश्यकताओं और प्राथमिकताओं को पूरा करने वाले शैक्षिक दृष्टिकोण को अपनाने पर जोर दिया जा रहा है। इसी प्रकार शिक्षक प्रशिक्षण कार्यक्रमों में यह सुनिश्चित किया जाना चाहिए कि प्रशिक्षुओं को दृश्य, श्रव्य, पठन/लेखन, गतिज और मल्टीमॉडल शिक्षण सामग्री के माध्यम से प्रशिक्षित किया जाए। इसका उद्देश्य यह है कि सभी प्रशिक्षु अपनी पसंदीदा सीखने की शैली के अनुसार शिक्षण प्राप्त कर सकें, जिससे उनकी संज्ञानात्मक संलग्नता, जिज्ञासा और शैक्षिक उपलब्धि में वृद्धि हो। इस दृष्टिकोण से समग्र विकास को प्रोत्साहन मिलता है। प्रशिक्षुओं को उनकी पसंदीदा सीखने की शैली के साथ संरेखित करते हुए संज्ञानात्मक संलग्नता, जिज्ञासा और उपलब्धि को बढ़ाया जा सके। शिक्षण में विद्यार्थियों की अलग-अलग जरूरतों और पसंद को समझना बेहद जरूरी है। हर विद्यार्थी अलग तरीके से सीखता है। इसलिए, शिक्षकों को भी इस बात का ध्यान रखना चाहिए कि वे विद्यार्थियों को एक साथ कैसे और किस अधिगम शैली द्वारा पढ़ा सकते हैं। इसके लिए शिक्षकों को प्रशिक्षण देते समय, उन्हें विभिन्न तरीकों से पढ़ाने की ट्रेनिंग दी जानी चाहिए। जैसे कि, चित्रों के माध्यम से, वीडियो के माध्यम से, ऑडियो एवं रेडियो के माध्यम से, किताबें पढ़कर, खेल-खेल में विभिन्न गतिविधियों और कई तरह के तरीकों से इससे सभी विद्यार्थी अपनी पसंद के तरीके से अधिगम कर सकेंगे। जब विद्यार्थी अपनी पसंदीदा अधिगम शैली से पढ़ते हैं, तो उनकी संज्ञानात्मक संलग्नता एवं जिज्ञासा बढ़ती है। इस तरह विद्यार्थियों का सर्वांगीण विकास होता है।

प्रस्तुत शोध के अंतर्गत बी.एड. पाठ्यक्रम में अध्ययनरत प्रशिक्षुओं की अधिगम शैली का आंकलन करने के लिए VARK अधिगम शैली का उपयोग किया गया। न्यादर्श के रूप में जनपद सीतापुर में स्थित बी.एड. महाविद्यालयों में अध्ययनरत प्रथम सेमेस्टर के बी.एड. प्रशिक्षुओं को चयनित किया गया। शोधार्थी ने आंकड़ों का संकलन करने के लिए VARK अधिगम शैली पर आधारित प्रश्नावली का प्रयोग किया। आंकड़ों का विश्लेषण प्रतिशत सांख्यिकी द्वारा किया गया। प्रदत्त परिणामों से ज्ञात हुआ कि प्रशिक्षु मल्टीमॉडल अधिगम शैली को प्राथमिकता देते हैं।

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**कुंजी शब्द:** VARK अधिगम शैली, दृश्य अधिगम शैली, मल्टीमॉडल अधिगम शैली, श्रव्य अधिगम शैली, गतिज अधिगम शैली।

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### प्रस्तावना

मनुष्य उच्च कोटि का बौद्धिक प्राणी है। उच्च बौद्धिकता का कारण मनुष्य में सीखने की प्रक्रिया का पाया जाना है। सीखने को मनोवैज्ञानिक भाषा में अधिगम कहते हैं। अधिगम एक निरंतर चलने वाली सार्वभौमिक प्रक्रिया है। व्यक्ति

जन्म से मृत्यु तक कुछ न कुछ सीखता रहता है। व्यक्ति औपचारिक, अनौपचारिक तथा निरौपचारिक तरीके से कभी भी, कहीं भी, कुछ भी सीख सकता है।

अधिगम का मानव जीवन में महत्वपूर्ण स्थान होता है। व्यक्ति जो भी व्यवहार करता है अथवा नहीं करता है उसका अधिकांश भाग अधिगम अथवा अधिगम प्रक्रिया से प्रभावित होता है। वास्तव में अधिगम मानव जीवन की सफलता की कुंजी है अधिगम के फलस्वरूप ही व्यक्ति अपने व्यवहार को परिष्कृत करता है। अधिगम तथा अधिगम शैली शिक्षा प्रक्रिया का एक आवश्यक तथा महत्वपूर्ण अंग है यही कारण है कि शैक्षिक मनोविज्ञान में अधिगम, अधिगम प्रक्रिया तथा अधिगम शैली को महत्वपूर्ण स्थान प्राप्त है। अधिगम शैली का तात्पर्य सीखने की उस शैली से है जिसमें प्रत्येक विद्यार्थी विशिष्ट तरीके से सहजतापूर्वक सीखता है। किसी भी कक्षा के विद्यार्थियों में व्यक्तिगत, सांस्कृतिक अनुभव तथा मूल्यों में विविधता पाई जाती है। विद्यार्थी भिन्न-भिन्न अधिगम परिवेश में भिन्न भिन्न प्रकार से सीखना पसंद करते हैं। विद्यार्थियों की प्रतिभाएं शक्तियां और कमजोरियां अलग-अलग प्रकार की होती हैं अतः यह आवश्यक है कि शिक्षक प्रत्येक बालक की व्यक्तिगत विशेषताओं को समझे और प्रत्येक अधिगमकर्ता में एकाग्रता उत्पन्न करने तथा उसे बनाए रखने के लिए उपयुक्त शिक्षण वातावरण तैयार करें। कुछ जन्मजात प्रवृत्तियों तथा सहज प्रतिक्रियाओं के अतिरिक्त मनुष्य के अन्य समस्त व्यवहार सीखे हुए होते हैं। कक्षा में अधिगम के आधार पर ही प्रत्येक विद्यार्थी एक दूसरे से भिन्न होता है। उसके अधिगम में भिन्नता पाई जाती है। अधिगम शैली जितनी प्रभावशाली होगी शैक्षिक उपलब्धि उतनी उच्च होगी। अधिगम शैली और शैक्षिक उपलब्धि एक दूसरे से संबंधित हैं। शैक्षिक उपलब्धि विद्यालयों में अर्जित ज्ञान की परीक्षा है (वर्मा, 2014)। नील फ्लेमिंग द्वारा विकसित VARK प्रतिमान अधिगम शैली पर आधारित प्रभावी प्रतिमान है जो शिक्षार्थियों की प्राथमिकताओं को 4 बुनियादी श्रेणियों – दृश्य, श्रवण, पढ़ना/लिखना, और काइनेस्टेटिक में वर्गीकृत करने के साथ मल्टीमॉडल सीखने की अवधारणा पर आधारित है। VARK अधिगम शैली एक सीखने की शैली का हिस्सा है। सीखने की शैली शब्द का उपयोग सीखने की किसी विशेषता का वर्णन करने के लिए किया जाता है। तकनीकी रूप से यह शब्द उन सभी घटकों को संदर्भित करता है जो सीखने के लिए किसी व्यक्ति की प्राथमिकताओं को प्रभावित कर सकते हैं। नील फ्लेमिंग और डेविडबॉम के अनुसार, शिक्षकों को यह समझने की आवश्यकता है कि उनके छात्र कैसे सीखते हैं, छात्रों के लिए यह समझना अधिक महत्वपूर्ण है कि वे स्वयं कैसे सीखते हैं। पेमैन एट अल. (2014) में कहा गया है कि VARK किसी की सीखने की शैलियों के बारे में आत्म-जागरूकता को सक्षम बनाता है

और प्रत्येक शिक्षार्थी को उपयुक्त अध्ययन विधियों का चयन करने की अनुमति देता है। विद्यार्थियों को लक्ष्य प्राप्ति हेतु अधिक मानसिक श्रम की आवश्यकता पड़ती है जबकि शिक्षक को उनके लक्ष्यों तक पहुंचाने में सही दिशा एवं निर्देशों के साथ अधिगमपूर्ण शिक्षण प्रदान करने आवश्यकता होती है। शिक्षक एवं शिक्षार्थी दोनों लक्ष्य की प्राप्ति हेतु निरंतर प्रयत्नशील रहते हैं। बेहतर शैक्षिक उपलब्धि के लिए विद्यार्थियों की रुचि के अनुरूप उपयुक्त अधिगम शैली की आवश्यकता होती है जिसके लिए आवश्यक है कि शिक्षक अध्ययनरत विद्यार्थियों की जिज्ञासा, रुचि, अभिप्रेरणा, संज्ञानात्मक संलग्नता को बनाए रखें ताकि विभिन्न अधिगम शैली के माध्यम से विद्यार्थियों की पसंदीदा अधिगम शैली से सीखने वाले बालकों से समान रूप से शैक्षिक उपलब्धि प्राप्त की जा सके।

### शोध प्रश्न

1. क्या बी.एड. पाठ्यक्रम में अध्ययनरत प्रशिक्षुओं की VARK अधिगम शैली पर आधारित पसंदीदा अधिगम शैली में अंतर है?
2. क्या बी.एड. पाठ्यक्रम में अध्ययनरत प्रशिक्षुओं की लैंगिक आधार पर VARK अधिगम शैली पर आधारित पसंदीदा अधिगम शैली में अंतर है?
3. क्या बी.एड. पाठ्यक्रम में अध्ययनरत प्रशिक्षुओं की विषय वर्ग के आधार पर VARK अधिगम शैली पर आधारित पसंदीदा अधिगम शैली में अंतर है?

### शोध उद्देश्य

1. बी.एड. पाठ्यक्रम में अध्ययनरत प्रशिक्षुओं की VARK अधिगम शैली पर आधारित पसंदीदा अधिगम शैली का आंकलन करना।
2. बी.एड. पाठ्यक्रम में अध्ययनरत महिला एवं पुरुष प्रशिक्षुओं की अधिगम शैली में अंतर का आंकलन करना।
3. बी.एड. पाठ्यक्रम में विज्ञान एवं सामाजिक विज्ञान वर्ग के प्रशिक्षुओं की VARK अधिगम शैली पर आधारित पसंदीदा अधिगम शैली का आंकलन करना।

### शोध विधि

प्रस्तुत शोध अध्ययन मात्रात्मक शोध के अंतर्गत वर्तमान स्थिति को जानने हेतु सर्वेक्षण विधि का प्रयोग किया गया।



### उपकरण

आंकड़ों का संकलन VARK अधिगम शैली प्रश्नावली द्वारा किया गया जो ऑनलाइन उपलब्ध है जिसे फ्लेमिंग द्वारा विकसित किया गया है। जो छात्रों की सीखने की शैली को निर्धारित करती है। प्रश्नावली में 16 बहुविकल्पीय प्रश्न हैं। जिनमें से प्रत्येक में चार विकल्प हैं। चार विकल्प दृश्य (V), श्रव्य (A), पढ़ना/लिखना (R) और गतिज (K) पर आधारित है। विद्यार्थी दिए गए विकल्पों में से अपने पसंदीदा विकल्प के साथ एक या एक से अधिक विकल्पों का चयन कर सकते हैं।

### न्यादर्श

शोध अध्ययन में न्यादर्श के रूप में उत्तर प्रदेश के सीतापुर जिले में स्थित दो बी.एड. महाविद्यालयों से 96 प्रशिक्षकों का चयन यादृच्छिक विधि से किया गया। जिसमें 42 महिला तथा 54 पुरुष शामिल थे।

### प्रयुक्त सांख्यिकी

अध्ययन की प्रकृति वर्णनात्मक है जहां आंकड़ों का सारणीबद्ध विश्लेषण मात्रात्मक और गुणात्मक दोनों दृष्टिकोण से किया जाता है। इसलिए यहां प्रतिशत विश्लेषण का उपयोग सांख्यिकी के रूप में किया गया है।

### विश्लेषण एवं परिणाम

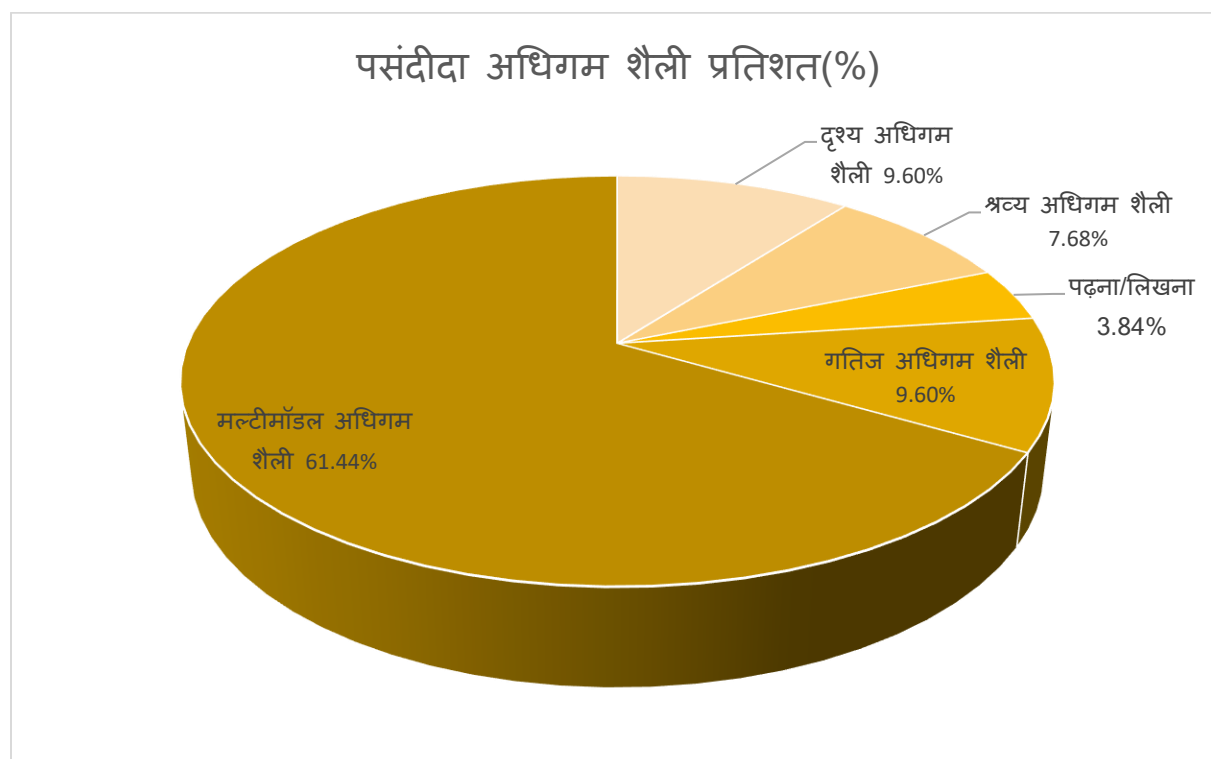
शोध प्रश्नों के उत्तर प्राप्त करने के लिए आंकड़ों का विश्लेषण करने के लिए आंकड़ों को प्रतिशत में परिवर्तित किया गया।

सारणी सं. 01

बी.एड. पाठ्यक्रम में अध्ययनरत प्रशिक्षकों की VARK अधिगम शैली पर आधारित पसंदीदा अधिगम शैली का आंकलन करना।

VARK अधिगम शैली	पसंदीदा अधिगम शैली संख्या	पसंदीदा अधिगम शैली प्रतिशत(%)
दृश्य (V)	10	9.6%
श्रव्य (A)	08	7.68%
पढ़ना/लिखना (R)	04	3.84%
गतिज (K)	10	9.6%
मल्टीमॉडल	64	61.44%
कुल	96	

**सारणी सं.1** के अनुसार बी.एड. प्रथम सेमेस्टर में अध्ययनरत कुल 96 प्रशिक्षुओं का सर्वे VARK प्रश्नावली के माध्यम से किया गया। जिसमें 51% (54) पुरुष तथा 40% (42) महिलाएं शामिल थीं। आंकड़ों से पता चलता है कि बी.एड प्रशिक्षुओं ने मल्टीमॉडल अधिगम शैली को प्रथम पसंदीदा शैली के रूप में दृश्य अधिगम शैली 9.6% (10) और गतिज अधिगम शैली 9.6% (10) को समान रूप से पसंद किया तथा श्रव्य अधिगम शैली 7.68 (8) को दूसरी पसंदीदा शैली माना जबकि सबसे कम पसंदीदा अधिगम शैली के रूप में पढ़ना/लिखना 3.84 (04) को पसंद किया गया। मल्टीमॉडल अधिगम शैली 61.44% (64) को प्रशिक्षुओं द्वारा सबसे अधिक पसंद किया गया।



**चित्र - 1**

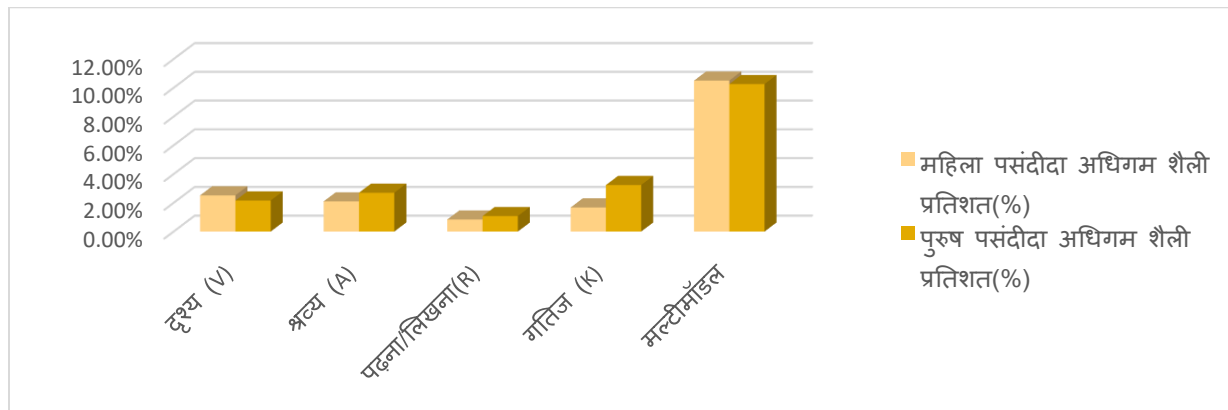
**चित्र - 1** में VARK प्रश्नावली के परिणाम के आधार पर चार अधिगम शैलियों के अनुसार समस्त प्रशिक्षुओं की पसंदीदा अधिगम शैली के अनुरूप समूह का वितरण दर्शाया गया। जिसमें दृश्य अधिगम शैली और गतिज अधिगम शैली को समान रूप से पसंद किया गया तथा श्रव्य अधिगम शैली को दूसरी पसंदीदा शैली माना जबकि सबसे कम पसंदीदा अधिगम शैली के रूप में लेखन /पठन को पसंद किया गया। बी.एड प्रशिक्षुओं ने सर्वाधिक पसंदीदा अधिगम शैली के रूप में मल्टीमॉडल अधिगम शैली को पसंद किया।

सारणी सं. 02

बी.एड. पाठ्यक्रम में अध्यनरत महिला एवं पुरुष प्रशिक्षुओं की अधिगम शैली में अंतर का आंकलन करना

VARK अधिगम शैली	महिला पसंदीदा अधिगम संख्या	महिला पसंदीदा अधिगम शैली प्रतिशत(%)	पुरुष पसंदीदा अधिगम संख्या	पुरुष पसंदीदा अधिगम शैली प्रतिशत(%)
दृश्य (V)	6	2.52%	4	2.16%
श्रव्य (A)	5	2.1%	5	2.7%
पढ़ना/लिखना(R)	2	0.84%	2	1.08%
गतिज (K)	4	1.68%	6	3.24%
मल्टीमॉडल	26	10.5%	37	10.26%
कुल	42		54	

सारणी सं. 2 के अनुसार बी.एड. प्रथम सेमेस्टर में अध्यनरत कुल 96 प्रशिक्षुओं में से 40% (42) महिला तथा 51% (54) पुरुषों का सर्वे VARK प्रश्नावली के माध्यम से किया गया। आंकड़ा विश्लेषण से पता चलता है कि बी.एड प्रशिक्षुओं में महिला प्रशिक्षुओं ने दृश्य अधिगम शैली को 2.52% (6) और पुरुष प्रशिक्षुओं ने 2.16% (4) पसंद किया। श्रव्य अधिगम शैली को महिला प्रशिक्षुओं ने 2.1% (5) तथा पुरुष प्रशिक्षुओं 2.5% (5) ने पसंद किया। गतिज अधिगम शैली को महिला प्रशिक्षुओं 1.68% (4) की अपेक्षा पुरुष प्रशिक्षुओं 3.24% (6) ने अधिक पसंद किया। इसी प्रकार मल्टीमॉडल अधिगम शैली को महिला प्रशिक्षुओं 10.5% (26) की तुलना में पुरुष प्रशिक्षुओं 10.26% (37) ने अधिक पसंद किया।



चित्र - 2

चित्र - 2 में VARK प्रश्नावली के परिणाम के आधार पर चार अधिगम शैलियों का लैंगिक आधार पर तुलनात्मक अध्ययन करने पर ज्ञात होता है कि दृश्य अधिगम शैली को पुरुषों की अपेक्षा महिलाओं ने अधिक पसंद किया। श्रव्य

अधिगम शैली को महिला तथा पुरुष प्रशिक्षकों ने समान रूप से पसंद किया। लेखन /पठन अधिगम शैली में भी महिला तथा पुरुष प्रशिक्षकों में समानता है। महिलाओं द्वारा मल्टीमॉडल अधिगम शैली के बाद सबसे अधिक पसंद दृश्य अधिगम शैली जबकि पुरुष प्रशिक्षुओं द्वारा गतिज अधिगम शैली को पसंद किया गया। दूसरी पसंद के रूप में महिला तथा पुरुष प्रशिक्षुओं ने समान रूप से श्रुव्य अधिगम शैली को पसंद किया। सबसे कम पसंदीदा शैली पढ़ना/लिखना में भी महिला तथा पुरुष प्रशिक्षुओं में समानता है। जबकि गतिज शैली को महिला की अपेक्षा पुरुषों द्वारा अधिक पसंद किया गया। बी.एड महिला तथा पुरुष प्रशिक्षुओं ने सर्वाधिक पसंदीदा अधिगम शैली के रूप में मल्टीमॉडल अधिगम शैली को पसंद किया।

### सारणी सं. 03

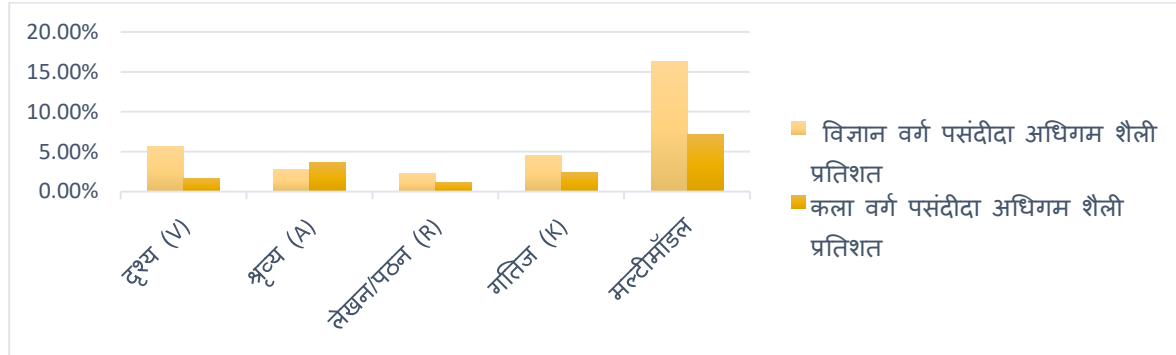
बी.एड. पाठ्यक्रम में विज्ञान एवं सामाजिक विज्ञान वर्ग के प्रशिक्षुओं की VARK अधिगम शैली पर आधारित पसंदीदा अधिगम शैली का आंकलन करना।

VAR K अधिगम शैली	विज्ञान वर्ग पसंदीदा अधिगम शैली संख्या	विज्ञान वर्ग पसंदीदा अधिगम शैली प्रतिशत	कला वर्ग पसंदीदा अधिगम शैली संख्या	कला वर्ग पसंदीदा अधिगम शैली प्रतिशत
दृश्य (V)	10	5.6%	4	1.6%
श्रुव्य (A)	5	2.8%	9	3.6%
लेखन/पठन (R)	4	2.24%	3	1.2%
गतिज (K)	8	4.48%	6	2.4%
मल्टीमॉडल	29	16.24%	18	7.2%

सारणी सं.-3 के अनुसार बी.एड. प्रथम सेमेस्टर में अध्ययनरत कुल 96 प्रशिक्षुओं में से 53.76% (56) विज्ञान वर्ग तथा 38.4% (40) कला वर्ग का सर्वे VARK प्रश्नावली के माध्यम से किया गया। आंकड़ा विश्लेषण से पता चलता है कि बी.एड प्रशिक्षुओं में विज्ञान वर्ग के प्रशिक्षुओं ने दृश्य अधिगम शैली को 5.6% (10) और कला वर्ग के प्रशिक्षुओं ने 1.6% (4) ने पसंद किया। श्रुव्य अधिगम शैली को विज्ञान वर्ग के प्रशिक्षुओं ने 2.8% (5) तथा कला वर्ग प्रशिक्षुओं ने 3.6% (9) को पसंद किया। लेखन/पठन अधिगम शैली में विज्ञान वर्ग के 2.24%(4) तथा सामाजिक विज्ञान वर्ग के 1.2%((3) प्रशिक्षुओं ने पसंद किया। गतिज अधिगम शैली को विज्ञान वर्ग के प्रशिक्षुओं 4.48% (8) की अपेक्षा

कला वर्ग के 2.4% (6) प्रशिक्षुओं ने कम पसंद किया। इसी प्रकार मल्टीमॉडल अधिगम शैली को विज्ञान वर्ग के

16.24% (29) प्रशिक्षुओं की तुलना में कला वर्ग प्रशिक्षुओं ने 7.2%(18) ने कम पसंद किया।



चित्र - 3

चित्र - 3 में VARK प्रश्नावली के परिणाम के आधार पर चार अधिगम शैलियों का विज्ञान एवं सामाजिक विज्ञान वर्ग के प्रशिक्षुओं की VARK अधिगम शैली पर तुलनात्मक अध्ययन करने पर ज्ञात होता है कि विज्ञान वर्ग के प्रशिक्षुओं ने मल्टी मॉडल अधिगम शैली के बाद दृश्य अधिगम शैली को अधिक पसंद किया क्रमशः गतिज तथा श्रुत्य अधिगम शैली को पसंद किया जबकि लेखन/पठन शैली को सबसे कम पसंद किया। कला वर्ग के प्रशिक्षुओं ने मल्टी मॉडल अधिगम शैली के बाद श्रुत्य अधिगम शैली को अधिक पसंद किया क्रमशः गतिज तथा दृश्य अधिगम शैली को पसंद किया जबकि लेखन/पठन शैली को सबसे कम पसंद किया। दृश्य अधिगम शैली को विज्ञान वर्ग की अपेक्षा सामाजिक विज्ञान वर्ग के प्रशिक्षुओं ने कम पसंद है। जबकि श्रुत्य अधिगम शैली को विज्ञान वर्ग की अपेक्षा सामाजिक विज्ञान वर्ग के प्रशिक्षुओं ने अधिक पसंद किया। लेखन/पठन अधिगम शैली में विज्ञान वर्ग की अपेक्षा सामाजिक विज्ञान वर्ग के प्रशिक्षुओं ने कम पसंद है। गतिज अधिगम शैली को विज्ञान वर्ग की अपेक्षा सामाजिक विज्ञान वर्ग के प्रशिक्षुओं ने कम पसंद है। बी.एड. विज्ञान वर्ग तथा सामाजिक विज्ञान वर्ग के प्रशिक्षुओं ने सर्वाधिक पसंदीदा अधिगम शैली के रूप में मल्टीमॉडल अधिगम शैली को पसंद किया। जिसमें सामाजिक विज्ञान वर्ग के प्रशिक्षुओं की अपेक्षा विज्ञान वर्ग के प्रशिक्षुओं ने मल्टीमॉडल अधिगम शैली को अधिक पसंद किया।

### निष्कर्ष

प्रस्तुत शोध अध्ययन के आधार पर यह कहा जा सकता है कि VARK अधिगम शैली अत्यधिक प्रभावी अधिगम शैली है। यह शैली बी.एड प्रशिक्षकों को उपयुक्त शिक्षण विधियां को खोजने और निर्धारित शैक्षिक लक्ष्य की प्राप्ति करने

में सहायक है। व्यक्तिगत भिन्नता के आधार पर प्रत्येक प्रशिक्षु अलग-अलग तरह से अधिगम करता है इसलिए आवश्यक है प्रशिक्षक अपने प्रशिक्षुओं की पसंदीदा अधिगम शैली को पहचानने और प्रभावी प्रशिक्षण प्रदान करें। प्रशिक्षकों के साथ-साथ यह बी.एड प्रशिक्षुओं के लिए अत्यंत लाभकारी है। सीखने की शैली को पहचानकर प्रशिक्षक अपने शिक्षण में तथा विद्यार्थी स्वाध्यन द्वारा संज्ञानात्मक सलंगनता को बढ़ा सकते हैं।

VARC अधिगम शैली संदर्भ और सीखने की विशिष्ट सामग्री पर सीमित केंद्रित है क्योंकि सीखने की प्राथमिकताएं विषय वस्तु सामग्री की जटिलता व्यक्ति के पूर्व ज्ञान और अनुभव के आधार पर भिन्न हो सकते हैं। यह अधिगम शैली व्यक्तियों को चार अलग-अलग श्रेणियों में वर्गीकृत करके अधिगम शैलियों की जटिलताओं को सरल बनाता है। परंतु अधिगम एक बहुआयामी प्रक्रिया है जिसमें व्यक्ति किसी एक श्रेणी में जुड़ने की बजाय अधिगम प्राथमिकताओं का संयोजन प्रदर्शित करता है।

शोध परिणामों से पता चलता है कि लगभग 50-70% व्यक्ति मल्टीमॉडल होते हैं (अर्थात जब सीखने की बात आती है तो उनके पास एक से अधिक प्राथमिकताएँ होती हैं) (पीट एंड वाइल्ड, 2017)। मल्टीमॉडल शिक्षार्थियों के पास किसी भी एक विधि के लिए एक मजबूत प्राथमिकता नहीं है (इक्टेनबास और एरीइल्माज़, 2011)। कक्षा में, हमेशा विविध शिक्षार्थी होते हैं। उस स्थिति में, शिक्षक एकीकृत शिक्षण शैली का उपयोग कर सकता है जो सभी शिक्षार्थियों की पसंदीदा शिक्षण शैली को संबोधित कर सकता (नासिर, सानिया 2021)। निष्कर्षतः प्रस्तुत शोध में बी.एड प्रशिक्षुओं की सर्वाधिक पसंदीदा शैली मल्टीमॉडल रही जिसका कारण है कि यह शैली विभिन्न शिक्षण शैलियों और पसंदीदा अधिगम शैली को स्वीकार और समायोजित करती है। मोशबाब (2016) और अल-सऊद (2013), मर्फी एट अल (2004) और तंतावी (2009) के अध्ययन में, अधिकांश दंत चिकित्सा छात्रों की प्रमुख सीखने की शैली मल्टीमॉडल थी, जो वर्तमान अध्ययन के परिणाम के अनुरूप है। यह बहु माध्यम से अधिगम सामग्री को प्रस्तुत करता है साथ ही यह सुनिश्चित करता है कि विभिन्न पसंदीदा अधिगम शैली वाले प्रशिक्षु सक्रियता से अधिगम में संलग्न है जो उनकी पसंदीदा अधिगम शैली से मेल खाती है। मल्टी मॉडल अधिगम शैली में इंटरएक्टिव तत्व और सिमुलेशन तथा अनुभवात्मक गतिविधियां शामिल होती हैं। जो प्रशिक्षुओं में आलोचनात्मक जागरूकता के साथ रचनात्मकता को बढ़ावा देती है। दृश्य, श्रव्य, पठन/लेखन और गतिज अधिगम शैली बहुसंवेदी इंद्रियों के माध्यम से संज्ञानात्मक प्रक्रियाओं, जिज्ञासा और रुचि को बढ़ाते हैं जिससे प्रशिक्षण आकर्षक बन जाता है। बी.एड प्रशिक्षुओं की शैक्षिक

उपलब्धि के लिए उनकी प्रेरणा और धारणा को बढ़ावा देना अत्यंत महत्वपूर्ण है। इसके लिए शिक्षार्थियों की सृजनशीलता को ऊर्जावान रखने के लिए रचनात्मक गतिविधियां और अनुकूल वातावरण का निर्माण करना चाहिए। पाठ्यचर्या का निर्माण एवं शिक्षण सामग्री की डिजाइन के दृष्टिकोण से भी यह आवश्यक है कि इसमें VARK अधिगम शैली को मल्टीमॉडल शैली के साथ संगठित रूप में शामिल करके शिक्षार्थियों को विविध गतिविधियों के माध्यम से सीखने की सुविधा प्रदान की जाए। यह प्रक्रिया प्रशिक्षुओं में अंतर्निहित योग्यताओं को विकसित करने में मदद करेगी और उन्हें उनके लिए उपयुक्त तरीके से सीखने का अवसर प्रदान करेगी। इस प्रकार, इन उपायों के लागू होने से प्रशिक्षण को रुचिकर बनाते हुए अधिगम परिणामों को बेहतर बनाया जा सकता है।

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## स्वतंत्रता आन्दोलन में बिहार की महिलाओं का योगदान

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### सारांश

भारत के इतिहास में स्त्रियों का स्थान सदा से ही गौरवपूर्ण रहा है तथा स्वतंत्रता आन्दोलन में भी महिलाओं का योगदान अति महत्वपूर्ण है। इतिहास भी साक्षी है कि महिलाओं ने सामाजिक एवं राष्ट्रीय जीवन में गुरुतर दायित्वों का निर्वहन किया है। यदि बात हम बिहार कि करें तो भारतीय स्वतंत्रता आन्दोलन में बिहारी महिलाओं की भागीदारी विशेषतः उल्लेखनीय है। उन्होंने जिस दृढ़ता एवं वीरता के साथ स्वतंत्रता आन्दोलन में संघर्ष किया, वह आज भी स्वर्णाक्षरों अक्षरों में अंकित है। 1936 में जब बिहार एक नया प्रान्त बना तब से 1947 तक बिहार की दर्जनों नाम - गुमनाम महिलाओं ने आजादी की लड़ाई में भारत के अन्य प्रान्तों की अपेक्षा आगे बढ़कर योगदान दिया है।

स्वतंत्रता आन्दोलन के जन आन्दोलन में परिवर्तित होने की कहानी बिहार से ही शुरू होती है। चंपारण में ही महात्मा गाँधी ने भारत के नवीन राष्ट्रवाद का सफल प्रयोग किया था। इस सत्याग्रह ने बिहार के समस्त नागरिकों के मन में निर्भीकता, ईमानदारी तथा राजनीतिक चेतना की भावना भरी। आजादी की लड़ाई का जब भी शंखनाद हुआ बिहार ने अविलंब पूरी निष्ठा के साथ उसमें भाग लिया तथा यहाँ की महिलाओं की कुर्बानी और जज्बा अविस्मरणीय है। लेकिन इतिहास के पन्नों से उनकी बहुत ही सीमित और सतही जानकारी मिलती है (दुता, 1998)। बिहार की क्रांतिकारी महिलाओं के योगदान को जनमानस के समक्ष उजागर करना शैक्षिक उत्तरदायित्व है। इसी उद्देश्य को दृष्टिगत करते हुए यह शोध प्रपत्र बिहारी महिलाओं के भुला दिए गए पहचान और योगदान के पीछे की राजनीति पर प्रकाश डालने का प्रयास करता है।

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**बीज शब्द:** स्वतंत्रता, आन्दोलन, भागीदारी, योगदान, न्योछावर, रचनात्मक कार्यक्रम, सत्याग्रह, त्याग, आत्मबल

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### प्रस्तावना

बिहार कि धरती को बुद्ध, महावीर और गाँधी ने अपने कार्यों और विचारों से सींचा है। गाँधी जी की प्रारंभिक राजनीतिक कर्म भूमि बिहार रही है, जहाँ से उन्होंने अत्यधिक संख्या में महिलाओं को ब्रिटिश शासन के विरुद्ध राजनैतिक और आर्थिक स्तर पर आंदोलित करने के लिए अभिप्रेरित किया। हमारे इतिहास की पुस्तकों में जिसे चंपारण आन्दोलन के नाम से जाना जाता है, नील की खेती करने वाले किसानों के शोषण के खिलाफ यह आन्दोलन महात्मा गाँधी ने 1917 में बिहार के चंपारण से ही शुरू किया, जो कि बिहार के उत्तर – पूर्व में स्थित एक जिला है (कुमार, 2019)। इतिहास

इस बात का भी साक्षी है कि बिहार बहुत लम्बे समय से राजनीति के केंद्र में रहा है। इसको इसी तथ्य से समझा जा सकता है कि पिछले कई दशकों में भारत में जो महत्वपूर्ण सामाजिक राजनीतिक बदलाव हुए हैं, बिहार उसकी जननी रहा है। भारतीय स्वतंत्रता आन्दोलन के इतिहास में बिहार का अपूर्व योगदान रहा है जिसमें विशेषरूप से बिहार की महिलाओं के योगदान को तो भुलाया नहीं जा सकता।

### **1857 के स्वतंत्रता संग्राम में बिहारी महिलाएं**

भारत को स्वतंत्र करने का पहला संगठित प्रयास सन् 1857 ई. में एक सैनिक विद्रोह के रूप में शुरू हुआ था। इसमें महिलाओं के लिए भाग लेने का कम अवसर था, क्योंकि भारत की तत्कालीन सामाजिक, धार्मिक, परिस्थितियों में स्त्रियाँ बाहरी कार्यों में खुलकर भाग नहीं ले सकती थीं। यह प्रतिबन्ध निम्न वर्ग की स्त्रियों पर लागू नहीं था। अतएव निम्न एवं मध्यम वर्ग की महिलाओं ने स्वतंत्रता संग्राम में महत्वपूर्ण भूमिका निभाई। ऐसी भारतीय वीरांगनाओं में लक्ष्मीबाई, झलकारी बाई, अजीजन बाई, बैजा बाई, अवन्ती बाई जैसी सैकड़ों महिलाओं की गाथाएँ बड़ी ही रोचक हैं। वैसी ही वीर महिलाओं में बिहार की बेगम हाजी, धरमन बीबी, करमन बीबी, तथा नर्तकी गुलाबी का नाम बड़े ही गर्व से लिया जाता है, जिन्होंने अपनी जान की बाजी लगाकर 1857 की क्रांति में मातृभूमि के लिए अपना सर्वस्व न्योछावर कर डाला। (अमरेन्द्र, 2012)। 1857 के आन्दोलन में भोजपुर के सासाराम, जगदीशपुर, पिरो, बीबीगंज और आरा की अनेक महिलाओं ने गुप्त रूप से वीर कुंवर सिंह की सेना को काफी मदद की थीं। (सुषमा, 2020)

### **महात्मा गाँधी का बिहार आगमन एवं स्वतंत्रता आन्दोलन में बिहारी महिलाएं**

1917 में चंपारण सत्याग्रह के सिलसिले में गाँधी का आगमन बिहार की धरती पर हुआ। चंपारण में अंग्रेज किसानों को तीन कठिया व्यवस्था के अंतर्गत नील पैदा करने के लिए मजबूर करते थे। इस तिनकठिया व्यवस्था में किसान अपनी जमीन के 3/20 भाग पर नील उगाने के लिए मजबूर थे। इसके खिलाफ स्थानीय किसानों में काफी असंतोष था। उन्हीं किसानों में से एक थे – राजकुमार शुक्ल जो 1916 के लखनऊ कांग्रेस में अपनी फरियाद लेकर पहुँचे और वहीं उनकी मुलाकात गाँधी से हुई, जिन्हें उन्होंने चंपारण की दारुण कहानी कह सुनायी और अन्ततः गाँधी को बिहार आकार आन्दोलन का नेतृत्व करने पर तैयार किया। इस प्रकार गाँधी जी 1917 ई. में बिहार दौरे पर चंपारण आए। हालांकि 1917 ई. के उनके चंपारण मिशन को मूलतः मानवीय समझा जाता है, परन्तु उसका उद्देश्य महिलाओं की दशा सुधारना एवं उनमें राष्ट्रियता को जागृत करना भी था (अमरेन्द्र, 2012)। गाँधी जी के सत्याग्रह आन्दोलन से प्रभावित होकर

सैकड़ों महिलाएं अपने आँखों में मुल्क को ब्रिटिश हुकूमत से आजाद कराने का सपना संजोकर स्वतंत्रता आन्दोलन में कूद पड़ी थी। बिहार की महिला स्वतंत्रता सेनानियों ने ब्रिटिश हुकूमत के खिलाफ हर दौर में अन्य स्वतंत्रता सेनानियों के साथ मिलकर लोहा लेने का काम किया है। गाँधी ने स्त्री को माँ और पत्नी की भूमिका के अलावा समाज में भी अहम् भूमिका दी। उनका मानना था कि अहिंसात्मक संघर्ष में स्त्रियाँ अधिक अच्छी भूमिका निभा सकती हैं। परन्तु इसके लिए उनको पुरुष के द्वारा उत्पन्न की गई हीन भावना को दूर करना होगा। उनको गुड़ियों की दुनियाँ में रहने से साफ़ मना कर देना होगा। स्त्री का जन्मसिद्ध अधिकार है कि वह पुरुषों को नहीं अपितु सम्पूर्ण मानवता को अपने गुणों के माध्यम से वशीभूत करे (जोशी, 2006)।

### स्वतंत्रता आन्दोलन में योगदान देने वाली प्रमुख महिलाएं

स्वतंत्रता आन्दोलन के दौरान जब महात्मा गाँधी “करो या मरो” के नारा के साथ 1942 के भारत छोड़ो आन्दोलन का श्री गणेश हुआ। सरकार ने रातों-रात देश के तमाम शीर्ष नेताओं को जेल के सलाखों में डाल दिया तब पूरे देश में क्रांति की लहर दौड़ चली। जिसमें स्त्रियों ने भी बढ़-चढ़कर भाग लिया। ब्रिटिश हुकूमत के दमन चक्र के वावजूद स्त्रियाँ तनिक भी विचलित नहीं हुईं। बिहार ने अपने गौरव के अनुकूल आजादी की लड़ाई में भाग लिया और बिहार की स्त्रियों ने यह सिद्ध कर दिया कि वे देश के अन्य राज्यों की स्त्रियों से कम नहीं हैं। यह बात दूसरी है कि अभी हमें बिहार की महिलाओं के योगदान की जानकारी नहीं है। परन्तु यह तो अक्षरसः सत्य है कि महिलाओं ने भी स्वतंत्रता आन्दोलन में अपनी आहुति दी है। बिहार की अग्रणी महिलाओं में डॉ. राजेंद्र प्रसाद की बहन भगवती देवी, उनकी पत्नी श्रीमती राजवंशी देवी, लाल बहादुर शास्त्री की बहन एवं शम्भूशरण वर्मा की पत्नी श्रीमती सुंदरी देवी, लोकनायक जयप्रकाश नारायण की पत्नी श्रीमती प्रभावती देवी, श्रीमती सुमित्रा देवी, श्रीमती राम दुलारी सिन्हा, अनुसुईया जायसवाल, श्रीमती शांति ओझा, श्रीमती लीला सिंह, श्रीमती रामस्वरूप देवी, श्रीमती शारदा कुमारी, श्रीमती प्रियवदा देवी, श्रीमती हसन इमाम, श्रीमती भवानी मल्होत्रा, (अमरेन्द्र ड. क., 2006), सरस्वती देवी, रामप्यारी देवी, चन्द्रावती देवी, तारा रानी श्रीवास्तव, श्री गौरी दास, सावित्री देवी, सुनीता सिन्हा, अकली देवी आदि नाम उल्लेखनीय हैं। इन स्त्रियों के योगदान को हम कभी नहीं भूल सकते, क्योंकि उन्होंने बिहार की महिला वर्ग में जगृति लाने का निरंतर प्रयास किया। उनकी प्रेरणा से ही अनेक महिलाओं ने आजादी की लड़ाई में भाग लिया, जेल गयीं और अपने प्राणों तक को देश को आजाद कराने के लिए न्योछावर कर डाला (सुषमा, 2020)।

## स्वतंत्रता आन्दोलन के रचनात्मक कार्यक्रमों में बिहारी महिलाएं

गाँधी ने राष्ट्रीय आन्दोलन को बहुआयामी रूप दिया था और समग्र मुक्ति ही उनका उद्देश्य था। समाज में व्याप्त कुरीतियों के खिलाफ उन्होंने न केवल राजनीतिक आन्दोलन चलाए बल्कि कई रचनात्मक कार्यक्रमों का भी संचलान किया। जिसमें बिहार की महिलाओं ने खुलकर समर्थन किया और भाग लिया साथ ही इन कार्यक्रमों को जन – जन तक पहुँचाने में भी भागीदारी निभाई। इन रचनात्मक कार्यक्रमों में महिलाओं के आर्थिक स्वावलंबन, अस्पृश्यता उन्मूलन, सांप्रदायिक सद्भाव आदि पर भी जोर दिया। इसके अलावे बिहार यात्राओं के दौरान चरखे का प्रचार, हिन्दू-मुस्लिम एकता एवं स्वदेशी सामानों का इस्तेमाल करने का आह्वान किया। इन विचारों से सभी वर्गों के लोग काफी प्रभावित होकर गाँधी जी के साथ जुड़ गये। गाँधी जी के रचनात्मक कार्यक्रमों से महिलाएं काफी प्रभावित हुईं तथा उनमें जागृति आई थी। महिलाओं परदाप्रथा को तोड़कर कर बाहर निकली और स्वाधीनता आन्दोलन एवं सामाजिक सुधार आन्दोलन में सक्रिय भूमिका निभाने लगी।

### असहयोग आन्दोलन

असहयोग आन्दोलन के दौरान बिहार की शहरी एवं ग्रामीण, सभी क्षेत्रों की महिलाएं सक्रिय थीं। 1922 के आसपास हाजीपुर अनुमंडल का ग्रामीण इलाका पुरे देश में सबसे आगे रहा। इस इलाके में घटारों गाँव की स्त्रियाँ आन्दोलन में काफी सक्रिय रहीं। इस अनुमंडल में श्री किशोरी प्रसन्न सिंह की पत्नी सुनीता देवी, श्री कुशवेश्वर सिंह की पत्नी विंदा सिंह, श्री कपिलदेव सिंह की माँ और श्रीमती रामसखी देवी घटारों की थी (सिन्हा, 1990)। असहयोग आन्दोलन के दिनों में महिलाओं की भागीदारी बहुत कम थी। कुछ महिलाओं में माधुरी तथा उर्मिला का नाम आता है (सहाय, 2021)।

### सविनय अवज्ञा आन्दोलन

बिहार की लक्ष्मीबाई के नाम से पुकारी जाने वाली एक निडर, बहादुर महिला जिनका नाम रामस्वरूप देवी है ने क्रांति की भूमि बिहार में भारत की गुलामी के समय अंग्रेजों से लड़ाई लड़ी थी और अंग्रेजी हुकूमत को डांवाडोल कर दिया था। बचपन से ही रामस्वरूप देवी जी बिहार के क्रांतिकारियों की टोली में रहती और उनके कार्यों में हाथ बँटाती थीं। सन् 1930 ई. के सविनय अवज्ञा आन्दोलन में खुलकर आगे आयीं और अपने सत्याग्रह अभियान को जारी रखा।

सविनय अवज्ञा आन्दोलन में भाग लेते समय वे बंदी बना ली गयी थीं और उन्हें भागलपुर के कारागार में भेज दिया गया था | बाद में वे रिहा कर दी गयीं (अमरेन्द्र ड. क., 2006)।

### **नमक सत्याग्रह आन्दोलन**

1930 ई. में नमक सत्याग्रह आन्दोलन प्रारम्भ हुआ | गाँधी के घोषणानुसार नमक खुद बनाया जाने लगा | इस क्रम में नमक की पुड़िया चंद्रावती ने बनाई और पहली बार उन्होंने पटना सिटी के निवासी स्व. डोमा सरदार के हाथ डेढ़ रूपये में उसे बेचा | इस प्रकार काफी रूपये एकत्रित कर उसे संगठन के कार्य में लगाया (अमरेन्द्र ड. क., 2006)। इन्होंने नमक सत्याग्रह आन्दोलन में खुलकर भाग लिया | नमक सत्याग्रह आन्दोलन के समय एक क्रान्तिकारी महिला राम स्वरूप देवी के योगदान को कभी नहीं भुलाया जा सकता है |

### **भारत छोड़ो आन्दोलन**

भारत छोड़ो आन्दोलन के दौरान बिहारी समाज की महिला स्वतंत्रता सेनानियों की भागीदारी रही है | 9 अगस्त 1942 ई. को भारत छोड़ो आन्दोलन शुरू हो गया | लोकनायक जयप्रकाश नारायण के नेतृत्व में पटना की सड़कों पर हजारों छात्र सर पर कफ़न बांधकर निकल पड़े | रामस्वरूप देवी उन छात्रों के जुलूस में वन्दे मातरम्, भारत माता की जय, इन्कलाब जिंदाबाद के नारे लगाते हुए आगे बढ़ी (अमरेन्द्र ड. क., 2006)। 1942 के भारत छोड़ो आन्दोलन में भवानी देवी पटना में ही थीं, वहां का दृश्य देखकर वे ट्रेनिंग स्कूल से निकलकर कार्य में जुट गईं और गोरों के आने पर एक परिवार ने इन्हें 20 दिनों तक अपने यहाँ छुपाये रखा | इस आन्दोलन में अनेक गुमनाम महिलाओं ने भी योगदान दिया है जिसकी चर्चा हम नहीं कर सके हैं जिसके लिए खेद है | निम्न वर्गीय जातीय जनजातिय महिलाओं का भी आन्दोलन में महत्वपूर्ण योगदान रहा जिनको इतिहासमे स्थान और पहचान नहीं मिल पाया है।

### **निष्कर्ष**

बिहार की महिलाओं ने स्वतंत्रता आन्दोलन की प्रत्येक रणनीतियों में महत्वपूर्ण भूमिका निभाई है | स्त्रियों ने स्वतंत्रता आन्दोलन के समय ब्रिटिश हुकूमत के दमन के अलावे, पितृसत्तात्मक समाज के बंधनों में बंधी थी | हम कह सकते हैं कि पुरुषों की तुलना में महिलाएं दोतरफा गुलामी झेल रही थी | इसलिए महिलाएं ब्रिटिश हुकूमत की गुलामी एवं पितृसत्तात्मक बंधनों दोनों स्तरों पर स्वतंत्र होने की लड़ाई लड़ रही थी | महात्मा गाँधी, डॉ. अबेडकर, राजा राम मोहन राय, दयानंद सरस्वती, ईश्वरचंद विद्यासागर, ज्योतिबा फुले, सावित्रीबाई, फतिफा शेख जैसे स्वतंत्रता सेनानियों, समाज

सुधारकों के अथक प्रयास और जागरूकता अभियान से प्रभावित होकर महिलाएं सामाजिक, राजनीतिक, आर्थिक रूप से चेतनशील हुईं और अपने देश के प्रति देशभक्ति की भावना जगाई | महिलाओं ने देश को आजाद कराने के लिए अपना सर्वस्व न्योछावर करने तथा सभी क्षेत्रों में पूरी तत्परता के साथ काम किया | वैदिक काल के बाद भले ही नारी इस समय पुरुषों से अनेक क्षेत्रों में पीछे थी लेकिन बिहारी महिलाओं ने पुरुषों के साथ कंधे से कंधा मिलाकर अपने देश के स्वतंत्रता संघर्ष में भाग लिया | महिलाओं ने देश के प्रति प्रेम भावना का परिचय देते हुए व उसे आजाद कराने के लिए सभी तरीकों से अपना योगदान दिया | शांति प्रिय आंदोलनों से लेकर क्रान्तिकारी आंदोलनों में बिहार की महिलाओं ने स्वतंत्रता आन्दोलन में महत्वपूर्ण योगदान दी | स्त्रियों ने स्वतंत्रता आन्दोलन के इतिहास में अपने आप को विविध आयामों के साथ विभिन्न रूपों में प्रस्तुत किया | वर्तमान समय में भारतीय समाज आजादी के अमृत महोत्सव के जश्न में है और अपने स्मृतियों में आजादी के संघर्षों को याद कर रहे हैं ऐसे में बिहार की महिला सेनानियों की गाथा को भी याद करना और अपने भविष्य के पीढ़ी को अवगत करना भी हमारी मुख्य जिम्मेदारी बन जाती है | स्वतंत्रता आन्दोलन में महिलाओं का क्या योगदान रहा है उनकी चर्चा एवं गुमनाम महिलाओं के इतिहास को खंगाल कर निकालना उसे सार्वजनिक पटल पर लाने का संकल्प ही अपने स्वतंत्रता सेनानियों के प्रति सच्ची श्रधांजलि होगी | क्योंकि आजादी के 75 सालों बाद भी इतिहास के पन्नों से महिला स्वतंत्रता सेनानियों का इतिहास कोसों दूर है को खोजकर दस्तावेज के रूप सार्वजनिक करने की जरूरत है |

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## प्राचीन भारत में हिंदू सभ्यता एवं वास्तुकला का अवलोकन

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### सारांश

वास्तुकला इमारतों और संरचनाओं को अभिकल्प ( डिजाइन ) करने की कला और विज्ञान है। इमारतों, परियोजना में कार्यात्मक और साथ ही सौंदर्यपूर्ण चरित्र प्रदान करने के लिए किया जा सकता है। वास्तुकला भारतीय सभ्यता की सबसे स्थायी उपलब्धियों में से एक है। भारत की कलात्मक और स्थापत्य विरासतें लगभग पाँच सहस्राब्दी पुरानी हैं। यद्यपि हड़प्पा, मोहनजोदड़ो और लोथल के सिंधु घाटी स्थल व्यापक नगर नियोजन के पर्याप्त प्रमाण प्रदान करते हैं, भारतीय वास्तुकला की शुरुआत अधिक उचित रूप से अशोक के शासनकाल में भारत में बौद्ध धर्म के आगमन और इसके निर्माण से मानी जाती है। मौर्य, शुंग, सातवाहन, गुप्त, चंदेल, सोलंकी वास्तुकला के महान संरक्षक थे। गुप्त काल को स्थापत्य कला का चरम शताब्दी के रूप में वर्णित किया जा सकता है, दक्षिणी हिंदू वास्तुकला का विकास पल्लव, चोल, चालुक्य, पाण्ड्य, होयसल और विजयनगर साम्राज्य के शासकों ने वास्तुकला की उन्नति में बहुत बड़ा योगदान दिया। प्राचीन हिंदू स्थापत्य कला भारतीय कौशल, बुद्धिमत्ता, ज्ञान, नवाचार का बोध कराती हैं। आज तकनीकी का इस्तेमाल करने के बावजूद प्राचीन सभ्यता को मात नहीं दे पा रहे हैं। सिंधु सभ्यता, वैदिक सभ्यता, मौर्य, गुप्त, राजपूत, दक्षिण की वास्तुकला एक से बढ़कर एक है। जिसकी जितनी प्रशंसा की जाए कम है।

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**बीज शब्द-** हिंदू वास्तुकला, सिंधु सभ्यता, मौर्य, गुप्त वंश, चोल, चालुक्य

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### प्रस्तावना

हिन्दू वास्तुकला भारतीय समाज की धार्मिक, सांस्कृतिक, और राजनीतिक संरचना का जीवंत प्रतीक है, जो प्राचीन काल से मंदिरों और धार्मिक स्थलों के निर्माण में स्पष्ट रूप से दिखाई देता है। यह केवल आस्था की अभिव्यक्ति नहीं थी, बल्कि समाज के हर वर्ग और शासकों के प्रभाव को भी उजागर करती थी। विभिन्न राजवंशों ने अपने-अपने क्षेत्रों में विशिष्ट स्थापत्य शैलियों को प्रोत्साहन दिया, जो उनकी शक्ति, समृद्धि और धार्मिक विश्वासों का द्योतक थीं। उदाहरणस्वरूप, दक्षिण भारत में चोल, पल्लव, और विजयनगर राजवंशों ने द्रविड़ शैली के भव्य मंदिरों का निर्माण किया, जिनमें गोपुरम (मंदिर के मुख्य द्वार के ऊँचे टॉवर) और विशाल प्रांगण प्रमुख थे। तंजावुर स्थित बृहदीश्वर मंदिर, चोल वंश के शासनकाल के दौरान निर्मित, शासकीय शक्ति और उत्कृष्ट वास्तुकला का एक आदर्श उदाहरण है।

प्राचीन हिन्दू वास्तुकला भारतीय सभ्यता की गहरी धार्मिक और सांस्कृतिक जड़ों को व्यक्त करती है, जिसकी शुरुआत वैदिक युग से मानी जाती है। उस समय यज्ञ वेदियों और मंडपों का निर्माण होता था, जबकि मूर्ति पूजा के उदय के साथ मंदिर निर्माण की परंपरा आगे बढ़ी। इन मंदिरों का निर्माण वास्तु शास्त्र के सिद्धांतों पर आधारित था, जो न केवल धार्मिक नियमों, बल्कि पर्यावरणीय सामंजस्य पर भी बल देते थे।

मौर्य और गुप्त काल में हिन्दू वास्तुकला अपने उत्कर्ष पर पहुँची। मौर्य काल में स्तूप, विहार और रॉक-कट गुफाओं का निर्माण हुआ, जिनमें अशोक के स्तंभ और शिलालेख प्रमुख हैं। गुप्त काल को 'भारतीय वास्तुकला का स्वर्ण युग' माना जाता है, जब मंदिर निर्माण में प्रमुख संरचनात्मक परिवर्तन हुए और पहली बार गर्भगृह, मंडप और शिखर जैसे महत्वपूर्ण हिस्सों का समावेश हुआ। उदयगिरि की गुफाएं और भीतरी का विष्णु मंदिर गुप्त काल की स्थापत्य कला के बेहतरीन उदाहरण हैं।

राजाओं के संरक्षण में हिन्दू वास्तुकला ने और अधिक उन्नति की। मौर्य, गुप्त, चोल, पल्लव, गंग और चालुक्य जैसे प्रमुख राजवंशों ने अपने क्षेत्रों में स्थापत्य शैलियों को नई ऊँचाइयाँ दीं। गुप्त और मौर्य राजाओं ने प्रारंभिक नागर शैली और रॉक-कट निर्माण शैली को बढ़ावा दिया, जबकि दक्षिण भारत में पल्लव और चोल राजाओं ने द्रविड़ शैली का विकास किया। बृहदीश्वर मंदिर और खजुराहो के मंदिर, कोणार्क का सूर्य मंदिर जैसे अद्वितीय उदाहरण इन शैलियों की उत्कृष्टता को दर्शाते हैं।

मंदिर केवल धार्मिक अनुष्ठानों के स्थल नहीं थे, बल्कि सामाजिक और सांस्कृतिक गतिविधियों के केंद्र भी थे। यहाँ नृत्य, संगीत, और कला की शिक्षा दी जाती थी, और ये स्थल समाज के विभिन्न वर्गों के लिए सांस्कृतिक आयोजनों का केंद्र होते थे। राजाओं द्वारा संरक्षित यह वास्तुकला न केवल उनकी शक्ति और समृद्धि का प्रतीक थी, बल्कि समाज में एकता और सहयोग की भावना को भी प्रोत्साहित करती थी। इस प्रकार, प्राचीन हिन्दू वास्तुकला धार्मिकता, सामाजिक जीवन और राजकीय संरक्षण के एक अद्वितीय संगम के रूप में भारतीय सभ्यता की गहन सांस्कृतिक समृद्धि और ऐतिहासिक विकास को दर्शाती है।

**अध्ययन उद्देश्य-** प्रस्तुत शोध पत्र के निम्नलिखित उद्देश्य हैं -

- प्राचीन हिन्दू वास्तुकला का अवलोकन
- प्रमुख राजवंशों के समय स्थापत्य शैली के विकास का अवलोकन



- दक्षिण भारत की स्थापत्य शैली का अध्ययन

**लेखन परिसीमा-** प्राचीन काल में हिन्दू वास्तुकला एवं प्रमुख राजवंशों के स्थापत्य कला के निर्माण में योगदान तक लेखन को सीमित रखना।

**शोध विधि-** प्रस्तुत अध्ययन में ऐतिहासिक विश्लेषात्मक का प्रयोग किया गया है।

**शोध प्रविधि-** प्रस्तुत शोध को पूर्ण करने के लिए गुणात्मक पद्धति का प्रयोग किया गया है।

**स्रोत-** यह शोध पत्र द्वितीयक स्रोतों एवं आंकड़ों पर आधारित है। स्रोतों के रूप में मुख्यतः पुस्तकों का प्रयोग किया गया है।

### **हिन्दू वास्तुकला का परिचय**

वास्तुकला में संरचनाओं के डिजाइन में सौंदर्यशास्त्र, कार्यात्मकता, सामग्रियों का उपयोग और स्थानिक योजना का संतुलन होता है। वास्तुकला की प्राचीन परंपराएँ मिस्र के पिरामिड, यूनान के पार्थेनन, भारत के ताजमहल और फ्रांस के नोटे डेम जैसे अद्भुत संरचनाओं में देखने को मिलती हैं। वास्तुकला न केवल भौतिक संरचनाओं का निर्माण है, बल्कि यह समाज, संस्कृति, और विचारों का प्रतिबिंब भी है। इसका इतिहास मानव सभ्यता के विकास, सांस्कृतिक आदान-प्रदान और तकनीकी प्रगति का दर्पण है, जो हमें यह दिखाता है कि एक स्थान या समय विशेष में लोग कैसे रहते थे और उनकी प्राथमिकताएँ क्या थीं। भारतीय वास्तुकला के प्रमुख चरणों में हड़प्पा सभ्यता, मौर्य और गुप्त काल, द्रविड़ और नागर शैली के मंदिर निर्माण, मुगलकालीन वास्तुकला, औपनिवेशिक काल की यूरोपीय स्थापत्य शैली, और आधुनिक भारतीय वास्तुकला शामिल हैं।

### **सिंधु घाटी सभ्यता**

हड़प्पा सभ्यता जिसे सिंधु सभ्यता के नाम से भी जाना जाता है। एक लंबे और निरंतर सांस्कृतिक विकास की परिणति है। जो भारत के उत्तर-पश्चिम में सिंधु नदी के मैदानों, घाटियों और एक शक्तिशाली नदी के आसपास के क्षेत्रों विकसित हुई है। यह नदी, अपनी कई सहायक नदियों के साथ, आज भी पंजाब और सिंध की जीवन रेखा है और उनकी कृषि समृद्धि का आधार है। दुनिया की तीन सबसे पुरानी सभ्यताएँ महान नदियों के किनारे विकसित हुईं ( आवरी, 2007, पृष्ठ. 38)। हड़प्पा पुरातत्व की कहानी, हालांकि शायद मिस्र और मेसोपोटामिया की तरह रोमांटिक या उदासीन नहीं है, लेकिन भौगोलिक और सांस्कृतिक क्षेत्र में अलग-अलग हद तक खुदाई की गई साइटों के कार्य में विद्वत्पूर्ण और

दृढ़ प्रयास की एक उल्लेखनीय कहानी है। (आवरी, 2007, पृष्ठ. 40)। पांच बहुत बड़े स्थल शामिल हैं, हड़प्पा (पश्चिमी पंजाब), मोहनजो-दारो (सिंध), धोलावीरा (गुजरात), राखीगारी (हरियाणा) और गनवेरीवाला (बहावलपुर)। इनमें से तीन साइटें 100 हेक्टेयर, या 250 एकड़ क्षेत्र को कवर करती हैं, जबकि अन्य दो में से प्रत्येक 80 हेक्टेयर, या 200 एकड़ है।

### नागरिक योजना और संरचनाएँ

हड़प्पा और मोहनजो-दारो के दो शहरों में कोई भी खुदाई शुरू होने पुरातत्वविदों को सिंधु लोगों के शहरी वैभव से परिचित हुआ। सिंधु सभ्यता के उत्खनन से जिसमें सैकड़ों और हजारों ईंटें थीं। लेकिन जिन ईंटों ने पुरातत्वविदों को वास्तव में मोहित किया वे लगभग 2600 ईसा पूर्व की थीं। वे घने जंगलों की लकड़ी से कोयले से पकाई गई भट्टियों में पकाई गई ईंटें थीं जो उस समय, सिंधु घाटी में प्रचुर मात्रा में रही होंगी। ये पूरी तरह से आकार की पकी हुई भट्टी की ईंटें 7\*14\*28 सेमी मापने वाले मानक आकार की थीं। जिनकी मोटाई, चौड़ाई और लंबाई का अनुपात 1:2:4 से शुरू होता है। मलबे और उगी हुई घास की ऊपरी परतों को साफ करने के बाद, वहाँ एक पूरे शहर के खंडहरों के नीचे से दिखाई दिया, जो बेहद अच्छी तरह से योजनाबद्ध था और पश्चिम में सेक्टरों या टीलों में विभाजित था, मजबूत किलेबंदी वाला एक ऊंचा गढ़ टीला था, और पूर्व में छोटे टीलों वाला निचला शहर था। गढ़ के टीले पर दो या तीन बड़े सार्वजनिक भवनों के खंडहर हैं, जिनमें से महान स्नानघर आज सबसे अच्छी तरह से जाना जाता है, दूसरा एक अन्न भंडार जैसा दिखता है। और तीसरी इमारत संभवतः निचले शहर में एक बड़ा हॉल है, सड़कों को ग्रिड में व्यवस्थित किया गया था। पैटर्न, प्रमुख उत्तर-दक्षिण और पूर्व-पश्चिम सड़कें एक-दूसरे को काटती हैं, जबकि कई छोटे खंड और गलियाँ उन्हें काटती हैं। उनके बीच में घर के ब्लॉक बनाए गए थे, जिनमें से कोई भी मुख्य सड़कों पर नहीं खुलता था (आवरी, 2007, पृष्ठ. 44)।

### मूर्तिकला, लिपि और गणित

सिंधु सभ्यता में मानकीकृत ईंटें और टेराकोटा के तराजू के साथ-साथ विभिन्न प्रकार के शिल्प सामान और उपकरण शामिल हैं ( आवरी, 2007, पृष्ठ. 49)। मोहनजो-दारो की नृत्य करने वाली लड़की की मूर्ति, उसकी सुंदर और सुरुचिपूर्ण मुद्रा, नग्न, बाजुओं में चूड़िया पहनी हुई है। यह नाचने वाली लड़की एक कांस्य से निर्मित है। मूर्तिकला की परंपरा हड़प्पा काल से चली आ रही है। ( आवरी, 2007, पृष्ठ.50)। हड़प्पा काल में ताबे, कांसे, पत्थरों, मिट्टियों की

कलाकृतियाँ देखने को मिलती है। जिसमें से प्रमुख रूप से एक योगी मूर्ति है। इसके अलावा बहुत सारी मिट्टी की बनी हुई मूर्तियाँ हैं जो कलात्मक रूप से सुंदर हैं।

### वैदिक युगीन सभ्यता

वैदिक ग्रंथों में जहाजों और रथों के निर्माण का उल्लेख मिलता है। सोने और अन्य धातुओं के लोहे का उपयोग सर्वविदित था। इसमें एक लोहार के काम का उल्लेख मिलता है, और सुनार द्वारा सोना पिघलाने के बारे में भी जानकारी प्राप्त होती है लेकिन हमें वैदिक काल में काम करने वाली धातुओं का बेहतर अंदाज़ा विभिन्न सोने के आभूषणों और लोहे के बर्तनों और युद्ध के उपकरणों के वर्णन से मिलता है जो पूरे ऋग्वेद में पाए जाते हैं (दत्त, 2000, पृष्ठ. 45)। वैदिक ग्रंथों की रचना आर्य ऋषियों ने की थी और पीढ़ी-दर-पीढ़ी उन्हें मौखिक रूप से सौंपते रहे। महान महाकाव्य महाभारत और रामायण, आर्यावर्त या आर्य युग के दौरान गांव और शहर के जीवन का स्पष्ट चित्रण करते हैं (माथुर, 2006, पृष्ठ. 8)। सामान्य तौर पर, वैदिक काल के शहर योजना में आयताकार होते थे और दो मुख्य मार्गों द्वारा चार भागों में विभाजित होते थे, जो समकोण पर प्रतिच्छेद करते थे और प्रत्येक भाग एक शहर के गढ़ की ओर जाता था और दूसरे में निवास क्षेत्र होता था। एक तिहाई हिस्सा व्यापारियों के लिए आरक्षित था, और आखिरी हिस्सा उन व्यापारियों के लिए था जो अपने माल का प्रदर्शन कर सकते थे। प्रारंभिक हिंदू वास्तुकला की शुरुआत धीरे-धीरे अजंता में शानदार बौद्ध स्तूपों और चट्टानों को काटकर बनाई गई गुफाओं में बदल गई (माथुर, 2006, पृष्ठ. 10)। इसमें कोई संदेह नहीं है कि विभिन्न चट्टानी और पहाड़ी इलाकों में जहां प्रारंभिक हिंदुओं ने अपने उपनिवेश स्थापित किए, उन्होंने जल्द ही वास्तुकला के लिए टिकाऊ और सस्ती सामग्री के रूप में पत्थर का उपयोग करना सीख लिया (दत्त, 2000, पृष्ठ. 46)।

### मौर्यकालीन वास्तुकला

मौर्य काल में कला का उल्लेखनीय स्तर तक विकास हुआ। स्तूप, स्तम्भ, गुहा, विहार मौर्य स्थापत्य का प्रगति का प्रतीक बन गया। सांची का मूलरूप भारत में इन सभी संरचनाओं में सबसे प्रसिद्ध है, और स्तूप के विकास की पूरी श्रृंखला का निर्माण हुआ। शुंग शासन के तहत सांची के स्तूप को बहुत बड़ा किया गया था और चारों ओर एक छत बनाई गई थी। यह एक वैदिक पत्थर या रेलिंग है, जो स्तूप और उसकी छत दोनों को घेरे हुए है। सातवाहनों के शासनकाल में वैदिक काल के प्रत्येक प्रमुख बिंदु पर सुंदर नक्काशीदार तोरण बनाए गए थे। इस काल के दौरान

मूर्तिकला की कला भी विकसित हुई। यह सांची स्तूप और बोधगया की पत्थर की वेदिका और तोरणों पर विश्लेषण के लिए प्रचुर मूर्तिकला सामग्री है (अवारी, 2007, पृष्ठ. 146)। स्तूप जिसमें कमल के फूल घुमावदार तने, पेड़ और फूलों की मालाएं शामिल हैं, दूसरे में अलग-अलग आकृतियां हैं, जैसे कि यक्ष और यक्षणी, नर और मादा अर्ध-दिव्य प्राणी और जीवन आत्माएं, देवता कथात्मक कहानी जो बुद्ध के जीवन के विभिन्न दृश्यों को दर्शाती हैं जैसे कि माया देवी, बुद्ध, की मां का सपना, जेतवन विहार की खरीद, त्रायत्रिम्सा से बुद्ध का अवतरण, और जातक कहानियां हैं। अमरावती के महान स्तूप की मूर्तियां भी सातवाहनों से प्राप्त एक और महान कलात्मक विरासत हैं (अवारी, 2007, पृष्ठ. 47)

### कुषाण कालीन वास्तुकला

कुषाण युग के दौरान भारतीय कला का विकास हुआ। जिसमें मूर्तिकला अन्य सभी कलाओं में अग्रणी थी। बुद्ध की मूर्तियां सबसे आम थीं। दो प्रमुख शैलियों ने महान उत्कृष्टता और सुंदरता की कृतियों का निर्माण किया। गंधार कला शैली प्रसिद्ध शैली है इस शैली की मूर्तियों में मुख्य रूप से बुद्ध और बोधित्सव की आकृतियां शामिल हैं जो भारतीय विषयों पर मजबूत ग्रीक और रोमन कलात्मक प्रभाव दिखाती हैं, गंधार कला के कुछ बेहतरीन उदाहरण हैं ब्रिटिश संग्रहालय, पेशावर संग्रहालय, बर्लिन संग्रहालय और कलकत्ता में भारत संग्रहालय में पाया जा सकता है। मथुरा की मथुरा शैली दूसरा महत्वपूर्ण शैली है। दिल्ली से 50 मील दक्षिण में, यमुना नदी पर, सांस्कृतिक गतिविधियों का एक बड़ा केंद्र था। गंधार शैली के विपरीत, मथुरा की कला में अधिक प्रामाणिक रूप से भारतीय कलात्मक प्रभाव अंकित है, विभिन्न मुद्राओं और मुद्राओं में विभिन्न प्रकार की बुद्ध प्रतिमाएँ, सभी लाल धब्बेदार बलुआ पत्थर में उकेरी गई हैं, जो इस स्कूल की विशिष्ट विशेषता हैं। (अवारी, 2007, पृष्ठ. 48)।

### गुप्तकालीन वास्तुकला

गुप्तों की उत्पत्ति के साथ वास्तुकला में नई ऊर्जा का संचार हुआ। गुप्तकाल में बड़े पैमाने पर मंदिरों का निर्माण हुआ। आधुनिक जबलपुर के पास तिगवा का विष्णु मंदिर जो मामूली संरचना का है। इसमें प्रारंभिक हिंदू मंदिर की सभी मुख्य विशेषताएं हैं। एक आंतरिक गर्भगृह, प्रदीक्षणपथ से घिरा हुआ है सामने की ओर स्तंभों वाला एक बाहरी सबसे ऊपर सपाट छत है पत्थर की छत प्रारंभिक गुप्त युग की है। देवगढ़ में एक शानदार दशावतार मंदिर निर्माण के साथ अपने चरम पर पहुंच गया। भूमरा का शिव मंदिर कई कारणों से उल्लेखनीय है। सबसे पहले और सबसे महत्वपूर्ण प्रयास गर्भ

-गृह के ऊपर एक उभरी हुई संरचना द्वारा मंदिर की भव्यता को बढ़ाने के लिए देखा जाता सकता है जिसमें अब तक इस्तेमाल की जाने वाली सपाट छत को हटा दिया गया है। इस प्रकार गर्भगृह का ऊपरी भाग एक पिरामिड आकार ग्रहण करता है ( अवारी, 2007, पृष्ठ. 16)। लाढ़ खा मंदिर ध्यान देने योग्य है क्योंकि ऐसा प्रतीत होता है कि इसका मूल रूप से मंदिर के रूप में उपयोग नहीं किया गया था बल्कि संभवतः यह ग्राम सभा कक्ष था। इसके अलावा भीतरगाँव का लक्ष्मण मंदिर, तिगवा का विष्णु मंदिर नचना कुठार का पार्वती मंदिर आदि।

### अजंता

अजंता इस काल की अनेक बौद्ध गुफाओं में से यह सबसे उत्कृष्ट है। यहां, दक्कन की जीवित चट्टान को काटकर, वाघोर नदी के मोड़ के आसपास, उनतीस मानव निर्मित गुफाएं हैं और हम ऐसी सभी गुफाओं के दो मुख्य प्रवाह देख सकते हैं; चैत्य और विहार ( अवारी, 2007, पृष्ठ. 173) उत्खनन और निर्माण का कार्य 200 ईसा पूर्व के बाद 400 वर्षों के पहले चरण के दौरान हुआ था लेकिन सबसे शानदार रचनात्मक भाग पाँचवीं शताब्दी के उत्तरार्ध में दो दशक से भी कम समय के दूसरे चरण में पूरा किया गया था। यह बाद का चरण वाकाटक राजा हरिषेण (460-78) के शासनकाल के साथ मेल खाता था, जो अजंता के अंतिम महान संरक्षक थे। वाकाटक अधिकांशतः शाही गुप्तों के सहायक सरदार थे। ( अवारी, 2007, पृष्ठ. 174)।

### भारतीय मंदिरों की महिमा

ग्यारहवीं और बारहवीं शताब्दी विभिन्न हिस्सों में मंदिर निर्माण में उल्लेखनीय प्रगति का काल था। उड़ीसा सातवीं से तेरहवीं शताब्दी तक का है। ग्यारहवीं शताब्दी के इन मंदिरों में सबसे प्रसिद्ध लिंगराज है ( अवारी, 2007, पृष्ठ. 240)। उड़ीसा के मंदिरों में परशुरामेश्वर और लक्ष्मणेश्वर मंदिर, उदाहरण के लिए पुरी और बाद के काल में मुक्तेश्वर मंदिर और जगन्नाथ मंदिर, भुवनेश्वर में राजा रानी मंदिर और कोणार्क में सूर्य मंदिर बड़े पैमाने पर गढ़ा गया है इसके अतिरिक्त राजा रानी मंदिर, परशुराम वेश्वर मंदिर, वैताल मंदिर और योगिनी मंदिर हैं (माथुर, 2006, पृष्ठ. 68)। खंडरिया महादेव बीस मंदिरों में से सबसे बड़ा है। सबसे उत्कृष्ट राजस्थानी उदाहरण माउंट आबू पर दिलवाड़ा जैन मंदिर हैं। विशेष रूप से ग्यारहवीं शताब्दी में एक धनी जैन व्यापारी, विमला शाह द्वारा निर्मित है। मुख्य हॉल में अपने अड़तालीस स्तंभों और ग्यारह छल्लों के एक समृद्ध नक्काशीदार गुंबद के साथ, विमलवसाही जैन धार्मिक परोपकार का एक उल्लेखनीय प्रदर्शन है ( अवारी, 2007, पृष्ठ. 246)। बुंदेलखंड के चंदेल 10 वीं 11वीं शताब्दी के दौरान महान निर्माता के रूप में

जाने जाते थे। उन्होंने ही खजुराहो में मंदिर बनवाया था जो अपनी सुंदर आकृतियों और कामुक मूर्तियों के लिए प्रसिद्ध

है। इन 22 मंदिरों को दुनिया के महानतम कलात्मक आश्चर्यों में से एक माना जाता है। ( माथुर, 2006, पृष्ठ. 58) ।

गुजरात स्थल पर सोलंकी मंदिर का सबसे अच्छा जीवित उदाहरण मोढेरा का सूर्य मंदिर है ( अवारी, 2007, पृष्ठ.

246) ।

### दक्षिण की वास्तुकला

भारत के महान मंदिरों को सामान्यतः वास्तुकला के तीन स्तरों में वर्गीकृत किया गया है; उत्तरी, दक्कनी और दक्षिणा।

इन सभी में विमान, गर्भगृह, शिखर और मंडप जैसी सामान्य विशेषताएं हैं। लेकिन कुछ प्रमुख अंतर हैं। उत्तरी शैली के

मंदिर की मीनारें घुमावदार हुई हैं, जबकि दक्षिणी शैली के मंदिर पिरामिडनुमा हैं। दक्कनी मीनारें पिरामिडनुमा होते हुए

भी उत्तरी शैली की तुलना में नीची हैं। दक्कनी शैलियाँ बादामी के प्रारंभिक चालुक्यों के साथ शुरू हुईं और बाद के

चालुक्यों और होयसलों के तहत विकसित हुईं ( अवारी, 2007, पृष्ठ. 196) । चालुक्यों ने एहोल में कई पत्थर निर्मित

मंदिरों का निर्माण किया। जिनमें अधिकतर हिंदू हैं लेकिन कुछ जैन भी हैं। एहोल मंदिरों का शहर था जिसमें लगभग

सत्तर इमारतें थीं। मंदिरों की छत सपाट या थोड़ी ढलान वाली थी और उनके ऊपर छोटे शिखर थे। एहोल में लाढ़ खान

और दुर्गा मंदिर चालुक्य वास्तुकला का सबसे अच्छा नमूना हैं चालुक्य (माथुर, 2006, पृष्ठ. 69) । चालुक्यों ने 6 वीं

शताब्दी के उत्तरार्ध में बादामी में चट्टानों को काटकर बनाए गए चार स्तंभयुक्त हॉल भी बनवाए। जिनमें से एक

ब्राह्मणवादी और एक जैन है ( माथुर, 2006, पृष्ठ. 70) ।

होयसल राजा द्वारा निर्मित मंदिरों की वास्तुकला की विशिष्ट शैली है। होयसल काल के मंदिर बेलूर में देखे जा सकते

हैं। कर्नाटक में हेलेबिड और शृंगेरी में चन्नाकेस में एक मंदिर है, जिसका निर्माण होयसल राजा विष्णुवर्धन ने 1117 में

करवाया था। यह बेलूर के सभी मंदिरों में सबसे प्रसिद्ध है। हेलेबिड तारे जैसे दिखने वाले होयसल मंदिरों के लिए

प्रसिद्ध है ( माथुर, 2006, पृष्ठ.79) । कांचीपुरम और मामल्लपुरम पल्लव संस्कृति के केंद्र में थे ( अवारी, 2007, पृष्ठ.

196) । शहर में निर्मित पल्लवों के महान स्वतंत्र मंदिरों में से, सबसे सुंदर कैलाशनाथ मंदिर हैं प्रसिद्ध वैकुंठ पेरुमल

मंदिर संस्कृति और वास्तुकला में पल्लव योगदान के और भी प्रमाण हैं। ( अवारी, 2007, पृष्ठ. 197) । द्रविड़ शैली में

मंदिरों के शुरुआती उदाहरण पल्लव काल के हैं। पल्लवों की मंदिर वास्तुकला को दो समूहों में विभाजित किया गया

है। रॉक-कट संरचनात्मक, पल्लव वास्तुकला की सबसे बड़ी उपलब्धियाँ महाबलीपुरम में चट्टानों को काटकर बनाए

गए मंदिर हैं। पाँच रथों का निर्माण सबसे पहले नरसिम्हवर्मन ने किया था और इनका नाम द्रविड़ अर्जुन, भीम, धर्मराज और सहदेव के नाम पर रखा गया है ( माथुर, 2006, पृष्ठ. 73)। चोल कला पल्लव काल की निरंतरता है। चोलों ने कई सैकड़ों मंदिरों का निर्माण किया था। त्रिचिनोपोली जिले के श्रीनिवासनलूर में कोरंगानाथ का मंदिर परांतक के शासनकाल के दौरान बनाया गया था। यह चोल वास्तुकला के शुरुआती उदाहरणों में से एक है। मंदिरों में एक मंडप होता है जिसके साथ एक संलग्न विमान होता है। शिखर की ऊंचाई 50 फीट है चोल वास्तुकला ने तंजावुर में अपनी चरम सीमा हासिल की। तंजावुर में बृहदेश्वर मंदिर (चित्र संख्या 1) का निर्माण लगभग 1000 ई. में हुआ था। इसे "तमिल वास्तुकला का सबसे सुंदर नमूना" के रूप में वर्णित किया गया है। मंदिर की 55 मीटर लंबी मुख्य संरचना में 58 मीटर लंबा पिरामिडनुमा शिखर है। ( माथुर, 2006, पृष्ठ. 75)।



(चित्र संख्या 1): बृहदेश्वर मंदिर

Source -Archaeological Survey of India Government of India,

<https://asi.nic.in/chola-temple-brhadisvara-photo-gallery/>

तंजावुर में मंदिर एक विशाल दीवार वाले घेरे के केंद्र में सरेखित हैं। 11वीं-13वीं शताब्दी के बीच दक्षिणी भारत के चिदम्बरम, श्रीरंगम, गंगईकोड़-चोलपुरम, द्वारसमुद्रम और त्रिभुवनम स्मारकों की विशेषता वाले वास्तुकला का स्पष्ट उदाहरण देते हैं। भगवान शिव को समर्पित तंजौर का ब्रह्मेश्वर मंदिर, जिसे बड़े मंदिर भी कहा जाता है। चोल काल की वास्तुकला से संबंधित है ( माथुर, 2006, पृष्ठ. 76)। तमिलनाडु के चिदम्बरम में नटराज मंदिर भी चोल काल की

वास्तुकला का हिस्सा है। यह प्राचीन मंदिर अद्वितीय है क्योंकि यह पूरी तरह से भरतनाट्यम की कला को समर्पित है (माथुर, 2006, पृष्ठ. 77)।

### निष्कर्ष

भारतीय शैली की वास्तुकला अब्दुत, आश्चर्यजनक, विविध और विशाल है। भारतीय वास्तु की विशेषता यहाँ की दीवारों के उत्कृष्ट और प्रचुर अलंकरण में है। भित्तिचित्रों और मूर्तियों की योजना, जिसमें अलंकरण के अतिरिक्त अपने विषय के गंभीर भाव भी व्यक्त होते हैं, दो-तीन हजार वर्ष ई. पू. विकसित सिंधु घाटी सभ्यता की खोज से एक आश्चर्यजनक तथ्य प्रकाश में आया है हड़प्पा और मोहनजोदड़ो की खुदाइयों से प्राप्त अवशेष तत्कालीन भौतिक समृद्धि के सूचक हैं। मौर्यकाल में राज्य का आश्रय पाकर तोरणों, स्तम्भ, चैत्यों, बिहार स्तूपों और गुफा मंदिरों में वास्तुकला का चरम विकास हुआ। गुप्तकाल में मंदिरवास्तु के स्वरूप में स्थिरता आई। ७ वीं शती के अंत में शिखर महत्वपूर्ण और अनिवार्य अंग समझा जाने लगा। मंदिरवास्तु में उत्तर की ओर आर्य शैली और दक्षिण की ओर द्रविड़ शैली स्पष्ट दीखती है। चोलों ने द्रविड़ शैली को विकसित किया और उसको चरमोत्कर्ष पर पहुँचाया। राजाराज प्रथम द्वारा बनाया गया तंजौर का शिव मंदिर, जिसे राजराजेश्वर मंदिर भी कहा जाता है, द्रविड़ शैली का उत्कृष्ट नमूना है। इस काल के दौरान मंदिर के अहाते में गोपुरम नामक विशाल प्रवेश द्वार का निर्माण होने लगा।

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## उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों की हैप्पीनेस का तुलनात्मक अध्ययन

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### सारांश

वर्तमान शिक्षा प्रणाली कौशल आधारित शिक्षा पर बल देती है। और व्यक्ति को वैश्विक प्रतिस्पर्धा के साथ समायोजन के लिए तैयार कर रही है। जिसके लिए विद्यार्थियों को अनेक अवधारणाओं के विषय में अधिगम करना होता है। इस व्यवस्ततम जीवन शैली बालक के जीवन कौशल एवं समग्र कल्याण को प्रभावित कर रही है। जबकि बालक का प्रसंचित होना उसके सर्वांगीण विकास की आवश्यक शर्त है। इसलिए विद्यालय शिक्षा में उनके खुशहाल होने के लिए आवश्यक है कि यह जाना जाये कि वास्तव में वर्तमान शैक्षिक परिवेश में उनका हैप्पीनेस स्तर क्या है। क्योंकि एनईपी-2020 में भी विद्यार्थियों के खुशहाल होने को प्राथमिकता देते हुए हैप्पीनेस पाठ्यक्रम की संस्तुति की गई है। प्रस्तुत शोध अध्ययन का उद्देश्य उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों की हैप्पीनेस का तुलनात्मक अध्ययन करना है। जिसके लिए न्यादर्श के रूप में उच्च माध्यमिक स्तर पर अध्ययनरत 100 छात्रों एवं 100 छात्राओं को सम्मिलित किया गया है। विद्यार्थियों के हैप्पीनेस स्तर को ज्ञात करने के लिए हैप्पीनेस मापनी रस्तोगी और मूर जानी (2017) का प्रयोग किया गया। शोधार्थिनी द्वारा आंकड़ों के विश्लेषण के लिए क्रांतिक अनुपात (CR) का प्रयोग किया गया है। आंकड़ों के विश्लेषण से ज्ञात हुआ कि छात्रों की हैप्पीनेस स्तर छात्राओं की तुलना में अधिक है और ग्रामीण विद्यार्थियों का हैप्पीनेस स्तर शहरी विद्यार्थियों की अपेक्षा अधिक है।

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**बीज शब्द:** उच्च माध्यमिक स्तर, हैप्पीनेस, हैप्पीनेस पाठ्यक्रम।

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### प्रस्तावना

हैप्पीनेस को मानव जीवन के अंतिम लक्ष्य में से एक माना जाता है। हैप्पीनेस एक मजबूत सकारात्मक भावना है जो अवसाद, शोक और निराशा जैसी नकारात्मक भावनाओं के विपरीत सभी मनुष्यों में होती है। हैप्पीनेस जीवन की कभी न समाप्त होने वाली खोज, कभी कभी न बुझने वाली प्यास और संपूर्ण मानव जाति की कभी समाप्त न होने वाली आशा है। हैप्पीनेस (खुशहाली) शब्द सकारात्मक भावनात्मक प्रतिक्रियाओं की एक विशाल विविधता को दर्शाता है जिसमें हैप्पीनेस में आशीर्वाद और खुशी जैसे भाव सम्मिलित हैं। हैप्पीनेस शब्द अपने आप में अमूल्य है। हैप्पीनेस सुखी जीवन के सभी पहलुओं से जुड़ी हुई होती है और प्रत्येक व्यक्ति की जरूरत है यह माना जा सकता है कि हैप्पीनेस को प्राप्त किया जा सकता है। जब किसी व्यक्ति के पास घनिष्ठ और स्थिर रिश्ते हो अहंकार का प्रभावी प्रदर्शन ना हो और उच्च भावनात्मक बुद्धिमत्ता आंतरिक निर्देशन, सकारात्मक सोच, आत्मनियंत्रण और जीवन में अर्थ की उच्च उपस्थित हो

तब हैप्पीनेस को प्राप्त किया जा सकता है। यह जीवन की चिंताजनक घटनाओं से अधिक प्रभावी ढंग से निपट सकती है यह भी कहा गया है कि इन घटकों को बढ़ाकर हैप्पीनेस के स्तर को भी बढ़ाया जा सकता है। क्रॉसली और लैंगड्रिज (2005) ने बताया कि हैप्पीनेस की मूल संरचना में उच्च आत्म-सम्मान, उच्च आत्मविश्वास, सामाजिक कारक, व्यवसाय कारक और पारिवारिक कारक इत्यादि सम्मिलित है।

विद्यालय में उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों के विद्यालयी जीवन में हैप्पीनेस का विशेष महत्व है क्योंकि यह किशोरावस्था का वह समय होता है जब छात्र सबसे अधिक तनाव की स्थिति में होते हैं। इस अवस्था में विद्यार्थी जटिल प्रतिस्पर्धी चुनौतियों का सामना करने की अपनी क्षमताओं को लेकर बहुत अनिश्चित होते हैं। वर्तमान युग तकनीकी युग में हैप्पीनेस या खुशहाली ही है जो विद्यार्थियों को न केवल अच्छा महसूस कराती है, अपितु उनमें सकारात्मक भावनाओं को भी उत्पन्न करती है। यह भावनाएं विद्यार्थियों में न केवल तनाव, चिंता, व अवसाद को कम करने में मदद करती है अपितु उनकी प्रतिरक्षा प्रणाली में भी सुधार करती है।

### संबंधित साहित्य का अध्ययन

अयोफ्रिका (2021) के सेल्फ कॉन्सेप्ट एंड हैप्पीनेस इन रिलेशन टू एकेडमिक अचीवमेंट अमोंग हायर सेकेंडरी स्टूडेंट्स इन मेघालय नाम विषय के अध्ययन का उद्देश्य उच्चतर माध्यमिक स्तर के छात्रों की हैप्पीनेस, स्व-अवधारणा का अध्ययन उनकी शैक्षिक उपलब्धि के संबंध में करना था। जिसके निष्कर्ष में शोधकर्ता ने पाया कि उच्चमाध्यमिक स्तर पर छात्र-छात्राओं में औसतस्व-अवधारणा व औसत हैप्पीनेस का स्तर होता है जिसके परिणाम स्वरूप उच्च माध्यमिक स्तर के विद्यार्थियों दोनों में ही औसत शैक्षणिक उपलब्धि पाई गई। शशिकला (2021) “इफेक्टिव ऑफ हैप्पीनेस इन रिचमेंट मॉड्यूल एच ई एम इनफॉस्ट्रिंग हैप्पीनेस स्किल्स एंड जनरल हैप्पीनेस अमोंग एडोलसेंट्स” का अध्ययन किया तथा निष्कर्ष में पाया गया कि हैप्पीनेस संवर्धन प्रतिरूप (एच० ई० एम०) पूर्व किशोरों के मध्य हैप्पीनेस कौशल को विकसित करने में प्रभावी था। इसी प्रकार सिंधु (2021) ने “इमोशनल एंड क्रिएटिविटी इज प्रीडिक्टर्स ऑफ हैप्पीनेस इन हियरिंग इंपेयर्ड एडोलेसेंट्स” का अध्ययन किया। इनके अध्ययन का उद्देश्य श्रवण बाधित किशोरों की भावनात्मक बुद्धि, रचनात्मकता एवं हैप्पीनेस के मध्य संबंध स्थापित करना था। निष्कर्षों से ज्ञात किया गया कि श्रवण बाधित किशोरों की रचनात्मकता एवं हैप्पीनेस के मध्य सकारात्मक सह संबंध था। जिन छात्रों को रचनात्मक कार्य अधिक दिए गए उनका हैप्पीनेस का स्तर अधिक था। अतः श्रवण बाधित किशोरों में हैप्पीनेस के स्तर को बढ़ाने के लिए उन्हें रचनात्मक

गतिविधियों में सलंगन किया जा सकता था। पाटिल (2022) ने 40 वर्ष से कम व 40 वर्ष से अधिक उम्र के देखभाल करने वाले व्यक्तियों के मध्य हैप्पीनेस, जीवन संतुष्टि और अवसाद का अध्ययन किया। जिसके निष्कर्ष में शोधकर्ता ने पाया कि विशेष बच्चों की देखभाल करने वालों की उम्र का जीवन संतुष्टि व हैप्पीनेस पर कोई प्रभाव नहीं पड़ता था। नरगिस (2022) ने माध्यमिक स्तर के विद्यार्थियों की हैप्पीनेस के स्तर का अध्ययन व सहकर्मी संबंधित था शिक्षक दृष्टांत संबंध जैसे विभिन्न पहलुओं पर यह हैप्पीनेस की भिन्नता को ज्ञात किया। 462 विद्यार्थियों (जिसमें 271 छात्र व 191 छात्राएं) के यादृच्छिक प्रतिदर्श में किए गए अध्ययन में पाया कि यूपी बोर्ड की तुलना में सीबीएसई बोर्ड के विद्यार्थियों की हैप्पीनेस का स्तर अधिक था, जिसका कारण सीबीएसई बोर्ड के विद्यार्थियों को अधिक से अधिक सुविधाओं को प्राप्त करना हो सकता है।

अतः हैप्पीनेस से संबंधित प्राप्त अध्ययन यह दर्शाते हैं कि खुशहाली का संबंध उपलब्धि लब्धि सृजनात्मकता एवं विद्यालय परिवेश जैसे चरों से संबंधित है तथा माध्यमिक स्तर के विद्यार्थियों के लिये हैप्पीनेस एक अनिवार्य आवश्यकता है। इसलिए यह प्रासंगिक है कि माध्यमिक स्तर के छात्रों के हैप्पीनेस स्तर की जांच की जाये उनके समग्र विकास के उद्देश्य को प्राप्त किया जाये।

### **अध्ययन की आवश्यकता एवं महत्त्व**

आज की आधुनिक और प्रतिस्पर्धी दुनिया में प्रत्येक व्यक्ति प्रतिदिन तनाव और अवसाद का सामना करते हैं जहां प्रत्येक व्यक्ति का मुख्य लक्ष्य हैप्पीनेस को प्राप्त करना है। उन्नत जीवन शैली के कारण प्रत्येक व्यक्ति जल्दी में रहता है वह कम समय में सब कुछ प्राप्त करने की कोशिश करता है। वर्तमान 21वीं सदी के विद्यार्थियों को अपने दैनिक जीवन में बहुत सारी समस्याओं का सामना करना पड़ रहा है जिनमें परीक्षा का दबाव अत्यधिक गृहकार्य, तनाव, अवसाद, चिंता व भावनात्मक असंतुलन इत्यादि प्रमुख हैं। ऐसी परिस्थिति में विद्यार्थियों को एक ऐसे वातावरण की आवश्यकता होती है, जिसमें वे प्रसन्न रह सके। इसी चिंता में 2015 से भारत में दिल्ली सरकार ने सरकारी विद्यालयों के पाठ्यक्रम में सभी प्रकार की सुविधाओं, गतिविधि-आधारित पाठ्यक्रम, सीखने में सलंगनता आदि के साथ हैप्पीनेस को बढ़ावा देने के लिए एक क्रांतिकारी कदम उठाया है। वर्ल्ड हैप्पीनेस रिपोर्ट (2023) के अनुसार जो विद्यालय विद्यार्थियों की हैप्पीनेस को प्राथमिकता देते हैं, उनमें अधिगम के बेहतर परिणामों और विद्यार्थियों के जीवन में अधिक उपलब्धि के साथ अधिक प्रभावित होने की क्षमता होती है भारतीय राष्ट्रीय शिक्षा नीति, 2020 में हैप्पी लर्निंग को बढ़ावा देने के लिए प्लेवे खोज

दृष्टिकोण और गतिविधि आधारित अधिगम और बातचीत की बहुतस्तरीय लचीली शैलियों को अधिक महत्व दिया गया वर्तमान परिदृश्य में हैप्पीनेस के साथ अधिगम का उद्देश्य विद्यार्थियों को न केवल अधिक अंक प्राप्त करने के लिए शिक्षित करना है अपितु कक्षा कक्षा के अंदर व बाहर शिक्षण अधिगम की प्रक्रिया में हैप्पीनेस को बढ़ावा देना और ऐसा वातावरण बनाना है जहां विद्यार्थी स्वयं में आत्मविश्वास और आत्म. जागरूक महसूस कर सके। इसी उद्देश्य की प्राप्ति हेतु उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों की हैप्पीनेस को जानने का प्रयास चयनित शोध अध्ययन में किया गया है।

### शोध अध्ययन के उद्देश्य

1. उच्च माध्यमिक स्तर पर अध्ययनरत छात्र-छात्राओं की हैप्पीनेस का तुलनात्मक अध्ययन करना।
2. उच्च माध्यमिक स्तर पर अध्ययनरत शहरी विद्यार्थियों व ग्रामीण विद्यार्थियों की हैप्पीनेस का तुलनात्मक अध्ययन करना।

### शोध अध्ययन की परिकल्पनाएं

1. उच्च माध्यमिक स्तर पर अध्ययनरत छात्र छात्राओं की हैप्पीनेस में कोई सार्थक अंतर नहीं है।
2. उच्च माध्यमिक स्तर पर अध्ययनरत शहरी विद्यार्थियों व ग्रामीण विद्यार्थियों की हैप्पीनेस में कोई सार्थक अंतर नहीं है।

### शोध अध्ययन की परिसीमायें

प्रस्तुत शोध अध्ययन में हापुड़ जनपद के उत्तर प्रदेश बोर्ड के कक्षा 11 एवं कक्षा 12 के कला एवं विज्ञान वर्ग के शहरी व ग्रामीण विद्यार्थियों को सम्मिलित किया गया है।

### शोधविधि

प्रस्तुत शोध अध्ययन में वर्णनात्मक शोध की सर्वेक्षण विधि का प्रयोग किया गया है।

### समष्टि

प्रस्तुत शोध अध्ययन हेतु उत्तर प्रदेश के हापुड़ जनपद के उच्च माध्यमिक स्तर पर अध्ययनरत कक्षा 11 एवं कक्षा 12 के कला एवं विज्ञान वर्ग के समस्त विद्यार्थियों को समष्टि के रूप में प्रयुक्त किया गया है।

### प्रतिदर्श एवं प्रतिदर्श चयन पद्धति

प्रस्तुत शोध अध्ययन में हापुड़ जनपद के विभिन्न विद्यालयों के 200 विद्यार्थियों को सम्मिलित किया गया है। (जिसमें 100 छात्र व 100 छात्राएं थी) को चुना गया। प्रतिभागियों का चयन 16-19 वर्ष के आयु वर्ग के मध्य किया गया है। उपलब्धता के आधार पर यादृच्छिक प्रति चयन तकनीक का प्रयोग किया गया है।

### शोध अध्ययन हेतु प्रयुक्त उपकरण

प्रस्तुत शोध अध्ययन हेतु डॉ० हिमांशी रस्तोगी और डॉ० जानकी मूरजानी द्वारा सन् 2017 में निर्मित हैप्पीनेस मापनी का प्रयोग किया गया है। मापनी में 62 आइटम शामिल हैं जो 5 अलग-अलग कारकों में विभाजित हैं (1) कैरियर कल्याण (2) व्यक्तिपरक कल्याण (3) सामाजिक कल्याण (4) आध्यात्मिक कल्याण (5) भावनात्मक कल्याण। मापनी की प्रतिक्रियाएँ दृढ़ता पूर्वक सहमत, सहमत, अनिर्णीत, असहमत और दृढ़तापूर्वक असहमत हैं। हैप्पीनेस मापनी में 62 कथन हैं और सभी कथन सकारात्मक हैं। इस मापनी की जांच के लिए (निर्माता द्वारा) मापनी में 92 वस्तुओं का पहला ड्राफ्ट 18 से 40 वर्ष की आयु सीमा के 120 युवाओं, पुरुष और महिला, के यादृच्छिक रूप से चयनित न्यादर्श पर किया गया था। पैमाने की विश्वसनीयता की गणना अर्धविच्छेद विधि (विषम-सम विधि) के आधार पर की गई थी, इसकी गणना  $r = 0.88$  की गई थी जिसकी सार्थकता .01 स्तर पर महत्वपूर्ण है। पद विश्लेषण को बाहरी मानदंड परीक्षण सब्जेक्टिव हैप्पीनेस स्केल के साथ मान्य किया गया था, जो समान स्केल भी है, सहसंबंध की गणना  $r = 0.91$  की गई थी।

### सांख्यिकी प्रविधियाँ

प्रस्तुत अध्ययन में आंकड़ों के विश्लेषण हेतु मध्यमान मानव विचलन एवं क्रान्तिक अनुपात सांख्यिकी को प्रयुक्त किया गया है।

### प्रदत्तों का विश्लेषण एवं परिणामों की व्याख्या

#### विश्लेषण -1

अध्ययन का उद्देश्य संख्या -1 “उच्च माध्यमिक स्तर पर अध्ययनरत छात्र-छात्राओं की हैप्पीनेस का तुलनात्मक अध्ययन करना”।

परिकल्पित परिकल्पना (H<sub>0</sub>)-1:- उच्च माध्यमिक स्तर पर अध्ययनरत छात्र-छात्राओं की हैप्पीनेस में कोई सार्थक अंतर नहीं है।

तालिका संख्या: 01

हैप्पीनेस मापनी पर उच्च माध्यमिक स्तर पर अध्ययनरत छात्र-छात्राओं के मध्यमान, मानक विचलन तथा क्रान्तिक अनुपात (CR) मान

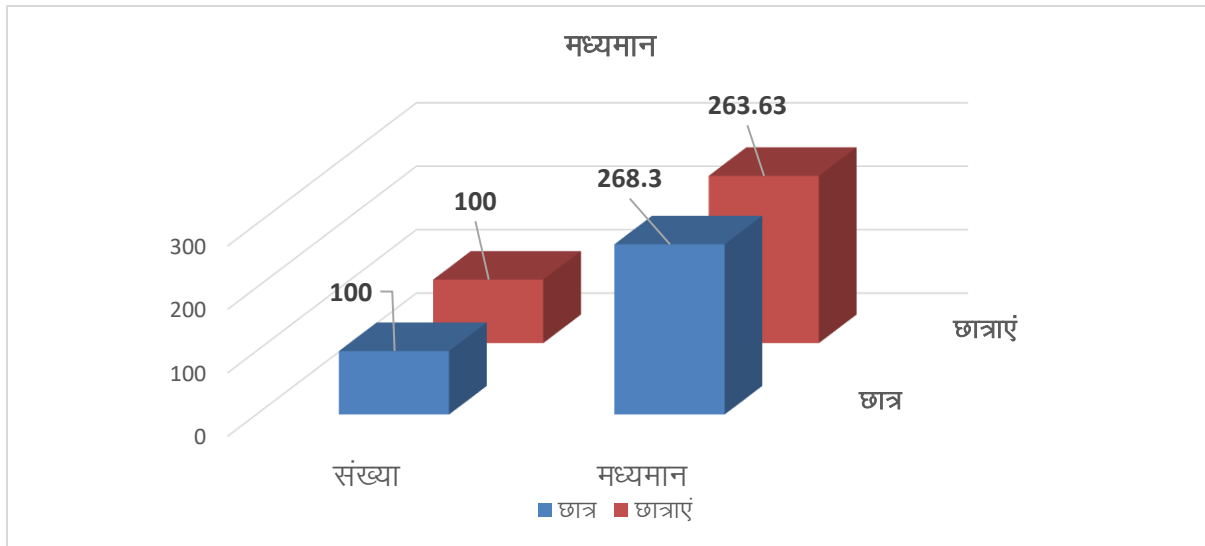
क्रम संख्या	चर	N	मध्यमान M	मानकविचलन S.D.	df	क्रान्तिकअनुपात का मान "CR"	0.05 *सार्थकता स्तर पर निष्कर्ष
1.	छात्र	100	268.30	9.38	198	3.37	सार्थक
2.	छात्रा	100	263.63	10.26			

0.05 सार्थकता स्तर पर CR का सारणी मान = 1.98

परिणाम की व्याख्या:- उपरोक्त तालिका संख्या 01 में हैप्पीनेस मापनी पर प्राप्त 200 उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों (जिनमें 100 छात्र तथा 100 छात्राएं हैं) के प्रदत्तों का मध्यमान क्रमशः 268.32 व 263.63 और मानक विचलन क्रमशः 9.38 व 10.26 तथा क्रान्तिक अनुपात (CR) का मान 3.37 है

दण्डआरेख संख्या: 01

हैप्पीनेस मापनी पर उच्च माध्यमिक स्तर पर अध्ययनरत छात्र-छात्राओं के मध्यमान का दण्डआरेख



प्राप्त क्रान्तिक अनुपात (CR) का मान स्वतंत्रता के स्तर कि = 198 पर सार्थकता के स्तर 0.05 पर सारणी मान 1.98

से अधिक है। इसलिए यह प्राप्त मान 0.05 सार्थकता स्तर पर सार्थक है और प्रतिपादित परिकल्पना H0-1 को अस्वीकार किया जाता है। इस प्रकार यह परिणाम इंगित करता है कि उच्च माध्यमिक स्तर पर अध्ययनरत छात्र-छात्राओं की हैप्पीनेस स्तर में सार्थक अंतर है।

उपरोक्त परिणाम इंगित करते हैं कि उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों में छात्रों की हैप्पीनेस का स्तर छात्राओं की तुलना में अधिक पाया गया, जिसका प्रमुख कारण भारतीय समाज में पुरुष प्रधान संस्कृति का होना हो सकता है जहां पर बालकों को बालिकाओं से अधिक प्राथमिकता दी जाती है और छात्राओं का, छात्रों की तुलना में अधिक भावनात्मक प्रवृत्ति का होना इत्यादि रहें।

## विश्लेषण -2

अध्ययन का उद्देश्य संख्या - 2 “उच्च माध्यमिक स्तर पर अध्ययनरत शहरी विद्यार्थियों एवं ग्रामीण विद्यार्थियों की हैप्पीनेस का तुलनात्मक अध्ययन करना”।

परिकल्पित परिकल्पना (H0) 2 :-उच्च माध्यमिक स्तर पर अध्ययनरत शहरी विद्यार्थियों एवं ग्रामीण विद्यार्थियों की हैप्पीनेस में कोई सार्थक अंतर नहीं है।

### तालिका संख्या 02

हैप्पीनेस मापनी पर उच्च माध्यमिक स्तर पर अध्ययनरत शहरी विद्यार्थियों एवं ग्रामीण विद्यार्थियों के मध्यमान, मानक विचलन तथा क्रान्तिक अनुपात (CR) मान

क्रम संख्या	चर	N	मध्यमान M	मानकविचलन S.D.	df	क्रान्तिकअनुपात का मान “CR”	0.05 *सार्थकता स्तर पर निष्कर्ष
1.	शहरी विद्यार्थी	90	264.28	10.94	198	2.25	सार्थक
2.	ग्रामीण विद्यार्थी	110	267.49	9.26			

0.05 सार्थकता स्तर पर CR का सारणी मान= 1.98

परिणाम की व्याख्या: उपरोक्त तालिका संख्या 02 में हैप्पीनेस मापनी पर प्राप्त 200 उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों (जिनमें 90 शहरी विद्यार्थी तथा 110 ग्रामीण विद्यार्थी है) के प्रदत्तों का मध्यमान क्रमशः 264.28 व 267.49 और मानक विचलन क्रमशः 10.94 व 9.26 तथा क्रान्तिक अनुपात (CR) का मान 2.25 है और प्राप्त क्रान्तिक अनुपात (CR) का मान स्वतंत्रता के स्तरकि = 198 परसार्थकता के स्तर 0.05 पर सारणी मान 1.98 से अधिक है। इसलिए यह

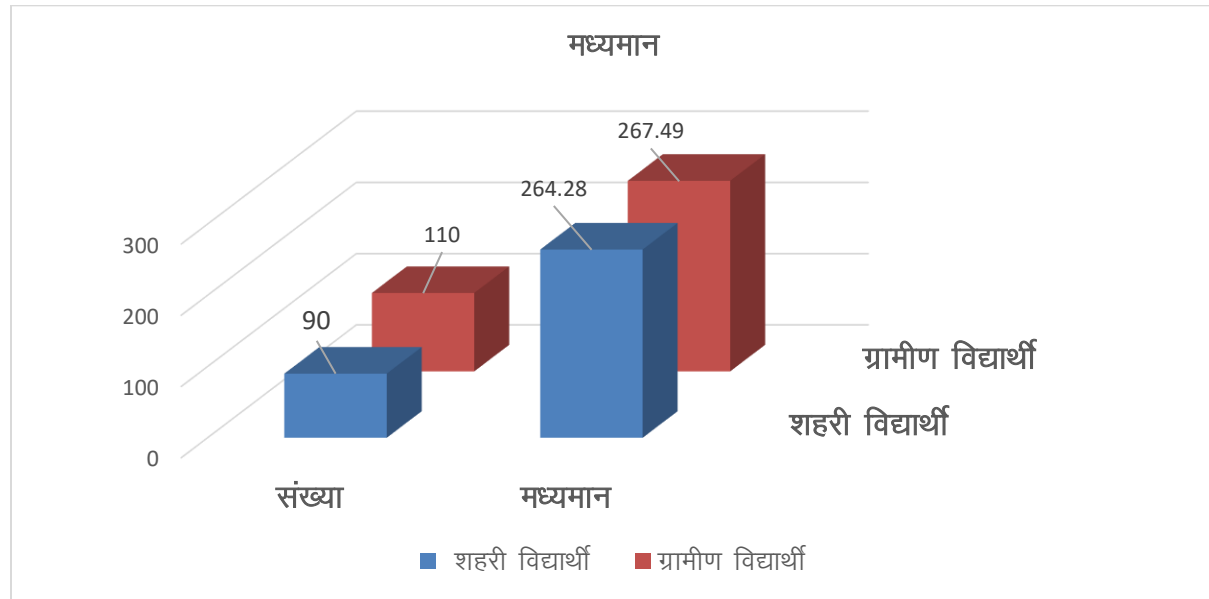


प्राप्तमान 0.05 सार्थकता स्तर पर सार्थक है और प्रतिपादित परिकल्पना H0-2 को अस्वीकार किया जाता है। इस प्रकार

यह परिणाम इंगित करता है कि उच्च माध्यमिक स्तर पर अध्ययनरत शहरी विद्यार्थियों एवं ग्रामीण विद्यार्थियों की हैप्पीनेस में सार्थक अंतर है।

दण्डआरेख संख्या: 02

हैप्पीनेस मापनी पर उच्च माध्यमिक स्तर पर अध्ययनरत शहरी विद्यार्थियों एवं ग्रामीण विद्यार्थियों के मध्यमान का दण्डआरेख



उपरोक्त परिणाम इंगित करते हैं कि उच्च माध्यमिक स्तर पर अध्ययनरत विद्यार्थियों में शहरी विद्यार्थियों की हैप्पीनेस की तुलना में ग्रामीण विद्यार्थियों की हैप्पीनेस स्तर को अधिक पाया गया, जिसका प्रमुख कारण ग्रामीण विद्यार्थियों का स्वतन्त्र एवं प्राकृतिक वातावरण में अध्ययन करना पाया गया (फातमा, नरगिस (2022) से उद्धृत)।

### निष्कर्ष

अध्ययन से प्राप्त परिणामों से यह स्पष्ट होता है कि उच्चमाध्यमिक स्तर पर अध्ययनरत छात्रों की हैप्पीनेस छात्राओं की तुलना में अधिक है और ग्रामीण विद्यार्थियों की हैप्पीनेस को भी शहरी विद्यार्थियों की तुलना में अधिक पाया गया है।

### शैक्षिक निहितार्थ

प्रस्तुत शोध अध्ययन द्वारा विद्यार्थियों की हैप्पीनेस का अध्ययन किया गया है चूंकि हैप्पीनेस मानव जीवन का प्रमुख लक्ष्य है। प्रत्येक व्यक्ति प्रसन्न रहना चाहता है और अपने मन को शांति और संतुष्टि से परिपूर्ण बनाना चाहता है इसलिए विद्यार्थियों के लिए भी हैप्पीनेस बहुत आवश्यक है। वर्ल्ड हैप्पीनेस रिपोर्ट (2023) में भी बताया गया है कि जो

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विद्यालय विद्यार्थियों की हैप्पीनेस को प्राथमिकता देते हैं, उनमें अधिगम के बेहतर परिणामों और विद्यार्थियों के जीवन

में अधिक उपलब्धि के साथ अधिक प्रभावित होने की क्षमता होती है। विद्यार्थी जब हैप्पीनेस के साथ अध्ययन करेंगे

तब वे बेहतर तरीकों से अधिगम कर सकेंगे जिससे उनमें सकारात्मक दृष्टिकोण का विकास होगा और वे राष्ट्र के योग्य,

सक्षम और आदर्श नागरिक बन सकेंगे और राष्ट्र के विकास में अपना महत्वपूर्ण योगदान दे सकेंगे।

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