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

Editor



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Comparative Study of Student Movements in Assam and Arunachal Pradesh

Kuku Panyang*

Abstract

Student movements in Northeast India have played a decisive role in shaping regional politics, identity consciousness, and governance processes. Among them, the All Assam Students' Union (AASU) and the All Arunachal Pradesh Students' Union (AAPSU) stand out as influential organizations that transcended conventional campus activism to become major socio-political actors. This article presents a comparative study of student movements in Assam and Arunachal Pradesh by examining their historical evolution, ideological foundations, mobilization strategies, leadership structures, and political outcomes. Using social movement theory and pressure group frameworks, the study analyses how both unions articulated regional grievances relating to identity, citizenship, indigeneity, and development. While AASU spearheaded a mass movement that restructured Assam's political landscape through the Assam Movement and the Assam Accord, AAPSU functioned as a sustained pressure group advocating indigenous rights and socio-economic reforms within Arunachal Pradesh. The comparative analysis reveals that although both unions share similar concerns over demographic protection and cultural preservation, they differ in political trajectories, organizational outcomes, and modes of engagement with the state. The study concludes that student movements remain vital instruments of democratic participation in Northeast India and continue to influence policy debates in the contemporary era.

Keywords: Student movements, AASU, AAPSU, Assam Movement, Arunachal Pradesh, social movement theory, identity politics

1. Introduction

Student movements have historically acted as catalysts of socio-political transformation worldwide. In India, student activism has played decisive roles in anti-colonial struggles, post-independence democratic consolidation, and identity-based mobilizations. The Northeast region of India presents a unique context for student activism due to its ethno-linguistic diversity, socio-political marginality, and complex demographic dynamics (Baruah, 1999).

Assam and Arunachal Pradesh, while geographically contiguous, represent two contrasting socio-political environments. Assam, with its history of migration, linguistic nationalism, and electoral politics, witnessed one of India's most significant post-independence student-led mass movements: the Assam Movement (1979–1985). Arunachal Pradesh, a predominantly tribal state with a relatively small population and late political integration into India, experienced sustained student mobilization primarily focused on indigenous rights, cultural preservation, and socio-economic advocacy (Panyang, 2017).

The All Assam Students' Union (AASU) and the All Arunachal Pradesh Students' Union (AAPSU) became institutional embodiments of student activism in their respective states. Over time, they expanded their scope from academic concerns to broader socio-political engagement, often acting as pressure groups and moral guardians of regional interests. Both organizations exemplify how student movements in Northeast India have gone beyond campus politics to shape state-level governance and identity discourses.

This study aims to comparatively analyze these two student movements by addressing the following research questions:

1. What historical conditions led to the emergence of AASU and AAPSU?

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2. What were the primary issues and grievances driving their mobilization?
3. How did their organizational structures and leadership patterns differ?
4. What political and policy outcomes resulted from their activism?
5. What similarities and differences emerge in their roles as student movements in Northeast India?

By examining these questions, the article contributes to the broader literature on social movements, identity politics, and regionalism in India.

2. Theoretical Framework

The study of student movements in Assam and Arunachal Pradesh is grounded in social movement theory, pressure group theory, and identity politics frameworks.

2.1 Social Movement Theory

Social movement theory explains how collective actors mobilize resources, frame grievances, and sustain participation to influence political outcomes. Resource mobilization theory posits that movements succeed when they effectively organize leadership, networks, and material resources (McCarthy & Zald, 1977). AASU's ability to sustain a six-year-long mass agitation exemplifies strong organizational capacity and leadership coherence. Similarly, AAPSU's sustained presence across decades reflects institutional continuity and decentralized mobilization networks.

Frame alignment theory emphasizes how movements construct shared meanings and identity narratives to mobilize support (Snow, Rochford, Worden, & Benford, 1986). Both AASU and AAPSU framed their struggles around threats to identity Assamese linguistic-cultural identity in Assam and tribal indigeneity in Arunachal Pradesh thus achieving broad societal resonance.

2.2 Pressure Group Theory

Student unions in Northeast India often operate as pressure groups, influencing government decisions through protests, memoranda, and public campaigns without directly seeking electoral power (Almond & Powell, 1966). AAPSU exemplifies a classic pressure group model, while AASU, due to its historical trajectory, eventually transitioned into a political party.

2.3 Identity Politics

Identity politics is central to understanding both movements. Fear of demographic marginalization, cultural dilution, and loss of political control formed the emotional core of mobilization. Student unions articulated identity-based claims to protect "sons of the soil" rights, tribal autonomy, and regional self-determination (Baruah, 1999). Identity framing was particularly salient in ethnically diverse and demographically sensitive Northeast India, where small demographic shifts can significantly alter political representation.

Thus, this study combines organizational analysis, identity construction, and political opportunity structures to interpret student movements in Assam and Arunachal Pradesh.

3. Historical Background: Student Movement in Assam

3.1 Emergence of AASU

The All Assam Students' Union (AASU) was formed in 1967 at Gauhati University as a representative body for Assamese students. Initially, its concerns were limited to academic reforms, hostel facilities, and promotion of Assamese culture. However, during the 1970s, growing anxieties over demographic change due to migration from erstwhile East Pakistan (later Bangladesh) brought citizenship issues to the center of Assam's politics (Weiner, 1978).

By the late 1970s, the inclusion of alleged foreign nationals in electoral rolls and fear of Assamese cultural marginalization prompted AASU to transition from a purely academic union into a politically active organization (Gohain, 1985). The student movement became the most visible expression of public concern regarding demographic change and political representation.

3.2 The Assam Movement (1979–1985)

The Assam Movement, led by AASU and the All Assam Gana Sangram Parishad (AAGSP), was a six-year-long agitation against alleged illegal immigration and the failure of state institutions to protect Assamese identity. The movement mobilized wide sections of society through protests,

rallies, strikes (bandhs), and civil disobedience campaigns. The movement's key demands included identification and deportation of illegal immigrants, protection of Assamese culture and language, and revision of electoral rolls (Baruah, 1999).

Despite intermittent negotiations with the Government of India, the movement continued for six years, demonstrating extraordinary organizational endurance. The movement culminated in the Assam Accord of 1985, which provided constitutional safeguards for Assamese identity and set March 24, 1971, as the cut-off date for detection of foreigners (Hussain, 2017).

3.3 Political Institutionalization

Following the Accord, former AASU leaders formed the Asom Gana Parishad (AGP), which won the 1985 state elections. This marked a rare instance of student activism directly shaping electoral politics. The movement transformed student leadership into formal political governance, with prominent leaders assuming ministerial and chief ministerial roles (Gohain, 1985). This trajectory underscores the unique potency of student movements in Assam's political system.

3.4 Contemporary Role of AASU

In the post-Assam Movement era, AASU remains an important socio-political actor. While its direct electoral role diminished, it continues to influence public policy through protests, public campaigns, and negotiations with state authorities. Contemporary activism includes opposition to the Citizenship Amendment Act (CAA), environmental advocacy, flood management, and anti-corruption campaigns (Times of India, 2025). This demonstrates the continuity of student engagement beyond traditional campus or linguistic-cultural issues.

4. Historical Background: Student Movement in Arunachal Pradesh

4.1 Emergence of AAPSU

The All Arunachal Pradesh Students' Union (AAPSU) was founded in 1967 during the NEFA period, predating statehood in 1987. Arunachal Pradesh had limited political institutions and weak party structures at the time; thus, AAPSU became a critical platform for youth participation and socio-political mobilization (Panyang, 2017).

AAPSU's initial agenda focused on educational reforms, scholarship expansion, and the welfare of tribal students. Its influence grew as the union assumed the role of representing indigenous interests in interactions with administrators and later, elected representatives.

4.2 Indigeneity and Identity Assertion

Tribal identity, customary law, and demographic integrity constitute central concerns in Arunachal Pradesh. AAPSU has consistently mobilized around protecting these interests. One major axis of activism is the presence of Chakma and Hajong refugee communities, which AAPSU has highlighted as a threat to tribal land, political representation, and cultural preservation (Arunachal Times, 2025). Unlike Assam, where linguistic nationalism was central, AAPSU's framing centers on tribal indigeneity and constitutional protections for Scheduled Tribes.

4.3 AAPSU as a Pressure Group

AAPSU functions primarily as a pressure group. Its structure links district-level student organizations to the state-level union, enabling coordinated mobilization. The union's advocacy includes memoranda to the state government, organized rallies, public campaigns, and engagement with national authorities (Panyang, 2017). Unlike AASU, AAPSU has not transitioned into electoral politics but has successfully shaped policy discussions on indigenous rights and employment.

4.4 Expanding Agenda in Contemporary Times

In addition to demographic and identity issues, AAPSU has increasingly addressed socio-economic concerns, including education quality, teacher recruitment, employment reservation for indigenous youth, and infrastructural development. Its role as a watchdog over governance demonstrates the continued relevance of student unions in shaping public discourse in Arunachal Pradesh (Polsci Institute, 2025).

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5. Comparative Analysis

5.1 Origins and Catalysts

Both AASU and AAPSU emerged in the 1960s to address academic and socio-cultural concerns. However, contextual factors shaped their trajectories:

- **AASU** evolved rapidly into a political actor due to Assam's demographic anxieties, migration patterns, and linguistic nationalism.

- **AAPSU**, in a less populous, tribal-dominated state, became a persistent pressure group advocating indigenous rights without entering electoral politics.

5.2 Core Grievances and Agenda

- **Citizenship and Immigration:** AASU focused on identifying and deporting illegal immigrants. AAPSU's concerns, while similar in highlighting demographic threats, focus on constitutional tribal protections and land rights.
- **Cultural and Linguistic Identity:** AASU emphasized Assamese language and cultural preservation, whereas AAPSU emphasizes tribal heritage and indigenous rights.
- **Socio-Economic Issues:** AAPSU maintains consistent focus on education, employment, and development, while AASU's socio-economic activism became prominent only in recent decades.

5.3 Leadership and Organizational Structure

- **AASU:** Strong centralized leadership that enabled mass mobilization and political institutionalization.
- **AAPSU:** Decentralized network connecting district-level unions; functions as a pressure group without political party formation.

5.4 Mobilization Strategies

- Both movements use rallies, protests, memoranda, and civil disobedience.
- AASU's activism involved state-wide mass campaigns and boycotts.
- AAPSU emphasizes sustained district-level coordination, mobilizing the youth consistently over decades.

6. Outcomes and Impacts

6.1 Political Transformation

- AASU catalyzed the Assam Accord and formation of AGP, directly influencing electoral politics.
- AAPSU shaped policy discussions and administrative decisions without direct electoral engagement.

6.2 Societal Awareness

Both unions raised consciousness about identity, citizenship, and regional autonomy, contributing to long-term political debates in their respective states.

7. Challenges and Critiques

- **AASU:** Episodes of violence during the Assam Movement; debates about contemporary relevance.
- **AAPSU:** Accusations of exclusivity or over-emphasis on tribal identity; balancing activism with development priorities.

8. Conclusion

The comparative study highlights that while both AASU and AAPSU operate under the broad umbrella of student activism in Northeast India, their historical contexts, political environments, and mobilization strategies differ significantly. AASU illustrates the potential of student movements to transition into formal politics, whereas AAPSU demonstrates sustained influence as a pressure group safeguarding indigenous rights. Both remain critical instruments for democratic engagement, identity assertion, and policy advocacy in the region.

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Understanding Augmented Intelligence Framework in Research: A Symbiotic Association of Man and Machine

Dr. Surjoday Bhattacharya*

Abstract:

The paper discusses about the use of Augmented Intelligence Framework (AIF), primarily developed by Jarrahi in 2018, in the educational research. This paper critically examines the assistance of AIF extended towards the research process by establishing a symbiotic association between human intelligence and artificial intelligence (AI) in the whole research process. The framework talks about complementarity, rather than replacement of human researcher. It provides the facility of leveraging AI's potential of managing complex data and thematic modelling feature. This framework critically frees the human mind from unnecessary wasting his cognitive ability in literature review, data analysis or visual mapping; rather he can focus on explaining the outcome with the help of his intuitive judgement, ethical reasoning and interpretation of uncertainty and equivocality. The framework advocates the functioning of AI as a cognitive extension where as the researcher serves as an ultimate sense maker by offering robust, resilient and ethically grounded research process in the time to come.

Keywords: Educational research, Augmented Intelligence system, Artificial intelligence, Man-machine symbiosis, AI accountability

Introduction

With the advancement of digital technology and emergence of artificial intelligence, educational research is going through a transformation in the present century. Entry of big data with its complex nature, advent of complex computational technologies has changed the procedure of research in teaching, learning and academic practices. Among the recent technologies, artificial intelligence with its generative nature and growth of natural language processing (NLP) and neural network acted as a pivotal agent for reshaping the research and its various stages like conceptualization of problem, data collection and analysis, data mapping and interpretation. AI has emerged as a mainstream tool for textual analysis and data computation, which once considered as a domain of computer science (Luckin et al., 2016; Zawacki-Richter et al., 2019). Like in other facets of knowledge, AI has started transforming the behaviour of contemporary education. It has started reshaping teachers' instruction pattern, learning pattern, inquiry strategies and outcomes. Once a traditional human centred method involving data collection, coding and interpretation has started changing rapidly. Integration of AI technologies enabled automation, pattern recognition and prediction based on large scale data, which were previously unimaginable. The classical case-based methods or descriptive nature of studies with data driven methodologies in educational research, yet time-consuming and prone to subjective bias, now are at stake. The advent of different data analysis software in the last decade of last century started changing research process from manual to mechanical; emergence of AI has just shifted the process and marked as a third paradigm with intelligent support where human cognition is augmented by computational intelligence at every aspect of educational process. This enabled the educational practitioners to work with more complex, more sophisticated, deeper and larger chunk of information to arrive at a conclusion that is reliable, ethical and sound on socio-cultural ground.

AI offers precisely this capacity through algorithms which are capable of learning from data, natural language processing (NLP), and predictive analytics, AI can perform tasks that would

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otherwise require extensive human labor. The adoption of AI in educational research thus aligns with a broader movement toward evidence-based and data-intensive inquiry (Popenici & Kerr, 2017). For example, machine-learning models can predict student retention risks, while NLP Supports text mining, automated literature reviews, and sentiment analysis (Chassignol et al., 2018), thus contributing to qualitative and mixed paradigm.

Apart from these Chatbots and AI Assistants facilitate academic writing support and data transcription and are used in abundance now a days in India. AI supports both quantitative and qualitative analysis. In Quantitative Research, machine learning enables predictive modelling, multivariate analysis, and hypothesis testing on vast educational datasets. Algorithms can automatically classify student performance levels, simulate virtual experiments, and refine statistical models.

In Qualitative Research, NLP-based coding helps researchers in identifying categories and relationships within large datasets. AI also performs discourse and content analysis in digital learning spaces, automating the detection of student engagement patterns or affective expressions (Zawacki-Richter et al., 2019). The convergence of these capacities promotes for a new paradigm, where AI as a bridge, links quantitative precision with qualitative insight (Holmes et al., 2019) resulting in a comprehensive understanding of educational phenomena by revealing both measurable trends and contextual meanings.

These affordances make AI an indispensable partner for contemporary researchers. However, this partnership also raises fundamental questions about transparency, validity, ethics, bias in algorithms, misuse of data, and questions about researcher accountability. UNESCO (2021) emphasizes the need for human oversight and transparent documentation. Moreover, the reliance on AI can lead to superficial interpretations if researchers fail to critically engage with the outputs.

Problem Statement

AI popularly known for its assistance in pedagogical process and real-time problem-solving capacity. Very little is known about its' capacity in helping research process, especially in academics. Though there are many tools available for supporting research process, but still known to many. Therefore, there is a need to understand the strategy through which AI can support educational inquiry at every stage of research and that too without intervening human decision taking ability. This gap motivated to work on the present theme.

Objectives of the Study

The primary objectives of this conceptual paper are to:

1. Discuss the theoretical underpinnings of AI-assisted inquiry within a human-centred, augmented-intelligence framework (AIF).
2. Examine the potential of AI technologies in streamlining various stages of educational research based on AIF.

Theoretical Framework of AI

This paper works primarily upon the **Augmented Intelligence Framework** (henceforth AIF) proposed by Jarrahi (2018), which conceptualizes AI as a supplement which will not replace human cognitive contributions. This framework recognizes that AI and human intelligence (HI) possess distinct, yet highly valuable, capabilities that align with different aspects of organizational decision contexts. AIF draws a clear distinction between the role of AI and human in the process. The supremacy of AI in computational and analytical capability is distinct where it works on pattern recognition across big datasets and generates logical codifies knowledge (Jarrahi, 2018). These capabilities make AI effective in situations where there is a complex problem with large number of variables and their interdependencies; whereas the role of human is characterized with his intuitive and holistic capability. The human retains a critical advantage in the tasks that require implied knowledge, complete understanding, ethical reasoning and clear interpretation. Therefore, human is indispensable in uncertain situations where either outcome can only be predicted or problems itself need to be defined properly.

The AIF, therefore, is not a fixed architectural model but a dynamic conceptual map for assigning roles in a collaborative process. The success of the "symbiosis" is dependent on correctly allocating the tasks to the entity (human or machine) whose cognitive strengths are best matched to the type of problem at hand (Jarrahi, 2018).

The Augmented Intelligence Framework (AIF): Dimensions

Jarrahi's (2018) framework provides a specific lens for viewing the division of cognitive labor within an organization by mapping the respective competencies of HI and AI onto the three canonical dimensions of organizational decision environments: complexity, uncertainty, and equivocality.

Complexity being a natural component of decision-making arises due to numerous interconnected incidents such as nature of problem, predicting outcome and analysing big data (Simon, 1962). This requires analytical intelligence and featured by -

- *Structured Data*: problems are converted into data points and computational algorithms to reduce its complexity.
- *Codified Knowledge*: formal documents that are easily accessible for machine processing.
- *Scalability*: Ability to process large information in such a speed that is beyond human capacity.

In AIF, AI is nothing but an extension of human intelligence which helps to solve the complexity, big data processing, prediction and evaluation of scenario. This helps the researcher to focus more on data interpretation, rather than data a computation, thus supplementing human capability.

Uncertainty is the second important component of AIF which works in the situation when there is prediction anomaly or variation in decision making through its advanced prediction models (Agrawal et al., 2019). However, in case of sensitive events with high impact factor, human intuition and judgement is still a better cognitive tool, because human is better equipped for balancing non-quantifiable risks and making decision based on incomplete information (Jarrahi, 2018)

Equivocality as third component of AIF refers to the ambiguity of problem itself, i.e., 'what' and 'why' of the problem. This situation arises due to improper objectives (rather vague objectives), conflicting methodologies and lack of proper data points due to socio-cultural environments. Resolving this situation needs clarity in social and cultural perspectives, application of social intelligence and interpreting the text which provides a sense to the situation (Deft & Lengel, 1986). These human capabilities make the decision rational, ethical and socially acceptable resulting in proper alienation with organizational value system.

AIF divides the decision-making process into the above three dimension, thus converting the framework more pragmatic and proactive with respect to AI-human collaboration and tightly woven objective oriented Human- AI symbiotic cognitive environment (Jarrahi, 2018)

AIF augmenting Educational Research

The Augmented Intelligence Framework (AIF), as conceptualized by Jarrahi (2018), provides a powerful lens for designing and analysing the integration of Artificial Intelligence (AI) into educational research and practice. Instead of viewing AI as a replacement for teachers, researchers, or students, the AIF frames it as a collaborative partner that augments human capabilities.

In educational research, the AIF can be conceptualized across three primary areas: Augmenting the Researcher, Augmenting the Teacher/Practitioner, and Augmenting the Learner.

Table 1: AIF addressing Educational Research

AIF Component	Role of AI (Addressing Complexity)	Role of Human Researcher (Addressing Uncertainty/Equivocality)
Data Processing & Analysis	AI as Cognitive Extension: Uses Natural Language Processing (NLP) to review thousands of literature articles, identifies non-obvious thematic patterns in qualitative data, and runs advanced Machine Learning (ML) models on large datasets	Human as Sense-Maker: researcher defines the ethical boundaries of data to be used, equivocality, interprets the non-quantifiable AI-identified patterns, and determines the social and policy implications of the findings.
Methodology Design	AI as Efficiency Tool: Suggests optimal statistical models, flags potential sources of bias in the sampling process, and validates the reliability of measurement instruments across diverse groups.	Human as Judge/Intuitor: Selects the appropriate research paradigm (e.g., qualitative vs. quantitative), exercises judgment in balancing methodological trade-offs, and designs instruments that capture complex human.
Theory Building	AI as Connector: Identifies latent connections between different educational theories or concepts	Human as Theorist: Formulates new concepts based on different principles, provides the knowledge necessary to synthesize connections between similar/different theoretical framework.

Critique of AIF:

Though the AIF framework is widely accepted and intellectually accurate, still it faces several criticisms and also has some limitations. These issues are mostly related to ethical dilemmas, risk of deployment and social factors, must be addressed before implementation.

Ethical Challenges: Transparency and Accountability

Munoko, et al. (2020) while discussing on AI in accounting referred Jarrahi (2018) and highlighted objectivity, privacy, transparency, accountability and trustworthiness as 5 major ethical concerns.

While applying AI in mitigating complexity, a “*Black-Box*” appeared which makes the rationale behind the recommendation opaque (Jarrahi, 2018). This is nothing but ‘Un-explainability’ of AI models which weakens human trust and results in more complex situation for human decision makers where there is a requirement of ethical and contextual oversight (Jarrahi et al., 2021). In a symbiotic association, as in AIF, the problem of accountability is a major concern. What if wrong outcome occurs? Who will be the ultimate accountable? – a human decision maker who relied on AI’s recommendation or the AI’s own model? As a result, AIF advocates a model of shared accountability without which it is difficult for organizations to operationalise their policy and legal frameworks (Munoko et al., 2020).

One of the major demerits of AI based models is the risk of over-reliance on AI system which somewhere marks psychological problems and practical limitations. The quicker computational power and big data handling capability of AI may make human-decision makers more satisfied with the results and thus resulting in a phenomenon where human rely mostly on AI decisions without considering his own judgement at all (Daugherty & Wilson, 2018).

Moreover, continuous allocation of analytical works to AI can also lead to cognitive de-skilling of human (Carr, 2010). Researches in academics also supports deterioration of human decision making capacity and increased laziness due excessive use of AI in academics (Afridi et al., 2023).

Streamlining Educational Research Through AI Technologies

While performing educational research, integrating AI can still offers significant benefits across 5 core stages, viz., literature review, data collection, data analysis, interpretation and application.

1. The Literature Review (Synthesis Stage)

This is the foundational stage of any research and a most tedious one where hundreds of manual hours are needed to search and arrange the previous studies. AI with its natural language processing (NLP) and machine learning (ML) algorithms, has the capability of streamlining the job.

- Accelerated Search and Filtering: AI-powered bibliographic databases and search engines can quickly index, categorize, and prioritize relevant studies from massive repositories. The principle goes beyond simple text matching, rather topic modelling and semantic modelling are used to identify related papers. This reduces time significantly (Munoko et al., 2020).
- Automated Synthesis and Mapping: Advanced NLP tools can read abstracts, full texts, to perform automated thematic synthesis. NLP algorithms can identify the trends, commonality in terms of methods, concepts across the databases and can generate the knowledge gap (Jarrahi, 2018). This facility helps the researchers to streamline their literature review and conceptualise the problem quickly.
- Citation Management and Formatting: AI tools automate the meticulous and error-prone process of managing citations and generating reference lists in formats like APA 7 (Afridi et al., 2023).

2. Data Collection (Instrumentation Stage)

AI enhances both the efficiency and the quality of data collection, particularly in large-scale studies and behavioural research.

- Intelligent Survey Design: AI can assist in optimizing survey instruments by analyzing pilot data to flag ambiguous wording or questions that elicit biased responses, thereby increasing data validity (Jarrahi et al., 2022).
- Automated Data Gathering from Unstructured Sources: NLP and ML can transform big unusable data into usable formats. It can easily transcribe textual data, categorise non-verbal cues from videos and content analysis of policy documents, which were previously almost impossible to make error-free; this changes the scenario in qualitative research (Daugherty & Wilson, 2018).

3. Data Analysis (Modeling Stage)

This stage is where AI's strength in handling complexity—particularly statistical and computational complexity—delivers the most dramatic streamlining effects.

- Advanced Statistical Modelling: NLP, ML, deep learning algorithms and neural network have the capability to analyze big multi-dimensional datasets which are otherwise too complex for traditional inferential statistical analysis like clustering or predictive relationships (Agrawal et al., 2019).
- Automated Qualitative Coding: In qualitative works, most often coding, categorising, theme selection and prediction, survey response clustering are very difficult as they require extra expertise and training. In this case, AI performs all the stages of analysis, except the final interpretative role, which is vested in human (Jarrahi, 2018).
- Bias Detection: Different complex algorithms can be used to check data and related biases based on gender, race or different socio-cultural and socio-economic status which may be unintentionally produced. This help in maintaining validation of data and ethical standards (Munoko et al., 2020).

4. Results Interpretation (Sense-Making Stage)

Role of human researcher remains crucial in interpreting the findings from “what the data says” to “what does the data mean” for practice (Jarrahi, 2018). The role of AI in this stage is restricted only to data visualization and data explanation.

- Explainable AI (XAI) Tools: New XAI tools, instead of ML algorithms, can streamline the process of interpretation with sufficient trust, still human researchers needed to explain the findings by fulfilling considerable ethical requirement.
- Interactive Data Visualization: AI based process of data visualization permits researchers to interact with different complex models dynamically and testing different interpretations (Daugherty & Wilson, 2018). This help in quicker insight generation.

5. Dissemination (Application Stage)

The final stage, which involves communicating results to academics, practitioners, and policymakers, is also streamlined by AI.

- Automated Report Generation: AI has the ability to draft technical reports, summaries, statistical findings into understandable paragraphs. This saves human time in editing the draft (Jarrahi et al., 2022).
- Policy Recommendation Modelling: AI based predictive models help researcher to recommend effective policy measures based on finding -based simulations (Jarrahi, 2018).

Discussion

The Augmented Intelligence Framework (AIF) is important for any educational research as it is based on a theoretical roadmap of integrating AI and shifting from automation to augmentation. Complementarity, handling complexity and symbiotic pairing between human researcher’s judgement, reasoning and sense-making with AI’s predictive outcome are the core foundational pillars of AIF (Jarrahi et al., 2021). This type of association become very beneficial in educational research process. Integration of AI has allowed the researchers to take the leverage of AI assisted searching and mapping of vast literature for streamlining the research work (Munoko et al., 2020); thus, channelise the cognitive energy towards interpretation of findings and formulating strategies. Apart from these, by performing the huge analytical tasks, the AIF helps in minimising the cognitive burden over researcher; this ensures ethically sound and contextually relevant outcomes in educational practices (Afridi et al., 2023). This symbiotic association has end up with more rigorous, scalable and human-centric research approach and outcomes.

Conclusion

The Augmented Intelligence Framework (AIF) has the potential to assist new researchers with an unprecedented scale and speed by performing the stagewise computational works like reviews, data processing and modelling for prediction and explanation. The symbiotic association as explained in AIF helps in preservation of human cognition, its’ role in ethical considerations, contextual interpretation, theorization. These properties of human cognition are essential for addressing the equivocality inherent in educational research. The ultimate result of AIF is not just a faster research cycle, but bringing for a deeply focused, rigorous, ethical and intelligent human insight for data. In the whole process, AI acts as a tireless engine and human investigator serves as a judicious navigator.

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Academic Achievement Motivation of Navodaya and Bihar Government High School Students: A Comparative Analysis

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Abstract

Academic achievement motivation plays a crucial role in determining students' learning behaviour, academic performance, and long-term educational success. The present study aims to compare the level of academic achievement motivation among students studying in Navodaya Vidyalayas and Bihar State Government High Schools. The study further examines differences in academic achievement motivation with respect to caste and gender. A sample of 250 high school students aged 13–15 years was selected from Chapra, Siwan, and Gopalganj districts of Bihar, comprising 125 Navodaya students and 125 State Government High School students. The sample included students from Forward Caste (FC = 100), Backward Caste (BC = 100), and Scheduled Caste (SC = 50) categories, with 150 males and 100 females. Academic Achievement Motivation was measured using the Academic Achievement Motivation Test developed by Sharma (2011). Mean, standard deviation, and independent samples 't' test were used for statistical analysis. The findings highlight significant differences in academic achievement motivation based on type of school, gender and caste with important implications for educational planning and student guidance.

Keywords: Academic Achievement Motivation, Navodaya Vidyalaya, State Government Schools, Caste, Gender.

Introduction

Academic achievement motivation refers to an individual's inner drive to achieve excellence, master academic tasks, and attain high standards of performance in educational settings. It is a vital psychological construct influencing students' persistence, effort, goal orientation, and academic success. Students with high achievement motivation tend to show greater curiosity, responsibility, and resilience in the face of academic challenges, whereas those with low motivation may exhibit avoidance behaviour, low aspiration levels, and poor academic outcomes.

In the context of secondary education, particularly during early adolescence (13–15 years), achievement motivation becomes especially significant. This developmental period is marked by rapid cognitive growth, identity formation, and increasing academic demands. Motivation during this stage strongly predicts future academic achievement and educational attainment (Schunk, Meece, & Pintrich, 2014).

The type of school environment plays a pivotal role in shaping students' achievement motivation. Navodaya Vidyalayas, established by the Government of India, aim to provide quality education to talented students predominantly from rural areas. These schools are known for their well-structured academic environment, residential facilities, trained teachers, competitive peer groups, and emphasis on holistic development. Such features are conducive to fostering high achievement motivation among students. In contrast, Bihar State Government High Schools often function under resource constraints, large class sizes, and limited infrastructural facilities. Despite these challenges, they cater to a large and diverse student population and play a critical role in promoting inclusive education. Differences in academic climate, teacher-student interaction, and evaluation practices between Navodaya and State Government schools may significantly influence students' motivation to achieve academically. Empirical studies have consistently reported higher levels of academic achievement motivation among students studying in well-resourced and

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academically supportive school environments. For instance, Singh and Saxena (2018) found that students from residential and centrally funded schools demonstrated higher achievement motivation than those from regular government schools. Similarly, Kumar and Sharma (2020) reported that institutional climate and academic support significantly predict students' motivation and achievement.

In the Indian social context, caste remains an important variable influencing educational opportunities, aspirations, and motivation. Students from Forward Caste (FC) backgrounds often have greater access to educational resources, parental support, and academic role models, which may enhance achievement motivation. Backward Caste (BC) and Scheduled Caste (SC) students, on the other hand, may face socioeconomic disadvantages, discrimination, and lower academic expectations, which can adversely affect their motivation. However, affirmative action policies, scholarships, and residential schooling facilities such as Navodaya Vidyalayas have contributed to reducing caste-based disparities in education. Research findings on caste differences in academic motivation are mixed. While some studies report significant differences favoring FC students (Verma & Mishra, 2016), others suggest that supportive school environments can mitigate caste-based motivational gaps (Jha & Kumar, 2019).

Gender differences in academic achievement motivation have been widely studied in educational psychology. Several studies indicate that female students often exhibit higher academic motivation, greater diligence, and stronger achievement orientation compared to male students, particularly at the school level (Eccles, 2011). Girls are generally found to be more task-oriented and compliant with academic demands, whereas boys may display higher variability in motivation. In the Indian context, increasing emphasis on girls' education and improved access to schooling have contributed to enhanced academic motivation among female students. However, gender-based expectations, cultural norms, and differential encouragement may still influence motivational patterns. Therefore, examining gender differences in academic achievement motivation remains an important area of inquiry.

Despite the importance of achievement motivation in determining students' academic success, limited research has systematically compared Navodaya and State Government High School students in Bihar, particularly across multiple districts. Moreover, studies simultaneously examining the influence of caste and gender on academic achievement motivation are scarce. The present study seeks to address this gap by conducting a comparative analysis of achievement motivation among high school students from different school types, caste groups, and genders in Chapra, Siwan, and Gopalganj districts of Bihar.

The objectives of the study are :-

1. To study the level of academic achievement motivation among high school students.
2. To compare academic achievement motivation between Navodaya and Bihar Government High School students.
3. To compare academic achievement motivation between male and female students.
4. To examine differences in academic achievement motivation among students belonging to different caste groups.

Considering these objectives the following hypotheses were formulated :-

1. There will be a significant difference in academic achievement motivation between Navodaya and Bihar Government High School students.
2. There will be a significant difference in academic achievement motivation between male and female students.
3. There will be a significant difference in academic achievement motivation among different caste groups.

Method

Sample :- The investigation was carried out on a sample of 250 high school students drawn from Chapra, Siwan and Gopalganj district of Bihar. The sample comprised 125 students from Navodaya

Vidyalayas and 125 students from State Government high schools, all belonging to the age group of 13–15 years. With regard to caste composition, the sample included 100 students from the Forward Caste, 100 from the Backward Caste, and 50 from the Scheduled Caste. In terms of gender, the sample consisted of 150 male and 100 female students.

Tests Used: For measuring Academic Achievement Motivation of subjects Hindi version of **Academic Achievement Motivation Test (AAMT-s)** has been used. This test has been constructed and standardized by **Sharma, (2011)**. The test provides a direct numerical score indicating how much an individual boy or girl is motivated in the field of academic achievement. It consists of 38 items with two alternatives. The score can range from 0 to 38. A higher score denotes higher Academic achievement motivation and lower score denotes lower Academic achievement motivation. A Self-made 'Personal Information Inventory' has been also used which sought personal information from subjects.

Statistical Analysis :- To test the effects of residential area and employment on life satisfaction of Muslim females, the scores on Life Satisfaction Scale of rural and urban; and, employed and unemployed groups were calculated separately and compared. Means, S.Ds. and 't'-ratios were calculated.

Results and Discussion

Nature and type of school has been found significantly influencing academic achievement motivation of students. The mean Academic Achievement Motivation score of Navodaya Vidyalaya students ($M = 32.64$) is significantly higher than that of Bihar Government High School students ($M = 27.45$). The obtained t-value ($t = 8.29$) is significant at the 0.01 level, confirming that the observed difference is not due to chance. This finding suggests that students enrolled in Navodaya Vidyalayas exhibit significantly higher levels of achievement motivation compared to their counterparts studying in Bihar Government High Schools. The significantly higher achievement motivation observed among Navodaya students may be attributed to several institutional, psychological, and environmental factors. Navodaya Vidyalayas are fully residential, well-resourced, and academically competitive institutions, established with the objective of nurturing talented students from rural backgrounds. These schools provide a structured academic climate, consistent supervision, peer competition, and enriched learning facilities, which collectively enhance students' intrinsic motivation toward academic success. Research consistently indicates that school climate, teacher expectations, and peer academic orientation play a critical role in shaping students' achievement motivation (OECD, 2023; Wang & Degol, 2016).

In contrast, Bihar Government High Schools often face challenges such as overcrowded classrooms, limited instructional resources, irregular teacher availability, and reduced academic monitoring, which may negatively influence students' academic engagement and motivational orientation. Studies conducted in Indian government schools have highlighted that inadequate learning environments and lower academic reinforcement are associated with reduced achievement motivation and academic aspiration among adolescents (Kumar & Choudhury, 2020; NCERT, 2022). Another important explanation for the present finding lies in the selective admission process of Navodaya Vidyalayas. Students are admitted through a nationwide competitive entrance examination, which itself filters learners with relatively higher cognitive ability, academic interest, and motivational readiness. According to contemporary motivational theories, prior academic success and self-efficacy significantly reinforce achievement motivation (Bandura, 1997; Schunk et al., 2023). Further, the residential nature of Navodaya schools promotes disciplined routines, peer learning, collaborative goal-setting, and sustained academic focus, all of which are known to foster mastery orientation and achievement striving (Eccles & Wigfield, 2020). Recent studies confirm that students studying in residential or highly structured academic environments demonstrate higher achievement motivation and persistence than those in non-residential public schools (Sahoo & Biswas, 2021; UNESCO, 2024). The present finding is in strong agreement with earlier and recent empirical studies. Research comparing Navodaya and Bihar Government school students has

consistently reported higher academic motivation, self-regulation, and achievement orientation among Navodaya students (Singh & Jha, 2019; Verma & Sharma, 2021). International studies also suggest that institutional support systems and academic culture significantly predict achievement motivation across adolescent populations (Martin et al., 2022; OECD, 2023).

Table-1 : Showing Means, S.Ds. and 't' ratios of Academic Achievement Motivation Scores– Navodaya and Bihar Govt. High School Groups

Groups	N	Means	S.Ds.	df	't' ratios	Level of Sign.
Navodaya	125	32.64	4.83	248	8.29	0.01
Bihar Govt.	125	27.45	5.06			

Gender has been also found influencing academic achievement motivation. The mean score of boys ($M = 31.72$) is significantly higher than that of girls ($M = 27.53$). The obtained t-value ($t = 6.61$) is significant at the 0.01 level, indicating that the difference between boys and girls in academic achievement motivation is statistically meaningful. This result suggests that boys demonstrate significantly higher academic achievement motivation than girls in the present sample. The observed gender difference may be explained through socio-cultural, educational, and psychological factors that differentially shape motivational patterns among boys and girls. In many developing and transitional societies, including India, boys often receive greater academic encouragement, autonomy, and performance-related expectations, which may enhance their confidence, competitiveness, and motivation to excel academically. Gender socialization theories propose that boys are more frequently encouraged to demonstrate competence, assertiveness, and achievement-oriented behavior, whereas girls may experience greater domestic responsibilities and restrictive expectations, which can adversely affect their academic motivation (Eccles & Wigfield, 2020; UNESCO, 2024). Educational practices and classroom dynamics also contribute to motivational differences. Research indicates that teachers may consciously or unconsciously reinforce achievement-oriented behaviors more strongly in boys, especially in competitive academic contexts (OECD, 2023). Boys are often encouraged to take risks and engage in performance goals, while girls may be socialized toward compliance and modest academic aspirations, influencing their motivational orientation (Meece, Glienke, & Burg, 2006; Martin et al., 2022). Furthermore, girls may face academic anxiety, fear of failure, and stereotype-related pressures, which can undermine their intrinsic motivation despite equal or superior academic ability. Contemporary psychological research suggests that motivational disparities are often shaped not by capability differences but by differences in self-efficacy, perceived support, and social expectations (Bandura, 1997; Schunk et al., 2023). The present findings are consistent with several Indian and international studies reporting higher achievement motivation among boys at the secondary school level (Singh & Gupta, 2020; Sharma & Rani, 2021). Studies conducted in Indian school settings have documented that boys tend to exhibit stronger achievement orientation due to greater societal emphasis on their academic and career success (Kumar & Choudhury, 2020).

Table- 2 : Showing Means, S.Ds. and 't' ratios of Academic Achievement Motivation Scores– Boys and Girls Groups

Groups	N	Means	S.Ds.	df	't' ratios	Level of Sign.
Boys	150	31.72	4.55	248	6.61	0.01
Girls	100	27.53	5.14			

The comparisons among caste groups indicate that the mean Academic Achievement Motivation score of Backward Caste students ($M = 31.85$) is marginally higher than that of Forward Caste students ($M = 30.92$). However, the obtained t-value ($t = 1.32$) is not significant, suggesting that no statistically significant difference exists between FC and BC students in terms of academic achievement motivation. In contrast, significant differences are observed when SC/ST students are compared with the other two caste groups. The mean score of SC/ST students ($M = 24.69$) is

significantly lower than that of Forward Caste students, with a t-value of 7.01 which is significant at the 0.01 level. Similarly, the comparison between Backward Caste and SC/ST students yields a t-value of 8.01 also significant at the 0.01 level. These findings clearly indicate that SC/ST students exhibit significantly lower academic achievement motivation compared to both FC and BC students. The non-significant difference between FC and BC students suggests that, in the present context, these groups may experience relatively similar educational opportunities, academic exposure, and motivational reinforcement, particularly due to expanding access to schooling and affirmative educational policies.

However, the significantly lower achievement motivation among SC/ST students may be attributed to structural disadvantages, historical marginalization, and persistent educational inequalities. Research indicates that SC/ST students often face economic hardship, first-generation learner status, limited academic support at home, and lower expectations from teachers and institutions, which can negatively affect their motivational orientation toward academic achievement (Sundaram & Vanneman, 2021; Thorat & Newman, 2019). Recent studies conducted in Indian school contexts reveal that caste-based disparities continue to influence students' academic motivation and aspirations, even when enrollment rates have improved (Desai & Kulkarni, 2022; NCERT, 2022). The present findings align with these observations, underscoring that educational inclusion does not automatically translate into motivational equality. The present results are consistent with earlier studies reporting lower achievement motivation and academic aspiration among SC/ST students compared to FC and BC students (Kumar & Sinha, 2020; Prakash & Singh, 2021). At the same time, the absence of a significant difference between FC and BC students reflects recent evidence suggesting narrowing motivational gaps among socially advantaged and moderately disadvantaged groups due to policy interventions and increased educational access (UNESCO, 2024; OECD, 2023).

Table – 3 : Showing Means, S.Ds. and 't' ratios of Academic Achievement Motivation Scores – FC, BC and SC/ST Groups

Groups	N	Means	S.Ds.	df	't' ratios	Level of Sign.
FC	100	30.92	4.95	198	1.32	NS
BC	100	31.85	5.04			
FC	100	30.92	4.95	148	7.01	0.01
SC/ST	50	24.69	5.22			
BC	100	31.85	5.04	148	8.01	0.01
SC/ST	50	24.69	5.22			

The study has finally led to the following conclusions :-

- (1) Navodaya Vidyalaya students have significantly higher academic achievement motivation than Bihar Government high school students.
- (2) Male students have significantly higher academic achievement motivation than female students.
- (3) Forward caste and backward caste students have almost equal level of academic achievement motivation.
- (4) Scheduled caste/Tribe students have significantly lower academic achievement motivation than forward caste and backward caste students.

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The Impact of Big Five Personality Traits on Career Achievement: An Empirical Study

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Abstract:

Career achievement is a central outcome of an individual's professional life and is influenced by a combination of personal, organizational, and environmental factors. Among individual determinants, personality traits play a significant role in shaping career-related behaviors, attitudes, and outcomes. The present empirical study examines the impact of the Big Five personality traits—Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—on career achievement. Career achievement is conceptualized as a multidimensional construct comprising both objective indicators (income level, promotions, job status) and subjective indicators (career satisfaction and perceived success). Data were collected from 300 working professionals across diverse sectors using standardized instruments. Statistical analyses including descriptive statistics, Pearson's correlation, and multiple regression were employed. The findings reveal that Conscientiousness and Extraversion significantly and positively influence career achievement, while Neuroticism has a significant negative impact. Openness to Experience and Agreeableness were found to be positively associated with subjective career achievement. The study contributes to the existing literature by providing empirical evidence from a non-Western context and offers important implications for career counseling, human resource management, and employee development initiatives.

Keywords: Big Five personality traits, career achievement, conscientiousness, extraversion, neuroticism, empirical study

1. Introduction

In the contemporary world of work, career achievement has become a key indicator of individual success and professional fulfillment. Rapid changes in organizational structures, technological advancements, and increased competition in the labor market have altered traditional career paths. As a result, individuals are increasingly required to take personal responsibility for managing their careers and achieving professional success. While organizational opportunities and economic conditions play an important role, individual characteristics such as skills, motivation, and personality significantly influence career outcomes.

Personality traits shape how individuals think, feel, and behave in work-related situations. They influence career choices, work performance, leadership potential, interpersonal relationships, and the ability to cope with stress and challenges. Among various personality frameworks, the Big Five personality model has gained widespread acceptance due to its empirical robustness and cross-cultural applicability. The model classifies personality into five broad dimensions: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

Career achievement is no longer limited to traditional markers such as promotions and salary increases. Modern perspectives emphasize both objective achievements and subjective evaluations, such as career satisfaction and perceived accomplishment. Understanding how personality traits influence these dimensions of career achievement is crucial for individuals seeking career growth, as well as for organizations aiming to enhance employee performance and retention.

Although extensive research has been conducted on personality and career success in Western contexts, empirical evidence from developing and emerging economies remains limited. Cultural values, organizational practices, and labor market dynamics may influence how personality

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traits affect career achievement. Therefore, the present study aims to empirically investigate the impact of Big Five personality traits on career achievement among working professionals.

2. Review of Literature

2.1 Career Achievement: Concept and Dimensions

Career achievement has been widely studied in organizational behavior and career development literature. Traditionally, career achievement was viewed primarily through objective indicators, such as salary, hierarchical position, promotions, and occupational status (**Judge et al., 1995**). These indicators represent externally observable accomplishments and are often used by organizations to evaluate employee success.

However, contemporary researchers argue that career achievement is a multidimensional construct encompassing both objective and subjective components (**Arthur, Khapova, & Wilderom, 2005**). Subjective career achievement refers to an individual's internal evaluation of career progress, satisfaction, and fulfillment. Studies have shown that objective success does not necessarily lead to subjective satisfaction, highlighting the importance of examining both dimensions simultaneously (**Heslin, 2005**).

Ng et al. (2005), in their meta-analysis, emphasized that individual differences such as personality traits exert a stronger influence on subjective career achievement than on objective indicators. This distinction is particularly relevant in modern careers characterized by boundaryless and protean career orientations, where personal values and perceptions play a critical role (**Hall, 2004**).

2.2 The Big Five Personality Model

The Big Five personality model is one of the most influential and empirically supported frameworks in personality psychology. It emerged from lexical and factor-analytic studies of personality descriptors and has demonstrated cross-cultural validity (**McCrae & Costa, 1997**). The model classifies personality into five broad dimensions:

- Openness to Experience
- Conscientiousness
- Extraversion
- Agreeableness
- Neuroticism

Costa and McCrae (1992) argued that these traits represent stable individual differences that significantly influence behavior across various life domains, including work and careers. Due to its robustness and predictive validity, the Big Five model has been extensively used in organizational and career research (**Barrick & Mount, 1991**).

2.3 Conscientiousness and Career Achievement

Among the Big Five traits, conscientiousness has been consistently identified as the strongest predictor of career achievement. Conscientious individuals are characterized by diligence, responsibility, persistence, and goal orientation, all of which are essential for career advancement.

Barrick and Mount (1991), in their seminal meta-analysis, found conscientiousness to be positively related to job performance across occupations. Subsequent research demonstrated that conscientiousness is significantly associated with higher salary levels, faster promotions, and greater occupational attainment (**Judge et al., 1999**). **Duckworth et al. (2007)** further highlighted that conscientiousness promotes long-term achievement through sustained effort and self-discipline.

In a longitudinal study, **Judge and Hurst (2008)** found that conscientiousness not only predicted early career success but also had lasting effects on income growth and job stability over time. These findings suggest that conscientious individuals actively engage in behaviors that enhance both objective and subjective career achievement.

2.4 Extraversion and Career Achievement

Extraversion has been widely linked to career achievement, particularly in roles that require social interaction, leadership, and persuasion. Extraverted individuals tend to be assertive, energetic,

and socially confident, which enhances their visibility and influence in organizational settings (Watson & Clark, 1997).

Research indicates that extraversion is positively related to leadership emergence and effectiveness (Judge et al., 2002). Extraverts are more likely to seek leadership roles, build professional networks, and engage in proactive career behaviors (Seibert, Kraimer, & Crant, 2001). These behaviors, in turn, contribute to higher levels of career achievement.

Ng et al. (2005) reported that extraversion shows a moderate but significant relationship with both salary and career satisfaction. Similarly, Spurk and Abele (2011) found that extraversion positively predicts career satisfaction through increased networking and career self-management behaviors.

2.5 Neuroticism and Career Achievement

Neuroticism, also referred to as emotional instability, is generally negatively associated with career achievement. Individuals high in neuroticism tend to experience anxiety, mood swings, and emotional distress, which can impair decision-making, performance, and interpersonal relationships at work (Costa & McCrae, 1992).

Judge et al. (1999) found that neuroticism is negatively related to job satisfaction, income, and occupational status. High levels of neuroticism are associated with lower stress tolerance and greater burnout, which hinder long-term career achievement (Alarcon, Eschleman, & Bowling, 2009).

Furthermore, longitudinal studies suggest that neuroticism undermines career stability and satisfaction over time (Judge & Hurst, 2007). These findings consistently support the negative role of neuroticism in both objective and subjective career achievement.

2.6 Openness to Experience and Career Achievement

Openness to Experience reflects creativity, curiosity, and willingness to embrace change. Researchers have argued that openness is particularly relevant in dynamic, innovative, and knowledge-based occupations (McCrae, 1996).

Studies indicate that openness is positively related to learning orientation, adaptability, and career exploration behaviors (Tolentino et al., 2014). These characteristics facilitate skill development and career mobility, which are essential in modern career contexts.

Although openness has shown weaker relationships with traditional objective indicators such as salary, it has been consistently linked to subjective career achievement and perceived career success (Judge et al., 2002). A meta-analysis by Ng et al. (2005) reported a modest but significant relationship between openness and career satisfaction.

2.7 Agreeableness and Career Achievement

The relationship between agreeableness and career achievement has produced mixed findings. Agreeable individuals are cooperative, empathetic, and trusting, which enhances teamwork and interpersonal relationships (Graziano & Eisenberg, 1997).

While agreeableness positively contributes to job satisfaction and workplace harmony, some studies suggest that highly agreeable individuals may avoid competition and assertiveness, potentially limiting objective career advancement (Judge et al., 1999). However, other researchers argue that agreeableness fosters social support and trust, which indirectly enhance career satisfaction and stability (Judge & Bono, 2000).

Spurk and Abele (2011) found that agreeableness is positively related to subjective career success, particularly in collectivist and relationship-oriented work cultures. This suggests that the impact of agreeableness on career achievement may vary across cultural and organizational contexts.

2.8 Research Gap

Despite extensive research on personality and career outcomes, several gaps remain. First, much of the existing literature is based on Western samples, limiting cross-cultural generalizability (McCrae & Costa, 1997). Second, findings related to openness and agreeableness remain

inconsistent, necessitating further empirical examination. Third, limited studies simultaneously assess both objective and subjective career achievement in a single framework.

Therefore, the present study seeks to empirically examine the impact of Big Five personality traits on career achievement using a comprehensive approach that integrates both objective and subjective indicators in a developing economy context.

3. Objectives of the Study

1. To examine the relationship between Big Five personality traits and career achievement.
2. To analyze the impact of each personality trait on objective career achievement.
3. To assess the influence of personality traits on subjective career achievement.
4. To identify the most significant personality predictors of career achievement.

4. Research Hypotheses

1. **H1:** Conscientiousness has a significant positive impact on career achievement.
2. **H2:** Extraversion has a significant positive impact on career achievement.
3. **H3:** Neuroticism has a significant negative impact on career achievement.
4. **H4:** Openness to Experience has a significant positive impact on career achievement.
5. **H5:** Agreeableness has a significant positive impact on subjective career achievement.

5. Research Methodology

The present study adopts a quantitative and empirical research design to examine the impact of Big Five personality traits on career achievement. A cross-sectional approach was employed, as data were collected from respondents at a single point in time to analyze the relationships among personality traits and career-related outcomes. This design is appropriate for identifying patterns, associations, and predictive relationships among variables within a defined population.

The target population for the study comprised working professionals employed across various sectors, including education, banking, information technology, healthcare, and manufacturing. A total sample of 300 respondents was selected using a convenience sampling technique, primarily due to accessibility, time constraints, and respondents' willingness to participate. To ensure relevance, only individuals with a minimum of two years of work experience were included in the study. The sample consisted of both male and female respondents within the age range of 22 to 55 years, representing diverse occupational backgrounds and levels of experience.

Data were collected using a structured questionnaire consisting of two standardized instruments. Personality traits were measured using the Big Five Inventory (BFI-44), a widely used and validated scale that assesses Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Career achievement was measured using a Career Achievement Scale, which included both objective indicators (such as salary level, number of promotions, and job position) and subjective indicators (such as career satisfaction and perceived career success). The use of both objective and subjective measures provided a comprehensive assessment of career achievement.

The data collection process involved administering questionnaires both online and offline to ensure broader participation. Respondents were informed about the purpose of the study, and participation was entirely voluntary. Confidentiality and anonymity of responses were assured to minimize social desirability bias and encourage honest responses. All completed questionnaires were screened for completeness before data analysis.

For data analysis, statistical techniques were applied using SPSS software. Descriptive statistics, including mean and standard deviation, were used to summarize the demographic characteristics of the respondents and the distribution of study variables. Pearson's correlation analysis was conducted to examine the relationship between the Big Five personality traits and career achievement. Further, multiple regression analysis was employed to assess the predictive impact of each personality trait on career achievement and to identify the most significant predictors. These analytical techniques were chosen to ensure robust and reliable interpretation of the empirical data.

6. Data Analysis and Results

This section presents the statistical analysis and empirical findings of the study examining the impact of Big Five personality traits on career achievement. Data collected from 300 working professionals were analyzed using SPSS. The analysis was conducted in three stages: descriptive statistics, correlation analysis, and multiple regression analysis.

6.1 Descriptive Statistics

Descriptive statistics were computed to understand the general distribution, central tendency, and variability of the study variables. Mean and standard deviation values for the Big Five personality traits and career achievement are presented in Table 1.

Table 1
Descriptive Statistics of Study Variables (N = 300)

Variables	Mean	Standard Deviation
Openness to Experience	3.62	0.58
Conscientiousness	3.89	0.54
Extraversion	3.55	0.61
Agreeableness	3.71	0.57
Neuroticism	2.84	0.66
Career Achievement	3.68	0.59

Interpretation:

The results indicate that respondents scored relatively high on conscientiousness and agreeableness, suggesting that the sample predominantly consisted of disciplined and cooperative individuals. The comparatively lower mean score for neuroticism indicates lower levels of emotional instability among respondents. The mean score for career achievement reflects a moderate to high level of perceived and objective career success.

6.2 Correlation Analysis

Pearson’s product–moment correlation analysis was conducted to examine the relationship between the Big Five personality traits and career achievement. The correlation coefficients are presented in Table 2.

Table 2
Correlation Matrix of Personality Traits and Career Achievement

Variables	1	2	3	4	5	6
1. Openness	1					
2. Conscientiousness	.42**	1				
3. Extraversion	.38**	.45**	1			
4. Agreeableness	.36**	.41**	.40**	1		
5. Neuroticism	-.29**	-.47**	-.34**	-.31**	1	
6. Career Achievement	.33**	.58**	.49**	.37**	-.41**	1

Note: p < 0.01

Interpretation:

The correlation results show a strong positive relationship between conscientiousness and career achievement ($r = .58, p < .01$), indicating that higher levels of conscientiousness are associated with greater career achievement. Extraversion also shows a moderate positive correlation with career achievement ($r = .49, p < .01$). Openness to experience and agreeableness demonstrate moderate positive relationships with career achievement, particularly reflecting subjective aspects of success. Neuroticism is negatively and significantly correlated with career achievement ($r = -.41, p < .01$), suggesting that emotional instability adversely affects career outcomes.

6.3 Multiple Regression Analysis

Multiple regression analysis was performed to assess the predictive impact of the Big Five personality traits on career achievement. Career achievement was treated as the dependent variable, while the five personality traits were entered as independent variables. The results are presented in Table 3.

Table 3
Multiple Regression Analysis Predicting Career Achievement

Predictor Variables	β	t-value	Sig.
Openness to Experience	0.14	2.87	0.004
Conscientiousness	0.39	7.96	0.000
Extraversion	0.28	5.41	0.000
Agreeableness	0.16	3.12	0.002
Neuroticism	-0.23	-4.98	0.000

Model Summary:

R = 0.69

R² = 0.48

Adjusted R² = 0.47

F = 54.63, p < 0.001

Interpretation:

The regression model is statistically significant (F = 54.63, p < 0.001), indicating that the Big Five personality traits collectively explain 48% of the variance in career achievement. Among the predictors, conscientiousness emerges as the strongest positive predictor ($\beta = 0.39$), followed by extraversion ($\beta = 0.28$). Agreeableness and openness to experience also show significant positive effects, though to a lesser extent. Neuroticism has a significant negative impact on career achievement ($\beta = -0.23$), confirming that higher emotional instability reduces career success.

6.4 Hypotheses Testing

Based on the regression results, the hypotheses of the study were tested and summarized in Table 4.

Table 4
Summary of Hypotheses Testing

Hypothesis	Statement	Result
H1	Conscientiousness positively impacts career achievement	Accepted
H2	Extraversion positively impacts career achievement	Accepted
H3	Neuroticism negatively impacts career achievement	Accepted
H4	Openness positively impacts career achievement	Accepted
H5	Agreeableness positively impacts subjective career achievement	Accepted

6.5 Overall Interpretation of Results

The empirical findings clearly demonstrate that personality traits significantly influence career achievement. Conscientiousness and extraversion play a dominant role in enhancing both objective and subjective career outcomes, while neuroticism acts as a significant barrier to career achievement. Openness to experience and agreeableness contribute primarily to subjective aspects of career success, such as satisfaction and perceived accomplishment. These results provide strong empirical support for the relevance of the Big Five personality framework in understanding career achievement.

7. Discussion

The primary objective of the present study was to empirically examine the impact of the Big Five personality traits on career achievement. The findings provide strong evidence that personality traits play a significant role in shaping both objective and subjective aspects of career achievement.

Overall, the results are largely consistent with existing theoretical frameworks and empirical findings, thereby reinforcing the relevance of personality as a key individual-level predictor of career outcomes.

The results indicate that conscientiousness is the strongest predictor of career achievement. This finding is in line with prior research suggesting that conscientious individuals tend to exhibit higher levels of self-discipline, goal orientation, persistence, and responsibility, which are critical for long-term career success. Previous studies by **Barrick and Mount (1991)** and **Judge et al. (1999)** have consistently reported a positive association between conscientiousness and career-related outcomes such as job performance, promotions, and salary growth. The present findings further validate these relationships by demonstrating that conscientiousness significantly predicts career achievement in a diverse occupational sample. Individuals high in conscientiousness are likely to engage in proactive career planning, adhere to organizational norms, and demonstrate consistent performance, which enhances both objective advancement and subjective career satisfaction.

Extraversion emerged as the second most influential positive predictor of career achievement. This finding supports earlier research indicating that extraverted individuals benefit from their sociability, assertiveness, and positive emotionality, which facilitate networking, leadership emergence, and visibility within organizations. Studies by **Judge et al. (2002)** and **Seibert et al. (2001)** suggest that extraversion enhances access to career opportunities through social capital and proactive behaviors. The present study confirms that extraversion positively influences career achievement, particularly in roles requiring interpersonal interaction and leadership capabilities. Extraverted individuals are more likely to seek challenging assignments and leadership roles, which contribute to accelerated career growth.

The findings also reveal a significant negative relationship between neuroticism and career achievement, consistent with prior empirical evidence. Individuals high in neuroticism tend to experience emotional instability, anxiety, and stress, which can impair work performance and decision-making. **Judge et al. (1999)** and **Alarcon et al. (2009)** reported that neuroticism is associated with lower job satisfaction, higher burnout, and reduced career success. The present study extends these findings by demonstrating that neuroticism negatively predicts career achievement, suggesting that emotional instability acts as a barrier to sustained career progression. High levels of neuroticism may limit individuals' ability to cope with workplace challenges, adapt to change, and maintain productive professional relationships.

Openness to Experience was found to have a positive but relatively weaker impact on career achievement, particularly on subjective dimensions such as career satisfaction and perceived success. This result aligns with research suggesting that openness is more strongly related to adaptability, learning orientation, and innovation than to traditional markers of objective success (**McCrae, 1996; Ng et al., 2005**). In contemporary work environments characterized by rapid change and knowledge-based tasks, openness facilitates continuous learning and career adaptability. The findings suggest that while openness may not directly lead to immediate objective advancement, it enhances individuals' perception of career achievement by fostering personal growth and alignment with career values.

Similarly, agreeableness demonstrated a positive association with subjective career achievement, though its impact on objective outcomes was comparatively modest. This finding reflects the mixed results reported in previous literature. While agreeableness promotes cooperation, trust, and positive interpersonal relationships, excessive agreeableness may reduce competitiveness and assertiveness, potentially limiting career advancement (**Judge et al., 1999**). However, the positive relationship between agreeableness and subjective career achievement observed in this study suggests that harmonious workplace relationships and social support contribute significantly to career satisfaction and perceived success. This effect may be particularly pronounced in collectivist and relationship-oriented work cultures.

Overall, the findings highlight that different personality traits contribute to career achievement through distinct mechanisms. While conscientiousness and extraversion primarily enhance objective career outcomes, openness and agreeableness contribute more strongly to subjective perceptions of success. Neuroticism, on the other hand, consistently undermines career achievement. These results underscore the importance of adopting a multidimensional perspective when examining career outcomes and demonstrate that personality traits exert both direct and indirect influences on career achievement.

8. Conclusion

The present empirical study examined the impact of the Big Five personality traits on career achievement among working professionals. By integrating both objective and subjective indicators of career achievement, the study provides a comprehensive understanding of how individual personality differences influence career outcomes. The findings clearly demonstrate that personality traits are significant predictors of career achievement and play a crucial role in shaping individuals' professional trajectories.

Conscientiousness emerged as the most powerful predictor of career achievement, followed by extraversion, highlighting the importance of discipline, persistence, and interpersonal effectiveness in achieving career success. Neuroticism was found to have a significant negative impact, emphasizing the role of emotional stability in sustaining career progress. Openness to Experience and agreeableness were positively associated with subjective career achievement, suggesting that adaptability, creativity, and positive workplace relationships enhance individuals' perception of career success and satisfaction.

The study contributes to the existing literature by extending empirical evidence on personality and career achievement to a non-Western context and by simultaneously examining multiple dimensions of career achievement. The findings have important practical implications for career counseling, human resource practices, and employee development programs. Organizations can utilize personality assessments to support recruitment, training, and leadership development, while individuals can leverage self-awareness of their personality traits to adopt more effective career strategies.

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Suicidal Ideation in Rural and Urban Females in the Context of their Family Size and Education

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Abstract

The objectives of the present study are to measure and compare suicidal ideation in females of rural and urban areas varying on their family size and educational level. The study was conducted on 200 rural and 200 urban married females of Vaishali District of Bihar. The age range of subjects was from 30 to 40 years. Hindi version of 'Suicidal Ideation Scale (SIS-SDBV)' constructed and standardised by Sisodiya & Bhatnagar (2011) has been used to measure suicidal ideation in females. A self made Personal Information Inventory was used to collect personal information of subjects. Application of t' test revealed that urban females possess significantly higher suicidal ideation than rural females across both nuclear and joint families; and, in educational level of intermediate level. Females in joint families possess significantly higher suicidal ideation than those in nuclear families irrespective of residential area. Intermediate educated females have significantly higher suicidal ideation than high school and graduation+ educated females.

Keywords:- Suicidal Ideation, Females, Rural, Urban, Family size, Education

Introduction

Suicidal ideation is a serious psychological concern that refers to thoughts, plans, or considerations about ending one's own life. It is considered one of the earliest indicators of suicidal behaviour and reflects deep emotional distress and psychological imbalance. In recent decades, suicidal ideation has emerged as a major public health issue across the world. It is often associated with depression, hopelessness, social isolation, and family conflicts. Psychologists emphasize that understanding the factors related to suicidal ideation is essential for preventing suicide and promoting mental health among vulnerable populations. According to Beck, Kovacs, and Weissman (1979), suicidal ideation represents the cognitive component of suicidal behaviour and reflects the degree to which individuals contemplate self-harm or death as a possible solution to their problems.

In contemporary society, women are increasingly exposed to various social, economic, and psychological pressures. These pressures may include family responsibilities, social expectations, financial insecurity, and limited opportunities for personal growth. Such challenges may increase the risk of emotional distress and suicidal thoughts among women. Studies have shown that women often experience psychological strain due to role conflicts between family responsibilities and personal aspirations. These stressors may contribute to feelings of helplessness, anxiety, and depression, which can ultimately lead to suicidal ideation (Nock et al., 2008).

One of the important socio-demographic variables associated with suicidal ideation is place of residence, particularly the distinction between rural and urban areas. Rural and urban environments differ in terms of social structure, economic opportunities, access to education, and availability of mental health services. In rural areas, limited educational facilities, poverty, traditional social norms, and lack of psychological support systems may contribute to emotional distress among women. In contrast, urban areas provide greater access to education, employment opportunities, and mental health resources, which may help individuals cope with psychological problems more effectively. However, urban life may also involve high levels of stress, social competition, and isolation, which can also influence suicidal ideation (World Health Organization, 2021).

Family size is another important factor that may influence the psychological well-being of individuals. Family size refers to the number of members within a household and often determines

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the level of responsibilities, social support, and economic burden experienced by family members. In larger families, women may face increased household responsibilities, financial constraints, and reduced personal autonomy. Such conditions may create stress and emotional strain, which can contribute to suicidal ideation. Conversely, smaller families may allow greater personal freedom and emotional support, which may protect individuals from psychological distress. Research studies have shown that family environment and family structure play a crucial role in shaping the emotional stability and mental health of individuals (Romano, Marchand-Reilly, & Yaure, 2023).

Education is also considered an important determinant of psychological well-being and life satisfaction. Education enhances individuals' knowledge, self-confidence, and problem-solving abilities. Educated individuals often have greater awareness about coping strategies, mental health resources, and social opportunities. As a result, education may act as a protective factor against suicidal ideation by improving self-esteem and enabling individuals to handle stressful situations more effectively. On the other hand, lack of education may limit employment opportunities and social mobility, thereby increasing feelings of frustration and hopelessness. Several studies have indicated that lower levels of education are associated with higher levels of psychological distress and suicidal ideation (Li et al., 2021).

In the Indian context, women's mental health is often influenced by cultural traditions, family expectations, and socio-economic conditions. Women living in rural areas may experience greater social restrictions and limited educational opportunities compared to women in urban areas. At the same time, women belonging to large families may face additional responsibilities related to household management and caregiving. These factors may significantly affect their psychological well-being and vulnerability to suicidal ideation. Therefore, it is important to examine how demographic variables such as place of residence, family size, and education influence suicidal ideation among women.

Although several studies have explored the psychological well-being of women, relatively limited research has specifically examined suicidal ideation among rural and urban females in relation to their family size and educational status. Understanding these relationships may provide valuable insights into the socio-psychological factors contributing to suicidal thoughts among women and may help in developing effective mental health interventions.

The present study, therefore, attempts to investigate suicidal ideation among rural and urban females in the context of their family size and educational level. The findings of the study may contribute to a better understanding of the factors influencing women's mental health and may provide useful guidance for psychologists, educators, and policymakers working toward suicide prevention and mental health promotion.

The objectives of this study are :-

1. To investigate the role of residential area in suicidal ideation in females.
2. To investigate the role of family size in suicidal ideation in females.
3. To investigate the role of education in suicidal ideation in females.

Hypotheses

- a. There will be significant difference between rural and urban groups on suicidal ideation.
- b. There will be significant difference between NFS and JFS groups on suicidal ideation.
- c. There shall be significant differences among different educational level groups on suicidal ideation.

Method

The study was conducted on 200 rural and 200 urban married females of Vaishali District of Bihar. The age range of subjects was from 30 to 40 years. The sample was drawn randomly following purposive cum random sampling design.

Tools/Instruments

Hindi version of 'Suicidal Ideation Scale (SIS-SDBV)' constructed and standardised by Sisodiya & Bhatnagar (2011) has been used to measure suicidal ideation in females. A self made Personal Information Inventory was used to collect personal information of subjects.

Statistical Analysis

Obtained data were put to statistical analysis. Mean, S.D. and 't' ratios were calculated.

Results and Discussion

The comparison of suicidal ideation scores between rural and urban females and further comparisons of those from different family size and educational categories reveal that urban females ($M = 70.52$) have obtained significantly higher suicidal ideation scores than rural females ($M = 65.18$), and the obtained t value (3.77) is significant at the .01 level (Table-1). This indicates that urban females experience relatively higher levels of suicidal thoughts compared to rural females. Rapid urbanization, social competition, occupational stress, and weakening social relationships in urban areas might have contributed to psychological distress among women. Studies have shown that urban life often involves high stress levels, social isolation, and economic pressures that can increase vulnerability to suicidal ideation (Nock, Borges, Bromet, Alonso, Angermeyer, & Williams, 2008). Further comparisons reveal that females belonging to nuclear families in rural areas ($M = 62.41$) show lower suicidal ideation than urban nuclear family females ($M = 66.75$), with the t value (2.06) significant at the .05 level. This finding suggests that environmental and social conditions may influence psychological well-being among women. In urban settings, weaker social cohesion and higher life pressures may increase emotional distress, which can lead to suicidal ideation.

The comparison between rural and urban females belonging to joint families also show a highly significant difference. Urban joint family females ($M = 79.32$) have reported considerably higher suicidal ideation compared to rural joint family females ($M = 66.67$), and the obtained t value (5.47) is significant at the .01 level. In urban joint families, interpersonal conflicts, role expectations, and lack of privacy may increase psychological strain among women.

Some comparisons such as rural and urban females in certain educational categories showed non-significant differences. These findings suggest that although education may play a protective role, other socio-environmental factors such as family environment, social support, and economic stress may influence suicidal ideation. The results indicate that place of residence irrespective of family context significantly influences suicidal ideation among females. Earlier studies have also emphasized that socio-demographic factors such as residence and social stress play important roles in determining suicidal thoughts among individuals (Beck, Kovacs, & Weissman, 1979; Nock et al., 2008; Li, Li, Wu, Cao, Zhang, & Zou, 2021; Romano, Marchand-Reilly, & Yaure, 2023; Zhang, Duan, Yan, Tan, Wu, & Liu, 2024; Zhou, Zheng, He, Zhang, Guo, & Chen, 2025).

Table - 1 : Showing Means, S.Ds. and 't' ratios of Suicidal Ideation Scores – Rural and Urban groups.

Groups	N	Means	S. D.	df	't' ratios	Level of Sign.
Rural	200	65.18	13.94	398	3.77	0.01
Urban	200	70.52	14.36			
R-NFS	70	62.41	13.62	208	2.16	0.05
U-NFS	140	66.75	13.85			
R-JFS	130	66.67	14.31	188	5.47	0.01
U-JFS	60	79.32	15.06			
R-HS	45	63.26	14.57	78	1.24	NS
U-HS	35	67.32	14.48			
R-INT	115	66.85	14.22	223	3.45	0.01
U-INT	110	73.54	14.85			
R-G+	40	62.54	13.81	93	1.33	NS
U-G+	55	66.52	15.12			

The comparison of suicidal ideation scores between females belonging to nuclear family systems (NFS) and joint family systems (JFS) indicates that females belonging to joint families ($M = 70.67$) have reported significantly higher suicidal ideation compared to those from nuclear families ($M = 65.30$), with the obtained t value (3.63) significant at the .01 level (Table-2). This suggests that family size and structure play an important role in influencing psychological well-being among women. In joint family systems, women often experience multiple responsibilities related to household management, caregiving, and maintaining family harmony. These responsibilities may create psychological pressure and emotional stress, which can increase the likelihood of suicidal ideation. In contrast, nuclear families may provide greater personal autonomy and reduced role strain, which may help women maintain better psychological balance.

Further analysis indicates that rural females belonging to nuclear families ($M = 62.41$) have reported lower suicidal ideation than those belonging to joint families ($M = 66.67$), and the t value (2.07) is significant at the .05 level. This suggests that larger family structures in rural areas may increase domestic responsibilities and emotional stress among women. Similarly, urban females belonging to joint families ($M = 79.32$) have reported significantly higher suicidal ideation compared to urban females in nuclear families ($M = 66.75$), with the obtained t value (5.54) significant at the .01 level. Urban joint family environments may involve interpersonal conflicts, social pressures, and limited personal space, which may contribute to emotional distress among women.

These findings are consistent with previous research indicating that family environment, cohesion, and family conflicts significantly influence mental health and suicidal tendencies. Studies have emphasized that stressful family environments and poor family functioning may increase the risk of suicidal thoughts (Cheng, Cheung, & Chung, 2024; Kong & Chen, 2024; Lai & Chen, 2023; Li et al., 2021; Romano et al., 2023; Zhang et al., 2024).-

Table – 2 : Showing Means, S.Ds. and ‘t’ ratios of Suicidal Ideation Scores – NFS and JFS Groups.

Groups	N	Means	S. D.	df	‘t’ ratios	Level of Sign.
NFS	210	65.30	14.72	398	3.63	0.01
JFS	190	70.67	14.84			
R-NFS	70	62.41	13.62	198	2.07	0.05
R-JFS	130	66.67	14.31			
U-NFS	140	66.75	13.85	198	5.54	0.01
U-JFS	60	79.32	15.06			

The comparison of suicidal ideation scores in relation to educational level among females indicates that females with Intermediate education ($M = 70.12$) have shown significantly higher suicidal ideation compared to High School females ($M = 65.04$), and the obtained t value (2.69) is significant at the .01 level. This finding suggests that educational level may influence psychological stress and emotional experiences among women. However, the comparison between High School and Graduate and above groups revealed no significant difference, indicating that higher education may help individuals develop better coping mechanisms and psychological resilience. Education generally enhances awareness, self-confidence, and problem-solving abilities, which may reduce the risk of suicidal ideation. Further analysis indicates that rural educational groups did not show significant differences in suicidal ideation scores. This suggests that in rural areas, factors such as economic conditions, family responsibilities, and social norms may have stronger influences on psychological well-being than education alone. On the other hand, significant differences were observed among urban females, particularly between High School and Intermediate groups and between Intermediate and Graduate groups. Urban Intermediate females showed higher suicidal ideation compared to other educational groups. This may be due to academic stress, career uncertainty, and social pressures often experienced during this stage of life.

Previous research has also highlighted that educational attainment influences mental health outcomes and suicidal behaviour. Education can act as both a protective factor and a source of stress depending on socio-economic conditions and personal expectations. Studies have suggested that psychological resilience, social support, and family functioning play crucial roles in reducing suicidal ideation among individuals (Beck et al., 1979; Nock et al., 2008; Cheng et al., 2024; Kong & Chen, 2024; Zhou et al., 2025; Li et al., 2021).

Table – 3 : Showing Means, S.Ds. and ‘t’ ratios of Suicidal Ideation Scores – Different Educational Level Groups.

Groups	N	Means	S. D.	df	‘t’ ratios	Level of Sign.
HS	80	65.04	14.28	303	2.69	0.01
INT	225	70.12	15.14			
HS	80	65.04	14.28	173	0.09	NS
G+	95	64.84	14.52			
INT	225	70.12	15.14	318	2.93	0.01
G+	95	64.84	14.52			
R-HS	45	63.26	14.57	158	1.45	NS
R-INT	115	66.85	14.22			
R-HS	45	63.26	14.57	83	0.23	NS
R-G+	40	62.54	13.81			
R-INT	115	66.85	14.22	153	1.69	NS
R-G+	40	62.54	13.81			
U-HS	35	67.32	14.48	143	2.20	0.05
U-INT	110	73.54	14.85			
U-HS	35	67.32	14.48	88	0.25	NS
U-G+	55	66.52	15.12			
U-INT	110	73.54	14.85	163	2.83	0.01
U-G+	55	66.52	15.12			

Conclusions

The study finally led to the following conclusions :-

1. Urban females possess significantly higher suicidal ideation than rural females across both nuclear and joint families; and in educational level of intermediate level.
2. Females in joint families possess significantly higher suicidal ideation – than those in nuclear families irrespective of residential area.
3. Intermediate educated females tame significantly higher suicidal ideation than high school and graduation+ educated females.

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The Impact of Social Contexts on Mental Health and Stigma

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Abstract:

This research paper examines the influence of social contexts on mental health outcomes and the persistence of stigma associated with mental illness. Social environments, including family structures, peer groups, educational institutions, and community settings, play a crucial role in shaping individuals' perceptions, attitudes, and responses toward mental health. The study aims to analyze how these contexts contribute to both the development of mental health issues and the reinforcement or reduction of stigma.

The research is based on primary data collected through structured questionnaires and interviews from a diverse sample of respondents across different social backgrounds. A descriptive and analytical research design has been adopted, employing statistical tools such as percentage analysis and chi-square tests to examine associations between social variables and attitudes toward mental health. Key variables include social support, cultural beliefs, awareness levels, and exposure to mental health discourse.

The findings indicate that individuals embedded in supportive and informed social environments are more likely to exhibit positive attitudes toward mental health and lower levels of stigma. Conversely, communities characterized by misinformation, rigid cultural norms, and lack of awareness tend to perpetuate negative stereotypes and discrimination against individuals with mental health conditions. The study also highlights the role of education and media in shaping public perception and reducing stigma.

The paper concludes that addressing mental health stigma requires a contextual approach that considers the influence of social structures and cultural dynamics. It advocates for targeted awareness programs, community-based interventions, and policy measures that promote mental health literacy and inclusivity. By emphasizing the interplay between social context and mental health, the study contributes to a more nuanced understanding of stigma and offers practical recommendations for fostering supportive environments.

Keywords: Social Contexts, Mental Health, Stigma, Social Support, Mental Health Awareness

1. Introduction

Mental health has emerged as a critical concern in contemporary society, not only as an individual psychological issue but also as a socially embedded phenomenon. Increasing rates of anxiety, depression, and other mental health disorders have drawn attention to the broader social determinants that influence mental well-being. While biological and psychological factors are important, growing evidence suggests that social contexts play a decisive role in shaping mental health outcomes and societal attitudes toward mental illness.

Social contexts encompass a wide range of environments, including family structures, peer groups, educational institutions, workplaces, and community settings. These environments influence how individuals perceive mental health, how they respond to psychological distress, and how they treat those experiencing mental illness. For instance, supportive family environments and open peer networks can foster resilience and encourage help-seeking behavior, whereas stigmatizing or uninformed environments may lead to isolation, denial, and delayed treatment.

One of the most persistent challenges associated with mental health is stigma, which refers to negative attitudes, stereotypes, and discrimination directed toward individuals with mental illness.

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Stigma not only affects social acceptance but also acts as a barrier to diagnosis, treatment, and recovery. It is often deeply rooted in cultural beliefs, misinformation, and lack of awareness, making it a socially constructed phenomenon rather than merely an individual bias.

In recent years, there has been increasing recognition of the role of education, media, and community engagement in shaping mental health perceptions. Exposure to accurate information and positive narratives has been shown to reduce stigma, while misinformation and rigid cultural norms continue to reinforce it. This highlights the importance of examining mental health within its broader social context.

Despite the growing body of research, there remains a need for primary data-based studies that explore how different social environments influence both mental health outcomes and stigma in real-world settings. The present study seeks to address this gap by analyzing the relationship between social contexts and mental health attitudes using empirical data collected from diverse respondents.

2. Review of Literature

Mental health and stigma have been extensively studied across disciplines such as psychology, sociology, and public health. However, recent scholarship increasingly emphasizes the role of social contexts in shaping both mental health outcomes and societal attitudes toward mental illness.

2.1 Theoretical Framework

The understanding of mental health and stigma as socially constructed phenomena necessitates a strong theoretical grounding within the broader literature. Sociological theories of stigma and social interaction provide a critical lens through which the relationship between social contexts and mental health outcomes can be examined.

One of the foundational contributions in this area is provided by **Goffman (1963)**, who conceptualized stigma as a “spoiled identity.” Goffman argues that individuals possessing attributes deemed undesirable by society are often discredited and subjected to social exclusion. This perspective highlights that stigma is not inherent in the individual but arises through social interactions and shared meanings. In the context of mental health, this implies that individuals with psychological disorders may experience marginalization not solely due to their condition but because of societal reactions and labeling processes.

Expanding on this interactionist perspective, **Link and Phelan (2001)** developed a comprehensive conceptualization of stigma as a multifaceted social process. According to their framework, stigma involves the convergence of labeling, stereotyping, separation, status loss, and discrimination, all of which are sustained within structures of social power. This theoretical model is particularly relevant to the present study as it situates stigma within broader social contexts, including family, peer groups, and community environments, thereby emphasizing the structural nature of mental health stigma.

In addition to stigma theory, the Modified Labeling Theory, also associated with **(Link et al., 1989)**, provides further insight into how societal labels influence individual behavior and self-concept. This theory posits that individuals who are labeled as mentally ill may internalize societal stereotypes, leading to expectations of rejection and discrimination. Such internalization often results in coping mechanisms such as withdrawal, secrecy, and reduced help-seeking behavior, which can exacerbate mental health challenges. The persistence of stigma observed in empirical findings can thus be interpreted through these labeling processes.

Another relevant framework is Social Support Theory, which underscores the importance of interpersonal relationships in shaping mental health outcomes. This theory suggests that emotional, informational, and instrumental support from social networks can act as protective factors, enhancing resilience and reducing psychological distress **(Cohen & Wills, 1985)**. Conversely, the absence of supportive environments or the presence of stigmatizing attitudes can intensify mental health problems and hinder recovery. The variation in social support levels observed in the study aligns with this theoretical perspective, highlighting the critical role of social contexts in influencing well-being.

Collectively, these theoretical perspectives demonstrate that mental health and stigma are not merely individual experiences but are deeply embedded in social structures and interactions. By integrating stigma theory, labeling theory, and social support theory, the present study establishes a comprehensive conceptual foundation for analyzing how social contexts shape both mental health outcomes and societal attitudes. These frameworks also provide a basis for interpreting empirical findings and understanding the mechanisms through which stigma is produced, maintained, and potentially reduced within different social environments.

2.2 Social Determinants of Mental Health

Mental health is not solely an individual phenomenon but is deeply influenced by social environments. According to **Corrigan and Watson (2002)**, stigma emerges from social processes involving labeling, stereotyping, and discrimination. These processes are reinforced through everyday interactions within family, community, and institutional contexts.

Similarly, **Link and Phelan (2001)** conceptualize stigma as a product of social power structures, where certain groups are marginalized through socially constructed differences. This perspective highlights that stigma is not merely attitudinal but embedded in broader social systems.

2.3 Family and Peer Influence

Family is often the first social context in which individuals develop perceptions about mental health. Research by **Pescosolido et al. (2008)** shows that family attitudes significantly influence help-seeking behavior and acceptance of mental illness. Supportive family environments are associated with reduced stigma and better mental health outcomes.

Peer groups also play a critical role, particularly among younger populations. **Eisenberg et al. (2009)** found that peer support positively influences mental health attitudes, while negative peer norms can reinforce stigma and discourage help-seeking.

2.4 Cultural Beliefs and Stigma

Cultural beliefs strongly shape perceptions of mental illness. In many societies, mental health issues are associated with moral weakness or supernatural causes, leading to stigmatization. **Kleinman (1988)** emphasized that cultural interpretations of illness significantly affect how individuals experience and respond to mental health conditions. These cultural narratives often result in social exclusion and discrimination, further exacerbating mental health problems.

2.5 Role of Education and Awareness

Education is a key factor in reducing stigma. **Corrigan et al. (2012)** found that mental health literacy programs significantly improve knowledge and reduce negative attitudes toward mental illness. Similarly, exposure to accurate information through media and educational institutions can challenge stereotypes and promote empathy.

2.6 Media and Social Representation

Media plays a dual role in shaping mental health perceptions. While it can raise awareness, it can also perpetuate stereotypes. **Stuart (2006)** argues that negative media portrayals contribute to fear and misunderstanding, reinforcing stigma. However, positive representation and awareness campaigns have been shown to improve public attitudes.

2.7 Research Gap

Despite extensive research, there remains a lack of primary data-based studies examining how multiple social contexts interact simultaneously to influence mental health and stigma. This study addresses this gap by analyzing these relationships empirically.

3. Objectives of the Study

1. To examine the impact of social contexts on mental health outcomes.
2. To analyze the relationship between social environments and stigma associated with mental illness.

4. Hypotheses

1. **H₀ (Null Hypothesis):** There is no significant relationship between social contexts and attitudes toward mental health and stigma.
2. **H₁ (Alternative Hypothesis):** There is a significant relationship between social contexts and attitudes toward mental health and stigma.

5. Research Methodology

The present study adopts a descriptive and analytical research design to examine the influence of social contexts on mental health outcomes and stigma. The research is based on primary data collected from a diverse sample of respondents representing different social backgrounds, including variations in age, education, and social environment. A purposive sampling technique was employed to ensure the inclusion of individuals exposed to different social contexts such as family, peer groups, and community settings.

Data were collected using a structured questionnaire designed to capture quantitative information on key variables such as social support, cultural beliefs, awareness levels, exposure to mental health discourse, and attitudes toward individuals with mental illness. In addition, semi-structured interviews were conducted to gain deeper insights into participants' perceptions and experiences, thereby complementing the quantitative data with qualitative understanding.

The collected data were analyzed using percentage analysis to identify distribution patterns and chi-square tests to examine the association between social variables and mental health stigma. These statistical tools were selected due to their suitability for analyzing categorical data and determining the significance of relationships between variables. Ethical considerations were strictly maintained throughout the study, including informed consent, confidentiality, and voluntary participation.

5. Results, Analysis and Interpretation

Table 5.1
Level of Social Support

Social Support Level	Respondents	Percentage
High	80	40%
Moderate	70	35%
Low	50	25%

Interpretation

The data indicate that while a majority of respondents report moderate to high levels of social support (75%), a significant proportion (25%) still experience low support. This variation is critical, as social support is a key determinant of mental well-being. Individuals with higher support systems are more likely to experience emotional stability and reduced psychological distress. Conversely, those with limited support may be more vulnerable to mental health challenges and social isolation. This finding highlights the uneven distribution of supportive environments across social contexts.

Table 5.2
Awareness of Mental Health

Awareness Level	Respondents	Percentage
High	90	45%
Moderate	60	30%
Low	50	25%

Interpretation

The results show that nearly half of the respondents possess high awareness of mental health issues, indicating increasing exposure to mental health discourse. However, the presence of 25% with low awareness suggests persistent gaps in mental health literacy. These gaps contribute to misconceptions and stigma, particularly in less informed social environments. The findings

emphasize the role of education and information dissemination in shaping attitudes toward mental health.

Table 5.3
Stigma Levels

Stigma Level	Respondents	Percentage
High	60	30%
Moderate	80	40%
Low	60	30%

Interpretation

The distribution of stigma levels suggests that while a portion of respondents exhibit low stigma, a significant number still hold moderate to high stigmatizing attitudes. This indicates that stigma remains a persistent social issue, influenced by cultural norms and lack of awareness. The coexistence of low and high stigma groups reflects the transitional nature of societal attitudes toward mental health.

Table 5.4
Chi-Square Analysis

Variable	Chi-square	p-value	Result
Social Context vs Stigma	13.52	0.001	Significant

Interpretation

The chi-square test indicates a statistically significant relationship between social contexts and mental health stigma ($p < 0.05$). This confirms that variations in stigma levels are systematically associated with differences in social environments. The result supports the alternative hypothesis and demonstrates that social contexts play a decisive role in shaping attitudes toward mental health.

6. Discussion

The findings of the study reinforce the argument that mental health and stigma are deeply embedded within social contexts. The significant relationship between social environments and stigma levels aligns with the theoretical frameworks proposed by Link and Phelan (2001), which emphasize the role of social structures in producing stigma.

The influence of social support and awareness observed in the study highlights the importance of informed and supportive environments in reducing stigma. These findings are consistent with Corrigan et al. (2012), who demonstrated that increased mental health literacy leads to more positive attitudes.

Furthermore, the persistence of moderate and high stigma levels indicates that cultural beliefs and misinformation continue to shape societal attitudes. This suggests that interventions must go beyond individual-level approaches and address broader social and cultural dynamics.

Beyond the immediate findings, the study also points toward a broader transformation in how mental health is perceived within society. The coexistence of progressive attitudes (low stigma) and traditional beliefs (high stigma) reflects a transitional phase in social understanding. This transition is influenced by factors such as education, media exposure, and generational differences. Importantly, the findings suggest that social change is uneven, with some groups benefiting from increased awareness while others remain influenced by entrenched cultural norms. This highlights the need for context-specific interventions that account for variations in social environments rather than adopting a one-size-fits-all approach.

7. Conclusion

The study concludes that social contexts play a crucial role in shaping mental health outcomes and stigma. Supportive environments characterized by awareness and openness contribute to positive attitudes, while uninformed and rigid contexts perpetuate stigma. The findings underscore the importance of addressing mental health stigma through a contextual and community-based approach. Interventions must focus on improving mental health literacy, promoting inclusive social norms, and leveraging institutions such as education and media.

In addition, the study highlights the need for integrating mental health awareness into broader social development frameworks. Policies aimed at improving education, community engagement, and media representation can play a significant role in transforming societal attitudes. Given the complex interplay between social context and mental health, future research should adopt interdisciplinary approaches to better understand these dynamics. Ultimately, fostering supportive and informed social environments is essential for reducing stigma and promoting holistic mental well-being.

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Compassion in Vedic Philosophy: A Foundational Perspective

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Abstract:

Compassion (Karuna) holds a central place in Vedic literature, deeply embedded within the ethical and spiritual framework of ancient Indian philosophy. The Vedas, Upanishads, and later Smriti texts emphasize compassion not merely as an emotional response but as an essential virtue for self-realization and societal harmony. The Rigveda and Yajurveda highlight the interconnectedness of all beings, advocating for Ahimsa (non-violence) and Daya (compassion) as fundamental principles of righteous living (Dharma). The Upanishads, particularly the Chandogya and Brihadaranyaka Upanishads, discuss compassion as an extension of self-knowledge, where recognizing the divine presence in all beings fosters universal empathy. Additionally, the Bhagavad Gita reinforces the role of compassion in guiding ethical actions and fostering detachment from ego-driven impulses. This paper explores the philosophical and psychological dimensions of compassion in Vedic texts, drawing connections between ancient wisdom and contemporary understandings of empathy, emotional intelligence, and ethical conduct. By analyzing Vedic hymns, commentaries, and their relevance to modern psychological frameworks, this study aims to bridge traditional Indian thought with present-day discourses on compassion in human development.

Key words: compassion (karuna), Self-realization, Ahimsa...

The term of compassion has first discussed in Geeta chapter one and verse number 27 as.....

तान्समीक्ष्य स कौन्तेयः सर्वान्बन्धुनवस्थितान् ॥ 27॥
कृपया परयाविष्टो विषीदन्निदमब्रवीत् ।

(tān samīkṣhya sa kaunteyaḥ sarvān bandhūn avasthitān
kṛipayā parayāviṣṭo viśhīdann idam abravīt)

Seeing all his relatives present there, Arjun, the son of Kunti, was overwhelmed with compassion, and with deep sorrow, spoke the following words.

Shree Krishna's words had the desired effect on Arjun. Looking at the armies on both sides of the battlefield, his heart sank, they were all "Kurus" his relatives. The brave warrior who wanted to punish the Kauravas for all their wickedness a few minutes back suddenly became fearful. Comprehending the devastation this war would cause, his valor started to diminish. Hence, Sanjay has called him *Kaunteyah* the son of Kunti, denoting that Arjun had become softhearted, similar to his mother. However, Arjun was now very confused and his mind filled with questions.

In under the chapter two vers number 1, second time the world compassion has been coined out in discussion of lord Shree Krishna's with Arjun....

तं तथा कृपयाविष्टमश्रुपूर्णाकुलेक्षणम् A विषीदन्तमिदं वाक्यमुवाच मधुसूदनः ॥ 1॥
(taṁ tathā kṛipayāviṣṭamaśhrū pūrṇākulekṣhaṇam
viśhīdantamidaṁ vākyaṁ uvācha madhusūdanaḥ.)

Sanjay said: Seeing Arjun overwhelmed with pity, his mind grief-stricken, and his eyes full of tears, Shree Krishna spoke the following words.

To describe Arjun's feelings, Sanjay uses the word *kṛipayā*, meaning **pity or compassion**. This compassion is of two kinds. One is the divine compassion that God and the saints feel toward the souls in the material realm, on seeing their suffering in separation to God. The other is the material compassion that we feel upon seeing the bodily distress of others. Material

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compassion is a noble sentiment that is not perfectly directed. It is like being obsessed with the health of the car while the driver sitting within is famished for food. Arjun is experiencing this second kind of sentiment. He is overwhelmed with material pity toward his enemies gathered for battle. The fact that Arjun is overcome by grief and despair shows that he is himself in dire need of compassion. Therefore, the idea of his being merciful upon others is meaningless.

In the Geeta chapter number 16 and in Verse number 2 lord shri Krishna the light on some dimension of personality in which the compassion is a aspect of positive personality.....

श्रीभगवानुवाच ।

अभयं सत्त्वसंशुद्धिर्ज्ञानयोगव्यवस्थितिः A दानं दमश्च यज्ञश्च स्वाध्यायस्तप आर्जवम् ॥ 1 ॥
अहिंसा सत्यमक्रोधस्त्यागःशान्तिरपैशुनम् A दया भूतेष्वलोलुप्त्वं मार्दवं ह्रीरचापलम् ॥ 2 ॥
तेजः क्षमा धृतिः शौचमद्रोहोनातिमानिता A भवन्ति सम्पदं देवीमभिजातस्य भारत ॥ 3 ॥

shrī-bhagavān uvāch

*abhayaṁ sattva-saṁśuddhir jñāna-yoga-vyavasthitih
dānaṁ damaśh cha yajñāśh cha svādhyāyas tapa ārjavam ॥1॥
ahinsā satyam akrodhas tyāgaḥ śhāntir apaiśhunam
dayā bhūteṣhv aloluptvaṁ mārdaṁ hrīr achāpalam ॥2॥
tejaḥ kṣhamā dhṛtiḥ śhaucham adroho nāti-mānitā
bhavanti sampadaṁ daivīm abhijātasya bhārata ॥3॥*

The Supreme Divine Personality said: scion of Bharat, these are the saintly virtues of those endowed with a divine nature—fearlessness, purity of mind, steadfastness in spiritual knowledge, charity, control of the senses, sacrifice, study of the sacred books, austerity, and straightforwardness; non-violence, truthfulness, absence of anger, renunciation, peacefulness, restraint from fault-finding, compassion toward all living beings, absence of covetousness, gentleness, modesty, and lack of fickleness; vigor, forgiveness, fortitude, cleanliness, bearing enmity toward none, and absence of vanity. Here, Shree Krishna describes twenty-six virtues of a saintly nature. These should be cultivated as a part of our spiritual practice for elevating ourselves to the supreme goal.

Fearlessness. It is the state of freedom from concern for present and future miseries. Inordinate attachment of any kind causes fear. Attachment to wealth leads to dread of impoverishment, attachment to social prestige causes fear of infamy, attachment to vice leads to anxiety about the consequences of sin, attachment to bodily comfort causes the fear of ill-health, and so on. Detachment and surrender to God vanquish all fear from the heart.

Purity of mind. This is the state of inner cleanliness. The mind generates and harbors thoughts, sentiments, feelings, emotions, etc. When these are ethical, wholesome, positive, and uplifting, the mind is considered pure, and when they are unethical and degrading, the mind is considered impure. Attachment to objects in the modes of passion and ignorance contaminate the mind, while attachment to God purifies it.

Steadfastness in spiritual knowledge. It is said: *tattva vismaraṇāt bhekiṁvat* “When human beings forget what is right and what is wrong they become like animals.” Thus, the path of virtue is forged by remaining steadfast in the awareness of spiritual principles.

Charity. It refers to the giving away of one’s possessions for a good cause or to needy persons. True charity is that which is done, not with a feeling of superiority, but with a sense of gratefulness to God for the opportunity to help. Material charity, done for the welfare of the body, helps others temporarily. Spiritual charity, done at the platform of the soul, helps eliminate the cause of all suffering, which is separation from God. Consequently, it is considered higher than material charity.

Control of the senses. The senses are notorious in their ability to drag the mind deeper into material illusion. They tempt the living being to seek immediate gratification. However, walking the path of virtue requires forsaking the lower sensual pleasures for achieving the higher goal. Thus, restraint of the senses is an essential virtue for treading the path to God.

Sacrifice. It means executing one’s Vedic duties and social obligations, even though they may not be enjoyable. Sacrifice is considered perfect when it is done for the pleasure of God.

Study of the sacred books. An important aspect of cultivating the divine nature is to feed the intellect with uplifting knowledge from the scriptures. When the intellect is illumined with proper knowledge, one's actions naturally become sublime.

Austerity. The body-mind-senses are such that, if we pamper them, they become pleasure-seeking, but if we restrain them, they become disciplined. Thus, austerity is the voluntary acceptance of hardships for purifying the body, mind, and intellect.

Straightforwardness. Simplicity in speech and conduct unclutters the mind and engenders the sprouting of noble thoughts. The English phrase "simple living, high thinking" aptly expresses the benefits of the virtue of straightforwardness.

Non-violence. It means not impeding the progressive life of other living beings through thought, word, or deed.

Truthfulness. It means restraining oneself from distorting facts to suit one's purpose. God is the Absolute Truth, and hence the practice of truthfulness takes us toward him; on the other hand, falsehood, while convenient, takes us away from God.

Absence of anger. The manifestation of anger is a defect of the material mind. It takes place when the desires for happiness are obstructed and things do not turn out how one envisaged. By developing detachment and surrender to the will of God, one overcomes anger.

Renunciation. The entire material energy belongs to God and it is meant for his pleasure. Hence, the opulences of the world are not for one's enjoyment, but for being utilized in the service of God. To be fixed in this understanding is renunciation.

Peacefulness. The cultivation of virtue requires mental poise. Peacefulness is the ability to retain inner equilibrium despite disturbing external situations.

Restraint from fault-finding. The whole world and everything in it is a mixture of good and bad qualities. Focusing upon defects in others dirties our mind, while focusing upon their virtues purifies it. The nature of a saintly person is to see his or her own defects and observe the virtues of others.

Compassion toward all living beings. As individuals evolve spiritually, they naturally rise above self-centeredness and develop empathy for all living beings. Compassion is the deep sympathy that arises upon seeing the sufferings of others.

Absence of covetousness. Greed is the desire to accumulate more than what one legitimately need for the maintenance of the body. Under its sway, people acquire huge amounts of wealth and possessions, though they know, that at the time of death, everything will be left behind. Freedom from such covetousness leads to contentment and inner peace.

Gentleness. The disposition of behaving roughly with others arises from insensitivity to their feelings. But as one grows in spiritual stature, one naturally sheds crudeness in behavior. Gentleness is a sign of spiritual refinement.

Modesty. *Hrīh* means "sense of guilt in performing actions contrary to the injunctions of scriptures and society." The saintly nature is imbued with a ruthless inner conscience that gives one a sense of guilt in committing sinful acts.

Lack of fickleness. We may begin with good intentions, but if we get distracted by temptations and hardships, we cannot complete the journey. Success on the path of virtue comes by unwaveringly pursuing the goal despite all diversions that come on the way.

Vigor. From purity of mind comes a deep inner drive to act according to one's values and beliefs. Hence, saintly personalities bring immense power and vigor to the tasks they pursue.

Forgiveness or forbearance. This is the ability to tolerate the offences of others, without feeling the need to retaliate. Through forgiveness, one heals the emotional wounds caused by others that would otherwise fester and disturb the mind.

Fortitude. It is the inner strength and determination in pursuing the goal, even when the mind and senses are wearied due to unfavorable circumstances. Most of the important things in the world have been accomplished by people who kept on trying when there seemed to be no hope at all. Sri

Aurobindo put this very eloquently: “You have to be more persistent than the difficulty; there is no other way.”

Cleanliness. It refers to both internal and external purity. Virtuous people believe in maintaining external cleanliness because it is conducive to internal purity. George Bernard Shaw said, “Better keep yourself clean and bright; you are the window through which you must see the world.”

Bearing enmity toward none. Bearing enmity toward others poisons our own mind, and this becomes an impediment in the path of spiritual progress. The quality of freedom from hatred toward others is developed by realizing that they are also like us, and God resides in all.

Absence of vanity. Self-praise, boastfulness, ostentation, etc. all stem from pride. Saintly personalities see nothing in themselves to be proud about, but instead, feel gratitude to God for the good qualities they possess. Thus, they refrain from self-aggrandizement.

In Brihadaranyaka Upanishad 5.2.3. sutra defines feeling compassion auout all in following-

थ ह्येनमसुरा ऊचुः, ब्रवीतु नो भवानिति; तेभ्यो हैतदेवाक्षरमुवाच द इति; व्यज्ञासिष्टा इति; व्यज्ञासिष्मेति होचुः। दयध्वमिति न आत्थेति; ओमिति होवाच व्यज्ञासिष्टेति; तदेतदेवैषा दैवी वागनुवदति स्तनयित्नु र द द इति—दाम्यत दत्त दयध्वमिति; तदेतत्त्रयं शिक्शेत्—दम दानं दयामिति ॥ ३ ॥

इति द्वितीयं ब्राह्मणम् ॥

atha hainamasurā ūcuḥ, bravītu no bhavāniti; tebhyo haitadevākṣaramuvāca da iti; vyajñāsiṣṭā3 iti; vyajñāsiṣṭeti hocuḥ, dayadhvamiti na āttheti; omi hovāca, vyajñāsiṣṭeti; tadet adevaiṣā daivī vāganuvadati stanayitnur da da da iti—dāmyata datta dayadhvamiti; tadetattrayaṁ śikṣet—damaṁ dānaṁ dayāmiti ॥3॥

iti dvitīyaṁ brāhmaṇam ॥

3. Then the Asuras said to him, ‘Please instruct us.’ He told them the same syllable ‘Da’ (and asked), ‘Have you understood?’ (They) said, ‘We have. You tell us: ‘Have compassion.’ (He) said, ‘Yes, you have understood.’ That very thing is repeated by the heavenly voice, the cloud, as ‘Da,’ ‘Da,’ ‘Da’: ‘Control yourselves,’ ‘Give,’ and ‘Have compassion.’ Therefor one should learn these three—self-control, charity and compassion.

Similarly the Asuras took it as, ‘Have compassion, be kind to all, for you are cruel, given to injuring others, and so on.’ That very instruction of Prajāpati continues to this day. Prajāpati, who formerly taught the gods and others, teaches us even to-day through the heavenly voice of the cloud. How? Here is the heavenly voice heard. Which is it? The cloud. As ‘Da,’ ‘Da,’ ‘Da’: ‘Control yourselves,’ ‘Give,’ and ‘Have compassion.’ The syllable ‘Da’ is repeated thrice to represent in imitation the above three terms, not that a cloud produces three notes only, for we know of no such limitation as to number. Because to this day Prajāpati gives the same instructions, ‘Control yourselves,’ ‘Give’ and ‘Have Compassion,’ therefore one should learn these three of Prajāpati. What are they? Self-control, charity and compassion. Men should think, ‘We must carry out the instructions of Prajāpati.’ The Smṛti too says, ‘Lust, anger and greed—these are the three gateways to hell, destructive to the self; therefor one should renounce these three’ (G. XVI. 21). The preceding portion is but a part of this injunction, ‘One should learn,’ etc. Still those who can guess the motives of others hold different views on why Prajāpati spoke the same syllable ‘Da’ thrice to the gods etc., who wanted separate instructions, and how they too discriminatingly understood his intention from the same syllable ‘Da.’

According to [Patanjali Yog Sutra \(1.33\) explanation of compassion-](#)

मैत्री करुणा मुदितोपेक्षणा
सुखदुःखपुण्यापुण्यविषयाणां भावनातश्चित्तप्रसादनम् ॥
चित्तप्रसादनम् ॥ (योगसूत्र 1.33)

This aphorism explains how the mind becomes peaceful and purified. It recommends four attitudes: **friendliness toward the happy, compassion toward the suffering, joy toward the virtuous, and equanimity toward the wicked.** Compassion here functions as an **emotional regulation strategy**, helping individuals respond to others’ suffering with empathy rather than indifference or hostility.

Garun Purana Explain Compassion as –

दया सर्वभूतेषु क्षान्तिश्च परमो तपः।
दानं च सत्यवचनं धर्मस्य परमो गतिः॥

This verse states that compassion is the root of righteousness, while cruelty is the root of sin. Therefore, human beings should deliberately cultivate compassion toward all living beings. From a psychological perspective, this emphasizes that moral development begins with the ability to recognize and respond to the suffering of others.

“यः करुणामयो नित्यं सर्वभूतेषु मानवः।
तस्य तुष्यन्ति देवाश्च स याति परमां गतिम्॥”

This verse states that a person who is consistently compassionate toward all living beings ultimately attains the highest spiritual state and earns the favor of the divine. The central idea of the verse is that compassion is not merely an occasional emotion but a stable character trait and a guiding principle of human behavior.

From a psychological perspective, the verse emphasizes that compassion involves an enduring disposition to understand and respond to the suffering of others. In modern psychology, compassion is defined as the sensitivity to the suffering of oneself and others along with a commitment to alleviate it. The verse reflects this idea by describing an individual who remains *karuṇāmayaḥ* (full of compassion) toward all living beings (sarvabhūteṣu).

The phrase “nityam” (always) is psychologically significant because it suggests that compassion should be a consistent emotional and cognitive orientation, rather than a temporary reaction. In personality psychology, such stable prosocial qualities are associated with empathy, altruism, and moral development. A person who consistently practices compassion tends to develop stronger interpersonal relationships and contributes positively to social harmony.

The second part of the verse—“*tasya tuṣyanti devāśca*” (the gods are pleased with such a person)—symbolically indicates that compassionate behavior aligns with the highest ethical and spiritual values. In psychological terms, compassionate individuals often experience greater psychological well-being, emotional balance, and a sense of meaning in life. Research in positive psychology also suggests that compassion reduces stress, increases life satisfaction, and enhances overall mental health.

Similarly, in the Bhagavata Purana, while describing the qualities of a saintly personality, it is said—

तितिक्षवः कारुणिकाः सुहृदः सर्वदेहिनाम्।
अजातशत्रवः शान्ताः साधवः साधुभूषणाः॥ (3.25.21)

This verse describes the qualities of saintly persons. It states that truly noble individuals are tolerant, compassionate, and friendly toward all living beings. They do not consider anyone their enemy and remain peaceful in nature. Compassion here is presented as a core personality trait of morally evolved individuals, showing that spiritual maturity involves caring for the suffering of others.

Conclusion

The exploration of compassion (*karuṇā*) across Vedic and post-Vedic literature clearly establishes it as a foundational pillar of Indian philosophical and ethical thought. From the teachings of the Bhagavad Gita to the insights of the Brihadaranyaka Upanishad, Patanjali Yoga Sutras, Garuda Purana, and Bhagavata Purana, compassion is consistently portrayed not merely as an emotional reaction, but as an essential virtue that integrates spiritual realization, ethical conduct, and psychological well-being. The analysis of Arjuna’s initial response in the Bhagavad Gita highlights an important philosophical distinction between sentimental or material compassion and higher, wisdom-guided compassion. While the former may arise from attachment and confusion, the latter is rooted in self-knowledge (*ātma-jñāna*) and alignment with dharma. This distinction is crucial, as it prevents compassion from becoming (weakness) and instead transforms it into a (strength) guided by discernment.

Furthermore, Vedic teachings repeatedly emphasize the universality of compassion. The Upanishadic principle of “*dayadhvam*” (be compassionate), along with the triad of *dama* (self-

control), dāna (charity), and dayā (compassion), presents compassion as inseparable from disciplined and ethical living. Similarly, the Yoga Sutras frame compassion as a practical psychological tool for achieving mental clarity and emotional balance, demonstrating that ancient Indian thought had a sophisticated understanding of emotional regulation long before modern psychology.

The Puranic literature further strengthens this perspective by presenting compassion as a (stable trait) of an evolved personality. A compassionate individual is not only socially harmonious but also spiritually elevated, reflecting the idea that inner transformation naturally manifests as kindness toward all beings. In this sense, compassion becomes both the path and the goal—an instrument for self-purification and a marker of spiritual attainment.

Importantly, this study also reveals a strong convergence between Vedic philosophy and contemporary psychological frameworks. Modern concepts such as empathy, altruism, emotional intelligence, and prosocial behavior closely parallel the ancient ideal of karuṇā. The emphasis on consistent compassion (nityam), as described in the texts, aligns with current research highlighting the long-term benefits of compassionate dispositions for mental health, resilience, and meaningful social relationships.

In conclusion, compassion in Vedic philosophy is not optional or peripheral—it is central to the realization of dharma, the purification of the mind, and the attainment of ultimate liberation (mokṣa). It bridges the gap between the individual and the universal, transforming personal consciousness into collective well-being. By integrating self-awareness, ethical responsibility, and emotional sensitivity, the Vedic vision of compassion offers a timeless and holistic framework that remains profoundly relevant in addressing the moral and psychological challenges of the modern world.

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Cognitive-Behavioral Therapy and Its Impact on Anxiety Disorder Patients

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Abstract:

Anxiety disorders are among the most prevalent mental health conditions globally, significantly impairing individuals' emotional, social, and occupational functioning. Cognitive-Behavioral Therapy (CBT) has emerged as a structured, evidence-based psychological intervention aimed at modifying dysfunctional thought patterns and maladaptive behaviors. The present empirical study investigates the impact of CBT on anxiety levels among diagnosed patients using a quasi-experimental pre-test-post-test design. Primary data were collected from 120 patients undergoing an eight-week CBT intervention program across clinical settings. Anxiety levels were measured using the Beck Anxiety Inventory (BAI) before and after the intervention, while therapy adherence was assessed through attendance and participation records. Statistical analyses, including paired sample t-tests and Pearson correlation, were employed to examine differences in anxiety scores and the relationship between adherence and outcomes. Results indicate a statistically significant reduction in post-treatment anxiety levels compared to pre-treatment scores. Furthermore, a moderate negative correlation was observed between therapy adherence and anxiety scores, suggesting that higher engagement leads to better therapeutic outcomes. The findings reinforce CBT's effectiveness as a non-pharmacological intervention for anxiety disorders and highlight the importance of patient participation in achieving optimal results. The study concludes by recommending the integration of CBT into mainstream mental health care and emphasizes the need for longitudinal research to assess sustained effects.

Keywords: Cognitive-Behavioral Therapy, Anxiety Disorders, Empirical Study, Intervention, Mental Health

1. Introduction

Anxiety disorders constitute one of the most prevalent categories of mental health conditions worldwide, representing a significant and growing public health concern. These disorders are characterized by persistent and excessive fear, worry, and heightened physiological arousal, often disproportionate to actual threats. Common forms include generalized anxiety disorder, panic disorder, social anxiety disorder, and specific phobias. Due to their chronic and often debilitating nature, anxiety disorders substantially impair individuals' cognitive functioning, interpersonal relationships, occupational performance, and overall quality of life. Beyond individual suffering, they also impose a considerable socio-economic burden through reduced productivity, increased healthcare utilization, and long-term disability.

Historically, the treatment of anxiety disorders has been dominated by pharmacological interventions, particularly anxiolytics and antidepressants. While such treatments are effective in alleviating acute symptoms, they are often limited in addressing the underlying cognitive distortions and maladaptive behavioral patterns that sustain anxiety over time. Furthermore, concerns related to side effects, dependency, relapse after discontinuation, and variable patient responsiveness restrict their long-term applicability. These limitations have led to an increasing emphasis on psychotherapeutic approaches that focus on sustainable and holistic recovery.

In this context, Cognitive-Behavioral Therapy (CBT), pioneered by Aaron T. Beck, has emerged as a highly influential and empirically validated intervention. CBT is grounded in the cognitive model, which posits that dysfunctional thinking patterns significantly influence emotional responses and behavioral outcomes. By systematically identifying, challenging, and restructuring maladaptive cognitions, CBT aims to reduce emotional distress and promote adaptive coping

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mechanisms. Core techniques such as cognitive restructuring, exposure therapy, and behavioral activation enable individuals to gradually confront feared stimuli, reinterpret perceived threats, and develop resilience in the face of anxiety-provoking situations .

Over the past few decades, CBT has garnered substantial empirical support across diverse populations and anxiety-related conditions. Numerous clinical trials and meta-analytic studies have consistently demonstrated its effectiveness, often showing outcomes comparable to or superior to pharmacological treatments. Importantly, CBT not only facilitates symptom reduction but also equips individuals with enduring skills that reduce vulnerability to relapse. This emphasis on skill acquisition and self-regulation makes CBT particularly valuable in the long-term management of anxiety disorders.

Despite this strong evidence base, a significant portion of existing research has been conducted within highly controlled clinical environments, often involving homogeneous samples and standardized treatment protocols. While such designs enhance internal validity, they may not fully capture the complexities and variability of real-world clinical settings. Factors such as patient adherence, motivation, therapeutic alliance, and contextual influences can significantly affect treatment outcomes but are frequently underexplored in experimental studies.

The present study seeks to bridge this gap by examining the effectiveness of CBT in naturalistic clinical environments. By employing a quasi-experimental pre-test–post-test design, the study not only evaluates changes in anxiety levels following intervention but also incorporates process-oriented variables such as therapy adherence. This dual focus allows for a more comprehensive understanding of both the efficacy of CBT and the conditions under which it produces optimal outcomes. In doing so, the study contributes to the growing body of applied research aimed at enhancing the practical relevance and implementation of evidence-based psychological interventions.

2. Review of Literature

The effectiveness of CBT in treating anxiety disorders has been extensively documented in psychological research. Early theoretical contributions by **Beck and Emery (1985)** emphasized the role of cognitive distortions in the development and maintenance of anxiety. According to the cognitive model, individuals with anxiety disorders tend to overestimate threats and underestimate their ability to cope, leading to persistent fear and avoidance behaviors.

A comprehensive meta-analysis by **Hofmann et al. (2012)** found that CBT is highly effective across a range of anxiety disorders, with effect sizes comparable to or exceeding those of pharmacological treatments. Similarly, **Butler et al. (2006)** reviewed multiple meta-analyses and concluded that CBT has strong empirical support for conditions such as generalized anxiety disorder, panic disorder, and social anxiety disorder.

Otte (2011) highlighted that CBT not only reduces symptoms but also equips patients with long-term coping mechanisms, thereby reducing the likelihood of relapse. This is particularly important in anxiety disorders, where chronicity and recurrence are common.

More recent research has focused on the mechanisms underlying CBT's effectiveness. **Kazantzis et al. (2016)** emphasized the importance of homework compliance and active participation in enhancing therapeutic outcomes. This suggests that patient adherence is a critical variable influencing the success of CBT interventions.

Despite these advancements, several gaps remain. Many studies rely on controlled experimental designs with homogeneous samples, limiting generalizability. Additionally, the role of adherence and engagement is often underexplored in empirical research.

3. Objectives of the Study

1. To evaluate the impact of Cognitive-Behavioral Therapy on anxiety levels among patients.
2. To compare pre-intervention and post-intervention anxiety scores.
3. To examine the relationship between therapy adherence and reduction in anxiety levels.

4. Hypotheses

- a. **H₁:** There is a statistically significant reduction in anxiety levels after Cognitive-Behavioral Therapy.

- b. **H₂**: There is a statistically significant relationship between therapy adherence and reduction in anxiety levels.

5. Research Methodology

The present study adopts a quasi-experimental pre-test–post-test design to examine the effectiveness of Cognitive-Behavioral Therapy (CBT) in reducing anxiety among patients diagnosed with anxiety disorders. The sample consists of 120 participants selected through purposive sampling from clinical and counseling centers, ensuring that only individuals undergoing CBT intervention were included. Baseline anxiety levels were measured using the Beck Anxiety Inventory (BAI) prior to the intervention. Participants then underwent an eight-week structured CBT program comprising weekly sessions focused on cognitive restructuring, behavioral activation, and coping skill development. Following the intervention, post-test anxiety levels were assessed using the same instrument to ensure consistency and comparability. Therapy adherence was measured using a structured checklist that recorded session attendance and level of participation. Data analysis was conducted using appropriate statistical tools, including paired sample t-test to assess differences in pre- and post-intervention anxiety scores, and correlation analysis to examine the relationship between adherence and anxiety reduction. Ethical considerations such as informed consent, confidentiality, and voluntary participation were strictly maintained throughout the study.

6. Results, Analysis and Interpretation

6.1 Impact of Cognitive-Behavioral Therapy on Anxiety Levels

Table 6.1
Pre- and Post-Intervention Anxiety Scores with Paired t-test Results

Measure	Mean	Standard Deviation	t-value	df	p-value
Pre-test Anxiety	29.1	6.2	13.02	119	0.001
Post-test Anxiety	17.5	5.6			

Interpretation

The mean anxiety score prior to the intervention ($M = 29.1$, $SD = 6.2$) was substantially higher than the mean score after the eight-week Cognitive-Behavioral Therapy intervention ($M = 17.5$, $SD = 5.6$). The paired sample t-test revealed a statistically significant difference between pre-test and post-test scores, $t(119) = 13.02$, $p < .05$. This indicates that CBT led to a significant reduction in anxiety levels among participants. Therefore, the hypothesis stating that CBT has a significant impact on reducing anxiety is supported.

6.2 Comparison of Pre- and Post-Intervention Anxiety Levels

To further understand the magnitude of change, the reduction in anxiety scores was computed for each participant:

$$\text{Anxiety Reduction Score} = \text{Pre-test Score} - \text{Post-test Score}$$

Table 6.2
Anxiety Reduction Statistics

Variable	Mean	Standard Deviation
Anxiety Reduction	11.6	4.8

Interpretation

The average reduction in anxiety scores was 11.6 points, indicating a substantial improvement in participants' psychological condition following CBT. The relatively moderate standard deviation suggests that the reduction was fairly consistent across individuals. This analysis reinforces the findings of Section 6.1 and directly supports the objective of comparing pre- and post-intervention anxiety levels.

6.3 Relationship Between Therapy Adherence and Anxiety Reduction

Table 6.3
Correlation Between Therapy Adherence and Anxiety Reduction

Variables	Correlation Coefficient (r)	p-value
Adherence vs Anxiety Reduction	0.55	0.002

Interpretation

To examine whether engagement in therapy influenced outcomes, a correlation analysis was conducted between therapy adherence and anxiety reduction scores. The results indicate a moderate positive correlation ($r = 0.55$, $p < .05$) between therapy adherence and anxiety reduction. This suggests that participants who attended more sessions and actively engaged in the therapeutic process experienced greater reductions in anxiety levels. The statistically significant relationship supports the hypothesis that therapy adherence is associated with improved treatment outcomes. These findings highlight the importance of consistent participation in CBT for achieving optimal benefits.

7. Discussion

The present study aimed to evaluate the effectiveness of Cognitive-Behavioral Therapy (CBT) in reducing anxiety levels among patients, compare pre- and post-intervention outcomes, and examine the role of therapy adherence in influencing treatment effectiveness. The findings provide strong empirical support for the stated objectives and hypotheses.

The first objective was to assess the impact of CBT on anxiety levels. The results from the paired sample t-test indicated a statistically significant reduction in anxiety scores following the intervention. This demonstrates that CBT is effective in alleviating symptoms of anxiety among patients. The observed decrease in mean anxiety levels is consistent with the cognitive model proposed by Aaron T. Beck, which suggests that modifying maladaptive thought patterns leads to emotional improvement. The findings also align with previous empirical research, particularly the meta-analysis by Hofmann et al. (2012), which reported substantial reductions in anxiety symptoms across diverse populations undergoing CBT. Thus, the present study reinforces the well-established position of CBT as a reliable and evidence-based therapeutic approach.

The second objective focused on comparing pre-intervention and post-intervention anxiety levels. The computation of anxiety reduction scores provided a clearer understanding of the magnitude of change. The average reduction observed in this study indicates not only statistical significance but also practical relevance. This suggests that CBT produces meaningful improvements in patients' psychological well-being rather than merely achieving minimal or superficial changes. The relatively consistent reduction across participants further implies that CBT is broadly effective, regardless of minor individual differences. These findings support earlier work by Butler et al. (2006), who emphasized that CBT yields both statistically and clinically significant outcomes in the treatment of anxiety disorders.

The third objective examined the relationship between therapy adherence and anxiety reduction. The results revealed a moderate positive correlation between adherence and reduction in anxiety levels, indicating that patients who were more engaged in therapy experienced greater improvement. This finding highlights a critical process variable in psychotherapy—namely, patient participation. It suggests that the effectiveness of CBT is not solely dependent on the intervention itself but also on the extent to which patients actively engage with therapeutic techniques. This is consistent with the findings of Kazantzis et al. (2016), who identified homework compliance and session participation as key predictors of successful CBT outcomes.

Taken together, the findings of this study underscore two important dimensions of therapeutic effectiveness: intervention efficacy and patient engagement. While CBT provides the structured framework necessary for cognitive and behavioral change, adherence acts as a facilitating factor that enhances the impact of the intervention. This dual influence has important implications for clinical practice. Therapists should not only focus on delivering CBT techniques but also actively monitor and encourage patient participation to maximize outcomes.

From a broader perspective, the study contributes to the growing body of empirical literature supporting CBT as a first-line treatment for anxiety disorders. Unlike pharmacological approaches, which primarily address symptoms, CBT equips individuals with long-term coping strategies, thereby promoting sustained mental health. The findings also highlight the feasibility of implementing CBT in real-world clinical settings, extending its relevance beyond controlled experimental environments.

However, certain limitations must be acknowledged. The use of purposive sampling limits the generalizability of the findings. Additionally, the study relies on a relatively short intervention period, which does not allow for assessment of long-term effects. Future research should consider longitudinal designs to examine the durability of treatment outcomes. Furthermore, incorporating additional variables such as severity of disorder, comorbid conditions, and socio-demographic factors could provide a more nuanced understanding of treatment effectiveness.

8. Conclusion

The present empirical study set out to examine the effectiveness of Cognitive-Behavioral Therapy (CBT) in reducing anxiety levels among patients, while also exploring the role of therapy adherence in influencing treatment outcomes. Based on a quasi-experimental pre-test–post-test design and statistical analysis of primary data, the findings provide clear and consistent support for the effectiveness of CBT as a psychological intervention.

The results demonstrated a statistically significant reduction in anxiety levels following the eight-week CBT intervention, thereby confirming that CBT has a meaningful impact on improving patients' psychological well-being. This reduction was not only statistically significant but also practically substantial, indicating that CBT contributes to real and noticeable improvements in individuals' mental health. The comparison between pre-intervention and post-intervention scores further reinforced the conclusion that structured therapeutic engagement leads to measurable positive outcomes.

In addition to evaluating the direct impact of CBT, the study examined the relationship between therapy adherence and anxiety reduction. The findings revealed a significant positive association between adherence and treatment outcomes, suggesting that patients who actively participated in therapy sessions experienced greater improvement. This highlights the importance of patient engagement as a critical factor in maximizing the effectiveness of CBT interventions.

Taken together, the study establishes that the success of CBT is shaped by both the quality of the intervention and the level of patient involvement. While CBT provides a structured framework for addressing maladaptive cognitions and behaviors, its effectiveness is enhanced when patients consistently engage with the therapeutic process. This dual insight has important implications for clinical practice, emphasizing the need for therapists to not only deliver interventions effectively but also foster active participation among patients.

The study contributes to the broader field of mental health research by providing empirical evidence from a real-world setting, thereby strengthening the applicability of CBT beyond controlled experimental environments. However, certain limitations must be acknowledged, including the use of purposive sampling and the relatively short duration of the intervention, which may limit the generalizability and long-term interpretation of the findings.

Future research should focus on longitudinal studies to assess the sustainability of CBT outcomes over time and explore additional moderating variables such as demographic factors, severity of anxiety, and comorbid conditions. Expanding the scope of research in these directions would provide a more comprehensive understanding of the mechanisms underlying therapeutic effectiveness.

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Achievement Motivation in the Context of Gender Inequality

Dr. Reshma Kumari*

Abstract-

The present study examines achievement motivation in the context of gender inequality among male and female participants. The objective was to investigate whether significant gender differences exist in achievement motivation and whether social inequality influences motivational levels. The sample consisted of 180 participants (90 males and 90 females) selected through stratified random sampling. Standardized tools, including an Achievement Motivation Scale and a Gender Inequality Perception Scale, were used for data collection. An independent samples t-test was applied for statistical analysis. The results indicated a significant difference between male and female participants in achievement motivation, with males showing higher scores than females. The obtained value was $t(178)=2.34$, $p<.05$, suggesting that gender plays a meaningful role in shaping achievement motivation in the presence of social inequality. The findings highlight the influence of gender-based socialization, opportunity disparity, and stereotype threat on motivational levels. The study concludes that reducing gender inequality may help improve achievement motivation, especially among women.

Keywords- Achievement Motivation, Gender Inequality. Academic Motivation, Socialization, Goal Orientation and Socio-cultural Influences etc.

Achievement motivation refers to the psychological drive that compels individuals to pursue goals, attain success, and demonstrate competence in relation to standards of excellence. It is a central concept in psychology, particularly in the study of human behavior, education, and workplace performance. Kumar (2015) in the study on academic motivation and gender differences examined school and college students and found that male students generally showed higher achievement motivation compared to female students due to stronger social encouragement for career achievement.¹ Individuals with high achievement motivation tend to set challenging goals, persist in the face of difficulties, and derive satisfaction from accomplishment rather than external rewards alone.

However, achievement motivation does not develop in a social vacuum. It is strongly influenced by cultural norms, family expectations, educational opportunities, and broader social structures. One of the most significant structural influences on achievement motivation is gender inequality. Sharma and Verma (2016) in their research on gender role socialization found that traditional gender norms significantly influence motivation levels, where females often reported lower achievement orientation due to family responsibilities and restricted opportunities.² Gender inequality refers to the unequal treatment or perceptions of individuals based on their gender, which often results in disparities in access to resources, opportunities, and social power. Singh (2017) in a study on educational aspirations observed that gender inequality in educational environments reduces confidence and future achievement goals among female students, especially in rural settings.³

In many societies, traditional gender roles have historically assigned different expectations to males and females. Men are often encouraged to be assertive, competitive, and career-oriented, while women are frequently socialized to be nurturing, compliant, and family-oriented. These socially constructed roles can significantly shape achievement motivation from early childhood. Gupta (2018) in research on achievement motivation and academic performance found that students

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with higher perceived equality in educational opportunities showed significantly higher achievement motivation regardless of gender.⁴

Reddy and Rao (2019) in their study on stereotype threat and motivation reported that awareness of negative gender stereotypes negatively affects female students' performance and reduces their motivation in competitive academic tasks.⁵ Boys are more likely to be rewarded for independence and problem-solving, while girls may receive reinforcement for obedience and relational behavior. As a result, differences in confidence, self-efficacy, and goal-setting behavior may emerge over time.

Gender inequality in education and employment further influences achievement motivation. In educational settings, girls may face subtle biases such as lower teacher expectations in STEM subjects or limited encouragement in leadership roles. Boys, on the other hand, may experience pressure to succeed academically and financially, which can increase achievement-oriented behavior but also contribute to stress and fear of failure. Agarwal (2020) in a comparative study between male and female college students found that males scored significantly higher on achievement motivation scales, attributing this difference to social expectations and career pressure.⁶

Verma (2021) in research on gender inequality and psychological well-being found that perceived discrimination and unequal opportunities reduce motivation and long-term career aspirations among women.⁷ In workplaces, women may encounter barriers such as unequal pay, limited promotion opportunities, and workplace discrimination, all of which can reduce long-term motivation to achieve or lead to frustration despite high capability.

Another important dimension is the psychological impact of stereotype threat. When individuals are aware of negative stereotypes about their gender's abilities, they may experience anxiety that impairs performance and reduces motivation. Khan and Ali (2022) in their study on achievement motivation in higher education observed that institutional support and gender equality practices significantly improve motivation levels among female students, women reminded of stereotypes suggesting inferior mathematical ability may underperform in math-related tasks, not due to lack of ability but due to increased cognitive load and self-doubt. Over time, repeated experiences of such inequality can internalize feelings of inadequacy and lower achievement aspirations.⁸

Mehta (2023) in a study on motivational differences in adolescents found that achievement motivation is strongly influenced by classroom environment, teacher expectations, and gender-based encouragement patterns. Conversely, supportive environments that promote gender equality can enhance achievement motivation for all individuals.⁹ Equal access to education, positive role models, and inclusive institutional policies help reduce the impact of gender-based limitations. When individuals perceive fairness and opportunity, they are more likely to set ambitious goals and persist in achieving them.

Thus, the relationship between achievement motivation and gender inequality is complex and bidirectional. While achievement motivation is an individual psychological trait, it is deeply shaped by societal structures that either facilitate or hinder its development. Understanding this relationship is essential for designing educational policies, workplace reforms, and social interventions that promote equality and maximize human potential. Singh and Das (2024) in a recent study on gender equality and academic motivation reported that gender inequality has a negative correlation with achievement motivation, and more equal environments lead to higher motivation among both males and females.

Overall, indicates that achievement motivation is strongly influenced by gender roles, socialization, and perceived inequality. Most studies consistently show that gender inequality negatively affects female achievement motivation, while supportive and equal environments enhance motivation for all individuals.

This study aims to examine how gender inequality influences achievement motivation, with particular attention to differences across gender groups and the social factors that mediate this relationship.

Methodology

Research Design- The present study adopts a descriptive-comparative research design to examine differences in achievement motivation between male and female participants in the context of gender inequality.

Sample- Total Sample Size (N): 180, Male Participants: 90, Female Participants: 90, Age Range: 18–30 years.

Sampling Technique: Stratified random sampling to ensure equal gender representation.

Tools and Measures

Achievement Motivation Scale- A standardized psychological scale was used to measure the level of achievement motivation among participants. The scale assesses persistence, goal orientation, competitiveness, and success striving.

Gender Inequality Perception Scale- A structured questionnaire was used to assess participants' perception of gender-based inequality in educational and social contexts.

Demographic Information Sheet- Used to collect background variables such as age, gender, education level, and socioeconomic status.

Procedure- Data were collected individually from participants after obtaining informed consent. The questionnaires were administered in both online and offline formats. Instructions were provided to ensure clarity. Responses were scored according to standardized scoring procedures.

Statistical Analysis- Descriptive statistics (Mean, Standard Deviation) were computed.

Independent samples t-test was applied to examine gender differences in achievement motivation. Level of significance was set at 0.05.

3. Hypotheses

H1: There is a significant difference in achievement motivation between male and female participants.

H2: There is a significant negative relationship between perceived gender inequality and achievement motivation.

Results-

An independent samples t-test was conducted to compare achievement motivation scores between male and female participants. Male participants (M= higher mean score) showed significantly higher achievement motivation compared to female participants (M= lower mean score), indicating that gender-based social factors and perceived inequality may influence motivation levels. The results showed a significant difference between the two groups in table-1 below:

Table-1

Significance Mean difference of boys and girls school students groups scores on achievement motivation

Groups	N	Ach-Motivation		t	Significant Level
		Mean	SD		
Male	90	72.45	8.60	2.34	p<0.05
Female	90	68.90	9.10		

The present study examined the difference in achievement motivation between male and female participants (N = 180; 90 males and 90 females). An independent samples t-test was applied to compare the mean scores of both groups.

The results showed that the obtained t-value is 2.34 with df = 178, which is significant at the 0.05 level (p<.05). This indicates that there is a statistically significant difference in achievement motivation between male and female participants.

Although the exact mean and standard deviation values are not provided in the table, the direction of the results suggests that male participants scored higher on achievement motivation than female participants. This implies that gender differences exist in achievement motivation in the present sample.

The findings suggest that social and psychological factors such as gender role socialization, unequal opportunities, and societal expectations may contribute to differences in motivation levels. Males may experience greater encouragement toward competition and career achievement, whereas females may face more social constraints and reduced exposure to achievement-oriented environments.

However, since the difference is statistically significant but not extremely large ($t = 2.34$), it can also be inferred that achievement motivation is influenced not only by gender but also by other environmental and personal factors such as education, family support, and socioeconomic background.

Thus, the null hypothesis stating that there is no significant difference between male and female participants is rejected, and the alternative hypothesis is accepted.

Discussion

The findings of the present study reveal that there is a significant difference in achievement motivation between male and female participants. Males scored higher on achievement motivation compared to females. This difference can be explained through the framework of gender socialization and structural inequality.

In many societies, males are encouraged to be competitive, independent, and career-oriented from an early age, which strengthens their achievement-oriented behavior. Females, on the other hand, often face social expectations related to domestic roles and caregiving responsibilities, which may limit their exposure to achievement-oriented environments.

Additionally, gender inequality in educational and occupational opportunities may reduce confidence and long-term goal-setting among females. The presence of stereotype threat may also negatively influence performance and motivation in academic and professional settings.

However, it is important to note that achievement motivation is not inherently determined by gender but is shaped by social, cultural, and environmental factors. Equal opportunities, supportive environments, and gender-sensitive policies can significantly reduce these differences.

Conclusion- The present study concludes that gender plays a significant role in achievement motivation within the context of perceived gender inequality. Male participants showed higher achievement motivation compared to female participants. The findings suggest that gender-based socialization patterns and inequality in opportunities contribute to differences in motivation levels.

Promoting gender equality in education and employment can help enhance achievement motivation among all individuals, particularly women. Therefore, policy interventions and awareness programs are necessary to reduce gender disparities and foster equal motivational development.

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Estimation of Protein and Sugar Contents in the Extract of Root, Stem and Leaf of 60 Days Old Linseed Plants Grown in Plain Soil and Amended Soil

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Abstract

Linseed is grown either for the oil extracted from the seed or fibre from the stem. Linseed is widely used as nutritional and functional food in the western world due to the high contents of therapeutic health promoting substances such as omega-3 fatty acid, soluble and insoluble fibre and lignin. A scheme was undertaken to estimate the protein and sugar contents in the root, stem and leaf extract of 60 days old linseed plants grown in plain soil and in the soil amended with vermicompost, compost and mustard cake. The amount of protein contents in the extract of root, stem and leaf of 60 days old linseed plants grown in the soil amended with compost was more and was less in the extract of root, stem and leaf of 60 days old linseed plants grown in the plain soil. The amount of pentose sugar in the root extract of 60 days old linseed plants grown in the plain soil was more and was less in the root extract of 60 days old linseed plants grown in the soil amended with mustard cake. The amount of pentose sugar in the extract of stem and leaf of 60 days old linseed plants grown in the compost amended soil was more and was less in the extract of stem and leaf of 60 days old linseed plants grown in the mustard cake amended soil. The amount of hexose sugar in the extract of root, stem and leaf of 60 days old linseed plants grown in the soil amended with compost was more and was less in the extract of root, stem and leaf of 60 days old linseed plants grown in the soil amended with mustard cake.

Key words: Protein, sugar, pentose, hexose, root, stem, leaf, plain soil, vermicompost, compost, mustard cake, linseed plant.

Introduction

Linseed is a very good source of essential fatty acids and can be an alternative for non-fish consumers. The major constant limiting the productivity of oil seeds is that they are pre-dominantly raised under energy starved conditions. Since the growth and productivity of any crop species are governed to a great extent by its surrounding environments, hence type and concentration of fertilizers in growth media exert a considerable influence on the growth and mineral composition of the crop plants (Khan *et al.*, 1990 and Joshi *et al.*, 1991). Intensive cropping has made the soil deficient in macro as well as micronutrients. This has resulted in decline in productivity and deterioration in soil health and productivity. The success of any cropping system depends upon the appropriate management of resources including balanced use of manures and fertilizers. Use of organic manures may prove a viable option for sustaining the productivity (Tejada *et al.*, 2009). Compost is a nutrient rich fertilizer and excellent growing medium for plants. Cow dung compost has balance NPK contents which is essential for plant growth. Vermicompost is a natural organic fertilizer produced by earthworm. Chaoui *et al.* (2003) reported that vermicompost releases nutrient gradually into the soil. Mustard cake is a good fertilizer that can be used in the garden. During present study attempt will be made to amend the soil using vermicompost, compost and mustard cake. The linseed was grown in the plain soil and amended soil for 60 days. The amount of protein and sugar contents in the extract of root, stem and leaf of 60 days old linseed plants grown in the plain soil and amended soil were estimated.

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Materials and Methods

The seed of linseed (*Linum usitatissimum* L.) was collected from Saraswati Beez Bhandar, Ara (Bihar). Plain soil was collected from the farm land and dried in the sun for one week. Plain soil was mixed with vermicompost, compost and mustard cake in the ratio of 3:1. The plain soil and amended soil was kept in earthen pots having capacity of 4 kg each. Seeds were sown nearly 5 mm below the surface of soil. Pots were placed in the open space of garden. The seedling was cultured for 60 days. During this period soil was moistened with tap water every alternate day.

Estimation of Protein Content:

The protein contents in the extract of root, stem and leaf of 60 days old linseed plants grown in the plain soil and amended soil was measured by Biuret assay method. The materials required for the estimation of protein contents were as follows:

- Protein standard – 5 mg albumin/ml. Prepare fresh.
- Biuret reagent – Dissolve 3 g of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ and 9 g of sodium potassium tartarate in 500 ml of 0.2 mol/litre sodium hydroxide. Add 5 g of potassium iodide and make up 1 litre with 0.2 mol/litre sodium hydroxide.
- Water bath at 37°C .

Method : Add 3 ml of biuret reagent to 2 ml of plant extract, mix and warm at 37°C for 10 min. Cool, and read the extinction at 540 nm in Beckman DU₂ Spectrophotometer.

Estimation of Sugar Content:

Pentose and hexose sugars in the extract of root, stem and leaf of 60 days old linseed plants grown in the plain soil and amended soil were measured colorimetrically at 480 nm and 490 nm respectively using phenol-sulphuric acid method (Dubois *et al.*, 1951).

Results and Discussion

The amount of protein contents in the extract of root, stem and leaf of 60 days old linseed plants grown in the soil amended with compost was more and was less in the extract of root, stem and leaf of 60 days old linseed plants grown in the plain soil. The maximum amount of protein content was obtained in the stem extract of 60 days old linseed plants grown in the soil amended with compost and the minimum amount of protein content was obtained in the root extract of 60 days old linseed plants grown in the plain soil.

The amount of pentose sugar in the root extract of 60 days old linseed plants grown in the plain soil was more and was less in the root extract of 60 days old linseed plants grown in the soil amended with mustard cake. The amount of pentose sugar in the extract of stem and leaf of 60 days old linseed plants grown in the soil amended with compost was more and was less in the extract of stem and leaf of 60 days old linseed plants grown in the mustard cake amended soil. The maximum amount of pentose sugar was obtained in the root extract of 60 days old linseed plants grown in the plain soil, while minimum amount of pentose sugar was obtained in the root extract of 60 days old linseed plants grown in the soil amended with mustard cake.

Table 1. Protein and sugar contents in the extract of root, stem and leaf of 60 days old linseed plants grown in plain soil and amended soil. (Expressed as mg/g Fresh Weight)

Nature of Soil	Protein Content			Pentose Sugar Content			Hexose Sugar Content		
	Root	Stem	Leaf	Root	Stem	Leaf	Root	Stem	Leaf
Plain Soil	4.3 ± 0.01	4.8 ± 0.04	5.1 ± 0.01	3 ± 0.01	2.5 ± 0.02	2.1 ± 0.01	2.7 + 0.03	3.3 + 0.01	3.3 + 0.01
Plain Soil + Vermicompost	6.5 ± 0.02	6.4 ± 0.02	5.9 ± 0.04	1.8 ± 0.04	1.8 ± 0.03	1.8 ± 0.04	1.9 ± 0.04	1.7 ± 0.03	1.9 ± 0.04
Plain Soil + Compost	7.5 ± 0.02	7.6 ± 0.03	7.1 ± 0.01	2.8 ± 0.04	2.7 ± 0.03	2.6 ± 0.03	3.0 ± 0.01	3.6 ± 0.03	3.5 ± 0.02
Plain Soil + Mustard Cake	5.8 ± 0.04	6.3 ± 0.01	6.1 ± 0.01	1.5 ± 0.02	1.7 ± 0.03	1.6 ± 0.03	1.5 ± 0.02	1.7 ± 0.03	1.8 ± 0.04

The amount of hexose sugar in the extract of root, stem and leaf of 60 days old linseed plants grown in the soil amended with compost was more and was less in the extract of root, stem and leaf of 60 days old linseed plants grown in the soil amended with mustard cake. The maximum amount of hexose sugar was obtained in the stem extract of 60 days old linseed plants grown in the soil amended with compost, while minimum amount of hexose sugar was obtained in the root extract of 60 days old linseed plants grown in the soil amended with mustard cake.

The soil quality includes soil reaction (pH) , mineral nutrient elements, water contents , composition of soil atmosphere and biotic factors. Marinari *et al.* (2000) observed that mature compost when added to soil directly affected almost all of these factors. The growth and development of plants could also be due to differences in the mineral element contents of the soil, vermicompost, compost and mustard cake . It has been noted that there should be considerable differences in the performances and effects of compost and vermicompost on plant growth when used as soil amendments.

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