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## CONTENTS

# FUNDAMENTAL DUTIES OF INDIAN CITIZEN

- 2 To abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- 2 To cherish and follow the noble ideals which inspired our national struggle for freedom;
- 2 To uphold and protect the sovereignty, unity and integrity of India;
- 2 To defend the country and render national service when called upon to do so;
- 2 To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- 2 To value and preserve the rich heritage of our composite culture;
- 2 To protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;
- 2 To develop the scientific temper, humanism and the spirit of inquiry and reform;
- 2 To safeguard public property and to abjure violence;
- 2 To strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavor and achievement.

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# Aggression among Adolescents in Relation to School Environment

**Joti Deora* & Shallu Rani****

**ABSTRACT**

*Aggression is a stable psychological trait of the individual that lasts from childhood through adolescence and adulthood. Aggressive behavior during class activity/ in schools is becoming a bigger issue every year that has an impact on the learning level of the students. Students' behavior, personalities, attitudes, desires attitudes of self-confidence, and academic achievement are mainly affected by their school environment, whether consciously or unintentionally. The school environment plays a significant role overall personality development of the student's life skills. This study is based on descriptive in nature and stratified random sampling techniques were used for the data collection method and the sample consists of 150 high school students. The finding of this study revealed that the relationship between Aggression among high school students with two dimensions of School Environment i.e. Rejection and Permissiveness is not significant. However, a significant and negative relationship was found between Creative Stimulation, Cognitive Encouragement, Acceptance and Control dimensions of School Environment and Aggression of Adolescents. Additionally, findings of the study also revealed that the majority of the students show their behavior according to the surroundings of the school's related environment such as passive, aggressive, and antisocial behavior that also influence their student's life as well as scholastic achievement..*

**Key words:** Aggression, School Environment, Adolescents

## Introduction

The main objective of education is to shape citizens' ideal behavior, which creates an ideal nation and community. People react in different ways that depend on the circumstances, and this is known as behavior. Different types of behavior categories are mainly classified as aggressive, calm, appropriate, improper, and so on. Early in period life, both the family and school environments have a significant impact on behavior and throughout these years, individuals develop many behavioral habits that affect their personality. The school environment is the first exposure of the students to learn something new from their outside home environment. They learn different types of skills and acquire various attributes that remain with their personality throughout life.

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Students show a wide range of behaviors in their school environments which include antisocial, violent, and passive behavior that mainly impact the academic performance of the students. Aggressive behavior during class activity/ in schools is becoming a bigger issue every year that has an impact on the learning level of the students (Kozina, 2007). Aggressive behavior of the students mainly arises from a variety of causes which include physical and mental health issues. Teachers have a variety of options for managing aggressive behavior, which is impulsive and reacting.

The term "aggressive behavior" describes verbal, nonverbal, and physical acts that cause indirect or direct harm to another individual while benefiting the aggressor extraneously. Aggression is a stable psychological trait of the individual that lasts from childhood through adolescence and adulthood. Aggressive behavior has been defined as " an action directed at a particular individual or objects to hurt or intimidate, in which there's unanimity regarding the violent intention that drove the action" by Shaw, Gilliomon, and Giovanelli (2000). According to Roland and Idsoe (2001), aggression is like an emotion that tends to damage, harm, or destroy something or someone. When it comes to people, the malicious purpose may be psychological. Individuals of equal status engage in conflict when they engage in aggressive behavior. Aggressive behavior of the individual raises conflict between individuals of equal level. Aggression is a behavior that enables them to harm another person-either emotionally or physically verbally-to satiate their own needs. According to different research perspectives, aggressive behavior can also encompass acts of terrorism, kidnapping, burglary, irrationality, quarreling, hitting striking nepotism, enviousness, stabbing, capturing, snatching, battling, and other similar behaviors. Anxiety, dissatisfaction, frustration, hopelessness, trouble paying and concentrating attention, delusions and hallucinations, insomnia, and other symptoms are some of the indicators of violent behavior. One of the subcategories of aggressive behavioral issues mainly include two categories: verbal and physical. physically aggressiveness refers to physically attack such as fighting, destroying a certain thing, etc., while verbal aggression encompasses behaviors such as using inappropriate language, expressing indignation, bullying, and suffering from psychological distress. The term "psycho-social school environment" indicates that students' emotional and social development is influenced by the psycho-social elements that constitute their educational experiences. This context mainly encourages growth and development through providing a safe and supportive learning environment, which has had a significant impact on children's engagement in school activities, and relationships with peers, instructors, families, and society in general.

The term "school environment" has numerous definitions. According to Dave (1963) states the context of learning, certain circumstances, processes, and psychological stimuli influence the academic performance of the student. Homana, Barber, and Torney-Purta (2005) stated that school environment refers to the perception, expectations, and ideologies that the school community has about their institution as a learning environment, as well as the behaviors that are associated with it and the symbols that represent their belief. Children's behavior, personalities, attitudes, desires attitudes of self-confidence, and

academic achievement are all affected by their school environment, whether consciously or unintentionally. It can be made up of elements that are intellectual, physical, political, and economic. In the school environment mostly found a high rate of peer aggression and in classrooms with a high percentage of aggressive students their aggressive behavior more often than others mainly affects their academic performance. The poor environment of the school generates unnecessary stress among school staff, students, teachers, and others. It is critical to remember that individual survival, achievement, joy, and overall growth are significantly affected by the environments in which individuals reside, acquire knowledge, and perform. Thus, it is assumed that children's psychological, social, physical, and mental development mainly depends on a good educational environment. Schools with good facilities and hygienic practices, a strong emphasis on extracurricular activities, and a positive learning environment affect the overall personality development of the students.

The school learning environment has been consistently considered a critical component of a child's education, with a role in shaping the natural potentialities of the individual. The diverse and dynamic role of teachers, as well as the opportunities they provide for the child's education, significantly impact the child's education and achievement. Education is an essential part of life, but it cannot assist those who do not have the necessary level of academic objectives. Every student has some objective that they hope to achieve, and how successful they are in their objectives significantly impacts their performance in school.

## Related Reviews

Poggenpoel and Myburgh (2002) stated in their study aggressive behavior of the students related to factors such as frustration, economic pressures, exposure to violence through media, aggression in parents, uncomfortable home environment, socio-economic status, and non-compatibility with peers. Kohli and Malik (2009) found in their study that male subjects scored higher on physical aggression, verbal aggression, hostility, and total aggression of male students' score on anger mode of aggression compared to female students. The study revealed higher verbal, relational, and physically aggressive behavior and also lesser pro-social behavior later in the school age. However, most of the studies revealed that male teenagers tended to perceive adults as sanctions and neutrals; those who used the diffusion of responsibility and dehumanization to justify their behavior also showed a higher state of anxiety but females showed more appeal to their female counterparts for affirmation which leads to highly anxiousness. Gentile, Coyne, and Walsh (2011), Rana (2011) Onukwufor (2013) Jamal, Govil, and Gupta (2018), Martinez, Turizo, Arenas, and Acuna (2021). Furthermore, some studies revealed that parenting styles and adolescent aggression were not significant while the relationship found in parenting styles and adolescent identity formation was significant also concluded that parenting styles or child-rearing practices were a significant factor in identity formation and not in the development of aggression Datta and Firdoush (2012). Shayesteh, Hejazi and Foumany (2014), Johal and Kaur (2015).

Additionally, studies explored the relationship between aggression and family environment among adolescents related results

indicated a significant relationship between overall aggression and family environment of adolescent students Cesar, Blanca, and Victor (2020). Normative orientation was proved as a direct explicative variable with transgressive behaviors as the dependent variable, but an "indirect" variable with aggressive behaviors as dependent (Foa et al., 2012). The narrated stories of aggressive children have more than 50 percent of children showing aggressive components (Chamandar and Susan 2017). Various demographic variables like gender, place of living, and economic status have a significant effect on the attitude of the learners toward aggression. However, some demographic variables like religion, qualification of parents, and occupation of parents do not make any difference in the attitude of learners towards aggression(Jamal, Govil, and Gupta, 2018). A significant relationship was found between overall aggression and the family environment of adolescents (Thakur and Grewal, 2021).

## Emergence of the Study

A major issue of contemporary society is the formation of competent and self-respecting individuals. In both males and females, adolescents as well as adults, proper channelization is essential. Adolescent violence has increased in modern society, which puts them at risk of developing anxiety, depression, and stress-related disorders. Adolescent aggression is a growing and significant source of distress in the present context. As per the studies of Farrington (1994), Serbin et al. (1998), Kokko and Pulkkinen (2000), Nagin and Tremblay (1999), and others, "The persistence of aggressive behavior amongst adolescents especially concerning because the future appears dark for these individuals."

Adolescent aggression affects individuals and families both psychologically and physically, but it also adversely impacts aggressive adolescents themselves through increasing higher risk of using drugs or alcohol, with the involvement of the justice system, depressive symptoms, and thoughts of committing suicide." When an individual's adverse feelings or emotions are oppressed, it may result of adverse consequences. Whatever causes resentment, it destroys relationships, especially throughout the family. A friendly educational environment enables adolescents to develop and grow themselves to an acceptable level and create well-rounded individuals, a teachers play a significant role in the positive shape of their personalities with generosity, a positive attitude, and a caring disposition. They can provide a supportive atmosphere where adolescents can thrive. Following that, they are well-adjusted and appreciate positive interactions with their teachers, parents, and friends.

Therefore, this paper will be helpful for parents, teachers, and educational planners in proper channelization of imposition, constructive social actions designed to root out the sources of frustrations, and adopting congenial and socially acceptable ways of dissipating aggression before it builds up to overwhelming proportions. So, there is a need to study aggression among adolescents in relation to the school environment.

## Statement Of the Problem

Aggression among adolescents in relation to school environment.

## Objective of the Studty

The main objective of the study is framed as: To find out the relationship between

aggression and school environment among adolescents.

## Hypotheses of the Study

On the basis of objectives the following hypotheses were formulated:

1. There is no significant relationship between aggression and school environment of adolescents.

1.1 There is no significant relationship between Aggression and Dimension - A (Creative Stimulation) of School Environment of adolescents.

1.2 There is no significant relationship between Aggression and Dimension - B (Cognitive Encouragement) of School Environment of adolescents.

1.3 There is no significant relationship between Aggression and Dimension - C (Acceptance) of School Environment of adolescents.

1.4 There is no significant relationship between Aggression and Dimension - D (Permissiveness) of School Environment of adolescents.

1.5 There is no significant relationship between Aggression and Dimension - E (Rejection) of School Environment of adolescents.

1.6 There is no significant relationship between Aggression and Dimension - F (Control) of School Environment of adolescents.

## Research Methodology

The research paper on aggression among adolescents in relation to school environment is descriptive in nature. Therefore, the method applied in this study attitude is descriptive and of survey type. It is the method of collecting responses representing a specific population. Aggression scale by Mathur and Bhatnagar (2004) and School Environment Inventory by Misra (2013) standardized tools used for data collection. The sample of this study consists of 150 students (76 boys and 74 girls) taken from government and private schools in the Ludhiana district.

The data were collected according the need of this study and analyse as per research study as follows:

| Aggression | Dimensions of School Environment | correlation | Level of significance |
|---|---|---|---|
| | Creative Stimulation | -0.50 | Significant |
| | Cognitive Encouragement | -0.68 | Significant |
| | Acceptance | -0.23 | Significant |
| | Permissiveness | 0.29 | Not significant |
| | Rejection | 0.45 | Not significant |
| | Control | -0.49 | Significant |

**Analysis:** This table shows the coefficient of correlation 'r' between Aggression and School Environment of Adolescents.

Out of the six dimensions of School Environment, the relationship of Aggression of Adolescents with two dimensions of School

Environment i.e. Rejection and Permissiveness dimensions are not significant. However, a significant and negative relationship was found between Creative Stimulation, Cognitive Encouragement, Acceptance and Control dimensions of School Environment and Aggression of Adolescents. Researchers conclude in their study, that most of the students show their behavior according to the surroundings of the schools such as passive, aggressive, and antisocial behavior. These also influence the student's life as well as academic achievement. The problem of aggressive behavior in school has been increasing through the years and is affecting school work at many different levels (Kozina Ana, 2007) and many factors mainly contribute to the formation of aggressive behavior like mental health conditions and physical damage. Aggressive behavior is reactionary and impulsive behavior and teachers can control the aggressive behavior of the students in various ways. Younger students may need a time-out to calm down before entering the school.

## Conclusion

The findings of the present study are significant for the class teachers, sociologists, psychologists, philosophers, and educational planners. It was discovered that there was some correlation between adolescent aggressive conduct and the school environment. It also indicates that adolescents and students will be less hostile in a beneficial school environment. Teachers should use creative talents and a variety of extracurricular activities, such as games, debates, scouting, plays, educational exhibitions, and so on, to reduce the teaching-learning process' pattern of repetitiveness. The current study sheds light on the strategies used by guidance professionals to prevent aggression in adolescents and predicts and focuses on the implementation of numerous initiatives to help adolescents as a whole create positive school environments. The study also benefits from different aspects of the use of media, peer groups, and society in general because it has successfully avoided the traps and suffering caused by violence in others. Adolescent students should be in an environment that is appropriate for them for them to feel secure and like they belong. By observing how they behave in class, the teacher should identify the factors that lead to adolescent aggression and provide appropriate guidance to help them stop acting aggressively. When someone's negative emotions are suppressed, it can have harmful effects. A friendly environment for learning helps adolescents/students grow and develop to an acceptable level and may develop well-rounded personalities that impact their long-life learning process.

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# AI in Education: Revolutionizing Learning for the Future

**Alka Gaur***

**ABSTRACT**

*Artificial intelligence (AI) is rapidly transforming the education sector, bringing about significant advancements in teaching methodologies, personalized learning, and overall student engagement. However, its implementation is not without challenges, particularly in underdeveloped and developing countries like India. This paper explores the history of AI in education, current practices, future prospects, and the impact of AI on education in India. It also highlights some of the most important examples of AI in education and the benefits it offers.*

**Key words:** education; revolutionizing, learning, future

## Introduction

Artificial Intelligence (AI) is rapidly transforming various sectors of society, and its integration into education is poised to revolutionize how we teach and learn. AI in education refers to the use of intelligent technologies to enhance the learning experience, personalize education, and optimize administrative tasks. One of its primary advantages lies in its ability to adapt to individual student needs through personalized learning platforms. These platforms use algorithms to analyze learning patterns and preferences, delivering customized content and feedback that cater to each student's pace and style of learning. This not only promotes deeper understanding but also fosters greater engagement and motivation among learners. Furthermore, AI-powered educational tools can provide real-time assistance to both students and teachers. Chatbots and virtual assistants, for example, can offer immediate support by answering questions, providing explanations, or guiding students through complex problems. This instant feedback mechanism helps students overcome learning barriers more efficiently, promoting a continuous learning flow.In addition to personalized learning and support, AI enables educators to make data-driven decisions. By analyzing vast amounts of educational data, AI algorithms can identify trends, predict student performance, and recommend interventions to improve outcomes. This data-driven approach empowers teachers with valuable insights into student progress and

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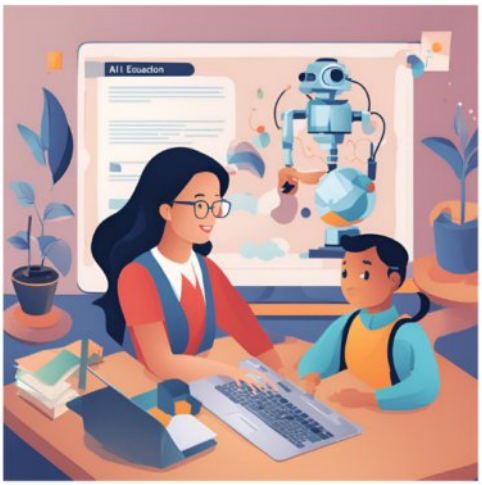
allows for targeted interventions that address specific learning gaps. Beyond the classroom, AI streamlines administrative tasks such as grading, scheduling, and resource allocation. Automated grading systems can efficiently assess assignments and tests, freeing up teachers' time to focus on instructional activities and student interaction. Similarly, AI algorithms can optimize school schedules based on student preferences and teacher availability, ensuring efficient use of resources and improving overall operational efficiency.

However, the integration of AI in education is not without its challenges and ethical considerations. Privacy concerns related to the collection and use of student data must be carefully addressed to safeguard sensitive information. Moreover, there is a risk of perpetuating inequalities if AI tools are not accessible to all students or if they reinforce biases present in the data on which they are trained. Ethical considerations also extend to the role of AI in decision-making processes, such as student assessment and teacher evaluation. Transparency and accountability are crucial to ensure that AI systems are fair and do not inadvertently disadvantage certain groups of students or educators. Despite these challenges, the potential benefits of AI in education are vast. By harnessing the power of intelligent technologies, educators can create more inclusive learning environments, personalize instruction at scale, and empower students to achieve their full potential. As AI continues to evolve, its role in education will likely expand, offering new opportunities to enhance teaching and learning experiences worldwide.

Artificial Intelligence (AI) has the potential to revolutionize education by offering personalized learning experiences, automating administrative tasks, and providing access to vast resources. The integration of AI in education promises numerous benefits, including personalized learning, efficient administration, and enhanced access to information. Over the years, AI has evolved significantly, with advancements in machine learning and natural language processing leading to the development of more sophisticated educational tools. However, these advantages are often overshadowed by significant drawbacks, especially in underdeveloped and developing countries. This paper aims to explore these drawbacks with a focus on India and similar regions, examining how infrastructure limitations, socio-economic disparities, data privacy issues, lack of skilled personnel, and cultural resistance impede the effective implementation of AI in education




## History of AI in Education

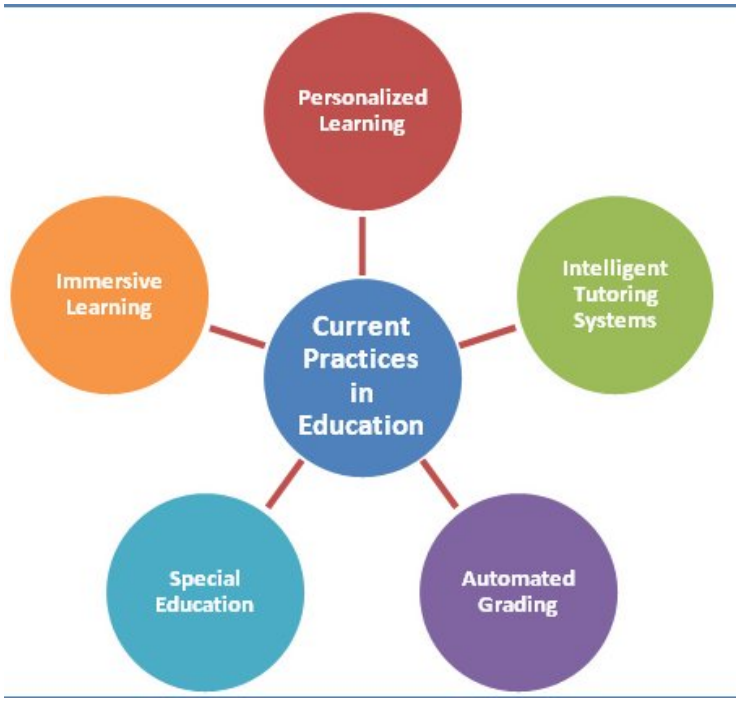
AI's roots can be traced back to the early days of computing, with Alan Turing's groundbreaking 1950 paper, "Computing Machinery and Intelligence," laying the foundation for the concept of intelligent machines. The application of AI in education

can be seen in the early days of AI research, with the development of intelligent tutoring systems (ITS) in the 1960s. These systems aimed to provide students with individualized instruction and feedback. Early efforts focused on symbolic AI, attempting to replicate human reasoning through logic and rules. Machine learning (ML), a branch of AI, emerged later, enabling computers to learn from data without explicit programming. Over the decades, AI research progressed through various phases of optimism and skepticism. However, recent advancements in machine learning, deep learning, and big data analytics have propelled AI into the mainstream. Today, deep learning, a powerful subset of ML employing artificial neural networks, is driving significant advancements in AI capabilities.

## Current Practices in Education

AI is currently being used in various aspects of education, including:

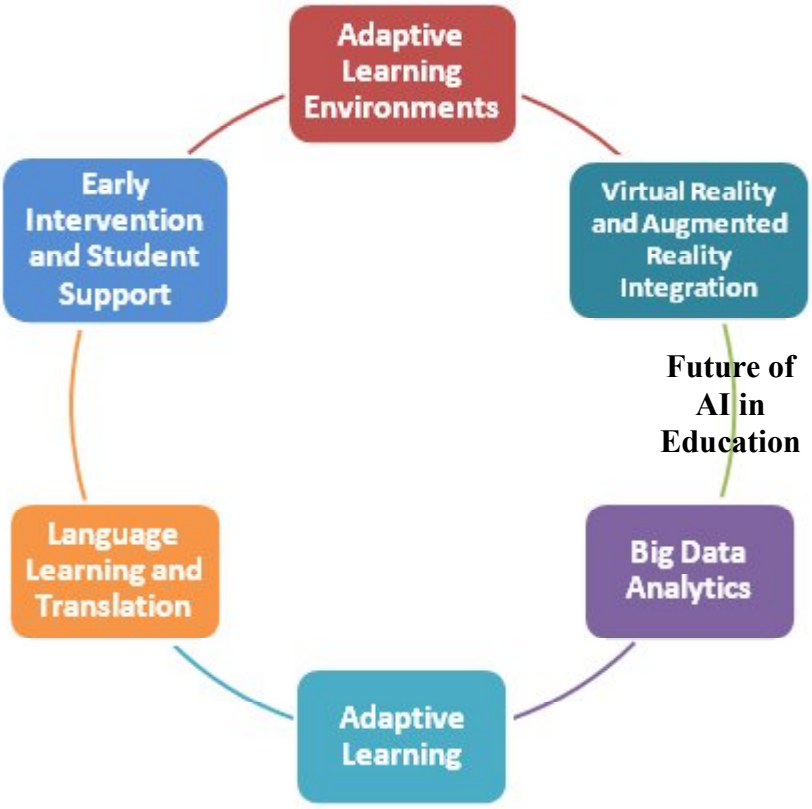
* **Personalized Learning:** AI algorithms can personalize learning experiences by tailoring instruction to individual student needs, strengths, and weaknesses.
* **Intelligent Tutoring Systems:** These AI-powered systems can provide students with targeted support and feedback, simulating a one-on-one tutoring experience.
* **Automated Grading:** AI can automate the grading of essays, multiple-choice questions, and other assessments, freeing up teachers' time for more strategic tasks.
* **Special Education:** AI tools can provide personalized learning paths and support for students with disabilities.
* **Immersive Learning:** AI is used to create engaging and interactive learning experiences, such as simulations and virtual reality environments.



## Future of AI in Education

The future of AI in education is brimming with possibilities. Some potential applications include:

* Adaptive Learning Environments: AI-powered systems can create dynamic learning environments that adjust to a student's progress in real time.
* **Virtual Reality (VR) and Augmented Reality (AR) Integration:** AI can personalize VR and AR experiences to enhance student engagement and learning outcomes.
* **Big Data Analytics:** Educational institutions can leverage AI to analyze vast amounts of data to identify trends, improve teaching methods, and predict student performance.
* Adaptive Learning: AI-powered platforms will continuously adapt to individual students, creating dynamic learning paths that optimize their progress.
* Language Learning and Translation: AI tutors will personalize language learning experiences and facilitate real-time translation, breaking down communication barriers.
* Early Intervention and Student Support: AI will identify learning difficulties and potential behavioral issues early on, allowing for timely intervention and support.



## Review of Related Literature

Research indicates a growing interest in integrating technology in education. Anderson and Dron (2011) emphasize the importance of social media and online tools in fostering collaborative learning environments. Siemens (2013) discusses how learning analytics, which utilizes AI and data mining techniques, can enhance educational decision-making and improve learning outcomes. Bates (2015), e-learning and digital platforms have revolutionized the way knowledge is imparted, making learning more accessible and inclusive. Luckin (2016) provides an overview of the applications of AI in education, emphasizing its potential to personalize learning experiences and support teaching practices. Lane Chown (2017) explores the effective use of AI technologies in educational contexts, focusing on improving learning outcomes through adaptive learning systems and intelligent tutoring. Rose (2019) critically examines the existing evidence on the effectiveness of AI applications in education, addressing concerns and potential biases in research methodologies. Nosir and Nosirovna In (2020) argued in their study that in the learning-teaching process, it is valuable to systematize the maximum and effective use of modern educational technologies.

Blikstein (2021) discusses the challenges and opportunities presented by AI in education, addressing issues such as equity, data privacy, and the role of teachers in AI-driven classrooms. Furthermore, studies by Zaynitdinovna and Alisher Qizi (2023) stated that Nowadays, the continuous education system of our country is reforming and improving, which is on the path of independent development. Our education system is rising to a new level of quality by introducing advanced pedagogical and information technologies.

## Objectives

The objectives of the study was

1. To analyze the need for Artificial Intelligence in modern education.
2. To evaluate the impact of Artificial intelligence on student engagement and learning outcomes.
3. To study the limitations of Artificial intelligence and their applications in Education.
4. To provide suggestions for the effective use of Artificial Intelligence in modern education.

## Methodology

This research adopts a qualitative approach, utilizing case studies, literature reviews, and questionnaires to gather data. Various educational institutions that have implemented Artificial Intelligence technologies will be examined to understand their effectiveness. A self-made tool was prepared to collect the data from teachers to know the impact of Artificial intelligence on student engagement and learning outcomes and to study the limitations of Artificial intelligence and their applications in Education. The survey involved the participation of 50 teachers from different schools.

## Analysis and Interpretation

A questionnaire was given to 50 teachers to analyze their opinions on the impact of Artificial Intelligence on student engagement and Learning Outcomes and the Limitations of Artificial Intelligence in Education The investigator discovered several significant findings based on the responses received in the questionnaire.

**Table-1**

| SN | Impact of Artificial Intelligence on Student Engagement and Learning Outcomes | Agree | | Disagree | |
|---|---|---|---|---|---|
| | | No. | % | No. | % |
| 1. | There is an increase in student engagement since the introduction of AI-based learning tools. | 40 | **80** | 10 | **20** |
| 2 | AI systems help personalize learning experiences for students. | 34 | **68** | 16 | **32** |
| 3. | AI has improved the overall academic performance of students. | 39 | **78** | 11 | **22** |
| 4. | Students are more motivated to learn when using AI -driven educational resources. | 43 | 86 | 07 | 14 |
| 5. | AI tools facilitate better collaboration among students. | 41 | **82** | 09 | **18** |
| 6. | AI has improved the efficiency of grading and feedback processes. | 35 | **70** | 15 | **30** |
| 7. | AI systems help identify struggling students early on. | 26 | **52** | 24 | **48** |
| 8. | You observed a decrease in student absenteeism due to AI -enhanced learning. | 38 | **76** | 12 | **24** |
| 9. | Students are more likely to explore diverse topics and subjects with AI-based recommendations. | 29 | **58** | 21 | **42** |
| 10. | AI has contributed to a more interactive classroom environment? | 44 | **88** | 06 | **12** |

**Table-2**

| SN | Limitations of Artificial Intelligence in Education | Agree | | Disagree | |
|---|---|---|---|---|---|
| | | No. | % | No. | % |
| 1. | AI systems sometimes misinterpret student responses. | 30 | **60** | 20 | **40** |
| 2. | AI recommendations sometimes irrelevant to the educational context. | 22 | **44** | 28 | **56** |
| 3. | AI tools require significant teacher intervention for effective use. | 24 | **48** | 26 | **52** |
| 4. | There limitations in the ability of AI to handle complex student queries. | 30 | **60** | 20 | **40** |
| 5. | AI systems struggle with non -standard or unconventional learning styles. | 35 | **70** | 15 | **30** |
| 6. | AI-driven assessments are sometimes biased or unfair? | 08 | **16** | 42 | **84** |
| 7. | You have experienced technical issues with AI platforms disrupting lessons? | 47 | **94** | 03 | **06** |
| 8. | AI tools pose challenges in terms of data privacy and security. | 45 | **90** | 05 | **10** |
| 9. | There are concerns about AI replacing human teachers in the future? | 35 | **70** | 15 | **30** |
| 10. | AI systems sometimes fail to adapt to changes in curriculum or teaching methodologies? | 38 | **76** | 12 | **24** |

## Data Interpretation

In recent years, the integration of Artificial Intelligence (AI) into educational settings has sparked significant interest and debate among researchers, educators, and policymakers alike. The data presented here offers valuable insights into the perceived impact of AI on student engagement and learning outcomes, as reported by a group of teachers.

The finding of Table 1 shows the overwhelmingly positive response regarding the increase in student engagement since the introduction of AI-based learning tools. A substantial majority of 80% of teachers agreed with this statement, highlighting AI's potential to enhance student interest and participation in educational activities. This aligns with broader research suggesting that AI-driven tools can tailor learning experiences to individual student needs, thereby fostering greater engagement and personalized learning environments (68% agreement). Moreover, the data suggests that AI is perceived as beneficial in improving overall academic performance, with 78% of teachers agreeing with this statement. This finding underscores the belief that AI technologies, through adaptive learning algorithms and real-time feedback mechanisms, contribute positively to students' learning outcomes. Similarly, a high agreement rate (86%) indicates that AI-driven educational resources enhance student motivation, potentially by providing interactive and engaging learning experiences tailored to individual learning styles. Additionally, AI is seen to facilitate better collaboration among students (82% agreement), which is crucial for developing essential social and teamwork skills in today's interconnected world. Furthermore, the efficiency gains in grading and feedback processes (70% agreement) suggest that AI helps educators provide timely and constructive feedback, thereby supporting continuous improvement in student learning. However, the data also reveals areas where opinions are more divided. For instance, while a slight majority (52%) agree that AI systems help identify struggling students early on, nearly half of the teachers (48%) disagree, indicating room for improvement in AI's ability to accurately detect and support at-risk students. Similarly, opinions are split regarding the extent to which AI encourages exploration of diverse topics (58% agreement), suggesting that while AI recommendations may broaden learning horizons, they may not fully address the complexities of individual student interests and curiosities.

The data presented highlights several significant limitations and concerns surrounding the integration of Artificial Intelligence (AI) in educational settings, which are crucial for researchers to consider in assessing the broader impact and feasibility of AI technologies in education.

The findings of Table 2 shows that a substantial proportion of teachers (60%) express concerns about AI systems occasionally misinterpreting student responses, indicating potential issues with AI's ability to accurately understand and respond to diverse student inputs. This limitation is compounded by the finding that 60% of teachers also feel AI struggles with handling complex student queries, suggesting that while AI can automate certain tasks, it may falter in addressing nuanced or intricate educational needs

effectively. Moreover, there are notable concerns regarding the relevance of AI-generated recommendations within educational contexts, with 56% of teachers perceiving these recommendations as sometimes irrelevant. This underscores the challenge of aligning AI-driven content and suggestions with specific curriculum goals and educational objectives, highlighting the need for more context-aware AI systems. Additionally, a significant majority (94%) of teachers report experiencing technical issues with AI platforms disrupting lessons, emphasizing the practical challenges associated with relying on technology for day-to-day educational activities. Furthermore, concerns about data privacy and security are prevalent, with 90% of teachers acknowledging these as potential challenges posed by AI tools. This highlights the importance of robust data management protocols and privacy safeguards in AI-driven educational environments. Furthermore, there is a strong sentiment (84%) among teachers that AI-driven assessments can be biased or unfair, indicating skepticism about AI's ability to conduct assessments impartially. This raises important ethical considerations regarding the use of AI in evaluating student performance and the potential for exacerbating existing biases in educational settings. Lastly, while AI holds promise in enhancing educational outcomes, there is apprehension (70%) among teachers about the possibility of AI replacing human teachers in the future. This concern reflects broader anxieties about the role of educators and the interpersonal dynamics essential for effective teaching and learning.

In conclusion, AI paints a largely positive picture of AI's impact on student engagement and learning outcomes and also offers innovative possibilities for educational enhancement. While on the other side, the data underscores a range of critical limitations and challenges also that need careful consideration. Future research should focus on addressing these concerns through the development of more sophisticated AI technologies that are responsive to diverse educational needs while ensuring ethical and practical integration into educational practices.

## Case Studies: Exemplars of AI in Action

Several prominent examples showcase the power of AI in education:

* **Khan Academy:** Khan Academy utilizes AI to personalize learning paths for students and provide them with targeted practice problems.
* **Duolingo:** This popular language learning app uses AI to tailor lessons to individual learners and track their progress.
* **Gimkit:** This gamified learning platform uses AI to create adaptive quizzes that cater to each student's understanding level.
* **Dream Box:** This AI-powered platform tailors math instruction to individual student needs, helping them develop a deeper understanding of mathematical concepts.
* **Auto Grader:** This AI tool automates the grading of essays, multiple-choice questions, and written responses, freeing up teachers' time.
* **Generative Artificial Intelligence (AI) teacher robot named 'Iris':** A

school in Thiruvananthapuram, Kerala has unveiled a groundbreaking innovation in education with the introduction of India's first Generative Artificial Intelligence(AI) teacher robot named 'Iris'. Developed in collaboration with Makerlabs Edutech, Iris aims to transform traditional teaching methods through personalized learning experiences for students. Equipped with voice assistant Iris engages students in interactive learning activities. IRIS responds to user queries, provides explanations, and delivers educational content through personalized interactions. With a 4-wheel chassis and 5 degrees of freedom (DoF) movements, Iris can move freely and engage in hands-on learning activities. Iris promises to enhance learning outcomes and inspire students in new ways, ushering in a future where AI complements traditional teaching methods. Generative AI refers to deep-learning models that can generate high-quality text, images, and other content based on the data they were trained on.

### The Indian Context: AI in Education in India

India is actively exploring the potential of AI in education. The government has launched several initiatives to promote the use of AI in schools and universities. These initiatives focus on developing AI-powered learning tools, providing teacher training on AI integration, and establishing research centers for AI in education. India, with its vast and diverse education system, presents a unique landscape for AI implementation. Here are some key considerations:

* **Accessibility:** Ensuring equitable access to AI-powered learning tools across urban and rural areas is crucial.
* **Language Support:** Developing AI systems that cater to the multitude of languages spoken in India is essential for inclusivity.
* **Teacher Training:** Equipping educators with the skills to leverage AI effectively and integrate it seamlessly into their teaching methods is paramount.

## Benefits of AI in Education

AI offers a multitude of benefits for educators and students alike:

* **Personalized Learning:** Tailored instruction caters to individual learning styles and paces, fostering deeper understanding and engagement. Personalized learning paths and intelligent tutoring can lead to deeper understanding, better retention of knowledge, and improved academic performance.
* **Improved Student Outcomes:** AI-powered tools can help identify and address learning difficulties early on, leading to improved academic achievement.
* **Empowered Educators:** Automation of administrative tasks frees up educators' time to focus on creating engaging lessons and providing more personalized support.AI can alleviate administrative burden, allowing teachers to dedicate more time to individualized instruction and student support.

* **Accessibility:** AI can bridge geographical divides and offer educational opportunities to students in remote areas. Through AI teacher can cater to students with diverse learning needs, promoting inclusive education.
* **Data-driven Decision Making:** AI can provide valuable insights into student performance and learning patterns, informing pedagogical strategies and educational policies.
* **Automated Grading and Feedback:** AI can automate the grading of multiple-choice questions and essays, freeing up teachers' time for more personalized feedback.
* **Intelligent Virtual Assistants:** Chatbots powered by AI can answer student questions, provide additional resources, and even offer basic language tutoring.
* **Educational Games and Simulations:** AI can create engaging and interactive learning experiences through gamified simulations and personalized learning environments.
* **Early Intervention and Support:** AI can identify students at risk of falling behind and provide targeted interventions to ensure their success.
* **24/7 Learning Companions:** AI-powered virtual tutors can offer continuous support and personalized guidance beyond the classroom.

## Limitations of AI in Education

While AI offers exciting possibilities in education, there are also potential drawbacks to consider:

* **Dehumanized learning:** Overreliance on AI could remove the human element from education. Teachers bring empathy, critical thinking guidance, and the ability to adapt to students' emotional needs, which AI currently struggles with. Moreover, AI feedback, while helpful, might lack the nuance and human touch that allows teachers to tailor their guidance to individual student needs and misunderstandings.
* **Cost and access:** Implementing and maintaining AI tools can be expensive. This could create an uneven playing field where wealthier schools have access to advanced AI-powered learning, while others lack the resources. Similarly the students from low-income families face several obstacles, including limited access to technology and educational resources.
* **Infrastructure Deficits:** One of the primary challenges in implementing AI in education in underdeveloped and developing countries is inadequate infrastructure. Reliable electricity, internet connectivity, and modern hardware are prerequisites for deploying AI tools effectively. However, many schools in these regions lack such facilities. In India, for instance, a significant portion of the population still lacks access to stable internet connections and modern computing devices. According to the National Sample Survey, only about 23.8% of Indian households had internet access in 2019. This digital divide limits the reach of AI-powered educational tools, making it difficult for students in remote or rural

areas to benefit from AI-enhanced learning experiences.

* **Lack of Skilled Personnel:** Implementing AI in education requires skilled personnel, including educators trained in using AI tools and IT professionals to maintain the infrastructure. However, there is a significant shortage of such skilled individuals in underdeveloped and developing countries. Teachers often lack the necessary training to integrate AI tools effectively into their teaching methods. Professional development programs focusing on AI and technology are limited, leading to a gap in knowledge and skills among educators. Similarly, schools frequently lack adequate technical support staff to manage and troubleshoot AI systems. This lack of expertise can lead to the underutilization or improper use of AI tools, reducing their potential benefits.
* **Cultural Resistance:** Cultural attitudes towards technology and education can also impact the adoption of AI in educational settings. In many underdeveloped and developing countries, traditional teaching methods are deeply ingrained, and there may be resistance to adopting new technologies. Parents, educators, and students may be skeptical about the effectiveness and reliability of AI tools, preferring traditional methods over technological innovations. In some cultures, the use of AI in education might be seen as impersonal or dehumanizing, leading to reluctance to embrace these tools.

## Conclusion

AI is revolutionizing the education sector by personalizing learning, enhancing engagement, and empowering educators. As AI technology continues to evolve, its impact on education will undoubtedly become even more significant. By harnessing the potential of AI responsibly and ethically, we can create a future where education is more effective, inclusive, and engaging for all learners.

While AI has the potential to transform education, its implementation in underdeveloped and developing countries like India faces numerous challenges. Addressing infrastructure deficits, socio-economic disparities, data privacy concerns, the lack of skilled personnel, and cultural resistance is crucial for realizing the full potential of AI in education. Policymakers, educators, and technology developers must work collaboratively to overcome these obstacles and ensure that the benefits of AI in education are accessible to all students, regardless of their socio-economic background or geographical location.

AI is not a replacement for teachers, but rather a powerful tool to augment their capabilities. As AI continues to evolve, responsible and ethical implementation is crucial to ensure equitable access, address potential biases, and prioritize human-AI collaboration for a future of enriched and effective learning experiences. AI has the potential to revolutionize education, fostering a more personalized, engaging, and effective learning experience for all. However, ethical considerations, responsible development, and a focus on inclusivity are crucial for maximizing

the benefits of AI in education. As we move forward, collaborative efforts between educators, AI developers, and policymakers will be essential to ensure that AI empowers educators and unlocks the full potential of every learner.

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# Coping Strategies in Relation to Life Skills among Adolescent Students

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**ABSTRACT**

*The main goal of the present study was to investigate the coping strategies in relation to life skills among adolescent students. A sample of 200 senior secondary school students both boys and girls from government and private schools of Amritsar district were selected. The participants filled two questionnaires: Life Skills Assessment Scale (Radhakrishnan, Subasree & Ranjan, 2010) and Coping Strategies Scale (Frydenberg and Lewis, 2011). The result show that type of educational institute and gender affect coping strategies and life skills among senior secondary school students. A positive correlation can also be observed between coping strategies and life skills. The results therefore reveal that female students have better coping strategies than their counterparts and life skills of private school students are better than students at government school students.*

**Key words:** Coping Strategies, Life Skills, Adolescent students, Government Schools, Private Schools, Gender

## Introduction

The shift from childhood dependence on parents to independent adulthood, known as the adolescent transition, is a dynamic and influential period in human development. Changes span biological, physical, psychological, and behavioral domains, posing risks as issues in one domain can affect others (Cocorada and Mihalascu, 2012). At this stage, adolescents usually face a lot of stress and anxiety due to changes in their physical body and all this is also affected by their social environment. They get easily influenced by their peer groups, friends, schoolmates, and from their social environment. These factors influence their academic achievement, adjustment, and social interaction. So, to cope with all these changes there is a need to develop in them some necessary coping strategies and life skills. With the help of this, they can get adequate social support, make themselves positive, able to solve problems by using critical thinking, and able to make adequate decisions which are helpful for them. However, this

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period offers an opportune time for interventions, as small changes in one domain can have significant, cascading, and potentially long-term effects across others (Vranda and Rao, 2011). So, for addressing these concerns considerable progress has been made in the past decade and continues in the present, affirming that life skills education with coping strategies is an effective educational approach. It enhances social, emotional, and cognitive skills, aiding 21st-century youngsters in achieving their goals by fortifying their abilities to meet the demands of contemporary society and succeed in life (Kackar and Joshi, 2019). As emphases in psychological research on the concept of stress led to a shift towards the more practical concept of 'coping'. Coping involves cognitive and behavioral efforts to manage psychological or physiological stress (Lazarus, 1993), encompassing cognitive, emotional, and behavioral responses to stress (Beutler, Moos, & Lane, 2003). Sandler et al. (1997) highlighted stress as a normative aspect of childhood and adolescence. Adolescents possess various coping strategies, with significant age-related differences emerging during adolescence. The changes in the frequency of coping behaviors, suggesting that adolescents develop new strategies, enhancing flexibility and resilience in response to stressors (Eisenberg et al., 1997).

Life skills training proves to be a valuable approach for improving effective coping strategies in challenging situations (Botvin and Griffin, 2004). Life skills education encompasses psychological and interpersonal skills that empower individuals to lead healthy and productive lives by enabling informed decision-making, effective communication, and the development of coping and self-management skills (UNICEF,2012). Life skills training has demonstrated effectiveness in enhancing coping strategies in various studies (Beygi, Shirazi, and Pasandide, 2013). Moffat (2004), revealed its efficacy in reducing psychological stress by instilling functional beliefs. Another investigation (Beygi, Shirazi, and Pasandide, 2013) focused on meth-users, indicating that life skills education improved both coping strategies and quality of life in this population. Similarly, a study by (Rezaei, Malekpour, and Oreyzi, 2009) involving 50 adolescents referred to a family center found that life skills training is a valuable method for improving coping strategies during adolescence. While some studies support the effectiveness of life skills training on coping strategies, further research is warranted in this area. As various oganisations have also stressed the importance of life skills.

According to WHO, Life skills refer to "abilities for adaptive and positive behaviour that enables an individual to deal effectively with the demands and challenges of everyday life". WHO has also listed ten core life skills: - Self-awareness, Empathy, critical thinking, creative thinking, decision-making, problem-solving, interpersonal relationships, effective communication, coping with stress, and coping with emotions (WHO, 2001).

According to UNICEF "Life skills" based education is more important than numerical and literacy skills. The life skills area is not linked to the pedagogy of active learning (Mangrulkar, 2003) but is also concerned with addressing the balance between knowledge, attitude, and skills. (CBSE, 2013). Life skills education encompasses psychosocial competencies and interpersonal skills, equipping students to make informed decisions, solve problems, think critically and creatively, communicate effectively, build healthy

relationships, empathize, and manage their lives healthily and productively. Life skills are further classified into three broad categories i.e. thinking skills, emotional skills, and social skills.

## Objectives of the study

The following objectives were framed for this study:

1. To study coping strategies among adolescent students with respect to gender
2. To study coping strategies among adolescent students with respect to type of schools
3. To study life skills among adolescent students with respect to gender
4. To study life skills among adolescent students with respect to type of schools
5. To study the relationship between coping strategies and life skills among adolescent students

## Hypotheses

The following hypotheses on the based of objectives were framed:

1. There exists no significant difference in coping strategies of adolescent students with respect to gender.
2. There exists no significant difference in coping strategies of adolescent students with respect to the type of schools.
3. There exists no significant difference in the life skills of adolescent students with respect to gender.
4. There exists no significant difference in the life skills of adolescent students with respect to the type of school.
5. There exists no significant relationship between coping strategies and life skills among adolescent students.

## Methodology

### Research Design

The study falls under the domain of descriptive research as it intends to study the Coping Strategies in Relation to Life Skills Among Adolescent Students.

### Sampling Technique and Sample

In this research study, a sample was drawn from a pool of 10 randomly selected senior secondary school students enrolled in the 9th grade across various government and private PSEB schools in the Amritsar District. The selection process employed a lottery method to ensure randomness. The investigator gathered a total of 200 samples from this population. Specifically, 20 students were selected from the 10 schools, comprising 10 boys and 10 girls.

### Tools used

Two tools were used in the study:

**Tool 1.** Life Skills Assessment Scale (Radhakrishnan, Subasree & Ranjan, 2010). This scale has 10 dimensions namely: - Self Awareness, Empathy, Effective Communication, Interpersonal Relationships, Creative Thinking, Critical Thinking, Decision making, Problem-Solving, Coping with emotions, and Coping with stress.

**Tool 2.** Coping Strategies Scale (Frydenberg and Lewis, 2011). This scale has 20 dimensions namely: - Social Support, Work hard and achieve, Worry, Wishful Thinking, Social Action, Self-blame, Keep to Self, Speak Spiritual Support, Focus on Positive, Seek Professional Help, Seek Relaxing Diversions, Physical Recreation, Act up, Humor, Not coping, Accept one's best efforts, Ignore the Problem, Close Friends, Focus on solving the problem, and Tension Reduction.

**Statistical Technique Employed**

In this study, Descriptive statistics was employed to understand the nature of data. To examine the coping strategies in relation to the life skills of adolescent students with respect to gender, and locale. To examine the significant difference in coping strategies and life skills of adolescent students with respect to gender, and locale.

## Analysis & Interpretation of Data

**Hypothesis 1:** Comparison of mean scores of coping strategies of adolescent students with respect to gender

Hypotheses were framed to examine the difference in coping strategies of adolescent students with respect to gender.

To test the hypotheses, a t-test was applied to determine the significant differences in coping strategies of adolescent students with respect to gender. The result of the analysis has been reported in Table 1.

**Table-1: Comparison of Mean Scores of Coping Strategies of Male and Female Adolescent Students**

| Variables | Male = 100 | | Female = 100 | | SE | t-test | p- value |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | | |
| **Coping Strategies** | 226.28 | 24.725 | 256.39 | 37.383 | 2.473 | 6.718 | .000 |

Table 1 shows that the calculated p-value .000 was found to be less than 0.05. So, it reveals that there is a significant difference in coping strategies of adolescent students with respect to gender.

As shown in Table 1 the mean of male students is 226.28 and that of the female students is 256.39. On examination of the mean scores of the two groups, it has been found that the mean score of female adolescent students is higher than that of male adolescent students. It suggests that female students have a better-coping strategy than male students. The null Hypothesis 1 "There exists no significant difference in coping strategies of adolescent students with respect to gender" was therefore rejected.

**Hypothesis 2:** Comparison of mean scores of coping strategies of adolescent students from govt. and private schools.

Hypotheses were framed to examine the difference in coping strategies of adolescent students from govt. and private schools.

To test the hypotheses, a t-test was applied to determine the significant differences in coping strategies of adolescent students from govt. and private schools. The result of the analysis has been reported in Table 2.

**Table-2: Comparison of mean scores of coping strategies of adolescent students from govt. and private schools**

| Variables | Male = 100 | | Female = 100 | | SE | t-test | p- value |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | | |
| **Coping Strategies** | 233.52 | 35.427 | 249.15 | 32.988 | 32.988 | 3.229 | .081 |

Table 2 shows that the calculated p-value of .081 was found to be more than 0.05. So, it reveals that there is no significant difference in coping strategies of adolescent students from govt. and private schools.

As shown in table 2 the mean of govt. school students is 233.52 and that of the private school students is 249.15. This shows that there is no significant difference in mean scores of coping strategies of adolescent students from govt. and private schools. The null Hypothesis 2 "There exists no significant difference in coping strategies of adolescent students from government and private schools" was therefore not rejected. The result revealed that perceived scores are almost the same on coping strategies of adolescent students by both government and private schools.

**Hypothesis 3:** Comparison of mean scores of life skills of adolescent students with respect to gender

Hypotheses were framed to examine the difference in Life skills of adolescent students with respect to gender.

To test the hypotheses, a t-test was applied to determine the significant differences in life skills of adolescent students with respect to gender. The result of the analysis has been reported in Table 3.

**Table-3: Comparison of mean scores of life skills of adolescent students with respect Gender**

| Variables | Male = 100 | | Female = 100 | | SE | t-test | p- value |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | | |
| **Coping Strategies** | 314.68 | 23.980 | 331.97 | 18.493 | 2.398 | 1.595 | .112 |

Table 3 shows the calculated p-value .112 was found to be more than 0.05. So, it reveals that there is no significant difference in the life skills of adolescent students with respect to gender.

As shown in table 3 the mean of male adolescent students is 314.68 and that of the female adolescent students is 331.97. On examination of the mean scores of the two groups, it has been found that the mean score of both male and female groups are almost the same on life skills. The null Hypothesis 3"There exists no significant difference in life skills of adolescent students with respect to gender" was therefore not rejected.

**Hypothesis 4:** Comparison of mean scores of life skills of adolescent students with respect to govt. and private schools

Hypotheses were framed to examine the difference in life skills of adolescent students

from govt. and private schools.

To test the hypotheses, a t-test was applied to determine the significant differences in life skills of adolescent students with respect to gender. The result of the analysis has been reported in Table 4.

**Table-4: Comparison of mean scores of life skills of adolescent students with respect to govt. and private schools**

| Variables | Govt.= 100 | | Private = 100 | | SE | t-test | p- value |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | | |
| **Coping Strategies** | 328.96 | 20.079 | 344.69 | 20.894 | 2.008 | 5.428 | .000 |

Table 4 shows the calculated p-value .000 was found to be less than 0.05. So, it reveals that there is a significant difference in the life skills of adolescent students from govt. and private school.

As shown in table 4 the mean of govt. school students is 328.96 and that of the private school students is 344.69. On examination of the mean scores of the two groups, it has been found that the mean score of private school students is higher than the govt. students. It suggests that private students have better life skills than govt. students. The null Hypothesis "There exists no significant difference in life skills students from government and private schools" was therefore rejected.

**Hypothesis 5:** Correlation between coping strategies and life skills among adolescent students

Hypotheses were framed to examine the relationship between coping strategies and life skills of adolescent students. The result of the analysis has been reported in Table 5.

**Table-5: Correlation between coping strategies and life skills among adolescent students**

| Variables | N | Df | r | Inference |
|---|---|---|---|---|
| Coping strategies | 200 | 198 | .502 | Significant at .001 level |
| Life skills | 200 | 198 | | |

Table 5 shows that the coping strategies and life skills of adolescent students is significantly correlated with r= .502. Thus, the null hypothesis (5) "There exists no significant relationship between coping strategies and life skills of adolescent students" was therefore rejected.

## Discussion

This study aimed at exploring the coping strategies in relation to the life skills of adolescent students with respect to their gender and type of school. The analysis of coping strategies of male and female secondary school students revealed that gender has a significant impact on coping strategies. The finding is in contradiction with the result of the study conducted by Frydenberg and Lewis (2000) which revealed that there is no significant difference between male and

female adolescent students on coping strategies. The analysis of coping strategies of adolescent students studying in government and private schools revealed that types of schools have no impact on coping strategies. The result is consistent with the result of the study conducted by Kausar and Munir (2004) which revealed that there is no significant difference between govt. and private school students on coping strategies. This could be because of the school's effective functioning mechanism, adequate infrastructure resources, and regulated environment. Furthermore, the analysis of life skills of male and female secondary school students revealed no significant difference. The result is consistent with the result of the study conducted by Sharma (2003) which revealed that there is no significant difference between male and female adolescent students on life skills. The analysis of life skills of adolescent students studying in government and private schools revealed that types of schools have a significant impact on coping strategies. The results indicate that private school students have better life skills than government school students. The result is consistent with the result of the study conducted by Hilta and Kumar (2017) which revealed that there is a significant difference between govt. and private school students on life skills. Further, the study revealed a significant positive correlation between coping strategies and life skills. The result is consistent with the result of the study conducted by Boekaerts (1996) which revealed reliable positive correlations between life skills and coping strategies.

## Conclusion

The results of the present study suggest that female students exhibit better-coping strategies compared to their male counterparts. To support male students, educators, and stakeholders should create a stimulating and encouraging environment, offering opportunities for skill enhancement in dealing with stress. Educational institutions are urged to promote mindfulness, instill time management skills, foster problem-solving abilities, emphasize communication skills, highlight the importance of building a support system, teach cognitive restructuring techniques, and guide students in setting realistic expectations and practicing self-care. Teachers play a pivotal role in encouraging a growth mindset and providing access to resources such as counseling services and support groups, contributing to overall well-being and resilience. Additionally, the study indicates that private school students outperform government school students in life skills. To address this gap, strategic measures are recommended, including increased funding for government schools, specialized teacher training, integration of life skills modules into the curriculum, collaborations with NGOs, parental involvement, mentorship programs, expanded extracurricular activities, career guidance services, promotion of inclusive practices, and regular assessments. Through these approaches, educators contribute to students' overall well-being and resilience. These initiatives aim to create an environment conducive to nurturing essential life skills in government school students, closing the gap with their private school counterparts.

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# Exploration of University Teachers' Attitude towards Blended Teaching-Learning Process in Relation to Their Technological Self-Efficacy

**Nilay Mondal* & K.N. Chattopadhyay****

**ABSTRACT**

*The present study aims at examining the university teachers' attitudes toward the blended teaching-learning process and their technological self-efficacy. The researchers employed a descriptive survey method for the study. The researchers collected the data from 52 faculty members from various academic departments of The University of Burdwan using simple random sampling. Two self-constructed questionnaires were formed to collect the data. After collecting the data, the researchers used mean, S.D., t-test, ANOVA, and product moment correlation to analysis the data. After analysis of the data the results and conclusion were discussed in this paper.*

**Key words:** Blended Teaching-Learning Process, Technological Self-Efficacy, University Teachers, Attitude

## Introduction

The rapid development of technology especially the Internet has greatly impacted the field of education. The teaching-learning process now shifted online from the traditional face-to-face method. Now, various methods of e-learning have been developed and used in the educational sector all over the world. Technological development makes a great contribution to both learners and teachers. Now learners can access global repositories of knowledge from a remote location and can also participate synchronously in a lecture, seminars, workshops, etc. It has helped teachers to solve their problems in a limited time and increase their cognitive content (Obaidal, L.T, 2016).

One of the emerging teaching methods of the 21st century is blended teaching, which is getting popular all over the world after the coronavirus outbreak. The blended teaching-learning process is an instructional technique that combines traditional face-to-face teaching with online activities. The blended classroom is a mixture of face-to-face classrooms and

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online activities. Das, R. (2021) defined the concept of blended learning as "one of the innovative techniques that involve both e-learning methodology along with traditional learning method. A blended teaching-learning process, combining the advantages of both face-to-face method and online learning is believed to be more effective than only face-to-face or online learning alone (Lu, D. 2021).

Blended teaching mostly depends on the effective utilization of various technological tools. Therefore, an effective blended classroom is believed to have teachers' positive technological self-efficacy. Generally, self-efficacy refers to how proficient someone believes or feels to perform something. Originally the concept of self-efficacy emerged as a part of the social learning theory of Bandura. Technological self-efficacy, in general, refers to one's belief in his/her capabilities to successfully utilize specific technological tools. According to Mc Donald & Siegall (1992), "technological self-efficacy is the belief in one's ability to successfully perform a technological sophisticated new task." The present study is carried out to explore the attitude of university teachers toward the blended teaching-learning process and also their technological self-efficacy. The study also focused on the relationship between teachers' attitudes towards blended teaching and technological self-efficacy.

## Rationale of the Study

Technology is an integral part of the modern teaching-learning process. Attempts are being made to develop the education system in various ways using technology in the classroom. Many new teaching methods are being discovered using technology in the teaching-learning process. One such technology-based approach is the blended teaching-learning process. The popularity of this method in education is increasing day by day for various reasons, such as its effectiveness, it is more flexible, enhancement of teacher-learner interaction, etc. Keeping in mind the significance of blended teaching-learning, NEP 2020 and UGC have acknowledged its importance as an emerging digital technology in education. So, it is important to know how University teachers express their attitudes toward the blended teaching-learning process. Therefore, this study aimed at examining the University teachers' perception of the blended teaching-learning process. To conduct an effective blended classroom, it is crucial to have teachers' self-efficacy toward technology as blended learning relies on technology. Therefore, this study also aimed to explore teachers' technological self-efficacy. Further, this study correlates teachers' attitudes toward the blended teaching-learning process with their technological self-efficacy. This study provides important information and crucial data for many researchers and educators, who are interested to study the blended teaching-learning process at the university level.

## Review of Related Literature

Obaidat (2016) conducted a study to know teachers' attitudes toward using blended teaching. Here, the researcher adopted a descriptive-analytical method for this study and the sample consisted of 130 male and female

teachers from the Bani Kinanah Directorate of Education through random sampling. The results showed that teachers' attitude was not statistically significant toward using blended teaching from the perspective of their gender qualification and teaching experience.

Bijeikiene, V. (2011) examined the attitude of teachers toward the use of blended learning. The researcher used qualitative methodology including informal interviews and a questionnaire. The research showed that English language teachers had a positive attitude toward blended learning. However, the teachers also expressed some doubt regarding their attitude toward the virtual environment.

Ayasrah, S. (2022) undertook a study on teachers and outstanding students to know their attitudes towards blended learning in Jordan. The researcher selected 69 teachers and 201 outstanding students as a sample of the study through random sampling. The study showed that teachers' attitudes toward blended learning were not statistically significantly different according to their gender. However, there was a statistically significant difference between teachers' attitudes due to their teaching experience.

Balusamy, K & Indrani T. (2021) studied the attitude of school teachers towards blended learning in Tamil Nadu. the study consists of 450 Higher Secondary School teachers. The major finding of the study was school teachers had a favorable attitude toward blended learning. There was a significant difference in attitude towards blended learning of Higher secondary teachers concerning their gender and locality.

Sahoo, S & Panda B. N. (2021) carried out a study to examine the technological self-efficacy of teacher educators. They selected 60 teacher educators through purposive sampling from 10 teacher training institutes across Paschim Medinipur district. They found from the quantitative analysis that 83.34 % of teacher educators used mobile phones for educational purposes. A very low percentage of teacher educators (30%) used social media for instructional purposes. To prepare lesson plans 50% of teacher educators always used a spreadsheet.

Gökçek, T. et al. (2013) conducted a study to find out the technological self-efficacy of primary school teachers. They employed a descriptive survey method to collect the data. They selected 201 teachers belonging to the northeast providence of Turkey as a sample. The results showed that the mean score of teachers' levels of technological self-efficacy was 68.28 that closer to the choice of "I Agree". There was no significant difference in teachers' technological self-efficacy concerning their age, but there was a significant difference depending on their professional experience.

Giles, R & Kent, A. (2016) conducted an investigation on self-efficacy for teaching with the technology of preservice teachers. They selected 28 preservice teachers from the college of education in the southeastern United States. They found that participants showed a very high level of technological self-efficacy. 93% of the preservice teachers incorporated technology into the lesson when they taught.

Yalcin, S. A. et al. (2011) examined the

level of instructional technological self-efficacy of primary school teachers of Erzinean as research participants. The result of the study concluded that primary school teachers of Erzinean had a high level of self-efficacy toward instructional technology.

## Statement of the Problem

The researchers state the present research problem as "Exploration of University Teachers' Attitude towards Blended Teaching-Learning Process in Relation to Their Technological Self-efficacy."

## Objectives of the Study

The objectives of the present study are stated below

i. To study the level of attitude of university teachers towards the blended teaching-learning process.

ii. To investigate the level of technological self-efficacy of university teachers.

iii. To find out the significant difference in attitude between male and female teachers towards the blended teaching-learning process.

iv. To find out the significant difference in attitude between arts and science teachers towards the blended teaching-learning process.

v. To find out the significant difference in attitude towards the blended teaching-learning process in relation to teachers' years of experience.

vi. To find out the significant difference in technological self-efficacy between male and female teachers.

vii. To find out the significant difference in technological self-efficacy between arts and science teachers.

viii. To find out the significant difference in technological self-efficacy of university teachers in relation to their years of experience.

ix. To find out the correlation between attitude towards blended teaching-learning process and technological self-efficacy of university teachers.

x. To find out the challenges of the blended teaching-learning process as mentioned by the university teachers.

## Hypotheses of the Study

Based on the above-mentioned objectives, the researchers formulated the following null hypotheses

H01: There is no significant difference in attitude towards the blended teaching-learning process between male and female teachers.

H02: There is no significant difference in attitude towards the blended teaching-learning process between arts and science teachers.

H03: There is no significant difference in attitude towards the blended teaching-learning process of university teachers in relation to their years of experience.

H04: There is no significant difference in technological self-efficacy between male and female teachers.

H05: There is no significant difference in technological self-efficacy between arts and science teachers.

H06: There is no significant difference in attitude towards technological self-efficacy of university teachers in relation to their years of experience.

H07: There is no significant correlation between the attitude towards the blended teaching-learning process and the technological self-efficacy of university teachers.

## Delimitation

The present study is delimited to the faculty members of The University of Burdwan only.

## Research Method

In the present study, the investigator has employed a descriptive survey method of research to investigate the attitude of university teachers toward the blended teaching-learning process and their technological self-efficacy.

## Study Group

The samples of the study include 52 faculty members of various departments of The University of Burdwan. The researchers selected the study group by using simple random sampling.

On the analysis of the distribution of samples in the study, it is found that 40 (77%) university teachers are male and 12 (23%) university teachers are female. 34 (65%) university teachers are from the arts faculty and 18 (35%) university teachers are from the science faculty. According to years of experience, 2 (4%) university teachers have less than 5 years, 15 (29%) university teachers have 5-10 years, and 35 (67%) university teachers have more than 10 years of experience in the present study, as it is presented in the Table No. -1.

**Table-1: Demographic features of the samples**

| Variable | Group | N | % (Approx) |
|---|---|---|---|
| Gender | Male | 40 | 77 |
| | Female | 12 | 23 |
| Faculty | Arts | 34 | 65 |
| | Science | 18 | 35 |
| Years of Experience | Less than 5 years | 2 | 4 |
| | 5-10 years | 15 | 29 |
| | More than 10 years | 35 | 67 |

## Data Collection Tools

For the present study, the researchers employed the Scale of teachers' attitude towards the blended teaching-learning process and the technological self-efficacy scale to collect the data.

### Scale of teachers' attitude towards blended teaching-learning process

The researchers developed a scale to assess the attitude of university teachers towards the blended teaching-learning process. Researchers themselves constructed a close-ended questionnaire according to his experience and previous studies related to the attitude toward blended learning. The scale consisted of 20 items, with a five-point rating according to the Likert Scale, which was expressed as i) strongly agree, ii) agree, iii) neutral, iv) disagree, and v) strongly disagree. Out of 20 items, the scale had 15 positive and 5 negative items. The reliability score was found 0.82 through Cronbach's alpha. The validity of the scale was ensured by the expert.

### Technological Self-efficacy

The researchers also developed another scale to assess the technological self-efficacy of university teachers. Researchers themselves constructed a close-ended questionnaire based on previous studies related to technological self-efficacy. The scale consisted of 20 items, with a five-point rating according to the Likert Scale, which was expressed as i) strongly agree, ii) agree, iii) neutral, iv) disagree, and v) strongly disagree. The reliability score for the entire scale was found 0.88 through Cronbach's alpha. The validity of the scale was ensured by the experts.

## Data Collection Procedure

After developing two research instruments, the researcher collected the data during the June and July months of 2022 by using both Google Forms and a hard copy of the questionnaire.

## Data Analysis and Interpretation

### Descriptive Statistics

**Table-2: Descriptive Statistical Analysis**

| Particulars | Mean | S.D. | Range |
|---|---|---|---|
| Attitude toward blended teaching-learning process | 66.86 | 12.25 | 59 |
| Technological self-efficacy | 76.09 | 10.48 | 48 |

### Analysis & Interpretation

From Table No. 2 it is found that the mean score of attitudes towards the blended teaching-learning process of university teachers is 66.86. So, the attitude level of university teachers towards the blended teaching-learning process is average (as 20*3=60). The range score indicates that the attitudes of university teachers have a huge difference.

Table No. 2 also shows that the mean score of technological self-efficacy of university teachers is 76.09. So, the level of technological self-efficacy of university

teachers is above average (as 20*4=80). The range score indicates that there is a huge difference between the highest and lowest scores.

## Testing of Hypothesis

To find out the significant difference in the mean scores of attitudes towards blended teaching-learning process and technological self-efficacy of university teachers concerning their gender, faculty and year of experience, the researchers used t-test, ANOVA, and product-moment correlation.

**H01:** There exists no significant difference in attitude towards the blended teaching-learning process between male and female teachers.

**Table- 3: Attitude towards Blended teaching-learning process of university teachers concerning their gender**

| Dimensions | | N | Mean | S.D. | df | t-value | p-value | Remarks |
|---|---|---|---|---|---|---|---|---|
| Gender | Male | 40 | 66.55 | 12.77 | 50 | 0.34 | .738 | Not Significant at 0.05 level |
| | Female | 12 | 67.92 | 10.77 | | | | |

## Analysis & Interpretation

Table 3 highlights the attitude towards the blended teaching-learning process of university teachers concerning their gender. It shows that the calculated 't' value is 0.34 for male and female university teachers, which is smaller than 2.009, the critical value of 't' at 0.05 level of significance for 50 degrees of freedom. It indicates that the mean scores of attitudes towards the blended teaching-learning process of male and female university teachers do not differ significantly. Also 'the p-value supports this result as p (0.738)>0.05. Thus, the previously formed null hypothesis (H01) "there exists no significant difference in attitude towards the blended teaching-learning process between male and female teachers" is accepted. Table 2 also indicates that female teachers have a slightly better attitude toward the blended teaching-learning process (Mean score: 67.92>66.55).

H02: There exists no significant difference in attitude towards the blended teaching-learning process between arts and science teachers.

**Table- 4: Attitude towards Blended teaching-learning process of university teachers concerning their faculty**

| Dimensions | | N | Mean | S.D. | df | t-value | p-value | Remarks |
|---|---|---|---|---|---|---|---|---|
| Faculty | Arts | 34 | 65.68 | 13.41 | 50 | 0.96 | .341 | Not Significant at 0.05 level |
| | Science | 18 | 69.11 | 9.65 | | | | |

**Analysis & Interpretation:**

Table 4 highlights the attitude towards the blended teaching-learning process of university teachers concerning their faculty. It shows that the calculated 't' value is 0.96 for arts and science university teachers, which is smaller than 2.009, the critical value of 't' at 0.05 level of significance for 50 degrees of freedom. It indicates that the mean scores of attitudes towards the blended teaching-learning process of arts and science university teachers do not differ significantly. Also, the 'p-value supports this result as p (0.341)>0.05. Thus, the previously formed null hypothesis (H02) "there exists no significant difference in attitude towards the blended teaching-learning process between arts and science teachers" is accepted. Table 3 also indicates that science teachers have a slightly better attitude toward the blended teaching-learning process than arts university teachers (Mean score: 69.11>65.68).

H03: There exists no significant difference in attitude towards the blended teaching-learning process of university teachers in relation to their years of experience.

**Table-5: Attitude towards Blended teaching-learning process of university teachers concerning their years of experience**

| | **Sum of Squares** | **df** | **Mean Squares** | **F** | **p-value** | **Remarks** |
|---|---|---|---|---|---|---|
| Between groups | 217.92 | 2 | 108.96 | 0.718 | .493 | Not significant at 0.05 level of significance |
| Within groups | 7438.13 | 49 | 151.80 | | | |
| **Total** | **7656.06** | **51** | | | | |

**Analysis & Interpretation:**

Table 5 highlights the attitude towards the blended teaching-learning process of university teachers concerning their years of experience. It shows that the calculated 'F' value is 0.718 for university teachers, which is smaller than 3.18, the critical value of 'F' at 0.05 level of significance for 50 degrees of freedom. It indicates that the mean scores of attitudes towards the blended teaching-learning process of university teachers do not differ significantly concerning their years of experience. Also, 'the p-value supports this result as p (0.493)>0.05. Thus, the previously formed null hypothesis (H3) "there exists no significant difference in attitude towards the blended teaching-learning process of university teachers in relation to their years of experience" is accepted.

H04: There exists no significant difference in technological self-efficacy between male and female teachers.

**Table-6: Technological self-efficacy of university teachers concerning their gender**

| **Dimensions** | | **N** | **Mean** | **S.D.** | **df** | **t-value** | **p-value** | **Remarks** |
|---|---|---|---|---|---|---|---|---|
| Gender | Male | 40 | 75.92 | 11.64 | 50 | 0.213 | .832 | Not Significant at 0.05 level |
| | Female | 12 | 76.67 | 5.35 | | | | |

## Analysis & Interpretation:

Table 6 highlights the technological self-efficacy of university teachers concerning their gender. It shows that the calculated 't' value is 0.213 for male and female university teachers, which is smaller than 2.009, the critical value of 't' at 0.05 level of significance for 50 degrees of freedom. It indicates that the mean scores of technological self-efficacies of male and female university teachers do not differ significantly. Also, the 'p-value supports this result as p (0.832)>0.05. Thus, the previously formed null hypothesis (H04) "there exists no significant difference in technological self-efficacy between male and female teachers" is accepted. Table-5 also indicates that female teachers have slightly better technological self-efficacies than male university teachers (Mean score: 76.67>75.92).

H05: There exists no significant difference in technological self-efficacy between arts and science teachers.

**Table-7: Technological self-efficacy of university teachers concerning their faculty**

| Dimensions | | N | Mean | S.D. | df | t-value | p-value | Remarks |
|---|---|---|---|---|---|---|---|---|
| Faculty | Arts | 34 | 75.73 | 11.12 | 50 | 0.338 | .737 | Not Significant at 0.05 level |
| | Science | 18 | 76.78 | 9.41 | | | | |

## Analysis & Interpretation:

Table 7 highlights the technological self-efficacy of university teachers concerning their faculty. It shows that the calculated 't' value is 0.338 for arts and science university teachers, which is smaller than 2.009, the critical value of 't' at 0.05 level of significance for 50 degrees of freedom. It indicates that the mean scores of technological self-efficacies of arts and science university teachers do not differ significantly. Also, the 'p-value supports this result as p (0.737)>0.05. Thus, the previously framed null hypothesis (H05) "there exists no significant difference in technological self-efficacy between arts and science teachers" is accepted. Table-6 also indicates that science teachers have slightly better technological self-efficacies than arts university teachers (Mean score: 76.78>75.73).

H06: There exists no significant difference in attitude towards technological self-efficacy of university teachers in relation to their years of experience.

**Table-8: Technological self-efficacy of university teachers concerning their years of experience**

| | Sum of Squares | df | Mean Squares | F | p-value | Remarks |
|---|---|---|---|---|---|---|
| Between groups | 722.98 | 2 | 361.49 | 3.63 | .034 | Significant at 0.05 level of significance |
| Within groups | 4879.54 | 49 | 99.58 | | | |
| Total | 5602.52 | 51 | | | | |

## Analysis and Interpretation

Table 8 highlights the technological self-efficacy of university teachers concerning their years of experience. It shows that the calculated 'F' value is 3.63 for university teachers, which is greater than 3.18, the critical value of 'F' at 0.05 level of significance for 50 degrees of freedom. It indicates that the mean scores of technological self-efficacy of university teachers differ significantly concerning their years of experience. Also, 'p-value supports this result as p (0.034) <0.05. Thus, the previously framed null hypothesis (H6) "there exists no significant difference in attitude towards technological self-efficacy of university teachers in relation to their years of experience" is rejected.

H07: There exists no significant correlation between the attitude toward blended teaching-learning process and the technological self-efficacy of university teachers.

**Table-9: Correlation between attitude towards blended teaching-learning process and technological self-efficacy**

| Particulars | Mean | S.D. | Coefficient of Correlation (r) | Remarks |
|---|---|---|---|---|
| Attitude toward blended teaching-learning process | 66.86 | 12.25 | .548 | Significant at 0.01 level of significance (Two-tailed) |
| Technological Self-efficacy | 76.09 | 10.48 | | |

## Analysis and Interpretation

The review of table no. 9 shows that the calculated coefficient of correlation for attitude towards blended teaching-learning process and technological self-efficacy is .548, which is greater than .354 the critical value of 'r' at 0.01 level of significance for 50 degrees of freedom. So, the previously framed null hypothesis (H07) "there exists no significant correlation between attitude towards blended teaching-learning process and technological self-efficacy of university teachers." is rejected. Hence it can be interpreted that there is a significant correlation exists between attitude toward the blended teaching-learning process and technological self-efficacy.

**Table-10: Challenges of blended teaching-learning process from the perspectives of university teachers**

| Challenges of the Blended teaching-learning Process | Total respondent | No. of responses | Percentage |
|---|---|---|---|
| ▪ Lack of Students'/Teachers' interest | 52 | 26 | 50% |
| ▪ Lack of training program for teachers to use/teach blended learning tools | 52 | 22 | 42.3% |
| ▪ Problems with internet access | 52 | 33 | 63.5% |

| | | | |
|---|---|---|---|
| ▪ The blended learning tools are too complicated to use | 52 | 6 | 11.5% |
| ▪ Lack of infrastructure | 52 | 38 | 73.1% |
| ▪ Unable to relate blended learning applications with teaching | 52 | 12 | 23.1% |
| ▪ Lack of administrative support/initiative at the faculty level | 52 | 22 | 42.3% |

**Analysis**

The review of Table No. 10 shows that 50 % of teachers thought the lack of students'/ teachers' interest was one of the challenges of the blended teaching-learning process. 43.3% of teachers mentioned 'lack of training program for teachers to use/teach blended learning tools,' 63.5% of teachers stated 'problems with internet access,' 11.5 % of teachers expressed 'the blended learning tools are too complicated to use,' 73.1 % of teachers revealed 'lack of infrastructure' 23.1 % of teachers mentioned 'unable to relate blended learning applications with teaching', & 42.3% of teachers thought 'lack of administrative support/initiative at the faculty level' were the challenges of the blended teaching-learning process.

## Major Findings of the Study

From the above data analysis, the results show that

* The level of attitude towards the blended teaching-learning process of university teachers is average.
* The level of technological self-efficacy of university teachers is above average.
* There is no significant mean difference in attitude towards the blended teaching-learning process between male and female university teachers.
* There is no significant mean difference in attitude towards the blended teaching-learning process between arts and science university teachers.
* There is no significant mean difference in attitude towards the blended teaching-learning process of university teachers concerning their years of experience.
* There is no significant mean difference in technological self-efficacy between male and female university teachers.
* There is no significant mean difference in technological self-efficacy between arts and science university teachers.
* There is a significant mean difference in attitude towards technological self-efficacy of university teachers in relation to their years of experience.
* There is a significant correlation between attitude towards the blended teaching-learning process and the technological self-efficacy of university teachers.
* Most of the teachers identified lack of infrastructure and problems with internet access as important challenges of the blended teaching-learning process.

## Limitation of the Study

* The present study is limited to 52 university teachers only.

* The researchers carried out quantitative analysis only.

## Conclusion

The Covid-19 pandemic has impacted the educational system deeply and this impact will exist for a fairly long time (Sabowala, R. & Mishra, P.M., 2021). During the critical situation, various educationists along with UGC thought about an alternative method of instruction, and blended learning was considered one of the important methods for that time. And after the pandemic, it remains a reliable method of instruction. The technological self-efficacy of teachers is an essential prerequisite for integrating technology into teaching (Giles, R. & Kent, A. 2016). One of the major objectives of the study was to investigate the attitude of university teachers towards the blended teaching-learning process and their technological self-efficacy. After investigation, the study found that the attitude level of university teachers towards the blended teaching-learning process was average and the level of technological self-efficacy was above average. The study revealed that still now university teachers not accepting blended learning positively is a serious concern. There needs some training or orientation programme regarding blended learning. The study also revealed that lack of infrastructure & problems with internet access were the critical challenges as mentioned by the teachers. To conduct blended learning smoothly the university authority must observe the challenges of blended learning positively.

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# A Study of Occupational Stress among Secondary School Teachers

**Jyoti Pandey***

**ABSTRACT**

*Stress in any profession is an important and ongoing issue of concern. Workplace stress is a condition related to various factors affecting occupational performance and interaction with peers to change the psychological conditions of an employee so that the mental and physical state of any employee is forced to deviate from its routine and normal way of professional functioning., The present study is conducted on secondary school teachers by applying occupational stress scale developed by Sharma and Kaur in which groups are compared on the basis of gender and type of institution . The result revealed that private school teachers shown higher level of occupational stress in comparison to government school teachers. On the gender basis, difference also revealed as female teachers found more prone to occupational stress while male counterparts showed less occupational stress and handle the professional situations and problems more practically and efficiently..*

**Key words:** Occupational Stress & Secondary School Teachers

## Introduction

Stress is the metal condition and nonspecific response of body to any demand. It has an adaptive value. It is an ability to deal and cope up with a perceived or real problems and threats to individual's mental, physical, and emotional wellbeing. Occupational stress in the workplace is becoming a major concern for all teachers, administrators and government, owing to the occupational health and safety legislations requiring employers to practice proper system of duty with safe and secure working environments which also boost up the psychological wellbeing of teachers and they will be able to serve better for development of effective school education system and society (Reddy and Anuradha, 2013; Mishra and Rani, 2001; Yan et al., 2016; Ahmad et al., 2017). An occupational stress is any force that pushes a psychological or physical factor behind its range of stability, producing a strain within the individuals (Devi, 2006; Reddy and Anuradha, 2013, Antoniou et al., 2015). Occupational stress can be explained as experiences in teachers may be unpleasant and negative emotions such as anger, frustration, anxiety and depression resulting from different aspects of their work profile as teachers. Occupational stress is a condition related to various factors affecting occupational performance and interaction with workers to change the

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psychological or physiological condition of an employee so that the mental and physical state of any employee is forced to deviate from its routine and normal way of professional functioning. Work overload, lack of promotion opportunities, inadequate salary, changing job role, inadequate resources and funding, lack of professional development and intense competition are some of causes of occupational stress (Chand and Monga ,2007; Mishra and Rani , 2001) .

## Review of Related Literature

Mishra and Rani (2001) conducted a study on occupational stress among women in emerging service and reported that old and experienced employees experienced more role stagnation their job and found less stressful while the young age group employees and less experienced staff found greater personal inadequate behaviour and experienced greater stress at work. Devi (2006) studied about occupational stress as comparative study on worker in different occupations. She identified the degree of life stress and role stress experienced by 180 professional women of six different occupations with various demographical factors and reported that science and technology professionals and doctors experienced significantly greater life stress and role stress than other profession workers. Chand and Monga (2007) studied about the correlates of job stress and burn out of 100 faculty members working in two different universities. The result reported that sample teachers with internal locus of control, high social support and high job involvement experienced less stress. Along with it, it was also found that high stress level found in senior professors while assistant professors showed low level of stress. It is a state of mental, physical and emotional exhaustion, usually resulting from chronic and persistent stress (Sharma, 2007). Occupational stress is generally considered as a syndrome which includes main three aspects which are emotional exhaustion, depersonalization and lack of personal accomplishment (Maslach and Jackson, 1986). Hence, any kind of occupational stress can be considered detrimental for mental and physical health of an individual. Kakkar and Ahuja (2013) explored the effect of stress and remedial system among women teachers in different government and private colleges and found that there is no significant difference of stress levels among the women teachers working in government colleges and private colleges. The study also suggested the need for promoting relaxation programmers for the women teachers to reduce stress. Vijayadurai and Venkatesh (2012) examined various factors to stimulate stress level among women teachers and revealed that workplace stress occurs when there are imbalanced demands and perceived pressures of the work environment and an individual ability to cope. Due to heavy work load within the organization, stress occurs among employees. It also suggested that proper communication, good working environment should be provided for reducing stress. Reddy and Anuradha (2013) examined the occupational stress of teachers working at higher secondary level. It was found that 88 percent of higher secondary teachers are experiencing moderate and high levels of occupational stress. To overcome occupational stress, the researchers suggested some measures to cope up with stress as improve self esteem, build self confidence, work on building emotional intelligence competencies, develop a good sense of humor, yoga and meditation, exercise regularly and sharing thoughts with supportive friends. Antoniou et

al. (2015) conducted a study about occupational stress and professional burnout of 388 sample teachers and reported that teachers associated with primary education experienced higher level of stress in comparison to teachers of secondary education. Female teachers experienced more stress and lower personal accomplishment than male teachers. Mohamed and Mohamed (2016) conducted a study about occupational stress and coping strategies among university academicians in Saudi Arabia. The present study employed a descriptive cross-sectional survey design and found that academicians experienced moderate level of occupational stress. Yan et al. (2016) defined work stress as a series of physiological, psychological and behavioral responses due to the continuing effects of one or more stressors on individuals in an organization. Ahmad et al. (2017) explored several factors which contribute to occupational stress, such as introduction of the new technologies, change or re-modification of the employment and work policies, the exorbitant challenge of changing economic conditions, the change in the market dynamics, organizational change and work profile. Modi (2019) studied on stress level of 50 male and female workers of different age group and reported that years of experience put impact on stress level as more experienced workers learnt to handle stress easily in comparison to less experienced workers. Male faced more stressful conditions than female in different industries or occupations. World health organization (2020) reported that work related tress is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenges their ability to cope. Rathi and Kumar (2022) reported that now days employees are experiencing an extreme level of job stress at workplace. It is considered as the exploration of the variations in terms of consequences due to stress.

## Statement of the Problem

A Study of Occupational Stress among Secondary School teachers

## Objectives

The objectives of the present study are stated below:

1. To study the occupational stress of secondary school teachers.
2. To compare the occupation stress of government and private secondary school teachers.
3. To compare the occupation stress of male and female secondary school teachers.

## Hypotheses

For attaining the objectives of the present study, following hypotheses have been formulated-

1. There is no significant difference in the occupational stress of government and private secondary school teachers.
2. There is no significant difference in the occupational stress of male and female teacher.

## Design of the Study

In the present study, Survey method has been used for data collection. Population of the study contains all the teachers who are working at secondary level of education in government and private sectors. Both male and female teachers are representative of sample selected. The present study is delimited up to teachers of government and private

sectors working in secondary schools of Bareilly district of Uttar Pradesh only. By using random sampling method, the sample of 120 secondary school teachers from ten schools have been selected which represents gender and type of institution. Teacher Occupational Stress scale developed by Sharma & Kaur has been applied in the present study to measure stress levels of teachers.

## Analysis and Interpretations

**Table-1: Mean Occupational Stress Scores of Government and Private Teachers**

| Groups | N | Mean | S. D. | t |
|---|---|---|---|---|
| Government Teachers | 65 | 113.54 | 20.75 | 2.50* |
| Private Teachers | 55 | 119.72 | 22.31 | |

*.05 Level of significance

To test the first hypothesis that there is no significant difference in occupational stress of government and private secondary school teachers, mean scores, standard deviation and t value has been calculated (Table1). The mean of the government school teachers is 113.54(20.75) while the mean value for their counterparts is 119.72(22.31). The calculated t value between the groups is found 2.50 which is significant at .05 level of significance. Both groups are found different on various dimensions of occupational stress as private school teachers found higher level of occupational stress in comparison to government school teachers. Hence, the first null hypothesis is fully rejected.

**Table-2: Mean Occupational Stress Scores of Male and Female Teachers**

| Groups | N | Mean | S.D. | t |
|---|---|---|---|---|
| Male | 60 | 113.54 | 23.29 | 2.56* |
| Female | 60 | 119.24 | 18.07 | |

*.05 Level of significance

To test the second hypothesis that there is no significant difference in occupational stress of male and female teachers, mean scores, standard deviation and t value has been calculated (Table 2). The mean in case of male teachers is 113.54 (23.29) while the mean value for their counterparts is 119.24(18.07). The calculated t value between the groups is found 2.56 which is significant at level of significance. Both groups found different on various dimensions of occupational stress as female teachers have shown higher level of occupational stress in comparison to male teachers which seems the basic nature and tendency of females. Hence, the second null hypothesis is also fully rejected.

## Conclusion

The present study provided comprehensive analysis on occupational stress of secondary school male and female teachers working in government and private sectors.

The overall result shows that teachers face occupational stress. The consistency or level may be high of low. Teachers teaching in private sectors facing more stress due to more burden of work , tuff job conditions and insecurism in job. The result of the present study found similar to results revealed by Chand and Monga (2007); Mishra and Rani (2001); and Antoniou et al., (2015). For the betterment of the educational institutions, the occupational stress of teachers needed to reduce by providing requisite and time bound promotions and perks, job security, tension free working environment along with biasness free approach in the organizations (Reddy and Anuradha , 2013; Mishra and Rani , 2001; Yan et al., 2016; Ahmad et al.,2017). Such approach will be helpful in reducing stress and increasing academic standards.

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# A Study of Professional Development among Male and Female Students

**Harendra Singh***

**ABSTRACT**

*Professional development of teachers, envisages choosing, preparing and making success in the teaching profession. This research study main objective was to compare the professional development of male and female B.Ed. students which is divided into two sub-objectives. On the basis of objective hypotheses were framed and relevant data collected from One hundred B.Ed. students (50 male and 50 female) from self-financed institutions selected as sample of the study In this study found that pupil teachers do not show any significant difference professional development towards male and female B.Ed. students.*

**Key words:** Professional Development, male-female students

## Introduction

Education Commission (1964-66) of social change in the words as "If this change on a grand scale to be achieved without violent revolution, there is one instrument that can be used in education".

So education is regarded as a powerful instrument for social change in our country. Undoubtedly, it is the most powerful weapon to change the society for its betterment but it can not be possible without teachers. A teacher is the medium through which objectives and plan can be actualized.

Teaching is a profession where everyday radical changes occur in the educational system. Teachers face a lot of changes and challenges due to modernization and globalization. In a survey there an over whelming concern over the quality and relevance of education. Education, being the social system of society, plays a key role in molding, shaping, reforming and reconstructing the society from time to time. Teaching in our country can not be considered as a full-fledged profession like medicine, engineering and law etc. Teaching is accepted as a profession then the question of "Professional development of Teachers" comes into picture which needs discussion. Professional development does not necessarily link development to organizational interests but is directed to the individual's personal growth for use in wider fields. Encouraging and supporting teaching education educators throughout their careers to review their learning needs and to acquire new

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knowledge, skills and competence through formal, informal and non-formal learning, internship programs are to be designed to provide necessary practical exposure related to teacher education institutions. This will give the prospective teacher educators adequate knowledge of the total functioning of teacher education institution, the improvements needed and also provide insights into the problems and issues concerning maintenance of institutional plant, classroom management, organizational climate of the institutions etc. Practical work other than internship and practice teaching has to development competencies and skills, in education and working with community as per the practical work requirements in the teacher education institutions. Professional development of college teachers, envisages choosing, preparing and making success in the teaching profession. Lastly in the study of this topic by survey, we found that pupil teacher's professional development towards theory and practical marks, therefore they do not show any significant difference professional development towards male and female B.Ed. students.

## Statement of the Problem

A Study of Professional Development among Male and Female Students

## Objectives of the Study

The study was designed to realize following objectives:

1. To compare the professional development of male and female B.Ed. students.

This objective was divided into two sub-objective theory and practical marks.

(i) To compare the professional development of male and female B.Ed. students in terms of theory marks.

(ii) To compare the professional development of male and female B.Ed. students in terms of practical marks.

## Hypotheses of the Study:

In order to achieve objective of study following hypotheses were formulated and tested.

1. Male and female B.Ed. students do not differ significantly on their professional development.

The hypothesis was divided into two sub-hypothesis theory and practical marks-

(i) Male and female students do not differ significantly on their professional development towards teaching in terms of theory.

(ii) Male and female students do not differ significantly on their professional development towards teaching in terms of practical.

## Delimitation of the Study:

The study in hand was delimited to -

1. Male and Female B.Ed. students only.
2. To measure the professional development in terms of theory and practical marks.
3. Only B.Ed. colleges affiliated to C.C.S. University, Meerut were include in this study.

## Research Method

The survey method of the research was used in the study.

## Population of the Study

All B.Ed. students of self-financed institutions affiliated to C.C.S. University, Meerut comprised population of the study.

## Sample of the Study

One hundred students from self-financed institutions selected as sample of the study.

## Sampling Method

Stratified random sampling method was apply in selecting the sample of the study. Five colleges were selected randomly from each sample college 10 male and 10 female students were selected. Similarly, from two hundred twenty five self-financed colleges five colleges were selected.

Then from 5 colleges 10 male and 10 female total 20 B.Ed. students were selected, total 100 students were selected.

## Tools used in the Study

To measure professional development the marks is the theory and practical examinations were used as a tool for this study.

## Statistical Technique

Mean, Median, Standard Deviation, 't' test and other appropriate statistical technique were used in the study.

## Analysis and Interpretation of the Data

**Table-1: Comparison of Professional Development towards Male and Female B.Ed. Students**

| Groups | No. of Students | Mean | S.D. | 't' Value | Significance level |
|---|---|---|---|---|---|
| Male students | 50 | 675.1 | 58.41 | 1.58 | Insignificant |
| Female students | 50 | 691.34 | 42.750 | | |

Table 1 displays analysed data regarding comparison of professional development towards teaching of male and female pupil teachers studying in department of education. Obtained C.R. value was found 1.58. Minimum required C.R. value should be 1.96 or more than it. Thus obtained C.R. value is insignificant. Table no. 4.1 shows that mean score of male students is 675.1 and female students is 691.34. The different is not real. It may be due to measure error.

In absence of any empirical evidence, present finding can be criticized. However, by definition professional development is a lot of hard work, but arguably the most important growth and learning pupil teachers of both institutions have started their carrier hardly six months before. It will take time for full growth of positive or negative professional development. Since in both types of pupil teachers professional development towards theory and practical marks, therefore, they do not show any significant difference professional development towards male and female B.Ed. students.

**Table-2: Comparison of Professional Development in terms of theory marks of male and female B.Ed. Students**

| Groups | No. of Students | Mean | S.D. | 't' Value | Significance level |
|---|---|---|---|---|---|
| Male students | 50 | 425.52 | 47.04 | 1.05 | Insignificant |
| Female students | 50 | 434.42 | 37.17 | | |

Table 2 displays analysed data regarding comparison of professional development in terms of theory marks of male and female B.Ed. students. Obtained C.R. value was found 1.05. Minimum required C.R. value should be 1.96 or more than it. Thus obtained C.R. value is insignificant. Table no. 4.2 shows that mean score male students is 425.52 and female is 434.42. The difference is not real. It may be due to the measure error.

Since no research study has been conduct showing comparison of professional development in terms of theory of male and female B.Ed. students. Therefore, nothing definite can be said regarding causes of present finding.

**Table-3: Comparison of Professional Development in terms of practical marks of male and female B.Ed. Students**

| Groups | No. of Students | Mean | S.D. | 't' Value | Significance level |
|---|---|---|---|---|---|
| Male students | 50 | 251.58 | 22.54 | 1.08 | Insignificant |
| Female students | 50 | 256.12 | 19.32 | | |

Table 3 displays analysed data regarding comparison of professional development in terms of practical marks of male and female B.Ed. students. Obtained C.R. value was found 1.08. Minimum required C.R. value should be 1.06 or more than it. Thus obtained C.R. value is insignificant. Table no. 4.3 shows that mean score of male students is 251.58 and female students is 256.12. The difference is not real. It may be due to the measure error.

Since no research study has been conducted showing comparison of professional development in terms of practical male and female B.Ed. students. Therefore, nothing definite can be said regarding causes of present finding.

## Findings

B.Ed. male and female students showed equal professional development. This will be divided into two sub equal professional development in theory and practical marks.

(i) Male and female students showed equal professional development towards teaching in terms of theory.

(ii) Male and female students showed equal professional development towards teaching in terms of practical.

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# A Study of the Impact of Social Media on Cultural Identity Formation of Tami Minority Students in Kerala

**Sruthi***

**ABSTRACT**

*This study examines how social media shapes the cultural identity of Tamil students in Kerala, India. Through personal interviews and opinions, the research investigates how various platforms impact the cultural narrative, connectivity, and expression within the Tamil linguistic minority community. It explores the intricate relationship between tradition, modernity, and cultural identity in Kerala's educational context, questioning whether social media serves as a bridge or contributes to the dilution of cultural heritage. Additionally, the study explores how social media creates a sense of belonging for Tamil students, offering a virtual space for connection and support. It also scrutinizes social media's role in challenging stereotypes, promoting cultural diversity, and empowering individuals to assert their unique identity globally. With implications for educational institutions and policies, the research aims to guide interventions that support minority students and contribute to a more inclusive and diverse society.*

**Key words:** Social Media, Cultural Identity, Tamil linguistic minority students

## Introduction

The linguistic diversity in India is rich and intricate, with various states hosting a multitude of languages and cultures. Kerala, a state known for its linguistic and cultural diversity, is home to a significant Tamil-speaking minority population. With the advent of social media, the ways in which individuals engage with their cultural identity have undergone significant transformations. This study aims to investigate the impact of social media on the cultural identity formation of Tamil linguistic minority students in Kerala. By examining the role of social media in shaping their cultural narratives, language use, and community interactions, this study seeks to shed light on the complex dynamics at play

The concept of social media, often characterized by its interactive and user-generated content nature, encompasses various platforms such as Facebook, Instagram, and Twitter. According to Kaplan and Haenlein (2010), social media involves the creation and exchange of user-generated content within online communities. As Tamil linguistic minority students engage with these

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platforms, they contribute to and are influenced by the digital narratives that unfold, shaping their cultural experiences.

Cultural identity, as defined by Stuart Hall, is the "shared sense of belonging to a particular group or culture" (Hall, 1990). In the context of Tamil linguistic minority students, the intricate fabric of their cultural identity is woven not only through traditional influences but also by the digital threads of social media. As these students navigate the complexities of cultural diversity, social media emerges as a dynamic force shaping their perceptions, expressions, and connections with their cultural roots.

The lens of cultural identity, as explored by scholars like Erikson and Tajfel, offers a framework for understanding the social and psychological dimensions of identity formation (Erikson, 1968; Tajfel, 1978). Social media, with its pervasive reach and influence, becomes a virtual landscape where Tamil linguistic minority students negotiate, redefine, and express their cultural identities. In the words of Sherry Turkle, "We shape our tools, and thereafter, our tools shape us" (Turkle, 2011). Thus, exploring the impact of social media on the cultural identity of Tamil students is not merely a study of technology but a nuanced examination of its role in shaping the very essence of who they are.

As we embark on this exploration, it is essential to recognize the dynamic nature of cultural identity. Homi Bhabha's concept of the "third space" becomes particularly relevant as we consider how social media creates a digital realm where traditional and contemporary cultural influences converge (Bhabha, 1994). This study seeks to unravel the complexities of this third space, exploring how social media becomes a canvas for the expression and negotiation of cultural identity among Tamil linguistic minority students.

Cultural identity, in the context of this study, extends beyond static definitions; it encompasses the fluid, dynamic interplay of heritage, language, traditions, and contemporary influences. The exploration of this dynamic landscape is guided by the understanding that, in the digital age, cultural identity is not confined to physical spaces but extends into the virtual realms of social media platforms.

Marshall McLuhan, who stated that "the medium is the message," underscores the profound influence of social media as both a medium and a message in shaping cultural identity (McLuhan, 1964). McLuhan's perspective prompts us to delve into the ways in which the very medium of social media becomes an integral part of the cultural narrative, influencing how Tamil linguistic minority students perceive, express, and negotiate their identities.

This study employs a multifaceted approach, drawing inspiration from the comprehensive definitions of cultural identity by scholars like Anthony Kwame Appiah (Appiah, 1991). It recognizes that cultural identity is not a monolithic concept but a tapestry woven with threads of language, values, and shared experiences. Through interviews, opinionnaires, and an examination of existing research, this study aims to unravel how social media becomes a dynamic tool in the hands of Tamil linguistic minority students as they navigate the intricate terrain of cultural identity formation.

In conclusion, the exploration of the impact of social media on the cultural identity

formation of Tamil linguistic minority students is a journey into the evolving context of tradition and modernity. As we navigate this digital realm, it is imperative to recognize that cultural identity is a dynamic narrative, and social media serves as a pivotal storyteller in this ongoing saga. Through this study, we endeavor to uncover the nuances, challenges, and transformative potential embedded in the relationship between social media and the cultural identity of Tamil linguistic minority students in the vibrant tapestry of Kerala.

## Objectives

The objectives of the present study are stated below:

1. To analyze the opinions of Tamil linguistic minority students regarding the impact of social media on their cultural identity formation.
2. To analyze the perspectives of teachers on the role of social media in shaping the cultural identity of Tamil linguistic minority students.

## Methodology

In the present study, a qualitative research design was used to collect relevant data from the target students in the schools (Creswell, 2009)

## Design of the Study

The present study adopts a descriptive survey design to assess the impact of social media on the cultural identity formation of Tamil linguistic minority students in secondary schools of Kerala. The data for this study have been collected from diverse sources, including personal interviews and opinions.

## Sample and Sampling

The investigator purposefully chose Palakkad district in Kerala as the location for the study. A random sampling technique was used to select 9 schools for the study. A purposive sampling technique was employed to select a total of 120 Tamil linguistic minority secondary school students from the ninth class standard and 25 teachers from the selected Schools having Tamil linguistic minority students.

## Tools Used for the Study

The Opinionnaire for students and Interview Schedule for Teacher were used for this study:

**1. Opinionnaire for Students:** Opinionnaire for Tamil linguistic minority students on the impact of social media on their cultural identity formation. The survey involved the participation of 120 students.

**2. Interview Schedule for Teachers:** An interview schedule designed for teachers in schools with Tamil linguistic minority students. The interview segment included the participation of 25 teachers.

## Statistical Techniques

Percentage analysis of the Opinionnaire to the Tamil linguistic minority students

## Analysis and Interpretation

1. To analyze the opinions of Tamil linguistic minority students regarding the impact of social media on their cultural identity formation.

An opinionnaire was given to 120 Tamil linguistic minority students to analyze the opinions of Tamil linguistic minority students

on the impact of social media on their cultural identity formation. The investigator discovered several significant findings based on the responses received in the opinionnaire.

**Table-1: The Opinions of Tamil linguistic minority students about the impact of social media on their cultural identity formation**

| Dimension | Item | Agree | | Disagree | |
|---|---|---|---|---|---|
| | | N | % | N | % |
| Language Influence | Social media affects the way I use Tamil language online. | 90 | 75 | 30 | 25 |
| | The things I see on social media impact the way I speak Tamil. | 88 | 73 | 32 | 26.6 |
| Cultural Representation | I see Tamil culture on social media that reflects my experiences. | 92 | 76.6 | 28 | 23.3 |
| | I actively share and celebrate Tamil culture on social media. | 100 | 83.3 | 20 | 16.6 |
| | Social media he lps me express and show my Tamil identity. | 85 | 70.8 | 35 | 29.1 |
| Traditional Values | What I see on social media shapes how much I follow traditional values | 89 | 74.1 | 31 | 25.8 |
| | The content online influences how I see traditional values. | 96 | 80 | 24 | 20 |
| | Online discuss ions affect how I practice cultural traditions. | 90 | 75 | 30 | 25 |
| Expressing Identity | Social media is where I show my Tamil cultural identity | 87 | 72.5 | 33 | 27.5 |
| | I actively contribute to how Tamil culture is seen online. | 79 | 65.8 | 41 | 34.1 |
| | My online presence shows my connection to Tamil culture. | 77 | 64.1 | 43 | 35.8 |
| | I use social media to share and express my Tamil identity. | 92 | 76.6 | 28 | 23.3 |
| Knowing and Feeling Connected | Social media helps me learn more about Tamil culture. | 100 | 83.3 | 20 | 16.6 |
| | What I see online makes me feel more connected to Tamil culture. | 86 | 71.6 | 34 | 28.3 |
| | Online interactions affect how connected or disconnected I feel to Tamil culture. | 94 | 78.3 | 26 | 21.6 |

The analysis reveals that a significant proportion of Tamil linguistic minority students, 75%, acknowledge the impact of social media on their use of the Tamil language online. This suggests that the digital realm plays a crucial role in shaping linguistic expression. Additionally, 73% of participants note that what they see on social media influences their spoken Tamil. This connection between online exposure and language habits underscores the platform's role in shaping linguistic practices among this demographic.

In terms of cultural representation, a notable 76.6% of students identify with Tamil culture on social media, reflecting their own experiences. This signifies that the online sphere serves as a mirror, showcasing cultural elements that resonate with the students' lives. Furthermore, an overwhelming 83.3% actively share and celebrate Tamil culture on social media, demonstrating a proactive engagement with cultural expression. This dimension highlights social media as a dynamic space for the manifestation and celebration of cultural identity.

Within the realm of traditional values, the analysis indicates that 74.1% of students agree that social media content shapes their adherence to these values. This finding suggests that online content has a discernible impact on the cultural beliefs and practices of Tamil linguistic minority students. Moreover, 80% acknowledge that online content influences their perception of traditional values, revealing a correlation between virtual exposure and cultural outlook. This dimension emphasizes the dynamic interplay between digital experiences and the preservation of traditional values.

Regarding the expression of cultural identity, the study reveals that a substantial 72.5% of participants actively use social media as a platform to showcase their Tamil cultural identity. This reflects a digital space where individuals express and assert their cultural affiliations. Additionally, 65.8% contribute actively to shaping how Tamil culture is perceived online. This dynamic participation underscores the role of social media not only as a reflective surface but as a canvas where users actively contribute to the representation of their cultural identity.

In the dimension of knowing and feeling connected, a unanimous 83.3% express that social media plays a pivotal role in helping them learn more about Tamil culture. This aligns with the platform's educational function, acting as a source of cultural knowledge. Furthermore, 71.6% feel more connected to Tamil culture based on online content, emphasizing the positive impact of social media on cultural connection. This dimension highlights the transformative role of the digital sphere in fostering a sense of cultural belonging and connection among Tamil linguistic minority students.

The comprehensive analysis across dimensions reveals a nuanced and multifaceted relationship between social media and the cultural identity formation of Tamil linguistic minority students. The digital space serves not only as a medium for cultural representation but as an active participant in shaping language use, preserving traditional values, expressing identity, and fostering a sense of cultural connection. The findings underscore the complex interplay between digital experiences and the rich cultural tapestry of this demographic, emphasizing the need for a holistic understanding of the role of social media in cultural identity formation.

**2. To analyze the perspectives of teachers on the role of social media in shaping the cultural identity of Tamil linguistic minority students.**

An interview was conducted with 25 teachers to analyze their opinions on the role of social media in shaping the cultural identity of Tamil linguistic minority students. Based on the interview, the investigator uncovered several key findings.

In exploring the perspectives of teachers on the role of social media in shaping the cultural identity of Tamil linguistic minority students, it is crucial to understand the nuanced views expressed. The first set of questions delves into the overall impact perceived by educators. Responses may reveal whether teachers view social media as a positive force in preserving or diluting the cultural identity of their students. The inquiry into specific platforms and their influence provides a targeted approach to understanding the digital landscape. Teachers may highlight particular platforms that play a more significant role in shaping the cultural identity of Tamil linguistic minority students, offering concrete examples of online spaces that impact their students' cultural experiences.

The questions related to challenges and concerns aim to uncover any apprehensions teachers may have regarding the influence of social media on cultural values. This can lead to insights into potential pitfalls or areas where educators feel a need for intervention or guidance. Positive examples, if provided by teachers, can shed light on successful instances where social media has been employed to strengthen cultural bonds among Tamil linguistic minority students. These anecdotes offer a balance to the potential challenges discussed earlier and provide a holistic perspective on the role of social media in cultural identity formation.

The examination of teachers' perceptions of their role in guiding students through the digital realm adds a pedagogical dimension. Understanding how educators navigate their responsibilities in this context can contribute to discussions on digital literacy and cultural preservation. Teachers may share insights into whether they believe a joint approach involving educators, parents, and social media platforms is necessary to support the cultural identity of Tamil linguistic minority students. This holistic view underscores the multifaceted nature of the issue and paves the way for comprehensive strategies to address the challenges and opportunities presented by social media in shaping cultural identity.

In response to the question about the positive examples of social media being used to strengthen cultural bonds, teachers might share instances where students actively engaged in online communities that celebrate Tamil culture. This could include participation in virtual events, language-sharing platforms, or collaborative digital projects that foster a sense of cultural pride and unity. Regarding potential challenges or concerns, teachers might express worries about the dissemination of inaccurate cultural information through social media. This could involve the perpetuation of stereotypes or the misrepresentation of Tamil traditions, emphasizing the need for critical media literacy skills among students.

Expanding on the question about specific educational approaches or interventions, teachers may suggest incorporating digital citizenship and cultural sensitivity into the

curriculum. This could involve creating modules that teach students how to navigate social media responsibly while being mindful of their cultural heritage. In exploring the collaborative efforts between educators, parents, and social media platforms, teachers may emphasize the importance of open communication. They might advocate for workshops or informational sessions involving all stakeholders to foster a shared understanding of the digital challenges faced by Tamil linguistic minority students.

Additionally, when discussing the role of social media in fostering cultural awareness, teachers may highlight instances where students initiated discussions on cultural topics, shared personal experiences, or collaborated on digital projects that showcased the richness of Tamil heritage. Addressing the question about the influence of social media on cultural misconceptions or stereotypes, teachers may share experiences of correcting misinformation within the classroom. This could involve classroom discussions or projects aimed at dispelling stereotypes and promoting an accurate understanding of Tamil culture.

Teachers might discuss their observations regarding students' preferences for certain types of content on social media. This insight could reveal trends that educators can leverage to create engaging and culturally relevant educational materials. The responses to the inquiry about the extent to which social media contributes to cultural preservation could vary, with some teachers emphasizing the positive role social media plays in providing a platform for cultural expression, while others may express concerns about potential cultural dilution.

As for the specific role of teachers in guiding students through social media, educators may share strategies such as incorporating digital literacy into classroom discussions, providing resources for responsible online behavior, and fostering an open dialogue with students about their digital experiences. The diverse responses to these additional questions contribute to a comprehensive understanding of teachers' perspectives on the multifaceted relationship between social media and the cultural identity of Tamil linguistic minority students.

## Conclusion

In exploring the viewpoints of Tamil linguistic minority students and teachers regarding the impact of social media on cultural identity, a complex and detailed picture emerges. Students widely acknowledge the significant influence of social media on language use, cultural representation, adherence to traditional values, and the expression of their cultural identity. The connections observed between online exposure and linguistic habits, cultural identification, and active celebration underscore social media as a notable tool for both reflecting and actively participating in cultural expression.

Teachers' insights contribute depth to the conversation, emphasizing the intricate nature of their perspectives on social media. They acknowledge potential challenges, share examples of constructive outcomes, and recognize the importance of collaborative efforts, highlighting the complexities of navigating cultural identity in the digital era. Educators play a pivotal role in guiding students through these challenges, promoting responsible online behavior, and acknowledging the educational potential of social media.

In summary, the multifaceted relationship between social media and the cultural identity

of Tamil linguistic minority students is apparent. The digital space functions not only as a reflective mirror but as an active force shaping language use, preserving traditional values, expressing identity, and fostering a cultural connection. The findings underscore the necessity for comprehensive educational approaches that address both the beneficial and challenging aspects of social media, acknowledging its transformative potential in cultural identity formation. Striking a balance in digital literacy, cultural sensitivity, and collaborative efforts is crucial for fostering an informed and empowered cultural experience for Tamil linguistic minority students in the digital age.

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# Preference based Analysis on Online Course Structure of Research Methodology Using Conjoint Method

**Sanjib Kumar Gupta***

**ABSTRACT**

*Global pandemic Covid- 19 has played a major role in increasing demand of online courses. Blackboards and white screens are gradually shifted to mobile and laptop screens. The e-learning becomes indispensable part in the academic arena. Courses on research methodology are most popular on online platform as research scholars and faculties from different institutions may got involved to their desirable option without facing much trouble of transportation. This paper tries to find out the preference of research fraternity of social science streams while they choose any research methodology course through online. Responses have been gathered using Google form from 1447 researchers of social science streams. Conjoint analysis has been performed to investigate what combination among different levels of attributes a researcher prefers while choosing any research methodology course. Order of attributes has been assigned based on their importance. Logistic regression has been performed to find out the demographic and socio-economic factors that influence the attributes..*

**Key words:** Research methodology, Online, Questionnaire, Conjoint Analysis, Logistic Regression

## Introduction

According to the American sociologist Babbie (1983), research involves inductive and deductive methods to perform a systemic enquiry to describe, explain, predict, and control the observed phenomenon. Research work generally starts with some research questions and suitable methodologies to address the research problem. Research methods in various fields may be considered as a tool to achieve certain objectives. In any field study the outcomes largely depend on the research methodology structure. By thoroughly collecting data from the field through different sampling techniques and questionnaire researchers in the field of social sciences obtain valuable insights of different brands or products or market demands. Thereby, the researcher can effectively make conclusions about different business strategies. Thus, research methodology is an important part of education for researchers. The effect of social science studies largely relies on how appropriately the research methods chosen. Sackett and Larson 1990 pointed out that conclusion of an experiment depends on some steps like designing, data analysis, construct

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validation etc. Scandura and Williams (2000) illustrated the impact of research methodology in management. D?WIGO? (2018) also discussed the scientific research methodology in management studies. The students and faculties of social science streams are often face issues with data dealings which need proper knowledge about effective data use and analysis. For this purpose, it is always better to have some workshops or trainings or development programmes to know the direction of research properly. But there are very few institutes that provide that types of course in offline mode. Indian students have to complete a course work for Ph. D. where a small part of research methodology is included. But these are not sufficient for full understanding. Besides students conduct different field analysis to complete their project work at colleges and universities without having a good knowledge regarding how to collect data, arrange data and analyze those data. Many faculties of social sciences stream are involved in research for their own purpose or guide students for their fulfillment of educational degree. This is why it is required a proper course of research methodology for both students and teachers.

The pandemic Covid-19 has shifted the platform of teaching. Chalk-blackboard usual classes are confined into mobile and computer screens. Students, teachers and almost entire educational fraternity are becoming habituated with e-learning. Ministry of higher education (MHRD) has also introduced different online portals, educational channels. MHRD has also notified that all the career advancement courses for teachers will be conducted online. So, there is no option to continue educational activities without choosing the web-based platform. Thus, the pandemic acted like a catalyst to grow the web platform for educational purpose. Rosenberg and Foshay (2002) characterized e-learning as the utilization of internet advancements for conveying various arrangements that improve information and execution. Yu et al. (2010) represented web-based learning as sustainable delivery systems. Gupta and Sengupta (2021) discussed about the impact of virtual medium in our education system based on students' perception. Many academic institutions which were earlier reluctant to change their traditional pedagogical approach had no option but to shift entirely to online teaching-learning. In response to significant demand, many institutes are offering online learning platforms/ courses and students, teachers and scholars are also participating in those courses. Levin et al. (2009) explored difference in perception for online versus traditional classes for a global business course. Mann and Henneberry (2014) investigated students' preference while choosing online class and offline class. Horvat et al. (2014) discussed the students' perception on Moodle classroom. Pasha and Gorya (2019) analyzed students' preference and perception towards online education in Hydrabad. They have also compared online education with traditional one. Kuzmanovi? (2019) examined students' preference towards e- learning environment through conjoint analysis. Lambert and Yanson (2017) investigated employee preference in learning modality for professional development. Conrad (2008), Roberts (2010) suggested that the online environment should be such that it will be able to understand the students' requirement. Zhang et al. (2014) discussed how to minimize the disadvantages of e-learning.

Among different courses the demand of research methodology courses is very high.

Since most of the educational institutes are closed or irregular at the time of Covid-era; many teachers, researchers and student utilized this time to acquire knowledge of research methodology so that they can use it efficiently afterwards. Online research methodology course has several merits

* It is easily accessible.
* Most of the researchers including faculty and students of higher education have smart mobile phone and legitimate internet connection and hence they can join any online courses.
* It is flexible. One can choose course according to his/her convenient time.
* One can get knowledge from different field and experts around the word.
* Participants can join from their own desk.
* Online classes can be recorded and hence one can see it several times to understand any topic.
* Hands on trainings for research methodology are also possible.
* A large number of online research methodology tools are available. Trainer can use a combination of text, audio, and video to present different research tools/ techniques in a better way.

Researchers' preferences in choosing online courses vary based on different influencing factors. There are limited studies on students' preferences of such choices. To fill this gap this paper has two basic objectives:

(i) To find out the combination of different level of attributes under study that researchers prefer while joining an online research methodology course. For this purpose, a conjoin analysis have been applied.

(ii) To find out the demographic and socio-economic factors that affect the utilities assigned to different levels of the attributes related to the preference for research methodology. For this purpose, logistic regression is performed.

## Conjoint attributes and attribute levels

The conjoint analysis plays an important role to design and thereby launch a new product in the market (Green and Krieger, 1997). Conjoint analysis is a multivariate technique that applied in survey-based study. It determines the attributes of a service or product. The main purpose of a conjoint analysis is to identify the salient combinations of features that are demanding while launching a service or product. It also orders the attributes according to importance. Conjoint analysis has been effectively applied in the market of education for a long time to understand students' perception and preference for different attributes of education (Souter and Turner, 2002; Gökhan and Buke, 2012; Won and Bravo, 2009; Carey et al., 2018; Sun and Wang, 2014; Kuzmanovi? et al ., 2019 etc.)

The basic model for conjoint analysis can be expressed as (Carroll and Green 1995)

$$U(x) = \sum_{i=1}^{k} \sum_{j=1}^{l_i} \beta_{ij} x_{ij} \quad (1)$$

Where,
U(x) = Overall utility of an attribute
$\beta_{ij}$= utility of the jth level of the ith attribute, i=1,2,…,k; j=1,2,…,l

$$x_{ij} = \begin{cases} 1, \text{if the jth level of ith attribute is present} \\ 0, \text{if the jth level of ith attribute is absent} \end{cases}$$

The ordinary least square method is applied to estimate the regression parameter

$\beta_{ij}$ (Fox, 1997). Here the preference ratings and dummy variables representing the levels of the attributes are dependent and independent variables respectively.

The following Table 1 illustrates the details of the attributes and the attribute levels used in this paper.

**Table-1: Attributes and corresponding levels under study**

| **Attributes** | **Factors** |
|---|---|
| Research methodology topic (RMT) | (i) Particular research/subject based<br>(ii) General Topic |
| Device (D) | (i) Computer<br>(ii) Mobile Phone |
| Online Platform (OP) | (i) YouTube Live<br>(ii) Zoom, GoogleMeet, TeamLink etc |
| Communication (C) | (i) WhatsApp<br>(ii) Telegram |
| Time Slot (TS) | (i) Morning<br>(ii) Afternoon<br>(iii) Evening |
| Duration (Days) (DU) | (i) 1-15<br>(ii) 15--30<br>(iii) >30 |
| Course fees (Rs.) (CF) | (i) Less than2000<br>(ii) 2000-5000<br>(iii) More than 5000 |

## Methods and Cata Collection

The conceptual framework of the conjoint analysis is given below

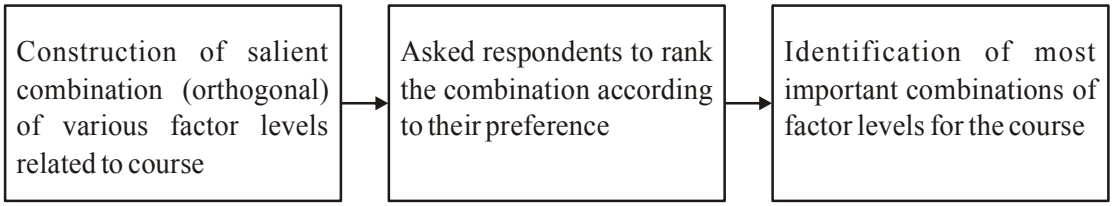


**Fig 1: Conceptual framework for conjoint analysis**

At first, different combinations of the levels of the attributes have been prepared. From the table 1 it can be said that if the all possible combinations of the levels are

considered then there will be 432 possible combinations. The number of combinations is quite large. Instead of 432 possible combinations 32 orthogonal combinations have been generated including of 5 hold out cases using SPSS. Thus, two sets of data were obtained. They were

(i) Estimation set: This set consists of 27 combinations. These combinations were used for evaluating part-worth functions for the attribute levels.

(ii) Holdout set: This set consists of 5 combinations. These combinations were to assess reliability and validity.

The orthogonal arrays were generated using SPSS software.

On the basis of these 32 cards or combinations the first part of the questionnaire has been prepared. Metric conjoint analysis is used for survey data in this part. Students, teachers and research scholars of social science studies were asked to rank the cards. Google form was used to collect the response. A total of 1447 researchers of social science background including students and teachers responded on it.

The second part of the questionnaire consists of demographic and socio-economic and demographic profiles of the respondents. Table 2 represents the distribution of respondents corresponding to the selected profiles. Logistic regressions have been performed to test the impact of these profiles on the attributes' preference level.

**Table-2: Socio, economic and demographic profile of respondents**

| **Demographic Profile** | | **Dummy** | **Percentage** |
|---|---|---|---|
| Age (year) | 18-25 | 1 | 30 |
| | 25-40 | 2 | 37 |
| | 40-65 | 3 | 33 |
| Gender | Male | 1 | 58 |
| | Female | 0 | 42 |
| Area/Locality | Rural | 0 | 32 |
| | Urban | 1 | 68 |
| Marital Status | Married | 1 | 43 |
| | Unmarried | 0 | 57 |
| Income per month (Rs) | 0-35000 | 1 | 39 |
| | 35000-75000 | 2 | 24 |
| | >75000 | 3 | 37 |
| Profession | Student and Research Scholar | 0 | 57 |
| | Teacher | 1 | 43 |

## Results and Discussions

Average utilities of each attribute levels are determined using SPSS software. The result is depicted in Table 3.

**Table-3: Average Utility score for each level of the attributes**

| Attribute | Level | Utility Estimate | Std. Error |
|---|---|---|---|
| RMT | Particular research/subject based | 1.770 | 0.660 |
| | General | -1.770 | 0.660 |
| OP | Zoom, Google meet etc | 0.670 | 0.820 |
| | YouTube | -0.670 | 0.820 |
| C | WhatsApp | -0.176 | 0.640 |
| | Telegram | 0.176 | 0.640 |
| D | Computer | -0.144 | 0.640 |
| | Mobile | 0.144 | 0.640 |
| TS | Morning | -0.104 | 0.932 |
| | Afternoon | -0.175 | 0.855 |
| | Evening | 0.279 | 0.672 |
| DU | <15 | 0.514 | 0.659 |
| | 15-30 | 0.922 | 0.583 |
| | >30 | -1.436 | 2.284 |
| CF | <2000 | 0.742 | 0.660 |
| | 2000-5000 | -0.329 | 0.742 |
| | >5000 | -0.413 | 0.836 |
| (Constant) | | 10.622 | 2.284 |

Table 3 shows that particular research/ subject based methodology yields a greater utility than general research methodologies. This implies that scholars of different Social studies prefer the research methodology courses more that related to their own research/subject. Zoom, Google Meet etc online platforms are more in demand than YouTube because of easy interaction options. Even one can interact face to face through a mobile/computer screen in these video platforms. Telegram has higher utility than WhatsApp as an information sending medium which may attribute to the easy and smooth transfer of large files.

The present study has found that mobile phone holds a relatively higher importance than computer as communicating device. Mobile phones are easy to access and carry

anywhere. Researchers prefer the evening slot most than morning and afternoon as for example teachers of colleges and universities have their classes during morning and afternoon. A research methodology course with 15-30 days has more utility than less than 15 days and long duration courses. Less than 2000 course fee has been given more importance than higher fees. This implies that researchers don't want to invest much course fee for the courses. The most preferable combination of choices for a research methodology course is

* **Particular/ subject based course + Zoom, Google Meet etc video platform + Telegram as communication medium + Mobile phone as device + Evening time slot + 15-30 days course + Course fee less than 2000**

For this combination the utility value is 15.325.

Table 4 highlights a measure of the average relative importance of the attribute.

**Table-4: Average importance value of the attributes**

| Attributes | Importance Value |
|---|---|
| Research Methodology Topic (RMT) | 13.921 |
| Online Platform (OP) | 8.458 |
| Communication (C) | 8.803 |
| Device (D) | 11.173 |
| Time Slot (TS) | 14.236 |
| Duration (DU) | 19.322 |
| Course Fee (CF) | 21.350 |

The table 4 shows that course fee is the most influential attribute. Course duration and time slot are the second and third preferable attributes. The result also shows that communication medium and online platform are the least considered by the researchers.

In Table 5 three statistics are computed based on the correlation between observed and estimated preferences. The p-values corresponding to test statistics show that the correlations are high for all conjoint models which validate a good and efficient model fit.

**Table-5: Correlation between observed and estimated preferences**

| | Value | Significance |
|---|---|---|
| Pearson's R | 0.894 | 0.01 |
| Kendal's tau | 0.785 | 0.02 |
| Kendal's tau for holdouts | 0.683 | 0.04 |

Logistic regression analyses have been performed to study the relationship between the preferences under study with some demographic and socio-economic profiles of the respondents. Here the preferences are the dependent variable and demographic and socio- economic profiles are the independent variable. Since seven attributes have been studied here, seven regression models are considered. For each attributes 1 is assigned for the level which has maximum utility and 0 for the other levels. The results of the logistic regressions are given in Table 6.

**Table-6: Logistic Regression Model Results for Attribute Levels**

| Dependent variable | Constant | Age | Gender | Locality | Marital Status | Monthly Income | Profession |
|---|---|---|---|---|---|---|---|
| Methodology Type | 0.97 (0.18) | 10.54 (0.04*) | 7.82 (0.07) | 8.25 (0.31) | 9.31 (0.42) | 10.92 (0.47) | 4.39 (0.22) |
| Online Platform | 0.90 (0.22) | 7.04 (0.11) | 9.06 (0.11) | -14.79 (0.04*) | -6.26 (0.65) | -4.25 (0.68) | -6.22 (0.37) |
| Communication | 2.06 (0.11) | -19.26 (0.05*) | 6.09 (0.21) | -11.24 (0.09) | 8.31 (0.35) | -9.93 (0.10) | -11.53 (0.05*) |
| Device | 3.28 (0.09) | 15.77 (0.03*) | -12.47 (0.04*) | 7.62 (0.09) | -4.13 (0.42) | 6.33 (0.47) | 12.32 (0.05*) |
| Time Slot | 2.22 (0.15) | -11.35 (0.04*) | 17.99 (0.01*) | -11.22 (0.05*) | -5.82 (0.63) | 5.30 (0.42) | 9.71 (0.04*) |
| Duration | 1.07 (0.20) | -10.21 (0.05*) | -11.92 (0.05*) | 12.44 (0.71) | -5.92 (0.55) | 7.14 (0.29) | 11.21 (0.04*) |
| Course Fees | 1.76 (0.23) | -12.09 (0.04*) | 7.61 (0.47) | 4.98 (0.52) | -6.03 (0.54) | -12.33 (0.05*) | -15.05 (0.04*) |

From table 6 we have the following results:

* Research Methodology Type depends on age only
* Online platform depends on locality only
* Communication depends on age and profession.
* Device depends on age, gender and profession
* Time slot depends on age, gender, locality and professions
* Duration of course depends on age, gender and profession
* Course fee depends on age, monthly income and profession

## Conclusion

The study of the present paper mainly focuses on the relative importance of the attributes while researchers select research methodological courses. For this purpose, a conjoint analysis has been performed. Different mutually exclusive levels of the attributes are considered. The best preferable

combinations of the levels that researchers value most have been identified from this paper. Among the all possible combinations of the levels 32 orthogonal combinations have been selected. The idle combination is based on subject specific research methodology course with low fee structure, 15-30 day duration, evening time slot, mobile device, telegram message app, and zoom, Google meet etc online platform. The course fee has been assigned as the most important attribute and online platform assigned as the least important from the survey responses. Validity of the conjoint model has been checked. Logistic regression identified the socio economic and demographic factors that influence the preference attributes. This result indicates that there is a possibility that the utilities may sensitive to the profile of these variables. This study would help the institutions to develop a research methodology course based on preferences of research scholars. The analysis is also giving insight for changing a course structure to make it more learners friendly.

## Conflict of Interest

The Author declares no conflict of interests.

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It invites unpublished and original research papers, book reviews, Ph.D. thesis reviews, summaries and reports etc.

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