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**2021 - 2024**

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<b>Himanshu Matta</b> Research Papers in Journal: 6 Book/Book Edited/Book Chapters/Conference Papers: 1 Patents: 2 FDP/Seminar/Conference/Courses Attended: 28
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<b>Sunitha Ravi</b> Research Papers in Journal: 3 Book/Book Edited/Book Chapters/Conference Papers: 2 FDP/Seminar/Conference/Courses Attended: 32
<b>Virender Kumar Dahiya</b> FDP/Seminar/Conference/Courses Attended: -10-

# A Study on Geriatric Care: With Reference to India and Japan

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**Abstract**—India's rapidly aging population is creating a growing demand for geriatric care. Geriatrics is a specialized branch of medicine that focuses on the healthcare needs of older adults where as Japan is also offering Healthcare Services without any restrictions to its citizens and also to people living there for more than 3 months. Both countries government has taken initiatives to increase geriatric care awareness among people. This paper explores the scope of geriatric care and also includes initiatives taken by Indian government and Japan government for the same. It includes purely a secondary research where data is collected from various websites.

**Keywords:** Geriatric care, UHC, senior citizens, Demographic, Aging

## Introduction

India's rapidly aging population is creating a growing demand for geriatric care. Geriatrics is a specialized branch of medicine that focuses on the healthcare needs of older adults. Geriatricians are trained to assess and manage the complex medical, psychological, and social issues that often accompany aging. India's population is aging rapidly. By 2050, India is projected to have the largest elderly population in the world, with over 324 million people over the age of 60. This demographic shift is putting a strain on India's healthcare system, which is not well-equipped to meet the needs of older adults.

There are several factors that contribute to the increasing need for geriatric care in India.

- **Increased longevity:** Indians are living longer than ever before. In 1951, the average life expectancy in India was 37 years. By 2022, it had increased to 70 years.
- **Changes in lifestyle:** The modern Indian lifestyle, with its emphasis on processed foods and sedentary activities, is contributing to an increase in chronic diseases such as heart disease, stroke,

diabetes, and cancer. These conditions are more common in older adults and require specialized care.

- **Social changes:** The traditional Indian family structure, which often provided care for older adults, is breaking down. This is leaving many older adults without adequate support.

## The Scope of Geriatric Care in India

- **Preventive care:** Geriatricians can help older adults prevent chronic diseases through screenings, vaccinations, and lifestyle counseling.
- **Diagnosis and management of chronic diseases:** Geriatricians are experts in the diagnosis and management of chronic diseases that are common in older adults, such as heart disease, stroke, diabetes, and cancer.
- **Mental health care:** Geriatricians can provide mental health care for older adults who are struggling with depression, anxiety, or other mental health conditions.
- **Rehabilitation:** Geriatricians can help older adults who have lost mobility or function due to illness or injury regain their independence through rehabilitation services.
- **Palliative care:** Geriatricians can provide palliative care to older adults who are terminally ill.

## The Challenges of Geriatric Care in India

- **Shortage of geriatric specialists:** There is a shortage of geriatric specialists in India. This is due in part to the fact that geriatrics is a relatively new specialty in India.
- **Lack of awareness:** Many older adults in India are not aware of the benefits of geriatric care. This is due in part to a lack of education and awareness about geriatric care.

- **Accessibility:** Geriatric care services are often not accessible to older adults in rural areas.

### The Future of Geriatric Care in India

The future of geriatric care in India is bright. The Indian government is increasingly recognizing the importance of geriatric care and is investing in the development of geriatric care services. There is also a growing awareness of geriatric care among older adults and their families.

As India’s population continues to age, geriatric care will become increasingly important. Geriatric care can help older adults live longer, healthier, and more independent lives.

### Geriatric Healthcare in Japan

Japan is offering Healthcare Services without any restrictions to its citizens and also to people living there for more than 3 months. Fee for their care is decided on the basis of their income level. Good technological support is the added advantage. Japan government has also taken initiatives to increase number of schools with a focus on rural area so that number of doctors should also rise. Another reason for better services in Japan is Universal Health Coverage i.e. UHC for making Japan world’s highest in life expectancy. Other nations can also take Japan as a model for improving life expectancy.

**Elder Population in Total Population in India**

2011	8.6%
2036	Expected 12.5%
2050	Expected 19.5%

Above data indicates that care for elder population is the significant requirement of the economy as with the passage of time, ratio of elderly in the total population is also rising.

### Issues Associated with Elderly People

- In this digital economy, it is difficult to train elder people as per the tech requirements this is majorly a challenges with elderly living in unorganized sector.
- In small countries, it is not an issues to deal with elderly as communities play an active role then it’s a challenge in countries like India, there is a requirement to build the type of community to be associated with elders.

- Building an ecosystem in the country that should be elderly favourable.

### Initiatives Taken by Indian Government for Elder People

- **Senior Care Aging Growth Engine:** The Indian government is also working to promote senior care as an aging growth engine. This involves developing new industries and services that cater to the needs of the elderly population the government is promoting the development of senior citizen homes, assisted living facilities, and home healthcare services. Government is also working to create an age-friendly society by making public spaces and buildings more accessible to the elderly. For example, the government has mandated that all new buildings have ramps and elevators for the elderly.
- **Elder Line:** Elder Line is a valuable resource for senior citizens and their caregivers in India. It provides a confidential and supportive space for them to raise their concerns and get help. Referral to other relevant services, such as legal aid, medical care, and social support.
- **PM Vaya Vandana Yojna:** The PMVVY provides a regular income to the policyholder for a period of 10 years. This can help senior citizens to meet their monthly expenses and maintain a comfortable lifestyle. senior citizens can purchase a pension plan by paying a lump sum amount. The guaranteed rate of return on the pension is currently 7.40% per annum.
- **Vayoshrestha Samman:** Vayoshrestha Samman is a national award instituted by the Ministry of Social Justice and Empowerment in 2005 to recognize eminent senior citizens and institutions for their outstanding services to the elderly, especially indigent senior citizens. Indian government to recognize the contributions of senior citizens to society and to raise awareness about the needs of the elderly.
- **Rashtriya Vayoshri Yojana:** assisted living devices such as Walking Sticks, Elbow Crutches, Walkers/ Crutches, Tripods/ Quadpods, Hearing Aids, Wheelchairs, Artificial Dentures and Spectacles are provided free of cost to the beneficiary senior citizens. The scheme helps to improve the mobility, independence, and quality of life of senior citizens.

- **Sacred Portal:** A web portal that provides information and resources on various aspects of aging, such as health, finance, and legal rights.
- **Silver Economy:** Silver Economy is a term used to describe the economic activity generated by and for people aged 60 and over. It is a rapidly growing sector, as the global population ages. The government is also supporting senior citizens to start their own businesses. For example, the National Institute of Entrepreneurship and Small Business Development (NIESBUD) offers special training programs for senior entrepreneurs.
- **Start Ups: Emoha** is a tech-enabled caregiving platform that provides a range of services to senior citizens, including remote health monitoring, emergency response, and companionship. **Khyaal** is a start-up that provides a range of home care services to senior citizens, including personal care, meal preparation, and medication management.

#### Old Age Care Division of NISD

Course	Duration	Purpose
PG Diploma in Integrated Geriatric Care	1 Year	To develop professional at Manager Level and Supervisory Level
Certificate Course on Geriatric Care Givers	3 Months	To develop professionals for bed assistance
Capacity Building Programme on Dementia Care & Management	3 Days	For functionary of Old Age Homes
Awareness Programme for Promoting Inter Generational Bonding	1 Day	Sensitization on Elderly Problem
Diet & Nutrition: Holistic Health Care		Training to Family Members of Senior Citizens.

In addition to above courses, State level/National Level Conferences or Seminars are also initiated by NISD in collaboration with State/Central Universities.

#### Conclusion

As we are moving in the scenario where as per the data, we will have increasing number of elderly people

in the economy. We need holistic approach for them. Geriatric care should not be confined to health aspect whereas focus should be on overall improvement of quality of life. It may be training them for “How to earn livelihood” as per their strength or how to take care of themselves when no one is around. Japan is setting a good example and nations can take it as a model for finding scope of improvement in enhancing their economy’s efficiency.

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# **A Study on Conceptual Framework of Metaverse in India and It's Awareness Among Users**

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## **Abstract**

Metaverse is considered as the next big thing in the future which helps communication faster and engages in virtual activities in a virtual environment. Several Industry giants are entering into this Metaverse like Tourism, Healthcare, education etc. Top Metaverse and virtual worlds in the year 2022 are Sandbox, Axie Infinity, decentraland, Solchicks, bloktopia, Metahero, illuvium etc. The main focus of the study is to explore the conceptual framework of Metaverse in India and the challenges that India could face during its implementation process. This study also explores the awareness of internet users on Metaverse. Metaverse is an interesting technology but it requires high level computer programming, Augmented Reality headset, Virtual Reality headset and gaming device.

**Keywords:** Metaverse, Virtual Environment, Augmented Reality, Virtual reality

## **1. INTRODUCTION**

The term Metaverse originated from the words 'Meta' and 'Universe'. It is a virtual world in which the users can attend virtual events, establish virtual offices, live, work collaborately and can interact with others through a computer generated virtual environment. The term Metaverse is an outcome of evolution of online 3-D enabled digital space that provide users access to virtual reality, augmented reality and other digital technology which allow users to have online business experiences.

It is considered as the next big thing in the future which helps communication faster and engages in virtual activities in a virtual environment. Several Industry giants are entering into this Metaverse like Tourism, Healthcare, education etc. Top Metaverse and virtual worlds in the year 2022 are Sandbox, Axie Infinity, decentraland, Solchicks, bloktopia, Metahero, illuvium etc.

This study explores various challenges faced in India during the implementation process from the perspective of internet users. This study also focuses on the concept of Metaverse in the real digital world. Source of data collection is primary and secondary. Primary data is collected through a structured questionnaire. Secondary data is collected through referring research papers, research articles etc.

## **2. OBJECTIVES OF THE STUDY**

- To study the concept of Metaverse
- To study awareness of Metaverse among internet users
- To explore challenges that India can face during the implementation process from the perspective of users.

## **3. CONCEPT OF METAVERSE**

Metaverse is expected to give new shape to digital world. Now a days, it is essential for companies to strengthen their technology, block chain capability and security measures to adopt this technology. Metaverse works to connect people in virtual environment. It's an interesting technology but it requires high level computer programming, AR headset, VR headset and gaming device.

It's a technology that provides companies an opportunity to become user friendly and to understand their customers better like Virtual games to make users understand their product, virtual showrooms where customers can get better experience as it provides 3D advertising and marketing platform and so on.

For example, if someone wants to buy eye glasses, can get virtual experience of it and on the basis of this feature, can choose the option which best suits.

Virtual meetings can be conducted where every participant will get feeling of sitting in some conference or meeting room. Not only the feeling of sitting together, it also provides an environment to understand body language and emotions of one another.

Examples are Ready player one, Somnium space, Facebook's horizon, and so on.

#### **4. LITERATURE REVIEW**

Paper entitled "All one need to know about Metaverse" authored by Lee LikThlang et al (October 2021) focused on increasing use of technologies and also illustrates possibility of digital bang. They believe that increase of technological enabler's driving current system of internet towards Metaverse.

Paper entitled "A Study on Metaverse Awareness, Cyber Risks, and Steps for Increased Adoption" authored by Glorin Sebastian (January, 2022). Author believes that Metaverse is a success for mobile internet and becoming very much popular with the growth of Tech industry. In this research, ways proposed to increase awareness and easy acceptance of its use were discussed.

"Metaverse beyond the hype" authored by Dwivedi Yogesh et al (October 2022) believe that the Metaverse Process the capability to raise physical world in to virtual reality and allow users for interacting people with realistic and simulated way. Their study suggests impact sectors like education, societal, health etc. They also discuss that privacy, biasness and psychological factors like its addiction and impact on people.

Paper entitled "the Metaverse in Education" written by Zhang Xinli et al (October 2022). They believe that Covid Pandemic was the reason which forced people to divert towards technology world. This paper proposed Metaverse in the field of education. Even they presented about challenges that are expected in the sector.

Paper entitled "Exploring the Metaverse: Challenges and Opportunities for India" authored by Wajire Pankaj (August 2022). He called Metaverse as next Internet. Author believes that it is multi level technology application and includes hardware also with immersive technology and perceives that Metaverse is in nascent level. Further suggest how India can take benefit from the opportunity provided by Metaverse.

#### **5. RESEARCH METHODOLOGY**

Data for the research is collected through primary as well as secondary data. Primary data is collected through structured questionnaire. The population/universe for this study consists of general public and users of internet from all age groups and occupations. Sample size taken for this study is 100 respondents. Sampling technique for the study is convenience sampling. The tools used for data analysis include Excel, Google forms etc.

#### **6. DATA ANALYSIS AND INTERPRETATION**

##### **Age of the respondents**

76.5% of the respondents were from age group of 18-24. This indicates that majority respondents are youth.

##### **Occupation of the respondents**

61.7% of the respondents were students. 16% were Corporate employees. Others are either self employed or in teaching job.

##### **Awareness about Metaverse**

Majority of the respondents i.e. 84% were aware about Metaverse while 16% were not aware about it.

##### **Excitedness to use Metaverse**

53.1% of the respondents were excited to use Metaverse. Reason may be majority respondents were young (between 18-24 age group). 35.8% of respondents were having a 'Neutral perspective' towards Metaverse. 11.1% of respondents were not that excited to use Metaverse.

##### **Experience of Virtual or Augmented reality**

50.6% of the respondents have experienced virtual or augmented reality while 49.4% of the respondents have never experienced virtual or augmented reality.

Having gadgets that are required to experience Metaverse like VR headsets, AR glasses 70.4% doesn't have any gadget that is required to experience Metaverse, i.e., VR headsets, AR glasses while 29.6% of respondents have gadgets that are required to experience Metaverse.

#### **Perception of respondents with regard to India being ready for Metaverse**

49.4% of the respondents were not sure about India being ready for Metaverse. 35.8% of the respondents think that India is ready for Metaverse whereas 14.8% of the respondents think that India is not ready for Metaverse.

#### **Issues that India may face during or after the launch of Metaverse**

25.9% of the respondents think that Lack of resources i.e., VR headsets, AR glasses/screens is the biggest issue that India and organizations may face after the launch of Metaverse. 24.7% of the respondents believe Lack of awareness would be a factor affecting the implication of such technology. 19.8% respondents think addiction to VR games can be an issue that India can face.

14.8% of the respondents considers cyber-security as a threat for Metaverse implication in India. 11.1% of the respondents think that the general public will have to learn how Metaverse works which may require a lot of time and efforts.

#### **Awareness of increase of Metaverse 'Social isolation'?**

90.1% of the respondents think, Metaverse will increase 'Social isolation' (as people will be more active in virtual reality where they can have a life they want and eventually isolate themselves from the actual world). Lesser number of the respondents (9.9%) think that Metaverse will not increase 'Social isolation'.

#### **Concerned about the impact of VR technology on health (Eyesight issues, etc)**

88.9% of the respondents were concerned about the impact of VR technology on health (Eyesight issues, etc). 11.1% respondents admitted that they are not concerned about such impacts of VR technology on health.

#### **Usage of Augmented Reality**

35.8% of the respondents think that Metaverse can be used in Education sectors. 33.3% of the respondents believe that the 'Gaming sector' can be integrated well with the Metaverse. 18.5% of the respondents think that Metaverse can be used in the Healthcare sector.

#### **Do you think companies should advertise in Metaverse?**

76.5% of respondent thinks that companies should advertise in Metaverse while 23.5% of respondent thinks that companies should not advertise in Metaverse.

### **7. CHALLENGES THAT INDIA CAN FACE DURING THE IMPLEMENTATION PROCESS OF METAVERSE**

**High level of Cyber Risks:** As data required for this application includes biometric aspects like facial scan, eye contacts, etc which unethical hackers may try to get and misuse.

**Can Affect work Culture:** High level technical skills are required to get jobs as jobs that require moderate technical skills can be automated. These are chances that coming of this high-tech can affect work culture in IT sector.

**Resources to power intensive Technology:** Various resources like VR headsets, AR glasses/screens is the biggest issue that India and organizations may face after the launch of Metaverse. There is a need to support the power intensive technology for using multiuser platforms.

**Insufficient Protocols:** Sometimes low-quality data and lack of standardized security mechanisms is a problem in using Metaverse.

**Can affect mental health:** Addiction to Metaverse can lead to health issues like depression, anxiety, eye problems, lack of concentration, obesity etc.

## 8. CONCLUSION

Big Tech Companies are investing in metaverse because future refined version of internet is metaverse. Metaverse is coming to reality now a days and due to technological advancements, our real world is getting more viral. Many people would get experience on this new virtual reality. Metaverse would impact every sector and industry. Various challenges facing during the implementation of metaverse are cyber risks, work cultures in Information Technology sector, health issues, low quality data, requirement of digital technologies, security factors etc. Metaverse can change the perception of internet users and people are excited to use metaverse.

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## Perceived Stress Among University Students in The Shadow of The Covid-19

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### Abstract

Student mental health is growing into a more pressing problem in higher education. The COVID-19 outbreak brought this vulnerable population back into the forefront. Our study aims to offer a timely assessment of the effects of the COVID-19 epidemic on the mental health of college students. A total of 98 students from the Guru Gobind Singh Indraprastha University and Delhi University in New Delhi participated in the study, completing demographic data, the perceived stress scale (PSS-10), major stressors, and the Coping Strategy among students. The data was examined using quantitative and qualitative approaches. Because of the long-term pandemic condition and onerous measures such as lockdown and stay-at-home directives, the COVID-19 pandemic had a severe impact on higher education. The findings showed that female gender, 54.2 % higher scores in stress level & experience more 54.8% depressive thoughts during covid. Our findings underscore the critical need for intervention and prevention efforts to address the mental health of children and adolescents.

**Keywords:** COVID-19, College Student, Mental Health, Pandemic, Perceived Stress

### INTRODUCTION

College students are predisposed to mental health problems. Academic pressure, combined with the challenges of starting and attending college, might result in the appearance or worsening of mental health and substance use issues. Mental health issues are a significant impediment to academic performance. A student's motivation, attentiveness, and social interaction can all be affected by mental illness, which is critical to a student's higher education success (Paola Pedrelli, 2015). It is most often diagnosed among students who seek help from university counselling centers. Over the last eight years, Texas A&M University has observed a rise in the number of students seeking treatment for anxiety disorders, mirroring a nationwide trend. Anxiety was indicated as a primary cause for seeking services by slightly more than 50% of students in 2018. Despite the fact that demand for mental health services in higher education institutions, only a small percentage of students who commit suicide go to the institution's counselling Centre, which may be due to the stigma of mental health (Miriam Shuchman, 2007). This negative stigma associated with diagnosis and mental health care has been linked to lower adherence to therapy and premature discontinuation of treatment.

For months, the new coronavirus (which causes COVID-19) has been a worldwide phenomenon. It has wreaked havoc on people's lives all around the world due to its high spread pace. As of November 30, 2020, the pandemic had killed over 1.46 million individuals and resulted in more than 63 million definite illnesses, causing lot of stress. Isolation, online classes, frequent network disruptions, and social and familial pressure have all contributed to students' stress levels. As expected, the epidemic has had an impact on the mental health of students all across the world. As a result, a sizable proportion of the approximately 3.4 million Indian students participating in higher education may be impacted. India has surpassed the United States as the pandemic's second-most-affected country, with more than 9.4 million confirmed cases and more than 140,000 deaths. As a result, in order to limit the spread of COVID-19, educational institutions such as colleges and universities are refusing to enrol students, disrupting ordinary educational operations (WHO- Helen Rosengren 2021).

Students felt detached during the lockdown, despite the fact that the state government implemented several educational policies for virtual teaching sessions. Isolation, social media addiction, and a lack of physical exercise were all the result

of a lack of regular student connection with their university or college, which resulted in psychological instability. During an epidemic, the general population, patients, medical personnel, youngsters, and the elderly are said to be particularly prone to mental health difficulties (Wang G et.al 2020). Despite the fact that many global institutions are reported to have made significant efforts to reduce stress among staff and students, various studies have highlighted stress among students. Pandemics like as COVID-19 not only disturb everyday routines, but also cause major delays in academic tasks, which are associated with student stress and fear. Because of the current situation in many countries, medical students are being urged to collaborate with native health workers. These medical students are under a lot of stress and anxiety because they have direct contact with infected people (Liu ZH et al 2020).

Academic stress is among one of the mental health problem among university students that is mostly driven by students' fear about failing and losing grades. Students are worried during COVID-19 for a variety of reasons, including apprehension over poor performance and a potential delay in finishing their studies. Many recent studies that focused on university students' mental health during COVID-19, such as, revealed that COVID-19 had a negative impact on university students' mental health and welfare. (Yang Chunjiang 2021)

Individual behavioural repercussions such as anxiety, worry, despair, anger, and post-traumatic stress disorder are all widespread and affect people all around the world. Substance misuse, rule breaches, peer pressure, and technical errors during self-learning activities are all elements that influence students' psychological behaviour. As a result, the purpose of this study was to bridge the gap between comprehending students' stress levels when their academic activities are limited and they are isolated (Hena Yasmin, 2020).

The study is based on the 10-item Perceived Stress Scale (PSS), but it also includes other indicators to proactively determine the student fraternity's stress level and cause.

The purpose of this study was to measure the levels of perceived stress, major stressor and coping strategies among university students in New Delhi during the COVID-19 lockdown.

## **REVIEW OF LITERATURE**

Gunther Eysenbach, Guy Fagherazzi, and John Torous (2020) studied the impact of Covid on mental health of university students'. The goal of this research is to identify main pressures on mental health linked to COVID-19 epidemic. They used Zoom sessions to interview 195 students from United States to learn about the consequences of the pandemic on health. Quantitative & qualitative methodologies were used to analyse the data. The study reveals that the COVID-19 pandemic had a number of negative influence on academic, health, and lifestyle. During COVID-19, students saw a 71% rise in stress and anxiety.

Amany Edward Seedhom et.al (2021) was aimed to analyze stress among university students in south-east Serbia region during pandemic. The structured questionnaire, which comprised of four components, was distributed to 434 students from a public university. 1. Socio-demographic information, 2. PSS-10 (perceived stress scale), 3. Coping Strategy Indicator (CSI), and 4. General Health Questionnaire (GHQ-28). The PSS results suggested that our participants had moderate levels of stress during the COVID-19, 48. GHQ-28 revealed that 83 percent of students were psychologically upset, with female respondents scoring higher on anxiety, sleeplessness, and despair.

Sam Liu et.al (2021) investigated the connection between personality qualities and felt stress. The goal of this study was to see how people's perceptions of COVID-19's threat and their ability to follow government orders in preventing COVID-19 would affect their personality traits and perceived stress. An online poll was used to obtain data from 1055 Canadian people. During the pandemic, the researchers employed bivariate correlations to examine the association between personality factors, perceived stress, perceived efficacy, and perceived threats. Researchers concluded that personality traits could be a key element in recognizing COVID stressors, with higher neuroticism and extroversion indicating higher levels of stress especially during the epidemic. The study showed that personality traits may have a role in identifying stress-prone individuals during COVID, the higher neuroticism and extroversion indicates higher levels of stress during the pandemic.

Szabolcs Garbóczy et al. (2021) investigated the levels of reported stress, health anxiety, and coping techniques among university students in Hungary during the COVID-19 pandemic. The information was gathered from 1289 people at the University of Debrecen using a Google form. The questionnaire included three evaluation tools: the PSS (Perceived Stress Scale), the WCQ (Ways of Coping Questionnaire), and the SHAI (Short Health Anxiety Inventory). The study

found that health anxiety and perceived stress levels were significantly greater among overseas students than among domestic students, because cognitive restructuring as a coping mechanism was related with lower levels of stress and anxiety in domestic students. Female students in the foreign group had significantly greater levels of perceived stress than male students, but there is no significant difference in perceived stress between men and females in the domestic group.

The stress levels of students in Vietnam, as well as their coping mechanisms in the light of COVID-19 epidemic, were highlighted by Truc Thanh Thai et al. (2021). They used the two-sided t-test and ANOVA test to analyse data collected from 563 participants through online questionnaires consisting of three segments: namely demographic characteristics, Perceived Stress Scale, and Brief COPE. During COVID-19 pandemic, students reported high level stress, but they also reported having reasonably strong knowledge and skill, and a preference for adaptive coping mechanisms, according to the study.

Stress Perceived by Students was explored by Yolanda Marcén-Román et al. (2021). The main aim of this study is to investigate how University Health Sciences students at the Zaragoza felt about the COVID-19 epidemic, as well as their socio-demographic traits, anxiety, and sadness, after almost a year of the pandemic. The modified scale (PSS-10-C) was used to evaluate the stress and was delivered to 252 university students. According to the findings, stress was present in 13.1 percent of students, anxiety in 71.4 percent, and depression in 81 percent, with stress being most prevalent in females (81.7 percent).

Chunjiang Yang et al. (2021) did research to measure the impact of the academic stress on students' health. The study's goal is to see how academic burden, time away from school, and fears of contagion affect college students' mental and physical health. The information was gathered through a survey on WE CHAT. According to the findings, academic strain, separation from school, and fears of contagion all contribute to students' perceived stress, which badly impacts their physical and mental health.

Bijoy Chhetri et al. (2021) conducted a cross-sectional study that analyzed the effect of COVID-19 on students' mental health in India. The study's goal is to learn about the kids' stress levels when they are isolated. We employed the sample and easy snowball sampling technique. A correlation analysis was undertaken to analyze the relationship between students' difficulties and the reasons underlying their felt stress using a standardized questionnaire with the sample size of 1536 students. A one-way ANOVA was used in conjunction with logistic regression to examine the variance of socio-demographic information. The PSS score is influenced by fear of vulnerability, self-management, and refusal to adopt virtual learning, according to the findings. According to the poll, roughly 25% of students have been badly affected by the outbreak and have suffered above-average stress. Six per cent have encountered severe stress, while 45 percent have suffered medium stress. Female students are more worried about their academic activities, while students aged 18-25 are prone to the effects of lockdown. Their stress is due to their inability to accept a paradigm change in academic activities and have been subjected to COVID-19 restrictions for an extended length of time.

The depression was discovered by Usama Rehman et al. (2020). COVID-19 is causing a stir among Indians. The standard questionnaire was distributed to respondents during the second week of the first national lockdown. With the help of SPSS v 21, inferences were made using the t-test, Anova, and Correlational analysis. Students and health professionals, according to the findings, require specific attention due to their greater levels of psychological discomfort. Mental health professionals may be able to assist policymakers and other authorities in overcoming psychological issues related to Covid-19.

Khaled Seetan et al. (2021) did a cross-sectional study to assess the impact of COVID-19 on medical students' mental health. The goal of this study was to determine the existence of COVID-19 and to assess its detrimental impact on medical students' mental health. There were two sections to the questionnaire. The first section contains sociodemographic information as well as a self-reported assessment of COVID-19's impact on mental well-being using the Kessler psychological stress scale 10 (K10). Independent samples t-tests and one-way ANOVA (SPSS Ver.25) were used to compare mean psychological stress scores between groups. According to the survey, half of our medical students have major mental diseases, with physical fitness, exercise, and studying being among the most adversely affected components of the COVID-19 epidemic. It is proposed that actions be done to alleviate student stress, which can have a number of harmful implications.

Jelena Kosti et al. (2021) During the COVID-19, University students in southeast Serbia were asked to rate their stress

levels. The primary goal of this study was to investigate how university students in southeast Serbia reacted to the COVID-19 pandemic in terms of stress and other factors. PSS software version 15.0 was used to process statistical data. The study included 434 students from a public university in southeast Serbia who completed sociodemographic questionnaires, the perceived stress scale (PSS-10), the Coping Strategy Indicator (CSI), and the General Health Questionnaire (GHQ-28). The data was analysed using quantitative and qualitative methods. The average felt stress score, according to the study's findings, was

20.43 (7.67). Higher anxiety/insomnia, depression, and coping strategy avoidance subscale scores were associated with higher felt stress in women, while higher social dysfunction scores were associated with lower perceived stress scores.

Academic performance and stress among university students were investigated by Nadeem Talib and Muhammad Zia-ur-Rehman (2012). The goal of this research is to see how perceived stress affects student academic performance and to figure out what causes induce stress in students, which then affect their academic performance. The research was based on primary data acquired from university students in Islamabad using a survey questionnaire, which was divided into three parts. T-statistics, descriptive analysis, and correlation analysis were used. According to the findings, engineers have a higher stress score than managers, and their stress levels do not differ considerably across male and female students, although engineering students differ significantly from management sciences students in terms of perceived stress.

Mustafa Malik and Sarfaraz Javed investigated the reported stress among university students in Oman during COVID-19-induced e-learning. The structured questionnaire was created using Google Forms. Descriptive statistics, means, standard deviations, and Pearson correlation were used to analyse and interpret the data and publish the results. The study discovered that students' mental health is greatly influenced by the support they experience from their family and the institution during COVID-19-induced online learning, since these were found to be adversely connected with their felt stress. Academic pressures were discovered to have a stronger negative link with students' reported stress than psychological and social stressors.

The perceived stress related with the COVID-19 outbreak was researched by John Carlos Pedrozo-Pup (2020). The purpose of this study was to find out the prevalence and characteristics of COVID-19 pandemic-related perceived stress in a sample of Colombians. Finally, 15% of the participants said they were under a lot of stress because of COVID-19. High levels of stress were linked to health officials' allegedly conflicting strategies in light of scientifically validated guidelines. More research into the psychosocial elements of epidemics is needed.

Hannah K. Allen et al. (2020) studied stress and burnout among graduate students: moderation by sleep duration and quality. The purpose of the study was to use data from a large, diverse sample of graduate students to better understand the relationships between stress, sleep, and burnout. According to the data, stress exhibited strong, positive relationships with weariness, cynicism, and inefficacy. Graduate students may be confronted with the intensity and stress of graduate school early in their programme, experience emotional strain and exhaustion, and, as a result of the continued pressure, develop cynicism and inefficacy about their function as graduate students.

## **OBJECTIVES**

1. Identify main stressors linked to the COVID-19 pandemic.
2. To comprehend their effects on the mental health of college students.

## **RESEARCH FRAMEWORK**

The purpose of the study is to measure the effects of the COVID-19 pandemic on the mental health of college students in New Delhi. The study is a descriptive study & quantitative study.

To collect data sample technique used is a simple and convenient snowball sampling method

To collect information, a Google form was shared with friends and family using social media channels such as Facebook, WhatsApp, and Instagram. The online survey was sent to 150 students but received on 98 responses, the response rate was 65.3 %.

The structured questionnaire has four sections. The first section included questions about demographic information such as age, gender, education level, and so on. & the second part of the questionnaire includes PSS-10, the third part consist of

questions about major stressors & last part are on coping strategies.

SPSS version 22 was applied to analyse the data. Descriptive analysis, chi square test & cross table were used to evaluate the study objectives.

### PERCEIVED STRESS SCALE (PSS-10)

This scale assesses respondents' perceptions of stress levels in certain contexts. The respondents were asked 10 questions about how unpredictable, uncontrollable, and overburdened their life had become in the past month, which was appropriate given the current scenario with the Corona 19 epidemic. In each case, respondents were asked how frequently they had experienced a specific sensation in the previous month. The levels of perceived stress were graded using a 5-point Likert scale (range from 0="never" to 4="very often"). The global PSS score runs from 0 to 40, with higher numbers indicating more stress. A score of 0-13 indicates minimal stress, whereas a score of 14 to 26 indicates severe stress. A score of 27-40 indicates a significant level of felt stress. Cronbach's alpha internal consistency of the PSS-10 among national adultsamples ranged from 0.78 to 0.91. Cronbach's alpha for the PSS-10 scale was 0.87 in the current study, showing strong internal reliability.

The collected data is coded & entered into excel sheets. Various statistical tests such as descriptive statistics, cross tabulation carried out using Software Statistical SPSS. The data is represented in tabular form along with their interpretation & discussions.

### DATA ANALYSIS & DISCUSSION

**Table 1.1**

*Respondents' Demographic Profile*

		Frequency	Percentage
<b>Gender</b>	Male	45	45.9
	Female	53	54.1
	Total	98	100.0
<b>Education Qualification</b>	PG	46	46.9
	UG	52	53.1
	Total	98	100.0
<b>AGE</b>	Less than 21	39	39.8
	21 & above	59	60.2
	Total	98	100.00

Above table 1.1 shows that out of 98 respondents most of the respondents were Female 54.1% (53) in comparison of the male 45.9%(45), the respondents mostly were undergraduate 53.1% (52) than post- undergraduate 46.9%(46), most of respondents belong to age group 21 & above 60.2% (59) in contrast 39.8% (39).

**Table 2**

*Major source of Stress*

Cause	Frequency
Academic	59
Fear Of Illness	86
Relationship Issue in Family	74
Death in family	87
Financial Situation	68
Relations with other people (Siblings, Friends,boyfriend/Girlfriend)	73
About future	22
Social media	85
Peer Pressure	88

**Table 2.1**

*Cross Table between gender and cause of stress*

Gender\ Causes	Academic	Fear Of Illness	Relationship	Death in family	Financial Situation	Relations with other people (Siblings, Friends)	About future	Social media	Peer Pressure
Male	25 (42.4%)	39 (45.3%)	32 (43.2%)	41 (47.1%)	28 (41.1%)	29 (39.7%)	13 (59.1%)	41 (48.2%)	38 (43.2%)
Female	34 (57.6%)	47 (54.7%)	42 (56.8%)	46 (52.9%)	40 (58.9%)	44 (60.3%)	9 (40.9%)	44 (51.8%)	50 (56.8%)
Total	59 (60.2%)	86 (87.7%)	74 (75.5%)	87 (88.7%)	68 (69.8%)	73 (74.4%)	22 (22.4%)	85 (86.7%)	88 (89.7%)

Table 2.1 depicts major stressor among males & females, females have highest number in comparison of the males expect the one major stressor about future male respondents were 59.1% (13) & female were (40.9%). Out of 98 respondents 57.6% (34) females have stress because of Academic, 54.7% (47) females has fear of illness, (56.8%) females have Relationship Issue in Family. From 98 respondents have stress from is Death in family is 52.9% females, Financial Situation is 58.9%, Relations with other people (Siblings, Friends) is 60.3%, Social-media 51.8%, Peer Pressure is 56.8%.

**Table 3.1**

*Cross table between Stress Level and Genders*

Gender\ Stress level	Low	Moderate	High
Male	2 (50.0%)	40 (46.5%)	3 (37.5%)
Female	2 (50.0%)	46 (53.5%)	5 (62.5%)
Total	4 (4.1%)	86 (87.8%)	8 (8.2%)

From the table 3.1 it's depicted that stress is usually more in female as comparison to the male.

It is also revealed that Women (53.5%) are more than male (46.5%) show moderate stress level. Whereas 5(62.5%) females have high level of stress & 46(53.5%) show moderated stress.

**Table 3.2**

*Cross Table between Stress Level and different Age Group*

Age\ Stress level	Low	Moderate	High
Less than & equal 21	0 (0%)	36 (41.8%)	3 (37.5%)
Above 21	4 (100%)	50 (58.2%)	5 (62.5%)
Total	4 (4.1%)	86 (87.8%)	8 (8.2%)

Table 3.2 shows that the stress level is more in respondents belong to age group above 21 & most of have moderate stress level 58.2% (50), only 5 (62.5%) respondents have high stress while low level stress found in 4 respondents.

**Table 3.3**

*Cross table between Stress Level and Education Level*

Education Level \ Stress level	Low	Moderate	High
Post graduate	3 (75%)	39 (43.8%)	4 (50%)
Under Graduate	1 (25%)	47 (52.8%)	4 (50%)
Total	4 (4.1%)	86 (87.8%)	8 (8.2%)

Table 3.3 depict that the stress level is more in respondents in Under graduate & most of have moderate stress level 58.2%(50), only 5 (62.5%) respondents have high stress while low level stress found in 4 respondents.

**Table 4**

*Coping Strategy adopted by Male & Female*

Coping strategy from stress	Gender	N	Frequency	Percentage
Taking Intoxication (Smoking,Alcohol)	Male	45	13	28.8%
	Female	53	6	11.3%
Isolate themselves from everyone	Male	45	24	53.3%
	Female	53	38	71.7%

Share to someone	Male	45	34	75.5%
	Female	53	43	81.1%
Physical Activities (Gym, exercise, Dance, running,sports, etc.)	Male	45	30	66.6%
	Female	53	44	83.0%
Doing Yoga and Meditation	Male	45	20	44.4%
	Female	53	36	67.9%
Watch movies & Listen Songs	Male	45	39	86.6%
	Female	53	50	94.3%
Eat more	Male	45	30	66.6%
	Female	53	41	77.3%
Sleeping	Male	45	32	71.1%
	Female	53	37	69.8%
Breathing Exercise	Male	45	26	57.7%
	Female	53	35	66.0 %

Above table show cross-tab of Coping strategy from stress & gender , it found that female are more likely to Isolate themselves from everyone (71.7%), Share to someone(81.1%), Physical Activities (Gym, exercise, Dance, running, sports, etc.) (83.0%), Doing Yoga and meditation (67.9%), Watch movies & listen songs (94.3%), Eat more (77.3%), Sleeping (69.8%), Breathing exercise (66.0 %)except one copingstrategy Taking Intoxication (smoking, alcohol) there is it's show that male(28.8%) use more intoxication for cope up with stress than female (11.3%).

**Table 5**

*Major Challenges faced by Respondent during Covid-19 Pandemic*

Major Challenges	Frequency	Percentage
I'm more concerning my health and the health of loved ones	43	43.8%
I am struggling with Irregular sleep patterns	53	54.1%
I find disturbance in my eating pattern	54	55.1%
I'm having trouble catching up on online classes and class tasks.	45	46%
Depressive thoughts are often triggered by a lack of in-person connections and restricted outdoor activities.	93	94.5%
Life ending thoughts comes often	31	31.8%

Table 5 shows that COVID-19 raised the participants' concern and worry about their own health and the health of their loved ones (43/98, 43.8%). Disturbance in sleep patterns was found in participants, with slightly more than half of respondents (53/98, 54.1%) reporting disruptions to their sleep patterns as a result of the COVID-19 pandemic. The disruptive impact of the pandemic was irregular sleep patterns, such as inconsistent time to go to bed and wake up from day to day. COVID-19 has also had a negative impact on a large portion of participants' dietary patterns (54/98, 55.1%), possibly because the amount of eating has increased, including having more snacks since healthy dietary options have been reduced, and also because their eating patterns have become inconsistent as a result of COVID-19, such as irregular eating times and meal skipping. The effect of COVID-19 on college students' academic workload was inconclusive. Although significantly fewer than half of participants (45/98, 46%) reported an increase in academic burden as a result of COVID-19, I am having difficulties catching up with online courses and class projects due to a lack of in-person help from instructors or teaching assistants. When questioned about the influence of the COVID-19 pandemic on depressive thoughts, (93/98, 94.5%) reported having some depressive thoughts during the epidemic. Thirty-one (31.8%) of the 98 participants reported suicide thoughts as a result of the epidemic.

**Table 5.1**

*Cross table between gender and major challenges faced during the COVID-19*

Gender	Concerned about health	Irregular sleep patterns	Disturbance in eating pattern	Difficulty in catching up with online study	Depressive thoughts because of isolation at home	Suicidal thoughts
Male	25 (58.1%)	24 (45.3%)	30 (55.6%)	22 (48.9%)	42 (45.2%)	16 (51.6%)
Female	18 (41.9%)	29 (54.7%)	24 (44.4%)	23 (51.1%)	51 (54.8%)	15 (48.4%)

Total	43 (43.8%)	53 (54.1%)	54 (55.1%)	45 (46%)	93 (94.5%)	31 (31.8%)
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Above table show that males(58.1%) are more concerned the health of loved ones and themselves than females (41.9%), even males(55.6%) during covid-19 faced more Disruptions in eating pattern than females(44.4%) & male(51.6%) respondents were experienced more Suicidal thoughts than female respondents (48.2%) but on the opposite side female(54.7%) were more struggling with Irregular sleep patterns than males(45.3%), female respondents were faced more Difficulty in catching up with online study than males(48.9%). During covid-19 Female (54.8%) were more experiencing some depressive thoughts than males (45.2%).

## CONCLUSION

College students are regarded to be more vulnerable to mental health problems. The findings of this study demonstrate the influence of pandemic-related alterations on the mental health and well-being of this group. Male students were significantly less stressed than female students during the COVID-19 pandemic, with high levels of stress found in 62.5 percent of females compared to 37.5 percent of males, this support the finding of Truc Thanh Thai, et al 2021 and Jelena Kosti, et al 2021. During the pandemic, the most common stressors were death in the family (88.7%), followed by dread of sickness (87.7%). Males' significant stressors were death in the family (47.1%) and social media (48.2%), while females' major stressors were peer pressure (56.7%) and fear of illness (54.7 percent).

The majority of students watch movies and listen to music to cope with stress (90.7 percent). Our findings suggest that the COVID-19 pandemic has had a considerable negative impact on a wide range of academic, health, and lifestyle outcomes. By conducting online survey interviews during the pandemic, we discovered that the majority of people were reporting increased stress and anxiety as a result of COVID-19. Surprisingly, 94.5 percent (93/98) of the individuals said they were having more depressive thoughts, with 54.8 percent of females having sad thoughts and 31.8 percent (31/98) having suicide thoughts linked to the COVID-19 pandemic, with 51.6 percent of men having suicidal thoughts.

According to the research, the COVID-19 pandemic has had a considerable detrimental impact on a variety of academic, health, and lifestyle outcomes. By conducting online survey interviews during the pandemic, we discovered that the majority of people were reporting increased stress and anxiety as a result of COVID-19.

Furthermore, it is recommended that there must be a student counsellor or student welfare committee whose purpose is not only to provide study-related counselling but also to solve their problems. The university administration and faculty members should take the study's findings seriously and implement remedial measures to reduce stress as it is affecting their academic performance.

## LIMITATION

The study has a number of drawbacks such as small sample size, the respondents comprises of university students from New Delhi. Recruiting additional students from various parts of the city may improve the study's outcomes. Furthermore, data quality may be comprised due to online collection. & further research is needed to see how the epidemic affects the mental health of students who are in the later phases of a health crisis.

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# **An Assessment of The Suitability of Financing Patterns in The Indian Automobile Industry: A Comprehensive Comparison of the Pecking Order and Trade-Off Approaches**

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**Abstract:** The Pecking Order Theory and Trade-off Theory propose their distinct approaches to finance a firm's investments. The automobile industry, being a capital intensive one, also lingers extremely cautious about its strategies of employing finance for its investment. Hence, this paper is focused to empirically examine the financing pattern that is being followed by the Indian automobile industry and identify which out of the two prominent approaches best describes the financing strategies applied by the industry. The paper is descriptive and empirical research based on the panel data of 11 leading automobile companies, operating under BSE /NSE, for the period of 10 years from 2009-10 to 2018-19. It used descriptive statistics and Linear Trend Model on several leverage ratios and found that the automobile industry in India closely follows the pecking order approach and largely rely on its retained earnings.

**Keywords:** Automobile Industry, Capital Structure, Debt Ratios, Financing Pattern, Pecking Order theory, Trade-off theory.

## **Introduction**

Finance and its structure play a crucial role in any company. Whenever a corporation make up an investing decision, it simultaneously makes a funding choice as well. The funding or financial formation choices are substantial administrative decisions. The financial construct represents the formation or disintegration of the funds utilized by a company. It involves both the shareholder's investment and the fixed obligation investment by the lenders. The financial structure building unveils the comprehensive investing and funding policy of a corporation which demonstrates its extent of dependence on external and internal sources of finance to finance its investments.

The automobile industry is one of the key industries in India. With strong linkages on the either side of the spectrum, the Automobile sector has been identified as the competitive benefit recipient and promising to stimulate swift progress of manufacturing sector by implementing the National Manufacturing Plan. India has become one of the most attractive destinations for foreign investment in the Auto sector. Immediately following the initiation of Make in India programme, the automobile industry witnessed a massive growth in the foreign direct investment of 164% (Neelofar Kamal, 2017).

Keeping in mind the significance of the Automobile industry in the Indian Economy, it is required to do an in-depth study of the financing pattern of the industry especially after the financial crisis of 2008-09. It would be interesting to see the changes, if any, in the nature of the automobile companies' capital structures in India, post the financial crises of 2008 (Nelson Vergas, et.al., 2015) and to identify which modern theory, out of "Pecking order theory" and "Trade-off theory", best explains the financing construct of automobile industry as these are the two most influential modern theories of capital Structure (Culata, Priska & Gunarsih, Tri, 2012). Whilst the trade-off theory suggested an ideal financial composition that can be attained by offsetting the tax saving benefits of leverage and cost of financial distress, the pecking order approach did not propose any standard structure of capital. As per the latter theory, funds should first be sought internally followed by debt financing and a fresh issue.

### **Review of Related Literature**

Kraus & Litzenger (1973) projected that an ideal financial composition can be realized by counterbalancing the tax saving shield of leverage and cost of financial distress, including bankruptcy. They termed this notion as “Trade-off Approach” that emphasizes that a company decides the level of fixed obligation and equity in its financing composition to achieve equilibrium between the benefits debt tax shield and agency cost and financial distress cost. Whereas based on asymmetric information, Myers & Majluf and Myers proposed the “Pecking Order Approach” that states that a company’s financing strategy signals to the public regarding the company’s performance. Thus, this notion asserts that a corporation must choose to fund its investments initially through internal funds like retained revenues. However, if the investment is higher than available funds, it should seek to finance it out of leverage. Ultimately, as a very last alternative, the enterprise should resort to fresh equity.

There are some literatures that analyzed the financing pattern of companies and industries which showed few outcomes following the notion of these theories whereas some contradicted the suggested patterns. Tripathi V. D. (2018) analysed the components of financial structure and the leverage-equity ratio of leading automobile companies from 2001 to 2014 through descriptive statistics using Mean, COV (variation coefficient) and SD (standard deviation). The study accentuated that more than 50% of the funds that have been utilized by the leading companies are through reserves and surplus, showing strong reliance on internal sources and less dependency on external sources. S. Kavitha (2014) examined the capital structure of manufacturing industries with a total of 62 companies for a tenure of 10 years from 2001-02 to 2010-11. The research highlighted that the steel industry along with the automobile industry finance their investments primarily from debt, then from reserves and surplus and lastly from share capital. Rupali. S. Ambadkar (2010) employed various debt ratios to study the trend in capital structure of 140 Listed Foreign Direct Investment companies representing 11 industries over the period of 1990-91 to 2007-2008. The study revealed that in the initial stages of liberalization, all the Debt ratios were high and then gradually showed a marked decline throughout the study period. In the later years, internal sources of funds in FDI Companies became a major source of finance, followed by Current Liabilities and Provisions. Sanjay Kumar (2009) analysed the financing pattern of sample units of twenty industries during 2001-02 to 2004-05. The study structured the financing components into four heads i.e., “Share Capital”, “Reserves and Surplus”, “Long Term Borrowings” and “Short-Term Borrowing”. The study found that profit making companies have more borrowings from financial institutions, banks and other trade creditors and attract benefit of debt tax cover.

### **Objectives of the Study**

- a) To analyse the financing pattern adopted by automobile industry in India.
- b) To identify the modern approaches that best exhibits the financing pattern of automobile industry.

### **Research Methodology**

A sample of eleven major companies listed on BSE/NSE has been selected taking various factors into account such as companies’ position and availability of data for the study duration. The research covered a period of ten years following the 2008-09 financial crisis i.e., from 2009-10 to 2018-19. The study did not include the latter business years i.e., 2019-20 and 2021-22, to avoid the manipulation of results due to impact of outbreak of COVID-19 pandemic on the financial figures of automobile industry. The statistics for the examination is taken from PROWESS Database retained by the “Centre for Monitoring Indian Economy” (CMIE). Following Bevan & Danbolt (2000) and Rupali. S. Ambadkar (2010), various leverage measures (as mentioned in Table 1) along with their mean, median, coefficient of variation, skewness etc. are calculated over the period of study to analyse the financing pattern of automobile industry. Further, using the Linear Trend Model, various debt ratios are regressed on time to observe the linear trend in financing patterns of the automobile industry in India. The calculations have been made meticulously and the results are presented into four phases to accentuate each ratio in detail.

### **Measures of Capital Structure of Automobile Industry in India**

Bevan & Danbolt (2000) observed considerable distinctions in the elements of short-term and long-term kinds of fixed liability, and contended that evaluation of capital structure is partial by not including a comprehensive analysis of

leverage. Consequently, this research will carry out the exhaustive examination of leverage supplies and incorporate a range of leverage elements to investigate the capital structure of Indian automobile sector.

- i. **TCL/TA (Total Current Liabilities/Total Assets):** In this measure, total current liabilities (TCL) include all the current liabilities and provisions. This ratio shows the proportion of total assets that is financed by the total current liabilities.
- ii. **Short Term Borrowings/Total Assets (STB/TA):** As stated in Ambadkar (2010), Bhat (1980) had argued that short-term borrowings account for a larger proportion of companies' liabilities and are continually being repaid and renewed. Also, companies using short-term borrowings and long-term borrowings have considerable substitutability for each other. Therefore, short-term borrowings should be studied separately to have a narrow picture of company's financing pattern. Following Pandey (2001), Bhaduri (2002) and Ambadkar (2010) this measure is selected to highlight the proportion of company's total assets that is financed by short term borrowed funds.
- iii. **Bank Borrowings Repayable in Current Year/Total Assets (BRCY/TA):** Bank Borrowings Repayable in Current Year represents the total amount of borrowing whether long-term or short-term that must be paid in the current year. Following the Bevan & Danbolt (2000) and Ambadkar (2010), this ratio is employed to get an idea of immediate payments that a company must make apart from the current liabilities.
- iv. **Total Current Liabilities/Net Worth (TCL/NW):** Since the short-term debts like borrowing from banks and creditors have prior and equal claim to long-term debt lenders at the time of liquidation, their relationship with the owner is important (Ambadkar, 2010). Hence, TCL/NW presents the percentage of creditors fund that a company uses against their self-generated funds.
- v. **Short Term Borrowings/Net Worth (STB/NW):** The STB/NW excludes Other Current Liabilities and Provisions and will show the proportion of Short-Term Borrowings against net worth of the shareholders.
- vi. **Long-Term Debt/Total Asset (LTD/TA):** This measure represents how much assets of the company are being financed by the long-term debt. It has been followed by Bevan & Danbolt (2000), Pandey (2001), Bhaduri (2002), Buferna et.al. (2005), De Jong et.al (2008) and Ambadkar (2010).
- vii. **Long-Term Bank Borrowings/Total Assets (LTBB/TA):** According to Bevan & Danbolt (2000) and Ambadkar (2010), this measure is important to find the role of long-term bank borrowings in financing the assets of the companies in India.
- viii. **Long-Term Debt/Net Worth (LTD/NW):** This is the most accepted measure to express the relationship between debt funds and equity funds that construct the capital structure of a company. This measure has been followed by Titman & Wessels (1988), Mittal & Singla (1992), Kantawala (1997), Kakani (1999), Garg & Shekhar (2002) and Ambadkar (2010) as an analytical tool for Capital Structure.
- ix. **Long-Term Debt/Capital Employed (LTD/CE):** This measure is used by Huang & Song (2002) and Ambadkar (2010) which analyses the proportion of long-term debt verses capital employed. Capital employed is another important indicator of any company's investment. It is the total amount of funds used for running the business with the intent to earn profits.
- x. **Long-Term Debt/Total Current Liabilities (LTD/TCL):** This ratio shows the proportion of long-term and short-term debt used by the companies. Following the Ambadkar (2010) this measure will help to represent the change in the composition of debt of the Indian automobile companies over the years.
- xi. **Total Debt / Total Assets (TD/TA):** Following Rajan & Zingales (1995), Bevan & Danbolt (2000), Bhaduri (2002), Drobotz & Fix (2005), Bhole & Mahakud (2004) and Ambadkar (2010) this measure has been selected which shows the extent to which the company's total assets are financed by total debts.
- xii. **Total Borrowing/Total Assets (TB/TA):** Here, the total borrowings include long-term and short-term borrowings. Rajan & Zingales (1995), Drobotz & Fix (2005), Buferna et. al (2005) and Ambadkar (2010) has selected this ratio as one of the measures of total debt to know the extent to which the company's assets are financed through borrowed funds.

- xiii. Total Debt/Net Worth (TD/NW):** It is also important to analyse the proportion of total debt that a company raised against the shareholders' fund. This measure will give an enhanced picture of how much total external funds has been employed by a company against its internal funds.
- xiv. Total Borrowing/Net Worth (TB/NW):** This measure shows the proportion of long-term and short-term borrowings (excluding other current liabilities and provisions) versus shareholders' fund.

**Table 1: Representing Categories of Leverage Ratios Adopted**

S. No.	Debt Ratios	Acronyms	Categories
1	Total Current Liabilities / Total Assets	TCL/TA	Short-term Debt Ratios
2	Short Term Borrowings / Total Assets	STB/TA	
3	Bank Borrowings Repayable in Current Year / Total Assets	BRCY/TA	
4	Total Current Liabilities / Net Worth	TCL/NW	
5	Short Term Borrowings / Net Worth	STB/NW	
6	Long-Term Debt / Total Asset	LTD/TA	Long-term Debt Ratios
7	Long-Term Bank Borrowings / Total Assets	LTBB/TA	
8	Long-Term Debt / Net Worth	LTD/NW	
9	Long-Term Debt / Capital Employed	LTD/CE	
10	Long-Term Debt / Total Current Liabilities	LTD/TCL	
11	Total Debt / Total Assets	TD/TA	Total Debt Ratios
12	Total Borrowing / Total Assets	TB/TA	
13	Total Debt / Net Worth	TD/NW	
14	Total Borrowing / Net Worth	TB/NW	

## Results and Discussion

### 1. Descriptive Analysis of Debt Ratios of Automobile Industry

Table 2 encapsulates the statistics for the different leverage measures for the automobile sector in India. As reflected in the table, 34% of the total assets are financed with Total Current Liabilities (TCL/TA), which includes only 8.5% contribution by short-term borrowings (STB/TA), and 11.5% of the total assets are financed through long term debt, which includes only 6% contribution by long term bank borrowing (LTBB/TA). However, LTBB/TA ratio shows maximum variability in relation to mean as indicated by COV of 105.3%. This indicates that 45.7% contribution to the total assets of the automobile industry is being made by external finance (TD/TA) and the rest 54.3% is from internal funds as shown in Figure 1.

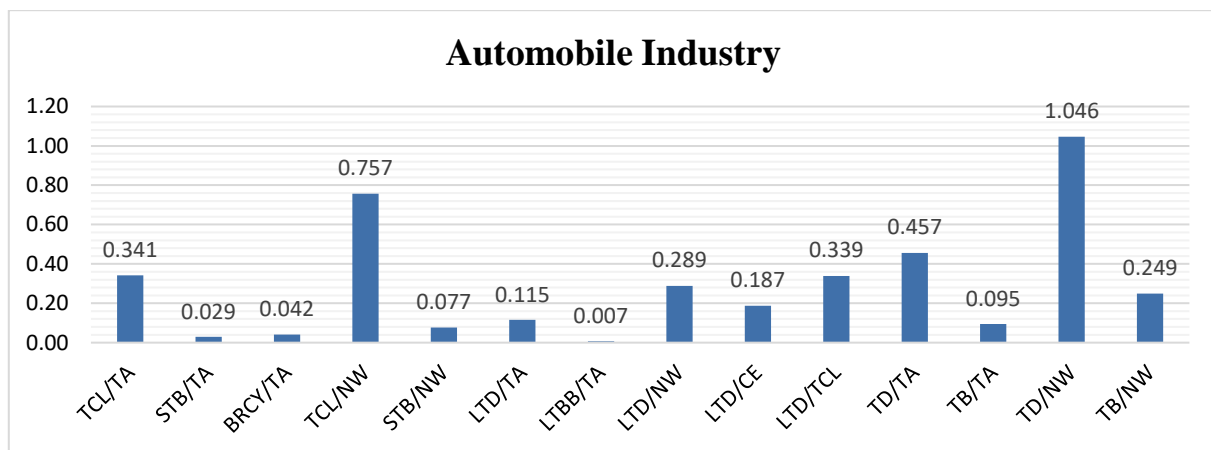
Short-term borrowings plus part of long-term borrowing repayable in the current year (BRCY/TA), giving the idea of immediate payments that the industry bears in a year, is 4.2% of the total assets. The contribution of long-term debt to capital employed as indicated by LTD/CE ratio emerged only 19%, the rest being made by shareholders' funds. Ratio of long-term borrowings with total current liabilities (LTD/TCL), which shows the debt composition, indicates that LTD is only 34% of total current liabilities.

The analysis of the ratios between debt and net worth shows that the total debt of the automobile industry is 104.6% of its net worth, out of which total current liabilities contribute 72.4% and the rest 27.6% are contributed by long-term debts. In comparison with the shareholders' fund, total borrowings are only 25% of the net worth of which short-term borrowings contribute almost 31% and the remaining 69% are contributed by long-term borrowings.

The median values of the short-term debt ratios follow their mean value closely. Further the coefficient of variance (COV) reveals large variations in LTBB/TA, showing the possibility of fluctuations. Lower variability was seen in the case of TCL/TA, TCL/NW, LTD/TA, LTD/NW, LTD/CE, LTD/TCL, TD/TA and TD/NW which makes these ratios the most representative measure of capital structure for the automobile industry. The distribution of various debt ratios for the industry analyzed within the 10-year period is non-symmetric since there is no ratio with a skewness value of zero. The mean values of most of the debt ratios exceed the median values; hence they have a positive skewness and are skewed to the right except for TCL/TA, which has a negative skewness (skewed to the left).

**Table 2: Representing the Debt Ratios of the Automobile Industry**

Debt Ratios	Mean	Median	SD	COV	Skewness	Maximum	Minimum	N
<b>TCL/TA</b>	0.341	0.353	0.030	0.089	-0.288	0.380	0.301	11
<b>STB/TA</b>	0.029	0.026	0.009	0.326	0.348	0.045	0.017	11
<b>BRCY/TA</b>	0.042	0.035	0.013	0.304	0.740	0.061	0.030	11
<b>TCL/NW</b>	0.757	0.745	0.138	0.183	0.542	0.995	0.595	11
<b>STB/NW</b>	0.077	0.071	0.028	0.360	0.380	0.124	0.042	11
<b>LTD/TA</b>	0.115	0.108	0.025	0.214	1.440	0.168	0.092	11
<b>LTBB/TA</b>	0.007	0.006	0.008	1.053	1.338	0.025	0.000	11
<b>LTD/NW</b>	0.289	0.274	0.082	0.285	1.489	0.467	0.221	11
<b>LTD/CE</b>	0.187	0.173	0.043	0.230	1.262	0.269	0.150	11
<b>LTD/TCL</b>	0.339	0.310	0.086	0.253	2.382	0.563	0.268	11
<b>TD/TA</b>	0.457	0.461	0.050	0.110	0.217	0.529	0.400	11
<b>TB/TA</b>	0.095	0.083	0.036	0.381	1.562	0.178	0.062	11
<b>TD/NW</b>	1.046	1.022	0.216	0.206	0.832	1.409	0.823	11
<b>TB/NW</b>	0.249	0.229	0.096	0.388	1.278	0.458	0.151	11



**Figure 1: Representing the Debt Ratios of the Automobile Industry**

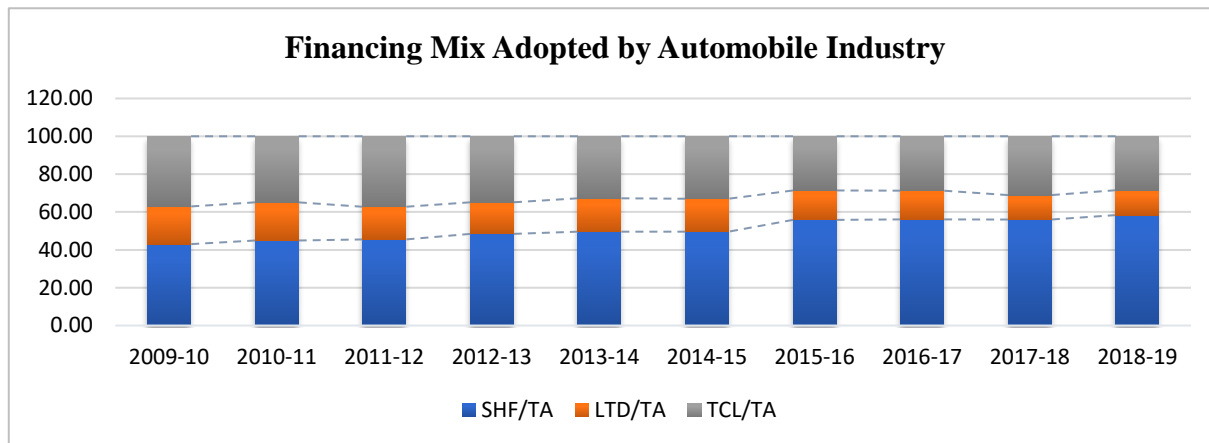
**2. Aggregate Financing Mix Adopted by Automobile Industry**

Table 3 and Figure 2 represent the aggregate financing pattern adopted by the automobile industry to finance its total assets over the years. The contribution of the Shareholders' Fund towards the financing mix has shown a gradual increase from 43% in 2009-10 to 58% in 2018-19. Whereas the contribution of long-term debt in financing the company's assets has gradually decreased after 2010-11 from 20% to 13.16% in 2018-19. A consistent decrease in the contribution of short-term debt funds, represented by TCL, is witnessed after 2012-13 from 35% to 28% in 2018-19. However, its contribution seemed significant in financing the total assets of the industry. This shows that the automobile industry heavily depends on shareholders' funds and then on short-term debt funds for financing its assets.

**Table 3: Representing the Financing Mix of the Automobile Industry**

Financing Mix	In Percentage										Mean
	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	
<b>SHF/TA</b>	43.00	44.93	45.50	48.42	49.60	49.60	55.82	56.08	56.01	58.34	<b>50.73</b>

<b>LTD/TA</b>	19.91	20.18	17.26	16.69	17.63	17.41	15.55	15.19	12.90	13.16	<b>16.59</b>
<b>TCL/TA</b>	37.09	34.89	37.24	34.89	32.77	33.00	28.63	28.74	31.08	28.49	<b>32.68</b>
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



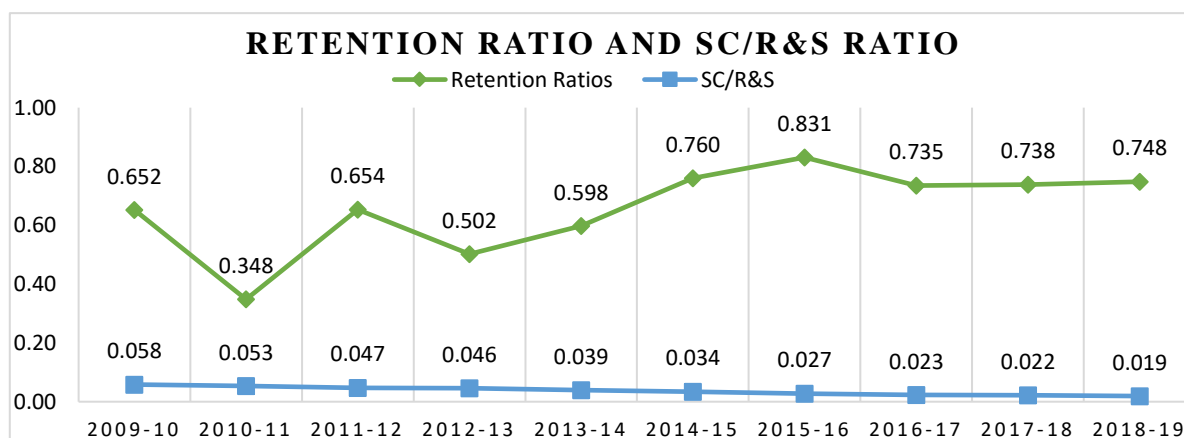
**Figure 2: Representing the Financing Mix of the Automobile Industry**

### 3. Share Capital to Reserve & Surplus Ratio and Retention Ratio of Automobile Industry

To identify the contribution of each component of shareholders' funds in financing the total assets of the industry, an extensive analysis of the industry's share capital to reserve & surplus ratio, and retention ratio are undertaken. It is evident from Table 4 that a major part of total assets in the automobile industry is financed by Shareholders' funds. The Shareholders' fund has two major components including Share Capital and Reserves & Surplus. To get a clear picture of the financing pattern of the automobile industry, it is important to segregate these two components. The SC/R&S ratio gives a clear picture of the relationship between the two variables. According to the analysis, the ratio of share capital is way less than reserves & surplus and a marked increase can be seen in the reserves & surplus over the years. This is the result of a high retention ratio as highlighted in Figure 3. High retention ratio results in greater share of internal funds which makes it clear that most of the total assets of automobile companies are financed through retained earnings.

**Table 4: Representing Retention Ratio and SC/R&S Ratio of Automobile Industry**

	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mean
<b>SC/R&amp;S</b>	0.058	0.053	0.047	0.046	0.039	0.034	0.027	0.023	0.022	0.019	<b>0.04</b>
<b>Retention Ratios</b>	0.652	0.348	0.654	0.502	0.598	0.760	0.831	0.735	0.738	0.748	<b>0.66</b>



**Figure 3: Representing Retention Ratio and SC/R&S Ratio of Automobile Industry**

After analysing the post 2008-09 recession period, the study found that the automobile industry in India relies more on internal funds to finance its investments. The industry keeps a high retention ratio which becomes the major source of internal funds. Residual contribution in the aggregate assets is being made by short-term debt funds and the least contribution is of long-term debt funds. This also reveals that the automobile industry in India follows the pecking order theory thereby seeking inner capital resources initially pursued by debt and lastly a fresh equity issuance. The results are consistent with the results of Tripathi Vibha Deepakkumar (2018), Bhattacharjee et.al., (2015) and Rupali. S. Ambadkar (2010); and are varying with S. Kavitha (2014) and Sanjay Kumar (2009).

#### 4. Analysis of Time Trend in Capital Structure of Automobile Industry

In this section, time trends in various debt ratios of the automobile industry during the study period have been studied with the help of the Linear Trend Model (The Simple Linear Regression equation). The industry taken in the study is capital intensive and requires heavy investment on the part of its expansion. It plans its investment either through internal or external financing, with this analysis it can be made clear how the industry finances its investments. Time trend analysis is carried out to test whether Debt ratios of the automobile industry in India exhibit a significant linear trend. Following Rupali. S. Ambadkar (2010), various debt ratios are regressed on time (dummy time period) to observe the linear trend in financing patterns of the automobile industry in India. Mathematically, the regression model can be expressed as:

$$\text{Debt Ratios} = \alpha + \beta * \text{Time (in years)} + \epsilon_t$$

Where, “ $\alpha$ ” is the intercept and “ $\beta$ ” is the slope coefficient, which indicates the trend per year. The null hypothesis assumed in the regression analysis is mentioned below:

*H<sub>01</sub>: “There is no significant linear trend in TCL/TA ratio of the automobile industry over a period of study”*

*H<sub>02</sub>: “There is no significant linear trend in STB/TA ratio of the automobile industry over a period of study”*

*H<sub>03</sub>: “There is no significant linear trend in BRCY/TA ratio of the automobile industry over a period of study”*

*H<sub>04</sub>: “There is no significant linear trend in TCL/NW ratio of the automobile industry over a period of study”*

*H<sub>05</sub>: “There is no significant linear trend in STB/NW ratio of the automobile industry over a period of study”*

*H<sub>06</sub>: “There is no significant linear trend in LTD/TA ratio of the automobile industry over a period of study”*

*H<sub>07</sub>: “There is no significant linear trend in LTBB/TA ratio of the automobile industry over a period of study”*

*H<sub>08</sub>: “There is no significant linear trend in LTD/NW ratio of the automobile industry over a period of study”*

*H<sub>09</sub>: “There is no significant linear trend in LTD/CE ratio of the automobile industry over a period of study”*

*H<sub>10</sub>: “There is no significant linear trend in LTD/TCL ratio of the automobile industry over a period of study”*

*H<sub>11</sub>: “There is no significant linear trend in TD/TA ratio of the automobile industry over a period of study”*

*H<sub>12</sub>: “There is no significant linear trend in TB/TA ratio of the automobile industry over a period of study”*

*H<sub>13</sub>: “There is no significant linear trend in TD/NW ratio of the automobile industry over a period of study”*

*H<sub>14</sub>: “There is no significant linear trend in TB/NW ratio of the automobile industry over a period of study”*

The results of the Linear Trend Model are represented in Table 5.

**Table 5: Representing Time Trend in Capital Structure of the Automobile Industry**

Debt Ratios	Linear Regression on Time Variable (Automobile Industry)						
	R2	Adj R2	Intercept	Slope	F-stats	p-value	D.W Test
TCL/TA	0.765	0.736	0.390	-0.009	26.524	0.001	1.767
STB/TA	0.493	0.429	0.041	-0.002	7.764	0.024	2.062
BRCY/TA	0.518	0.457	0.058	-0.003	8.589	0.019	1.647
TCL/NW	0.838	0.817	0.987	-0.042	41.263	0.000	1.879

<b>STB/NW</b>	0.548	0.492	0.115	-0.007	9.700	0.014	2.607
<b>LTD/TA</b>	0.759	0.729	0.154	-0.007	24.189	0.001	0.758
<b>LTBB/TA</b>	0.202	0.102	0.013	-0.001	2.019	0.193	2.005
<b>LTD/NW</b>	0.740	0.708	0.418	-0.023	22.791	0.001	0.868
<b>LTD/CE</b>	0.786	0.759	0.256	-0.013	29.319	0.001	0.741
<b>LTD/TCL</b>	0.462	0.395	0.445	-0.019	6.868	0.031	0.993
<b>TD/TA</b>	0.919	0.909	0.544	-0.016	91.061	0.000	1.759
<b>TB/TA</b>	0.753	0.722	0.151	-0.010	24.362	0.001	1.091
<b>TD/NW</b>	0.838	0.818	1.405	-0.065	41.324	0.000	1.350
<b>TB/NW</b>	0.758	0.728	0.401	-0.028	25.043	0.001	1.323

The time trend analysis revealed that in almost all the Debt ratios i.e., TCL/TA, STB/TA, BRCY/TA, TCL/NW, STB/NW, LTD/TA, LTD/NW, LTD/CE, LTD/TCL, TD/TA, TB/TA, TD/NW, TB/NW of automobile industry, a negative linear trend is observed except LTBB/TA in which no linear trend is observed as the p-value of model test is greater than 0.05 i.e., 0.193. The declining trend in the debt ratios showed that the automobile industry decreased its reliance on the debt with the passage of time. The short-term debt ratios, long-term debt ratios and total debt ratios scaled down to the total assets and net-worth, indicating that the contribution of debt towards financing the total assets of the automobile industry has considerably decreased and contribution of net-worth i.e., shareholders' fund towards financing the assets has significantly increased during the period of the study.

However, in some Debt ratios, the problem of first order autocorrelation is detected, as the Durbin Watson (D.W) statistic lies in the inconclusive area. The D.W statistic is a traditional test for detecting the presence of autocorrelation. "The limits of 'D.W' are 0 and 4 and the estimated 'D.W' value must lie within this limit. The thumb rule of this test is that if there is no serial correlation, 'D.W' is expected to be about 2. If 'D.W' is found closer to 0 then one may assume that there is evidence of positive serial correlation and if 'D.W' is closer to 4 then there is negative serial correlation (Rupali. S. Ambadkar, 2010).

Based on the results of the Linear Trend Model, the study rejects null hypotheses that no significant linear trend in Debt Ratios of the automobile industry is observed over a period of study and that the financing pattern of the industry does not change with the passage of time. Hence, the study accepts the alternative hypotheses that significant linear trends are observed in the financing pattern (debt ratios) of the automobile industry in India.

### Managerial Implication

A company's value hinge on how efficiently it is managed with proper capital assortment. The study provides a comprehensive and micro examination of capital structure of Indian automobile industry that will aid the finance executives to better comprehend the nature of their financing strategies and understand how it can be efficiently managed in forthcoming prospects. Unlike other research, the present study employed fourteen indicators rather than having a single conventional indicator of capital structure i.e., Debt-Equity Ratio. It also considered "short-term debt" as an important element of capital structure that gives a comprehensive representation of the financing pattern of the Indian automobile industry and helps to understand the contribution of leverage ratios in financing their investment. Further, the study also breaks down the shareholders' funds into "share capital" and "reserves and surplus" to give a clear picture of the contribution of its each component in the industry's financing structure and ultimately will be supportive in providing directions to the automobile companies while making their future capital structure policies. At last, the study reveals that which of the two contending theories namely Trade-off Theory and Pecking Order Theory is applicable on the financing pattern of the industry so that financial executives can consider the appropriate theory's recommendations while making their financing decisions.

### Conclusion

The study identified the implication of two competing approaches i.e., Pecking Order Approach and Trade-Off Approach on the financing pattern of Indian automobile industry. To understand the financing pattern of the industry, various debt ratios, categorised as Short-Term Debts, Long-Term Debts and Total Debts, were meticulously analysed using descriptive statistics and linear trend model. After analysing the post-recession period, the study found that automobile industry in India rely more on internal funds to finance its investments. The industry keeps a high retention ratio which

becomes the major source of internal funds. Residual contribution in the total assets is being made by short-term debt funds and least contribution is by long-term debt funds. The declining trend of debt ratios also confirmed that the contribution of debt in funding the total assets of the industry has significantly decreased, and contribution of net-worth has significantly increased over the 10 years study period. This eventually concludes that the automobile industry in India follows the pecking order theory thereby seeking in-house residual funds at first then by leverage and in the end through fresh equity issuance.

### Limitations of the Study

The study is established on secondary data, gathered from the CMIE's PROWESS Database. The quality of the research purely centres on the accuracy and reliability of secondary data and the shortcomings of the development in the database will also apply to the data analysis. Secondly, the paper is the analysis of financing pattern of leading automobile manufacturing businesses that have been operating under BSE /NSE on the date of data collection; other companies belonging to the automobile sector like Auto Ancillary sector are not considered. Further, the sample firms chosen were restricted to eleven automobile corporations due to restrictions such as lack of continuous listing, negative net worth in some years, and inaccessibility of data relating to those organizations in the Prowess Database. Lastly, the study is confined to a period of only 10 years from 2009-10 to 2018-19.

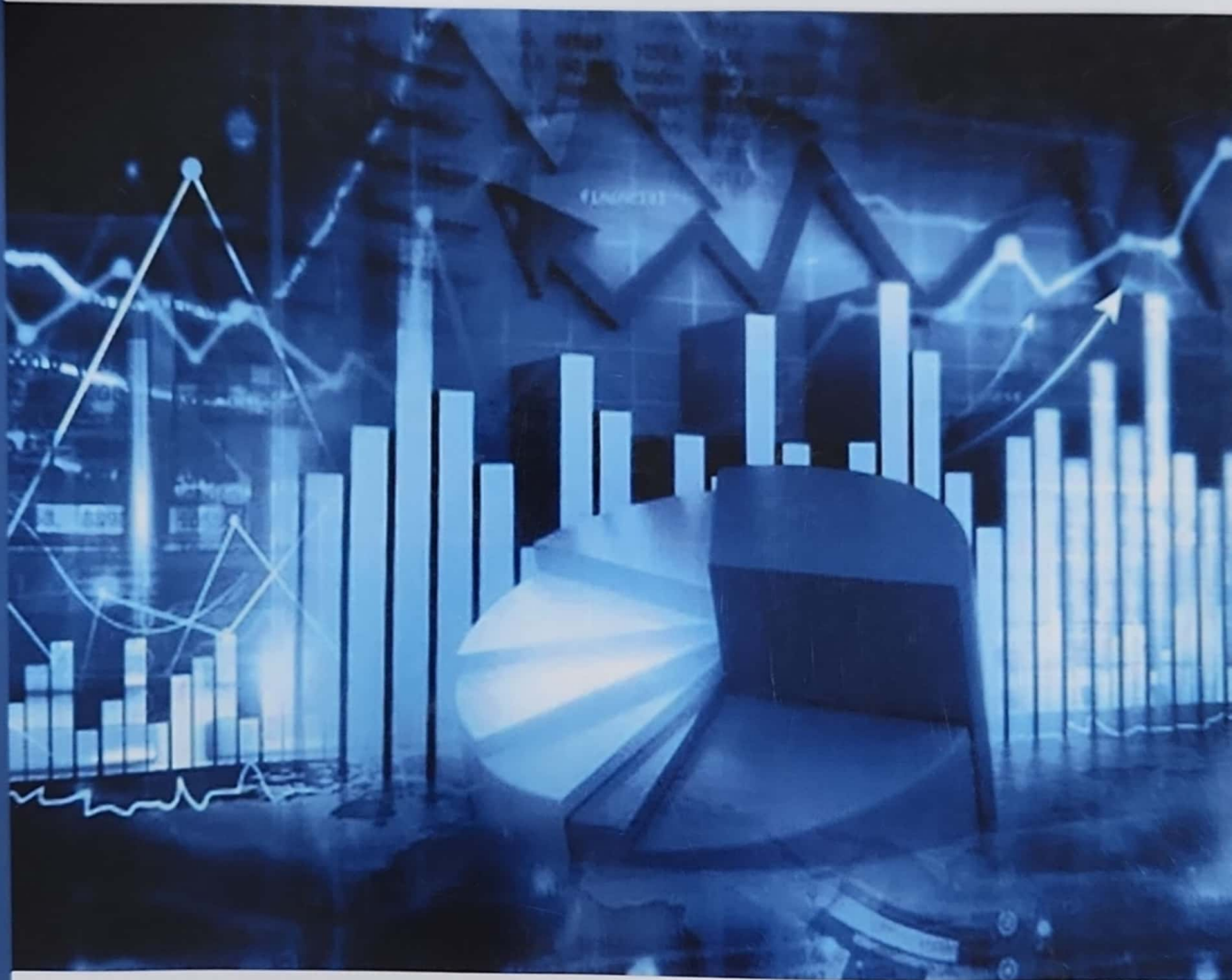
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# MANAGEMENT

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# INVESTIGATING THE RELATIONSHIP BETWEEN ATTACHMENT STYLE AND MANNER OF MOBILE PHONE USAGE AMONG STUDENTS Section A–Research paper INVESTIGATING THE RELATIONSHIP BETWEEN ATTACHMENT S...

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## INVESTIGATING THE RELATIONSHIP BETWEEN ATTACHMENT STYLE AND MANNER OF MOBILE PHONE USAGE AMONG STUDENTS

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### Abstract

Attachment style refers to an individual's emotional and behavioral patterns in their relationships with others. It can influence how people use their mobile phones, especially among students who are highly dependent on their devices for communication and social interaction. Such individuals are less likely to use their mobile phones to seek emotional

support or validation from others. They are comfortable with themselves and do not feel the need to rely on their phones to boost their self-esteem or cope with negative emotions. Instead, they use their phones in a balanced and purposeful way, such as for organizing their schedule or staying in touch with family and friends. The main objectives of the research is to identify the relationship between the nature of the respondents and their perception towards mobile phone usage and to understand the factors that can affect mobile phone usage among students. 500 students were selected at random from the group and used to compile the statistical sample. Convenient sampling technique was used for the study. Future studies could benefit from expanding this model to account for other factors like FOMO, self-control, self-esteem, and the many personality and socio-psychological variables linked to attachment formation in human development.

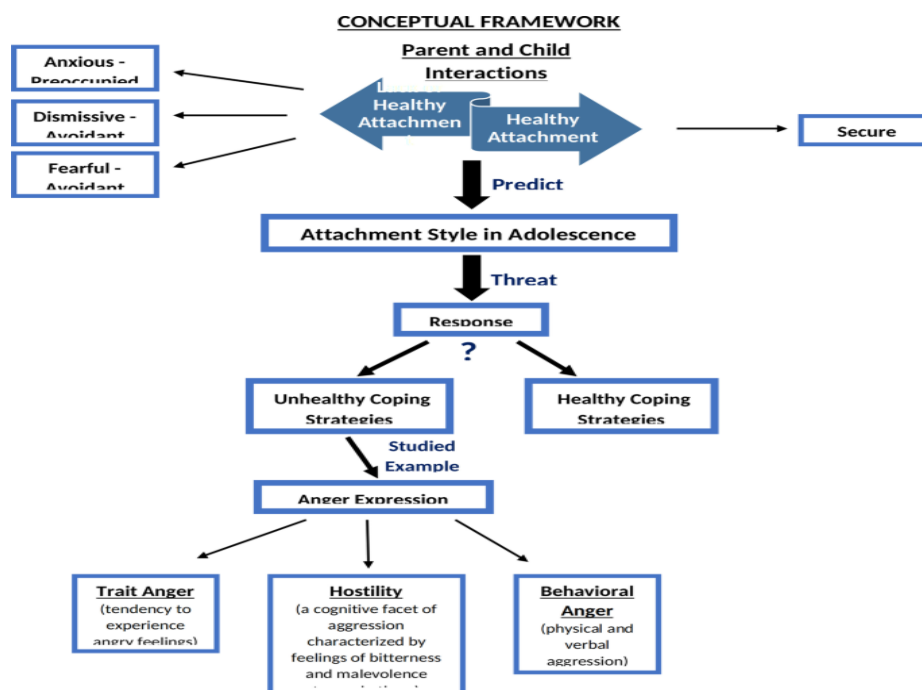
**Keywords:** Attachment style, mobile phone, social influence, students and accessibility

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## Introduction

It is believed to develop early in life through interactions with caregivers and can have a significant impact on an individual's relationships and social interactions throughout their life. In recent years, researchers have also been exploring the relationship between attachment style and technology use, including mobile phone use. Gol Mohammadian (2011). In this article we will discuss how attachment style can influence an individual's manner of mobile phone use. Individuals with secure attachment style tend to be more emotionally stable, have a positive self-image, and are better able to form and maintain healthy relationships. Keyvankar (2013). In terms of mobile phone use, individuals with secure attachment style tend to use their phones in a balanced and healthy way. They use their phones to stay connected with friends and family, but they also know when to disconnect and engage in other activities. In terms of mobile phone use, individuals with anxious attachment style may be more likely to use their phones as a way of seeking reassurance and validation from others. Gol Mohammadian (2011). They may constantly check their phones for messages or social media notifications,

and may feel anxious or distressed when they do not receive a response from someone they are seeking validation from. Avoidant attachment style is characterized by a fear of intimacy and a desire for independence and autonomy in relationships. Individuals with avoidant attachment style may have difficulty forming and maintaining close relationships and may prioritize their own needs and interests over those of their partners. In terms of mobile phone use, individuals with avoidant attachment style may use their phones as a way of maintaining a sense of independence and autonomy. They may prioritize their phone use over face-to-face interactions, and may be more likely to engage in passive phone use, such as scrolling through social media or playing games, rather than using their phones to connect. Individuals with secure attachment style tend to use their phones in a balanced and healthy way, while those with anxious or avoidant attachment style may use their phones as a way of seeking reassurance or maintaining a sense of independence. Understanding the relationship between attachment style and mobile phone use can help individuals develop healthier habits and improve their overall well-being.



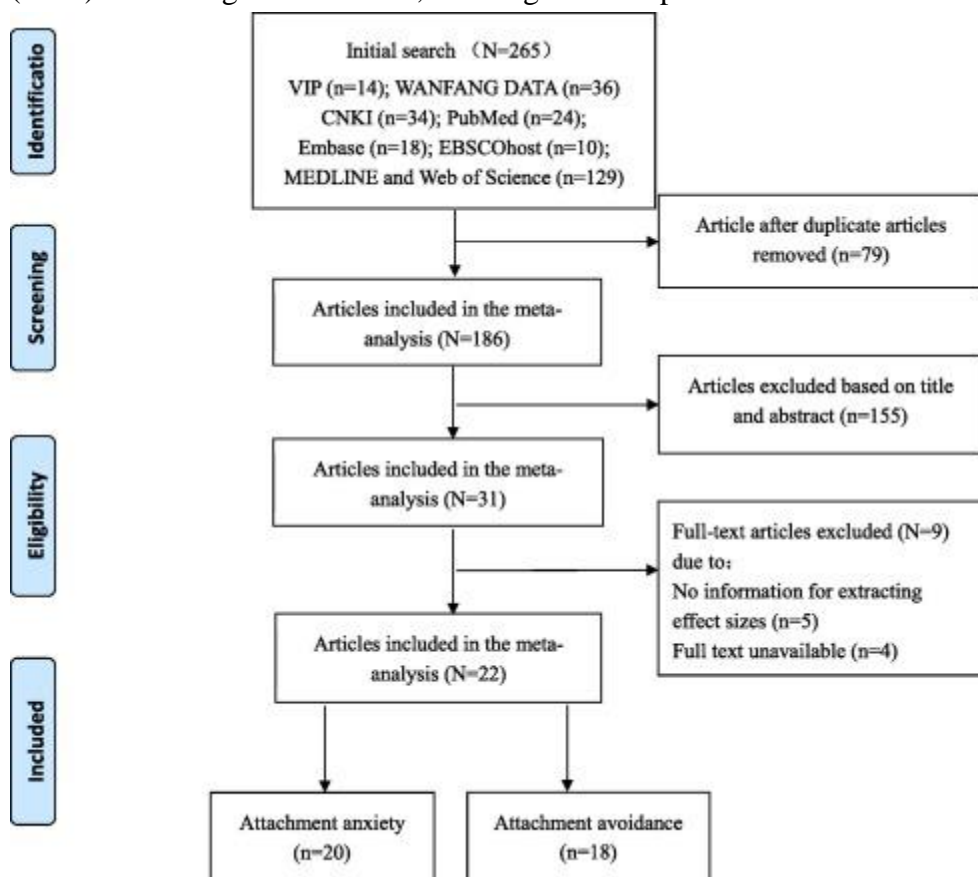
### Theoretical Background

New communication technologies have transformed the planet. Technology is increasingly important in personal, societal, and human existence. Technology has changed society the most and is always evolving. Psychologists and sociologists have focused on technology's effects on society and individuals. Modern life includes the mobile phone, one of the most crucial technical devices. The mobile phone, long a sign of class and economic status, today has many conflicting uses in individual, cultural, and societal contexts. Nowadays, the mobile phone is the most essential personal technology, establishing autonomous individual privacy and making social relationships meaningful in a personalized network. Gol Mohammadian (2011) .More liberty, however, improves all three of these aspects of individual and societal life. Hence, the lives of young people have been altered by modern technology more than the lives of more conventional populations. Adolescents and young adults rely on mobile phones for communicating with friends and making new connections in their social circles. Keyvankar (2013) . The youth of today increasingly utilize

their mobile phones as a means of delineating their own personal zone. As a consequence, the most pressing problem facing society today is understanding how young people's identities and daily routines are influenced by the prevalence of digital media. Since our understanding of psychology has expanded. The researcher recognized that each individual has a complex multi-faceted character. Furthermore, by drawing on sociological understanding, it is clearly apparent that modern individuals perform a wide variety of functions in society. Goffman argues that people's identities and the parts of those identities they expose change depending on the context in which they are being enacted. Tools and technology are common vehicles for expression. This study provides more evidence that mobile phone use is an individual decision that is profoundly influenced by social contexts and dynamics. Constant availability exposes the person to constant telephone harassment, problems, and a wide variety of unwelcome programming. Yet, the person who is requesting communication may become less productive if their phone is turned off because of fatigue, waiting, or mental stress.

The results of a research on the effects of modern ICT, more time spent online and on mobile devices is correlated with less in-person interactions between users. The study will look at how teens' use of mobile devices affects their interactions with friends, family, and teachers. Research shows that although young people use their phones to make and keep friends, it also has a detrimental impact on their connections with their peers, particularly via rejection. Furthermore, the results indicated that the mobile phone causes a shift in family relations, an excessive dependence on the device, and chaos in the classroom. The impact of mobile phone use on romantic partnerships was investigated. Keyvankar (2013). According to the results, a stronger

commitment exists when there is more mobile phone usage in a romantic relationship and less ambiguity. The usage of mobile phone calls has also been linked to avoidance and anxiety. Yet, there are no noteworthy findings on the use of text messaging. The majority of mobile phone interactions occur inside romantic partnerships. Regarding attachment types, we may define attachment as the social and emotional bond between a kid and their mother at a young age. Early relationships between a kid and his careers lay the groundwork for a lifetime of positive outcomes throughout the child's biological, psychological, and social domains. When it comes to kids' emotional and social growth, this psychological phenomena is a crucial component.



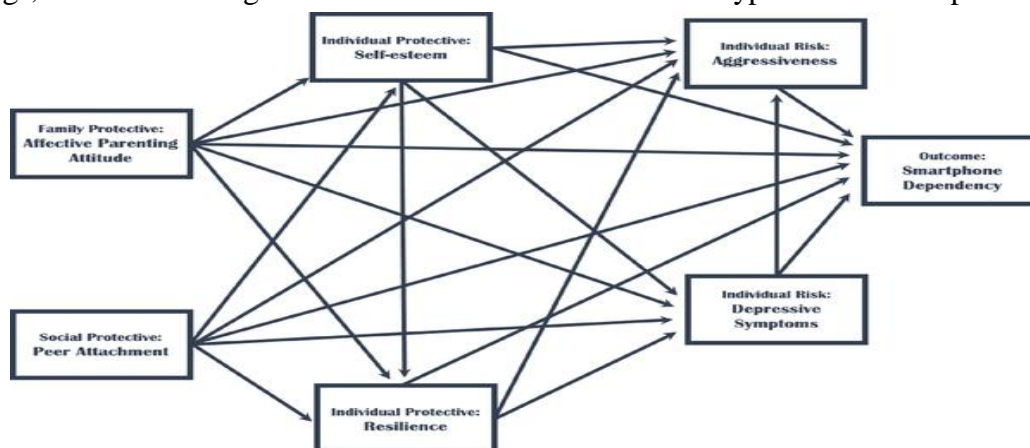
### Attachment Style and Problematic Smartphone Use

Attachment is a key factor in shaping one's identity and character. Bowlby's goal in proposing attachment theory was to identify the factors that contribute to the formation of bonds

between attachment and other aspects of a person's psychological and social development. Bowlby views the attachment theory as a kind of intrapersonal psychological organisation based on a feedback loop between the individual and their environment to

achieve predetermined goals. As a result of early experiences with the attachment figure, mental images of that person are formed. The child's future expectations and behaviour in relationships are shaped by these patterns. Despite the prevalence of studies highlighting the importance of attachment quality in the development of an individual's sense of self, this investigation found no correlation between attachment styles and either perceived social support or the reason for or content of a person's SMS messages. More texts are sent by those who feel safe than those who do not. Nonetheless, traditional orientation is directly related to how much social support one feels they have from their own family. According to the findings, there is a negative correlation

between how much social support one feels they have from their family and how unorthodox their text message content is. The findings indicated an inverse relationship between attachment security and risky behaviours such as running away from home, begging, and substance addiction, and a favourable association with family relationships. The author showed that children's rates of homesickness, sadness, emotional stability, and adaptive behaviour were all linked to their attachment types. Those who struggle with insecure attachment are less emotionally stable and less able to adjust to new situations. To that end, this study seeks to determine whether or not there is a substantial link between attachment types and mobile phone use.



There are several factors that can affect mobile phone usage among students. Some of these factors include:

1. **Social influence:** Students may feel pressure to use their mobile phones more often if their peers are doing so. Social influence can also encourage students to use their mobile phones to stay connected with friends and family.
2. **Academic requirements:** Some educational institutions may require students to use mobile phones to access educational materials or participate in online learning activities.
3. **Personal preferences:** Students may have personal preferences for how they use their mobile phones, such as for social media, gaming, or streaming music or videos.
4. **Accessibility:** The availability and accessibility of mobile phones can also affect usage among students. For example, students who have easy access to mobile phones may use them more frequently than those who do not.
5. **Addiction:** Mobile phone addiction can also be a factor that affects usage among students. Students who are addicted to their phones may use them more frequently and for longer periods of time.

6. Financial constraints: The cost of mobile phones and data plans can also affect usage among students. Students who cannot afford mobile phones or data plans may not use them as often as those who can. Overall, the factors affecting mobile phone usage among students are complex and multifaceted. It's essential for students to use their phones in moderation and balance their academic and social responsibilities.

#### Problematic Smartphone Use: The Mediating Role

Problematic smartphone use (PSU) has become a growing concern as smartphones have become ubiquitous in modern society. PSU refers to the excessive or compulsive use of smartphones, which can result in negative consequences such as poor academic performance, impaired social relationships, and mental health problems. One factor that has been found to be related to PSU is stress. Stress can trigger a desire to use smartphones as a coping mechanism, and this excessive use of smartphones can lead to PSU. Additionally, stress can also lead to a reduced ability to regulate smartphone use, which can further exacerbate PSU. Therefore, stress can be considered a mediating factor between external stressors and PSU. Another potential mediating factor is social support. Gorgi, A. (2006) .Social support can act as a protective factor against PSU by providing individuals with a sense of belonging and connection to others. This connection can reduce the need for excessive smartphone use as a coping mechanism. Additionally, social support can provide individuals with a source of emotional regulation, reducing the likelihood of PSU. FOMO is the fear of not being up-to-date with the latest news or social events, and this fear can lead individuals to excessively check their smartphones. The constant need to check

for updates can result in PSU. Therefore, FOMO can be considered a mediating factor between the fear of missing out on social events and PSU. Overall, the mediating role of PSU in these factors highlights the complex interplay between external stressors, individual factors, and PSU. Understanding these mediating factors can help in the development of targeted interventions to reduce PSU and its negative consequences. These interventions can focus on reducing stress levels, increasing social support, and addressing the fear of missing out. By doing so, individuals can develop healthier smartphone habits and avoid the negative consequences of PSU.

#### Objectives of the research

1. To identify the relationship between the nature of the respondents and their perception towards mobile phone usage.
2. To know the problematic smartphone use.
3. To understand the factors that can affect mobile phone usage among students.

#### Techniques of Research

500 students were selected at random from the group and used to compile the statistical sample. Convenient sampling technique was used for the study. The scope of secure attachment has been expanded beyond human interactions to include the study of profound emotional ties to inanimate things. Psychosocial support and stress alleviation may be gained from the inanimate things to which humans form emotional attachments, as postulated by Hazan and Shaver. Many people have become emotionally attached to their cellphones in recent years, seeing them as an essential part of their life and experiencing anxiety and discomfort when they must spend time apart from them. Hasani, H. (2011) So, it follows that for many individuals, wanting closeness to (always having at hand) and interacting excessively with their cellphones may

provide a reassuring barrier against unwanted interpersonal contact, while also delivering a better feeling of security and stability.

### Findings and Discussion

The relationship between the nature of the respondents and their perception towards mobile phone usage

While many people find them useful and convenient, others may have concerns about the overuse of mobile phones. They may also be concerned about the impact of mobile phone radiation on health. Hasani, H. (2011) Proponents of mobile phone usage argue that they are essential tools for modern life and enable people to stay connected with friends and family, access information, and stay

productive while on the go. Gorgi, A. (2006) Overall, people's perception towards mobile phone usage can vary depending on their personal experiences and beliefs. It's essential to strike a balance and use mobile phones in moderation to avoid negative consequences. The hypothesis is tested with the help of non-parametric tests Kruskal Wallis test.

#### 1. Age group

The perception will be influenced by patients' age. The diseases and its impact will be different according to the age. The maturity and understanding will change according to the age level. In this context, the association between the age and the perception towards the service marketing of the hospitals is studied. The result is given below.

Table 4.3

Age and Perception towards mobile phone usage

Factors	Age group	N	Mean Rank	Test	Result
Social Influence	Young	153	241.52	Chi-Square	0.162
	Middle	166	267.12	Df	2
	Old	181	255.35	Sig.	0.931
Academic requirements	Young	153	244.61	Chi-Square	1.302
	Middle	166	247.81	df	2
	Old	181	252.43	Sig.	0.479
Personal Preference	Young	153	261.29	Chi-Square	5.612
	Middle	166	251.96	df	2
	Old	181	234.21	Sig.	0.058
Accessibility	Young	153	257.69	Chi-Square	2.004
	Middle	166	252.92	df	2
	Old	181	234.65	Sig.	0.364
Addiction	Young	153	221.70	Chi-Square	5.481
	Middle	166	239.59	df	2
	Old	181	222.04	Sig.	0.065
Financial constraints	Young	153	218.92	Chi-Square	9.927
	Middle	166	210.33	df	2
	Old	181	245.32	Sig.	0.007**

Attachment style	Young	153	248.99	Chi-Square	1.434
	Middle	166	249.37	df	2
	Old	181	222.70	Sig.	0.483
Cultural orientation	Young	153	243.48	Chi-Square	3.078
	Middle	166	226.35	df	2
	Old	181	221.01	Sig.	0.226
	Total	500			

\*\* Significant at 1%

The young age group respondents have good perception towards mobile phone usage among middle age social influence (267.12), personal preference (261.29), cultural orientation (243.48) and accessibility (257.69). The mean rank of the middle age group respondents is high for Attachment style (249.37) and Addiction (239.59). The old age group respondents face the financial constraints (245.32). The result of the Kruskal Wallis test shows that the difference in the perception towards the mobile phone is insignificant except financial constraints. The perception of the middle age group respondents about is significantly high. The calculated Chi-Square value (9.927) for the degree of freedom 2 is significant at 1% level. The p value is 0.006 (<0.01). Hence, the null hypothesis is rejected. It is concluded that the perception of the old age group respondents is higher than other age groups.

#### Discussion

The mobile phone has evolved to incorporate computing and multimedia capabilities. In this perspective, the cell phone represents an increased feeling of individual agency via the medium of personal technology. This prevalent phenomenon may provide the individual a sense of freedom from social duties and independence, but it has far-reaching, harmful impacts on society as a whole. Recent studies on attachment styles have shown that this variable is crucial, as it not only shapes an identity that is positively related to psychological health, but also

paves the way for adulthood to be a happy and fulfilling time for the individual in terms of their emotional and social relationships. Only the avoidant attachment style was substantially connected to the index of perceived adjustment, and the result ran counter to what was predicted by the premise that "there is a connection between attachment patterns and the way mobile phones are utilized." There is also a robust relationship between stable connection and the indication of feeling helpful. The avoidant attachment style is highly correlated negatively with this measure. In contrast to the avoidant attachment style, the pleasure scale has a positive correlation with the secure and ambivalent attachment styles. Keyvankar (2013) .There is a positive association between social influence and secure attachment and an inverse correlation with avoidant and ambivalent attachment, suggesting that one's attachment type is shaped in part by the people around them. There is a statistically significant correlation between the confidence index and just the ambivalent attachment style. Lastly, consistent with prior results, the index of perceived image did not show any significant relationships to attachment types. A secure attachment relationship may help people feel less anxious. A survey from 2009 found that students utilize their phones' extra functions to pass the time and stay in contact with their friends. The Pearson correlation coefficient showed that higher rates of mobile phone attachment were associated

with worse grades and more relationship problems. Charoudeh's (2010) found that using a cell phone often was associated with increased impulsivity and loneliness. The frequency of mobile phone use was similarly predictably associated with impulsivity, according to the regression analysis. Zokaei (2004), examined the generational digital gap is growing in today's society, driving an even deeper wedge between the generations and increasing the psychological and social isolation of the elderly. Results showing the protective effect of a religious upbringing on excessive mobile phone use demonstrate the usefulness of internal controls in avoiding deviations. Rosenhan (2011) found that those who spend too much time glued to their phones were more likely to exhibit neuroticism and were less likely to be outgoing. Girls and the unmarried used their phones more often than boys and the married did, and there was also a statistically significant gender and marital status discrepancy in mobile phone use among students. Amoli. (2006) argued that parental attachment patterns and personality traits are highly associated to a child's dependency on a cell phone, with the exception of extraversion and openness. They are also more likely to develop an addiction to their phones if their mom has an insecure attachment style and is neurotic. The current study's findings showing male students are more likely to use mobile phones than female students contradict those of Mohammad Sadeqi (2012) found that compared to their male counterparts, female college students are heavier smartphone users. Aqili (2009) observed that there are significant differences between male and female students' motivation and use of mobile phone services. There was no discernible difference in mobile phone use between the sexes, statistically speaking. Individuals sink further into a pit of worry and despair, which may contribute to a rise in the incidence of mental illness. As a

consequence of being mentally prepared for chaos, some peaceful-seeking acts develop. There is a broad variety in the ways in which people break from the norm. One way people try to fix their own problems is by using their cell phones. Gorgi, A. (2006) .Advocates of the cognitive method assert that the inability to form proper mental schemas and concepts is the root cause of mental disease. Common behaviors related with mobile phone use include obsessive compulsive disorder, pornography, and abuse.

The topics explored in this study include the following: emotional regulation, text acceptance, identity fluidity, non-traditional communication, cocooning, and finding inner peace and calm via mobile phone use. Gorgi, A. (2006).In order to meet their social, emotional, and sexual needs, adolescents and young adults rely on their mobile phones to stay in touch with others. Nikbakhsh (2006).Teenagers and young adults are rapidly expressing a preference for mobile phone usage because of the convenience, anonymity, minimal danger, and vast range of communication choices offered via mobile phones. There are several factors that contribute to cell phone addiction, not the least of which is the psychological component of the issue. Those with mental health problems and emotional distress are disproportionately likely to develop a cell phone addiction. Young people nowadays can't imagine living without their mobile phones because of the ease with which they can communicate and escape from their routines. The usefulness of mobile phone contact, however, cannot be denied. But, it's crucial to remember that despite its benefits, the virtual world is still a place with its own set of drawbacks. Such individuals may use their mobile phones excessively to seek attention and validation from their peers. Hasani, H. (2011) explored constant check their phones for messages or notifications, even

in situations where it is not appropriate or necessary. They may also experience feelings of anxiety or insecurity when they are unable to access their phones or when they receive negative feedback online. Avoidant attachment style is characterized by a tendency to avoid emotional intimacy and connection with others. Such individuals may use their mobile phones as a way to avoid social interactions or as a form of escapism. Amoli (2006). They may prefer to interact with others through their phones rather than face-to-face, and may use their phones to distract themselves from their own negative emotions or feelings of loneliness. Research has shown that attachment style can influence mobile phone usage among students. Understanding the relationship between attachment styles and mobile phone usage can help educators and parents develop strategies to support healthy mobile phone usage among students. For example, educators can encourage students to engage in face-to-face interactions and activities that promote emotional connection and social support. Nikbakhsh (2006). Parents can model healthy mobile phone usage by limiting their own use and setting boundaries around phone usage at home. Additionally, mindfulness and relaxation techniques can be taught to help students manage negative emotions without relying on their phones. In conclusion, attachment style can influence how students use their mobile phones. Gorgi, A. (2006) By promoting healthy attachment patterns and teaching skills to manage negative emotions, students can learn to use their phones in a balanced and purposeful way that supports their well-being and academic success.

### Limitations and Future Directions


There are a number of caveats to this research that need to be mentioned. To begin, the majority of the participants were white female college students. Further study on a wider range of people is needed

to establish whether or not these findings hold true across various age groups, ethnicities, situations, and locales. Nikbakhsh (2006). In the future, researchers should try to get a representative sample of the population. The current research also has limitations due to its reliance on correlational, cross-sectional observation, which precludes any investigation of causal linkages within the suggested model. Hasani (2011). This is a typical problem with designs of this kind, but future studies might get around it by adopting a longitudinal approach, in which participants are observed repeatedly throughout the course of the study, to better understand the dynamics of insecure attachment types, PSU, and phubbing. Amoli (2006). Finally, it's hard to know how accurate this research is since all of its measurements were self-reported. In order to reproduce these results, future techniques may use more direct observational methodologies. Gol Mohammadian (2011). Future studies could benefit from expanding this model to account for other factors like FOMO, self-control, self-esteem, and the many personality and socio-psychological variables linked to attachment formation in human development.

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# **ROLE OF ICT IN MANAGEMENT AND BUSINESS: PRACTICES, TRENDS AND PROSPECTS**

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## CHAPTER - 9

# Employee Engagement Challenges during Remote Working

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### Abstract

Employee engagement has become a hot topic in recent years among consulting firms and in the popular business press. Employee engagement is a measurable degree of an employee's emotional attachment towards the organization, colleagues and job which profoundly influences their willingness to perform at work. In the present situation during the COVID-19 pandemic, employee engagement has become one of the prominent primacies for managers and practitioners in organizations due to lockdown. When the economy is under the weather, any of us is fortunate to have a job, managers dwell on about whether or not employees are contributing to the organizational goals and objectives, employee's engagement, and training and development activities, the intention of the managers is to face these current challenges which are created due to COVID-19 pandemic. The physical workplace is converted into a virtual workplace, now the managers are planning how to engage the employees efficiently. This study is pursued to examine the employee engagement challenges during remote working.

**Keywords:** *Employee Engagement,, COVID-19 Pandemic, Challenges, Remote Working*

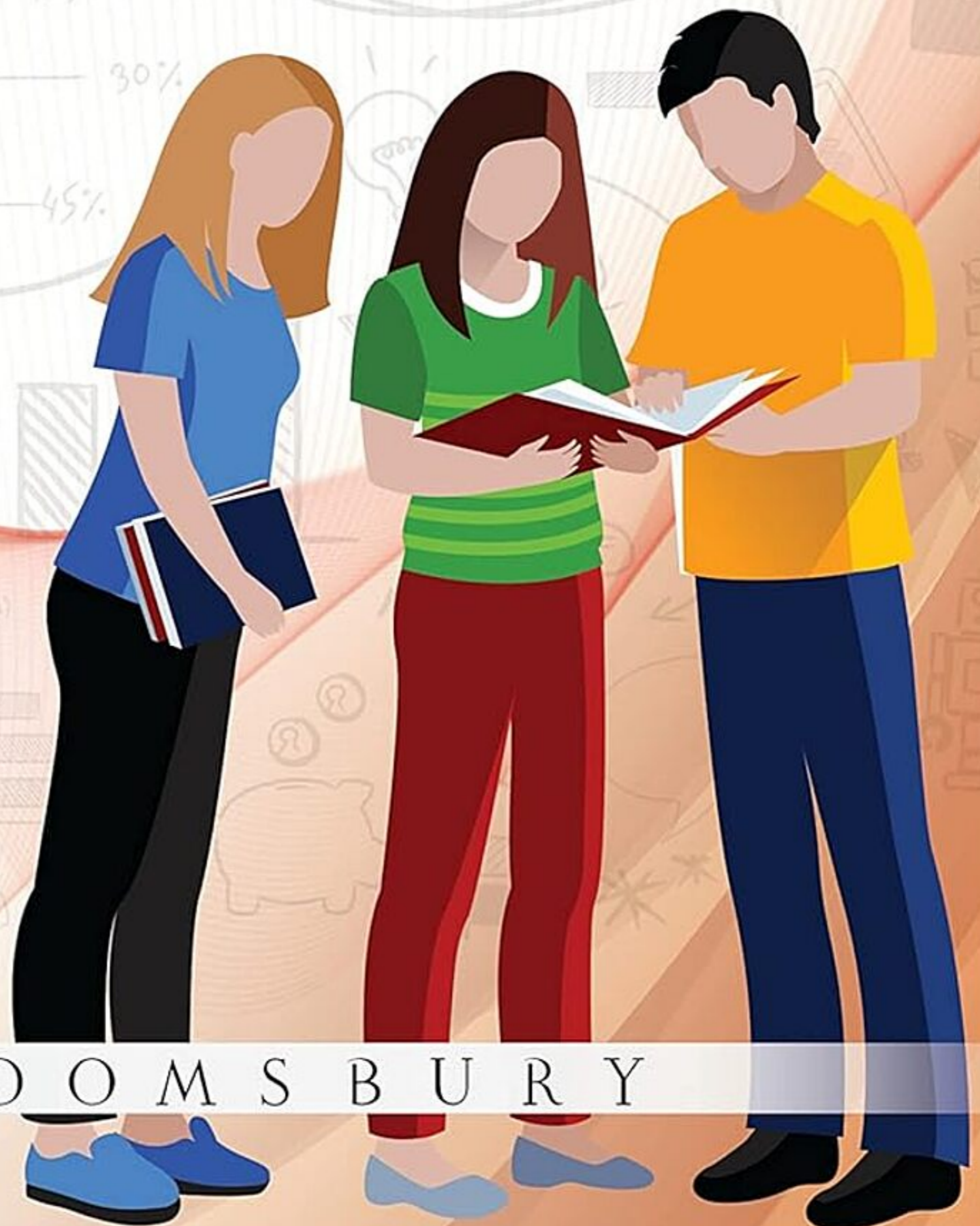
### 9.1 INTRODUCTION

With defensive measures proceeding to be taken on a worldwide level with an ultimate goal to fight the outbreak of Covid-19. The pandemic as affected the employees on various levels: concerns of their personal health and health of their families, employees living alone and feeling isolated, supervision of children for online studies, and professionally the sheer novelty to adjust for remote working. The frame-up of organizations is changing in relation

# Contemporary Issues in **MANAGEMENT RESEARCH**

**Editors**

A.K Saini • Sanjay Dhingra • Deepti Prakash



B L O O M S B U R Y

# Psychological Contract, Organisational Citizenship Behaviour and Employee Turnover Intention in an Indian Insurance Sector

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## Abstract

Psychological contract is one of the vital aspects in determining the relationship between employer and the employee. The current study aims to examine the relationships between Psychological Contract (PC), Organisational Citizenship Behaviour (OCB) and Employee Turnover Intention (ETI), so as to develop inquisitiveness among managers in insurance sector regarding the variables used in the study and provide them with the implications to increase PC fulfilment, OCB and diminish their turnover intentions. A sample of 667 full time employees from Indian General Insurance Industry were selected, a linear structural equation model (SEM) was developed to examine the relationships. The results validate significant positive relationship for PC & OCB and negative relationship for PC & ETI and OCB & ETI. The study recommended organizations and their executives to induce efforts to fulfil PC of their employees and enhance OCB to retain the employees for longer duration.

**Keywords:** Employee Turnover Intention, Indian Insurance Industry, Organizational Citizenship Behavior, Psychological Contract and Structural Equation Modeling.

## INTRODUCTION

Statistics pertaining to turnover intention in insurance sector specifies that if an employer disregards and overlooks the employees, 40% of them intent to leave and if the employer only emphasizes on the employee's mistakes, 20% of them will leave (Rawal, 2015). Turnover intention has been generally termed as a degree of estimated workplace turnover (Bigliardi et al., 2005; Price, 2001; Memon et al., 2016) explains turnover intention as employees will to readily and permanently withdraw them from the contract of employment. A high level of employee turnover is expensive for any organization in regard to its adverse effects on organization's overall success and effectiveness (Holtom et al., 2005; Zheng and Lamond,