

VARIATION AS PER AGE IN RISK FACTORS ASSOCIATED TO CORONARY HEART DISEASE IN HEALTHY MALES: A CROSS-SECTIONAL STUDY FROM PUNJAB, INDIA

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ABSTRACT

Non communicable diseases especially coronary heart diseases (CHDs) have been leading as the cause of deaths throughout world. Indian data for mortality and morbidity shows an early onset and high fatality due to CHD in Indian men. The main aim of this study was to know the age wise variation in levels of risk factors of coronary heart diseases (CHD) in young (25-40 years) males in Punjab. The study population consists of 161 male persons residing in district Sri Muktsar Sahib Punjab, India the age range was 25 to 40 years. The subjects were healthy (not on medication for any of chronic disease) were selected using multistage random sampling from urban areas of district. The subjects were divided categorically according to age in three groups viz. Age group1 (25-30years), Age group2 (30-35years), Age group3 (35-40years). A Cross sectional study conducted for prevalence of risk factors of CHD. Anthropometric data, biochemical estimations and blood pressure was done using standard techniques. Descriptive statistical method student's t-test, analysis of variance were done using SPSS. A high prevalence of CHD related risk factors was seen in young Punjabi men. About fifty percent suffered from hypercholesterolemia more than 30 per cent had High LDL cholesterol levels. The prevalence of cholesterol levels varied significantly across age groups showing gradual increase from early life and also emphasis on primary prevention. The changes in triglycerides, VLDL, total cholesterol and diastolic blood pressure can indicate risk of coronary heart disease at an early age and be studied further for recommendation of early screening.

Keyword: Coronary Heart Disease, Punjabi population, Age wise variation, Blood Pressure, Cholesterol levels, Triglycerides.

Introduction

Non communicable diseases (NCDs) have emerged as leaders of death cause and amongst them coronary heart disease (CHD) is the most prevalent as well as most preventable one. McKay & Mensah (2004) and Subramanian et. al. (2013) highlighted the need to focus on prevention of CHD in Indian population. One fourth of mortality in India is attributed to cardiovascular diseases (CVDs). Yusuf et. al. (2014) reported that 272 against 100,000 deaths in India occur due to CVDs which is quite high as compared to 235 against 100,000 deaths in rest of the world. That is why CVD has been called an epidemic in Indian concern. A severe manifestation of CHD is seen in Indian population in form of high fatality rate. It's as high as 17%, quiet higher than high income countries .

Dorairaj et. al. (2016) stated that CVD has affected all the regions of the world and in India both poor and rich, both urban and rural are affected. This epidemic named CVD is advancing against the socioeconomic thought, it is affecting the poor too in India. The gravity

of situation has worsened since 1990 (23.2 million lives lost) to 2010 (37 million lives lost). As per Prabhakaran et. al. (2013) South Asian CVD epidemic is characterized by early onset; myocardial infarction incident's median age is reported to be 52 years as compared to 62 years people of European origin.

Ghosh et. al. (2003) and Subramanian et. al. (2013) in separate studies reported that subjects from Indian Sub Continent has high prevalence rate of CHD risk factors. The risk factors contributing towards this in South Asian men are high triglyceride level (TG), high ratio of total cholesterol, lower levels of high-density lipoproteins (HDL cholesterol). diabetes (Type II) and central obesity.

As per Rodgers et. al. (2019) age in itself has been associated with risk of CVD as a risk factor. While reporting the Indian context of CHD Gupta et. al. (2009) reported that the prevalence of risk factors increase exponentially in Indian population as they reach age group 30-39 years. Gupta et. al. (1997) found that age and smoking in Indian

men is associated significantly with high prevalence of Q-wave coronary heart disease.

The risk factors associated to CVD are listed by World Health Organization (WHO, 2007). These risk factors dominate the degree of progress of atherosclerotic changes. The recognized risk factors are tobacco abuse, unhealthy diet, hypertension, physical inactivity, diabetes and dyslipidemia. Continuous peril of the risk factors result in CHD and CVD manifestation.

Ghosh et al. (2010) studied Indian population aged above 25 years and divided them in categories of 10 years age gap, concluded that age wise variation exist in Body mass Index (BMI), Mid-waist circumference (MWC) and waist-hip ratio (WHR). They concluded that there is a significant age wise difference in men's body fat percentage, central obesity. Both the factors are strongly associated to risk of CHD. Lanas et. al. (2017) and Kannel (1991) also reported significant group differences for total cholesterol levels (T. Chl.), low density lipoproteins (LDL Cholesterol), very low density lipoprotein (VLDL cholesterol) and TG levels with increasing age. Prabhakaran et. al. (2005) the reason for high prevalence of risk factors along with poor awareness level among north Indian population.

Raj et al. (2016) observed a linear relationship in prevalence of dyslipidemia, age and BMI.

Regionally significant variations are observed in prevalence and manifestation of coronary heart disease risk factors within India. Dorairaj et. al. (2016), Subramanian et. al. (2013) and Biswas et. al. (2016) reported that the diverse cultural differences lead to differences in dietary habits, substance use, physical activity level which attribute to heterogeneity in prevalence of risk factors.

The CHD prevalence and its determinants are needed to be studied well especially in developing countries like India as per Gupta et. al. (1997). Subramanian (2013) stated that studying baseline risk factors are found to be more clinically effective approach for population based approach than targeting only the behavioral approach.

This paper concentrates on variation in presence of CHDs risk factors in comparatively young men belonging age group 25-40 years of

age. The subjects are healthy young men free from any chronic disease and not taking any medicine regularly. The study of risk factors is important for making suggestions for primary prevention of CHD. Studying the age wise variation starting for early years of life and at an age gap of 5 years has the scope to gain insight in development of atherosclerosis in young subjects. The focus of this paper is to study development of atherosclerotic changes in young male in Punjab to investigate which parameters are important in atherosclerosis development in young Punjabi men.

Materials and Methods

It is a cross-sectional study based on community survey conducted between 2018 - 2019. A total of 161 Punjabi, male, age 25 to 40 years, healthy (not on medication for any of chronic disease) participants were selected from urban areas of district Sri Muktsar Sahib, Punjab, India. Multistage random sampling procedure was followed to select the study population using the electoral rolls. A written consent form was filled before starting investigation. The studied population was divided categorically in three groups according to age viz. Age group1 (25-30 years), Age group2 (30-35 years) and Age group3 (35-40year).

The subjects selected were healthy i.e., free from any of chronic disease (self declared and not taking any medication regularly). The age was more than 25 years and below 40 years. The written consent about readiness to be a part of study was essentially taken from all subjects. The main reason to select healthy subjects is to see occurrence of risk factors in healthy subjects belonging to this age group.

The Anthropometric measurements were done using methods by Jelliffe (1966). The subjects were made to wear light clothes while measuring weight and height and were measured to nearest 0.1 kg and 0.1 cm respectively. Body mass Index (BMI) was assessed by calculative method using Quatelet's formula $BMI = \frac{\text{weight in kilogram}}{\text{height in meter square}}$ (www.diabetes.com). The body circumferences were taken using techniques suggested by WHO (Singh et. al., 2012). A non-elastic measuring tape was used to

measure hip and waist circumference to the nearest 0.1cm. Waist to hip ratio (WHR) was calculated from these measurements.

Oscillometric method was used to measure blood pressure. Two Blood pressure readings from left arm were averaged. A third value was taken in case the difference in first and second reading was more than 5 mmHg. The automatic machine was calibrated manually using sphygmomanometer.

A fasting blood sample 7ml was extracted after the maintenance of overnight fasting for 12 hours. The blood plasma was used for estimation of fasting blood glucose level and total cholesterol level, HDL(High density lipoprotein) and triglyceride levels in mg/dl. The blood glucose estimation was done

colorimetrically using reagent kit by Beacon Diagnostics Pvt. Ltd.

Navsari, Indiabased on Barham & Trinder (1972) method in analytical chemistry. An in Vitro diagnostic kit based on Allain et. al. (1974) by SIEMENS, Gujarat, India was used to estimate blood lipid profiles using Beacon, colorimeter. The calculation of LDL(Low density lipoprotein) was carried out using formula $LDL = \text{total cholesterol} - (\text{HDL} + \text{triglycerides}/5)$ and VLDL(Very low density lipoprotein) was calculated using the formula $VLDL = \text{triglycerides}/5$.

SPSS was used for descriptive analysis for calculating average (mean), standard deviation, t-test and analysis of variation to compare the data of these groups. The level of significance was $P \leq 0.05$.

Results and discussions

Table 1 Descriptive statistics and comparison to desirable levels

S. no.	Risk factor parameters	Mean± standard deviation	Cut off (desirable levels)	p -value
1	Weight (kg)	75.11± 15.70	Not available	
2	BMI(Kg/m ²)	25.86 ±4.70	25	.003**
3	WHR	1.18± 2.76	1.0	.000**
4	Systolic blood pressure (mmHg)	129.49 ±15.00	120	.000**
5	Diastolic blood pressure (mmHg)	84.27 ± 8.93	80	.000**
6	Fasting glucose level (mg/dl)	95.94 ± 34.18	100	.000**
7	Triglyceride level(mg/dl)	187.48 ± 63.42	150	.000**
8	Total Cholesterol (mg/dl)	199.48 ± 35.06	200	.002**
9	HDL Cholesterol (mg/dl)	43.52 ±3.68	40	.000**
10	LDL Cholesterol (mg/dl)	118.22 ± 31.31.62	130	.000**
11	VLDL Cholesterol (mg/dl)	37.83 ±12.53	30	.000**
12	TC/HDL ratio	4.83 ±3.43	4	.000**
13	LDL/HDL ratio	2.70 ± 0.74	2.5	.006**

The population statistics (n=161) show that mean BMI of the group is 25.86 ± 4.70 kg/m² it is significantly higher than at $p < .01$ normal levels. Mean WHR is 1.18 ± 2.76 it's also significantly different and higher than normal. In a similar fashion the group's blood pressure levels are also on higher than recommended levels for this age group *i.e.* 25-40 years males. Table 1 shows the mean and standard deviation of population the higher level of mean indicate

a very high prevalence of risk factors of CHDs especially mean BMI, WHR, blood Pressure and cholesterol levels were significantly different from desirable levels. The higher level of means of risk factors as compared to the normal ranges for general population clearly point that this population is at high risk of coronary heart diseases and need interventions for control of risk factors.

Table 2 Analysis of variance for modifiable risk factors

S. no.	Variables	Age group 1 (25-30years) (n=66)	Age group 2 (31-35 years) (n=32)	Age group 3 (36-40 years) (n=63)	p value (significance P<0.05)*
1	BMI(Kg/m ²)	26.18±4.44	24.57±5.58	26.17±4.35	0.228
2	Blood Pressure (Systolic)(mmHg)	130.9±17.54	130.18±10.43	127.65±13.73	0.44
3	Blood Pressure (Diastolic)(mmHg)	82.22±9.87	85.53±6.66	85.77±8.39	0.05
4	Glucose level (fasting)(mg/dl)	91.16±7.31	92.40±19.23	100.95±44.09	0.233
5	Triglyceride level(mg/dl)	173.07±40.99	192.20±31.33	200.19±86.98	0.046*
6	Total Cholesterol (mg/dl)	191.51±29.14	198.28±31.75	208.30±39.92	0.023*

All the participants (n = 161) were categorized in three groups- age group1(25-29 years) composed of 66 participants; Age group2 (30-34 years) 32 participants; age group 3(35-39 years) 63 participants. These groups were compared using single factor ANOVA. The results are presented in Table 2 indicate that the Diastolic blood pressure (DBP) levels, Triglyceride levels (TG), Total cholesterol levels show significant differences in men at

younger age at a class interval of 5 years of age.

The chief observations from this study indicate that the total cholesterol levels, triglycerides, Very low density lipoproteins levels show significant increase with age differences in Punjabi men at a class interval of 5 years of age. Secondly, a high prevalence of other risk factors like BMI, WHR, hyper-triglyceridemia, high total cholesterol are seen after age of 30 years.

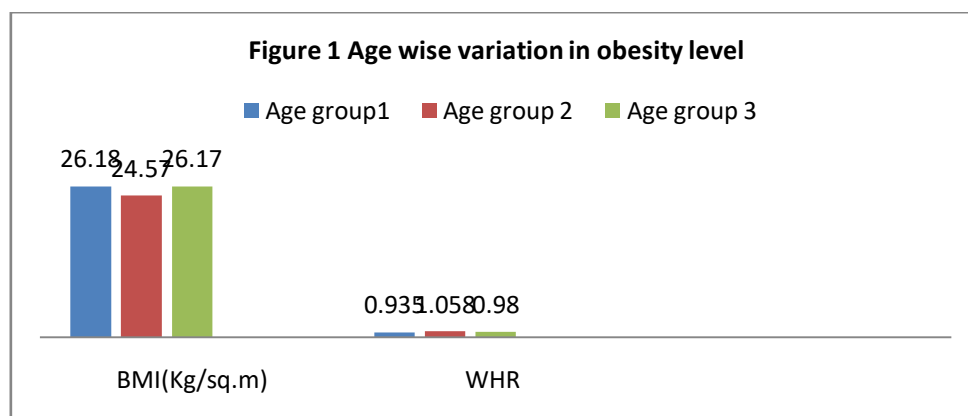


Figure 1 gives age wise variation in obesity and clearly shows that the younger generation has more BMI and WHR indicating high obesity levels in the younger generation thus

indicate early occurrence of CHD in young generation. Thus, the alarm is set for increase of prevalence of CHD and lifestyle diseases in future if level of obesity is not controlled.

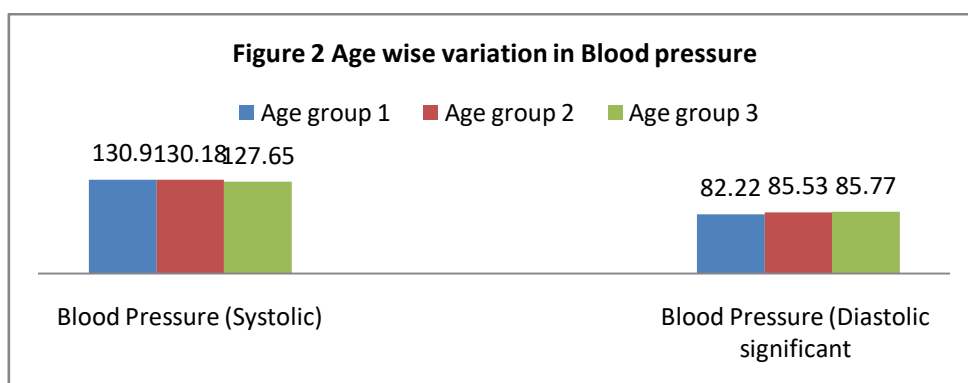
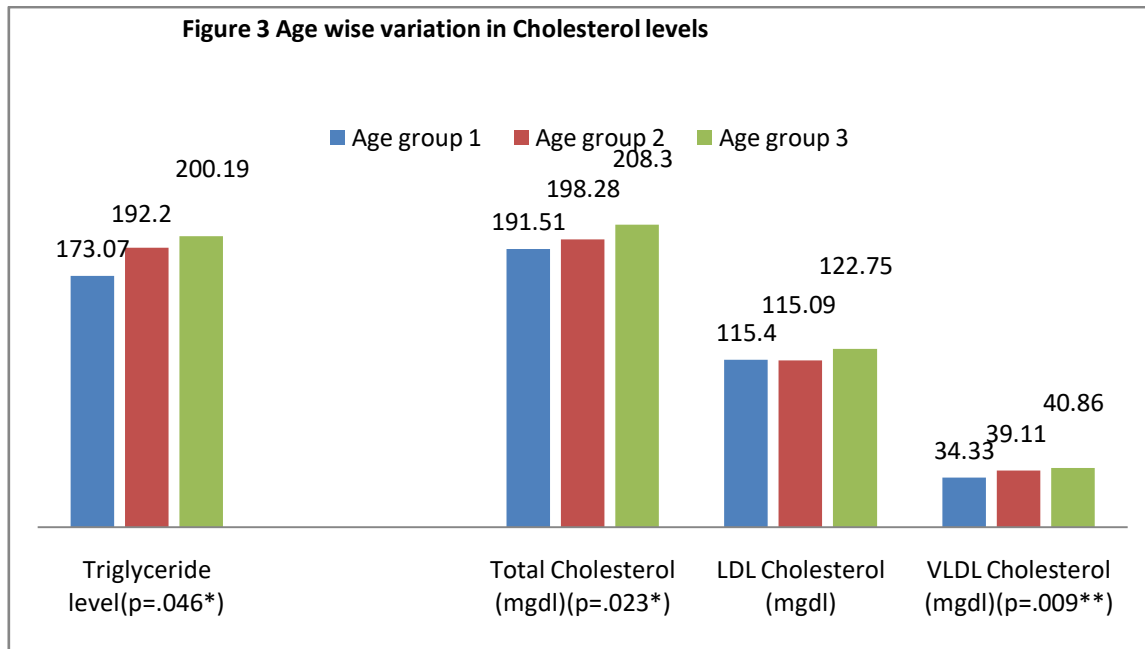


Figure 2 shows Mean DBP is 82.22 ± 9.87 mmHg for group1, 85.53 ± 6.66 mmHg for group2 and 85.77 ± 8.39 mmHg is group3, it shows significant increase $P=0.05$. Charvat et. al. (2013) reported that a 20 mmHg reduction

in blood pressure can reduce risk of stroke to 18 per cent. The systolic blood pressure levels in younger group observed and older people have high diastolic levels indicating start of atherosclerotic changes in age group 3.



The triglyceride levels increase gradually with age group mean TG levels is found to be 173.07 ± 40.99 mg/dl (Group 1), 192.20 ± 31.33 mg/dl (Group 2) and 200.19 ± 86.98 mg/dl (Group 3) $P=.046$ which is significant indicating increase in risk of dyslipidemia. Total cholesterol levels of group 1 were 191.51 ± 29.14 mg/dl, Group 2 were 198.28 ± 31.78 mg/dl and group 3 were 208.30 ± 39.92 mg/dl show significant change $P=.023$. The VLDL levels show highly significant difference $P=0.009$ and mean values 34.33 ± 8.38 mg/dl (Group 1), 39.11 ± 7.39 mg/dl (Group 2), 40.86 ± 16.61 mg/dl (Group 3) similar results were shown in study of Ghosh et al. (2010) where total cholesterol, triglycerides, diastolic BP & VLDL levels were reported in age gap of 10 years in Asian Indian men.

Similar results were reported by Singh et al. (2012) in their study. Serum triglyceride is the risk factor associated with early onset of CHD as per Benfante et. al. (1989) & Mendis et. al. (2011) and lays foundation for future CHD. A high triglyceride level at an early age i.e. less than 40 years in Punjabi males indicate early

onset of CHD in this relatively young population. The prevalence data reveals that more than 50 percent of population has high risk when it comes to dyslipidemia or obesity. This means that Punjabi young men are sitting at verge of CHD epidemic.

The high prevalence of risk factors of coronary heart disease especially dyslipidemia and obesity at a younger age i.e., below 40 years show need for further research in the younger population. Hyper triglyceridemia has been reported as major risk factors bringing about change at an early age and also laying foundation for hypercholesterolemia in this population in future. As Hyper-triglyceridemia is linked to calorie intake this study indicates importance of dietary and lifestyle interventional approaches designed especially for this population keeping in view their habits and way of living.

This study focuses on relatively young population which is healthy and has no diagnosed chronic disease present. So, it highlights the less awareness level for CHD risk factors in this population. This study also shows that early onset of Indian CHD epidemic concern could be controlled by controlling the

changes which happen at early ages such as change in Diastolic Blood Pressure, Triglyceride level, VLDL level.

This study has limitations too as sample size is small and may not be the true representative sample of Punjabi population. Therefore, a deeper research with a larger sample size can give better insights.

Conclusion

The results indicate that triglycerides, total Cholesterol levels and very low density lipoprotein levels show change from an early

age and indicate atherosclerotic change therefore a compulsory lipid profile screening at 5 years gap starting from 25 years of age is recommended. A proper investigation of risk factor occurrence in early years is needed to suggest primary prevention for this population. So, further research is required to explore the changes that occur at younger age to address the phenomenon of early occurrence of CHD event in Indian Punjabi population.

6.0 Conflict of interest

none declared.

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EXPLORATION OF ECOLOGICAL DESTRUCTION AND THE HUMAN EFFECT ON THE ECOSYSTEM IN AMITAV GHOSH'S "THE HUNGRY TIDE" AND "RIVER OF SMOKE"

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ABSTRACT

The environment is an essential part of the lives of human beings. Human existence is unfathomable without the presence of nature. The Ecological connection between man and nature is rugged. Each living creature is a component of nature. The relationship between the life of a human being, ecology and literature is interconnected, and it won't be separated. As industrialization is growing in a faster mood, the ecological problems reached its pinnacle in recent days, and it brings great danger to mother earth. Amitav Ghosh is one of the prominent novelists who try to present his views about the environment and wants to make the people aware of the harmful consequences and dreadful ecological conditions through his works. Ghosh, in his writings, describes the cruelty of man on nature and portrays how it will affect on living beings. This paper's main objective is to explore how far an ecocritical perspective illuminates the select novels and find out the ecological vision in reference to the Sundarbans, and highlights the effect of ecological imperialism.

Keywords: Ecology, Nature, Opium, Sundarbans, Imperialism.

Introduction

The anthropologist, antiquarian, columnist, down to earth analyst and author, Amitav Ghosh set out his excursion as a postcolonial essayist and rose to overall acknowledgement. He has continually been trying to drag the consideration of his perusers and the abstract world towards environmental issues. Man-nature connection assumes a pivotal part in his books. He has effectively recognized his identity as an ecologically cognisant writer. His novels aren't just a significant body of work that deals with historical and social problems, but they also demonstrate how the author has dealt with ecological concerns from an ecological standpoint. His novels focus on the facts that the rapid degradation of bio-diversity will threaten human beings on mother earth. Ghosh has admitted in an interview that he enjoys writing and that his works are focused on concepts that he would enjoy reading, as Binayak Roy (2011) describes Ghosh's words: "I write the books that I want to read, about the things that interest me. I am curious about the environment, about history, words and language. The idea of writing a book where you leave those things out seems boring because these are the textures that make life interesting" (p.143). These sentences clearly articulate Ghosh's

curiosity and dexterity in selecting ideas for which he believes the writing of a book will be incomplete without them. His interview clearly shows that Ghosh is obviously an environmentally responsible writer who seeks to raise consciousness about the negative consequences of environmental destruction through his writings.

Inception and History: A conceptual introduction of Ecocriticism

Ecocriticism emerged as a study of the relationship between 'literature' and the 'natural environment' in the mid-1990's. The term 'Ecocriticism' is derived from greek word 'Oikos' and 'Kritis'. "Oikos" means "household," and "Kritis" means judge. William Rueckert first used the word "Ecocriticism" in an article "Literature and Ecology: An Experiment in Ecocriticism". In 1876, a German biologist and philosopher named Ernst Heinrich Haeckel first coined the word "ecology".

"Eco criticism began to form as an act when danger to the world is noticeable. It is an interdisciplinary area that includes the study of literature and environment. Dilapidation of the climate tops the list of challenges facing the world today. It can be illustrious in two phases. The principal wave Ecocriticism rubs on nature composing, nature verse and wild fiction. The

second wave Ecocriticism or the Revisionist Ecocriticism is slanted towards natural equity to the issues of social analysis, metropolitan and debased scenes.

Ecocriticism is a multifaceted philosophy that examines not just the direct damage to the world caused by humans, but also inter-connectivity and peace that exists between humans and nature. Thomas. K. Dean says, "Ecocriticism is interdisciplinary. In order to understand the connectedness of all things including the life of the mind and life of the earth. One must reconnect the disciplines that have become the sundered through over specialization In large part, environmental crises are caused due to humanistic disconnection from the natural world, brought not only by increasing technology but also by particularization; in other words, a mentality of specialization that fails to recognize the interconnectedness of all things" (p.5).

Literary writers felt that it is their duty to make the readers aware of the association between humans and their material environment. As a result of their efforts emerged ecocriticism which takes an earth centered approach to literary criticism. There are many writers who have voiced for the environmental issues in their work as their primary theme. As per Wordsworth, nature is our Guide, Companion, instructor and caring mother. Ghosh's books incredibly mix the genuine chronicled realities with the ecological issue as its center topic. Human beings insensible behavior towards nature is responsible for the dreadful condition of the environment. In modern days, mother earth is mainly suffered from global warming. It's time for the human being to rethink his role in the inhumane sense towards the world and modify his thinking that is only advantageous towards him. There is an urgent need to take steps to protect biodiversity; if it is not done, then the future of human beings is in doubtful condition.

The fundamental importance of Ecocriticism is understood well when we realize that the greatest challenge in present times is to live on unstable earth. The man might have been equipped with high-end innovation, but he can't withstand nature in its wrecking mode. With the assistance of innovation, we came to the far end of harming nature that is now extremely

impossible to repair the damage. But with a diminutive awareness, little mindfulness, corrective measures, we can decelerate the speed of environmental degradation.

Principal environmental issues of the Sundarban

Amitav Ghosh's 'The Hungry Tide' is all about the Sundarbans ecosystem. This work of fiction explicitly evokes the wrath of nature and human fragility at the hands of nature. The setting of the novel is the 'Sundarbans'. This chain of low-lying islands in the Bay of Bengal, scattered across India and Bangladesh, is well-known for its exotic mangrove forests. The Sundarbans are to be found on the Ganges and Brahmaputra river deltas. The key setting for the plot is the island of Lusibari in the Sundarbans; the events in the novel take place in and around this island. The majority of the islands are below the ocean level. Sea walls around the islands are built to protect them from flooding and hurricanes. Many times embankments pacing the way for salty waters and silts are destroyed as well as causing damage to life and property. Salty waters and silts are making this land infertile. People are unable to do farming because of low soil quality. The ecosystem constitutes very significant environmental aspects. In an ecosystem, a single issue can start a chain of issues.

People of the Sundarbans

Daniel Hamilton, the Englishman who in 1903 brought from the British government as a vast area of ten thousand acres in the Sundarbans, and distributed it freely to all the Indians who were willing to settle there. Thus a new country was created, The Bhatir Desh or The Tide country. Therefore, the Tide country was home to people from various parts of Bengal, Orissa, East Bengal etc., living on the margins of civil societies.

Tigers and Dolphins: The endangered species in Sundarbans

The Sundarbans forest covers approximately 10,000 square kilometres in India and Bangladesh, with India accounting for 40% of the total area. It is home to many exceptional and globally declining wildlife species, including the 'Estuarine crocodile', 'Royal

Bengal tiger', 'Water monitor lizard', 'Gangetic dolphin', and 'Olive Ridley Turtle'. The Sundarbans are the Bengal tiger's primary habitat. It is home to almost 200 tigers. Unlike other big cats, Bengal tigers are comfortable in the water and swim from island to island over miles. The tigers in the area are also special, but their lives are also jeopardized. A 2015 report says the Sundarbans are left with just 170 tigers.

Environmental concerns in The Hungry Tide

Sundarbans has a wild and vast covering environment that forms the core of the plot, as can be seen from these sections. The novel focuses on the ecology of the tide country, which includes 'Lusibari', 'Gajrontala', 'Canning', 'Gosaba', 'Satjelia', 'Morichjhapi', and 'Emilybari', among other small villages. The novel has placed a greater emphasis on crimes against the ecosystem as well as crimes against humans committed in the name of sustainability, and it beautifully documents how the ecological equilibrium is disrupted by mutual interference at their respective locations.

The novel weaves together contemporary environmental concerns, adventure, passion, identity, and history. The novel is set in India's most densely wooded forest region, the Bay of Bengal, on the country's easternmost coast. In his article *The Hungry Tide: An Ecological Study*, Das (2013) describes the vastness of the Sundarbans as follows:

"One needs the real eye to see its hidden beauty. Apparently wild-looking green patches of Sundarbans surrounded with water possess a history having multiple layers. Its like an onion; one can just keep peeling layers upon layers but can never come to the core; there is always more" (p.157)

The novel tells a tale of adventure, identity, culture, and love. Ghosh depicts nature not only as the environment of beautiful landscapes but also as a voracious eater of human flesh. The tide and its waves reflect all of nature's destructive forces. The following mangrove forest phrase can be found in the 'Bengali script' that Kanai reads in the novel:

"A mangrove forest is a universe into itself...Mangrove leaves are tough and

leathery, the branches gnarled and the foliage often impassable dense. Visibility is short and the air still and fetid. At no moments can human beings have any doubt of the terrain's utter hostility to their presence, of its cunning and resourcefulness, of its determination to destroy and expel them. Every year dozens of people perish in the embrace of that dense foliage, killed by tigers, snakes and crocodiles." (Ghosh p.p 7-8)

The lines mentioned in the above-cited passage elucidates nature's incredibly unreceptive attitude toward man.

Kanai, a 'wealthy translator', meets with Cytologist Piyali Roy. Both are heading towards the Sundarbans. For the first time in thirty years, Kanai goes to the island of Lusibari to deal with a long-lost packet of the texts of his late uncle Nirmal. Roy comes to do an assessment of the Sundarbans marine mammals. They leave Lucibari after Kanai extends an invitation to Piya to his home as a friendly gesture. Kanai is heading home with Piya, accompanied by his aunt Nilima. Nilima introduces Kanai to Fokir, who is a local alphabetic fisherman.

Piya came to her homeland to hollow out the rare species of Dolphin. The Sundarbans forest department was given permission for her to do research. Piya asks Fokir to come with her as a guide. Fokir does not understand the English language, and she does not know the Bengali language, but they manage to communicate through non-verbal language. Kanai also goes together with them. Piya, together with Fakir and Kanai, depart to Bhotbhoti to carry on her studies. Kanai works as a translator among Piya and Fokir. Nilima shows her disapproval when Kanai prepares to leave along with Piya, as the tiger kills people every week in the place they are about to visit. Kanai decides to go back from the journey while Fokir and Piya depart to examine the dolphins.

As Piya and Fokir ride through the mangrove waters, they come across a village where a crowd threatens a tiger with spears and staves caught in a cattle pen. Priya tries to intervene, but Fokir aggressively carries her away from the resentful crowd's wrath. The cattle pen is set on fire, and the tiger is burnt alive. These individuals have endured a lot because of the tigers. At the same time, Piya, an outcast and

doesn't have the foggiest idea about this set of experiences, executing the tiger appears to be malicious on the part of these people. She believes that Fokir may restrict the tiger slaughtering; however, she finds that Fokir himself is associated with the demonstration of killing the tiger. The tiger assassination incident in the novel highlights the reality of the civilizing differences between Piya and Fokir.

Further, in order to begin the study, both are to step towards Garjontola Lake. Sadly, something huge hits Fokir, and he dies in the boat. Piya returns to Lucibari and narrates the entire incident to everyone. *The Hungry Tide* is a purposeful effort to incite readers to consider the atmospheric problems from an ecological point of view.

Ecological destruction in River of Smoke

The River of Smoke is historical fiction and the second volume of the trilogy. In this novel, Ghosh analyzes the concept of ecology, especially opium, during British control in India. Ghosh represents nature as a degrading factor because of human beings greedy nature. It represents the European mentality in ending the existence of ecology in the occupied countries in terms of free trade. The *Ibis* is a name of a ship in which some people was taken as labourers from Calcutta to Mauritius to be as labour in the plantations. While in the journey, the ship is trapped in the tempest in which some characters are flee from the ship, whereas some other characters arrive at Mauritius to be as a labourer. *Anahita* is a ship possess by Bahram Modi. It carries opium to Canton and *Redruth* is a botanical expedition, also to Canton and China, the purpose behind that is to advertise or promote plants, especially golden *Camellia*, it's a type of plant that contains medicinal properties. It takes to keep in Kew Garden that is situated in Britain. Here Ghosh clearly presents the mentality of Britishers, how they destroy the environment of the occupied countries; apart from that, he shows how they store the special species that was transported from the occupied countries.

Fitcher is trying to find out golden *Camellia* because he wants to earn money, gain huge benefits while selling the plants. Fitcher informs Paulette about the importance of

Camellia and how it is useful in different ways. In the eighteenth century, *Camellia* was a type of plant that was not taken outside of China because of its value that's the reason people take samples of seeds and pictures. It is impossible to find out golden *Camellia* as it became extinct species several years before. Ghosh makes a presentation, how rich China is in the area of species of plants.

River of Smoke deals with the trade of opium from Calcutta to Canton in China and its negative impact on the people and environment and incidents leading to break out of Opium War (1839-42). Ghosh presents the cruel nature of Britishers; they not only occupied the countries but also divested the nature of the country. The plot of the novel constructs on base on the opium trade and its consequence on nature. When the Britishers lost the tea products, they transformed their business thoughts to opium as a commodity of trade with China to reduce the trade deficit.

At the starting of the trade, the rich people used opium as a symbol of lavishness but due to the greedy nature of Britishers to get more profit, and it was openly offered to all the people; as a result, they get habituated as a drug. The Emperor knew his fault and abolished the business of drugs in China; because of this ban, the Britishers found another way to do their business, they took the help of local merchants to do their business illegally, and they supported the Britishers without thinking that they are harming their own people and country. The Pearl River was contaminated due to the discharge of opium. Actually, the water in the river was clear and transparent, but now it is opaque. The mud has turned the river into poison. Ghosh also portrays the species that are in danger of extinction. He mentions that the eating practices of Chinese people are responsible for the extinction of animals. Chinese people not only eat different types of animals but also utilize them to prepare products that were not known to the world.

Conclusion

Ghosh has excellently depicted the consequences of colonization on the environment. He portrays overutilization of rare species may indicate its disappearance and leads to its destruction. Environmental

protection is an important issue and it needs an immediate response from all human beings. It is the responsibility of every human being to protect the environment while showing love and tenderness towards all living being. Ghosh clearly shows how people life will effect if they won't properly care for nature. If a human will we realize, We cannot eat money"

being doesn't control their habits and if they don't stop destroying nature, then nature shows its power, and then human beings will face lots of problems.

"Only when the last river has been polluted
And the last tree has been cut down,
And the last fish has been caught.

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IMPACT OF COMPONENTS OF FOREIGN CAPITAL FLOWS ON NOMINAL EXCHANGE RATE IN INDIA

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ABSTRACT

This study is being undertaken to examine the effect of components of foreign capital flows on the nominal exchange rate in India. This article is an empirical investigation between the dependent and the explanatory variable covering a period from 1991 to 2018. The nominal exchange rate of USD to INR is taken to be the dependent variable whereas foreign direct investment net, foreign direct investment inflow, and outflow, and net portfolio investment are taken to be the independent variables. This study concludes that only portfolio investment has a significant impact on the exchange rate mechanism in India which is being explicated by the method of least square.

Keywords: Foreign direct investment, foreign capital, nominal exchange rate, Least square, empirical, explanatory

Introduction

After the inception of wide advancement arrangements, the size of the capital inflows into India flooded year on year with a couple of special cases. The private capital inflows overwhelmed as foreign direct venture (FDI), foreign portfolio investment (FPI), outer business borrowings, and non-inhabitant stores over true capital inflows, and India's reliance on unfamiliar guides reduced over this period. Because of a wide reach of progression programs, India was an appealing speculation road for foreign capital, and net capital inflows that were almost zero until the 1990s expanded fundamentally from thereon. FDI inflows expanded over 100% yearly from 1993-94 to 2003-04, while FII inflows expanded more than four times in a similar period (Dua and Sen, 2006). India executed full convertibility in the current record exchanges in 1994 and progressively opened up the capital record exchanges by expanding the areas and upgrading the roof limits for unfamiliar ventures. Two surprising highlights for the capital inflows in this period are the strength of private value and obligation inflows over the authority capital streams, and the decreasing significance of unfamiliar guides. However, capital inflows had significant strategy difficulties like overheating the monetary business sectors, loss of fare seriousness, and expanded weakness to emergencies (IMF, 2007). Capital inflows were of specific worry to nations with significant current record deficiencies and firm trade rates. Developing

business sector economies have encountered generous genuine trade rate appreciation because of capital inflows (Marualus, Moreno Badila, et al., 2014). Until the 1990s, the size of capital inflows into India stayed extremely restricted however India embraced a more extensive methodology towards opening the capital inflows in 1991, with the starting of advancement, privatization, and globalization (LPG) because of which the size and piece of capital inflows into India saw an emotional change. Yet, because of an enormous segment of unstable capital inflows, dealing with the unfamiliar conversion scale became troublesome.

Statement of the research problem

There is a connection between capital streams and the exchange rate in India. Expansion in capital inflows since wide advancement, made upward pressing factor for conversion scale to appreciate. Then again, because of the strength of unpredictable parts of FII capital inflows, India saw the serious level of instability from unexpected capital reversals which are apparent from the scenes of the East Asian monetary emergency of 1997-98; worldwide financial emergency of 2007-08; Eurozone emergency of 2010-11 and tightening of quantitative facilitating in 2012- The Rupee devalued radically during these periods. Along these lines this investigation endeavors to contemplate the connection between capital streams and the exchange rate in India. The period for this investigation is from 1991 to 2018. The assessment of the Indian rupee

against the dollar depreciated reasonably and that fundamentally influenced the macroeconomic components of India all things considered. India has gotten a new pursuit worth 27.2 billion dollars in the year 2019. In the wake of this proposition, this study aims to unravel the factors behind currency depreciation despite a huge surge in foreign exchange reserves.

Review of literature

Gregarious Siourounis (2003) explored the specific connection between capital transfers and clear exchange rates for five countries, the US, UK, Japan, Germany, and Switzerland. He tracked down that net cross edge abroad worth undertaking determinedly impacts the obvious exchanging size of these nations against bond abroad hypothesis.

Bhanumurthy (2006) attempted an experimental investigation that depends on an essential study on unfamiliar trade vendors to analyze the components behind transient conversion standard development in India. He discovered that conversion standard is being impacted by miniature factors like the progression of data, market development, national bank mediation, and theory.

Dua and Sen (2006) talk about the connection between capital transfers and REER for India someplace in the degree of 1993 and 2001. They overviewed the connection between the authentic change scale, level of capital streams, vulnerability of the streams, monetary and cash related procedure pointers, and current record surplus for the Indian economy for the time 1993 to 2004. Their evaluations show that the parts are co-created other than; every granger causes an ensured genuine persuading change scale.

Indrani Chakrabarthy (2006) considered the part of capital inflows during the post advancement period. An examination of this investigation depended on quarterly information from 1993 to 2003. This investigation uncovers that net capital streams have been unpredictable during the previously mentioned period and macroeconomic elements didn't fundamentally affect dynamic change of capital inflows. The investigation likewise discovered that there exists a co

combination between genuine conversion standard and capital inflows.

Caporale et al (2017) examined the impact of unfamiliar portfolio inflows on swapping scale instability in driving seven Asian economies. GARCH model and Markov chain model were being applied to research the connection between the previous factors. US dollar was being utilized as benchmark money to analyze their individual nations' monetary forms and the month-to-month information was utilized for the information investigation. The yield recommends that except for the Philippines different nations showed a serious level of connection between the illustrative and reaction variable.

Lily et al (2014) analyzed the effect of unfamiliar direct ventures on conversion scale development in driving ASEAN economies for example Malaysia, Singapore, Philippines, and Thailand. The Autoregressive Distributed Lag model was being utilized to set up the since quite a while ago run and short-run between the accompanying factors

Combes, Plane, and Kinda (2011) researched the impact of capital inflows and change scale versatility on the certifiable transformation scale in non-mechanical countries subject to load-up co-joining strategies. The results show that public and private streams are connected with a certified transformation scale appreciation. Among private streams, the portfolio hypothesis has the most vital appreciation sway practically on numerous occasions that of new direct endeavor or bank credits and private trades have the least effect.

Research gap

A lot of research has been conducted on capital flows and exchange rate of developed countries but there are limited research have been conducted in India in particular so this is our research gap.

Objectives of the research

This study is being undertaken with the following specific objectives.

- To find out the impact of foreign direct investment net on the nominal exchange rate in India.

- To examine the impact of portfolio investment net on the nominal exchange rate in India.
- To investigate the impact of foreign direct investment net inflow on the nominal exchange rate in India.
- To unravel the impact of foreign direct investment net outflow on the nominal exchange rate in India.
- To reveal the causal relationship between foreign direct investment net on the nominal exchange rate in India.
- To decipher the causal relationship between foreign direct investment net inflow on the nominal exchange rate in India.
- To find out the causal relationship between foreign direct investment net outflow on the nominal exchange rate in India.

Research hypothesis

- H1: There is no impact of foreign direct investment net on the nominal exchange rate in India.
- H2: There is no impact of portfolio investment net on the nominal exchange rate in India
- H3: There is no impact on foreign direct investment net outflow on the nominal exchange rate in India.
- H4: There is no foreign direct investment net outflow on the nominal exchange rate in India.

Methodology of the study

A. Period of Study

To achieve the following research objectives, the period of study has been taken from 1991 to 2018. This is an empirical study that is being based on a time series analysis of 28 years' annual data. The period after 1991 is the period of liberalization, privatization, and globalization of the Indian economy.

B. Data Sources

This study is primarily based on secondary data which have been sourced from various organizational websites like World Bank Open Data, CMIE, RBI(Database on Indian Economy).

Tools for evaluating:

The following Statistical tools have been employed to fulfill the aforesaid research objectives. The method of least square has been employed to find out the degree of impact among the following variables. A pairwise Granger Causality test has also been employed to find out the relationship between the explanatory and dependent variables. Descriptive Statistics have also been employed to find out the mean, median variance, standard deviation, kurtosis, and others.

Description of the variables

Exchange rate – This variable is taken to be the dependent variable for our study. The exchange rate of rupees per US \$ is taken to be the dependent variable whose value is being computed yearly. The daily value of the exchange rate has been added and the outcome is being divided by the total number of days. In this, the exchange rate value has been annualized.

Foreign direct investment (net)- This variable is taken to be an explanatory variable for the aforesaid purpose. The amount of foreign capital a country has after meeting out all foreign obligations.

Foreign direct investment (outflow)- This variable is taken to be an explanatory variable for the aforesaid purpose. The amount of foreign capital a country pays to the foreign countries.

Foreign direct investment (inflow)- This variable is taken to be an explanatory variable for the aforesaid purpose. The amount of foreign capital a country receives from foreign transactions.

Portfolio investment (net)- This variable is taken to be an explanatory variable for the aforesaid purpose. The amount of foreign capital a country has in the form of a portfolio after meeting out all foreign obligations.

Limitations of the study

This study is being confined to India only which is one of the major limitations since the exchange rate and foreign capital are very dynamic and it is not inclusive in any form. The period of research has been framed for 28 years only which is a limitation for this research. This study is being confined to the

four variables and it is one of the limiting constraints in our study.

Table no. 1 Foreign investment and exchange rate (us \$)

YEAR	FDIN(US \$)	FDINI(US \$)	FDINO(US \$)	PFIN(US \$)	ER (PER US \$)
1991	-73537638.39	73537638.39	-11000000	-4636519.763	31.2256
1992	-276512439	276512439	24000000	-283578511.9	31.2354
1993	-550019384.4	550370024.9	350640.5619	-1369117146	31.3725
1994	-890688166	973271468.7	82583302.7	-5491125009	31.495
1995	-2026439031	2143628110	117189079.2	-1590475624	34.35
1996	-2186732315	2426057022	239324706.5	-3958322334	35.915
1997	-3464411052	3577330042	112918990.4	-2555657284	39.495
1998	-2587058630	2634651658	47593027.49	601151966.9	39.985
1999	-2089233597	2168591054	79357457.32	-2317070163	42.435
2000	-3074684332	3584217307	509532974.7	-2345216989	43.445
2001	-4073961343	5128093562	1054132218	-2852793642	43.595
2002	-3947895992	5208967106	1261071115	-1022422260	43.605
2003	-2444138426	3681984671	1237846245	-8216187274	43.755
2004	-3592188066	5429250990	1837062923	-9037076534	44.605
2005	-4628652265	7269407226	2640754960	-12144114068	44.645
2006	-5992285935	20029119267	14036833332	-9545718947	45.135
2007	-8201628958	25227740887	17026111929	-33016300605	46.64
2008	-24149749830	43406277076	19256527246	15074790314	47.505
2009	-19485789183	35581372930	16095583747	-17756860244	48.8
2010	-11428785746	27396885034	15968099288	-36875471079	50.945
2011	-23890659988	36498654598	12607994610	-2664809742	51.16
2012	-15442447343	23995685014	8553237671	-29285240146	54.2323
2013	-26388082470	28153031270	1764948800	-6857994918	60.0998
2014	-22890162761	34576643694	11686480933	-37740318603	62.5908
2015	-36495216491	44009492130	7514275639	-9486642829	64.8386
2016	-39411278940	44458571546	5047292606	4725209437	65.0441
2017	-28875941053	39966091359	11090150305	-30637784958	66.3329
2018	-30699661201	42117450737	11417789536	9597939591	69.1713

Source- World Bank open data

Table no.2 Least square method

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	36.11562	1.271126	28.41231	0.0000
PFIN	-2.06E-10	7.02E-11	-2.934879	0.0074
FDIN	9.90E-08	1.69E-07	0.587089	0.5629
FDINI	9.98E-08	1.69E-07	0.592148	0.5595
FDINO	-1.00E-07	1.69E-07	-0.593054	0.5589
R-squared	0.871019	Mean dependent var		46.91619
Adjusted R-squared	0.848588	S.D. dependent var		11.32796
S.E. of regression	4.407907	Akaike info criterion		5.965109
Sum squared resid	446.8817	Schwarz criterion		6.203003

Source- Compiled from EVIEWS 14

Interpretation: This table establishes the degree of relationship between the dependent and explanatory variables. Exchange rate per US dollar is taken to be the dependent variable whereas foreign direct investment(net), foreign direct investment net inflow, foreign direct investment net outflow, and portfolio investment net are taken to be the independent

variables. The method of least square was being used for calculating the degree of impact the independent variable has over the dependent variable. There is no impact of explanatory variables over the exchange rate as the probability value associated with three explanatory variables is more than 0.05, so the null hypothesis is accepted which means that

there is no impact on these explanatory variables. Exchange rate is being affected by portfolio investment net since the p value associated with this variable is less than 0.05.

Table no. 3 Pairwise granger causality tests

Null Hypothesis:	Obs	F-Statistic	Prob.
“FDINO does not Granger Cause PFIN PFIN does not Granger Cause FDINO”	26	2.00156 0.12249	0.1601 0.8853
“FDINI does not Granger Cause PFIN PFIN does not Granger Cause FDINI”	26	2.56867 18.8085	0.1005 2.E-05
“FDIN does not Granger Cause PFIN PFIN does not Granger Cause FDIN”	26	1.71189 27.5319	0.2048 1.E-06
“ ER does not Granger Cause PFIN PFIN does not Granger Cause ER”	26	1.45202 0.41065	0.2567 0.6684
“FDINI does not Granger Cause FDINO FDINO does not Granger Cause FDINI”	26	0.64337 2.04839	0.5356 0.1539
“FDIN does not Granger Cause FDINO FDINO does not Granger Cause FDIN”	26	0.64316 2.20493	0.5357 0.1351
“ER does not Granger Cause FDINO FDINO does not Granger Cause ER”	26	0.44672 0.28760	0.6457 0.7530
“FDIN does not Granger Cause FDINI FDINI does not Granger Cause FDIN”	26	2.04904 2.20525	0.1538 0.1351
“ER does not Granger Cause FDINI FDINI does not Granger Cause ER”	26	1.98638 1.92564	0.1621 0.1707
“ ER does not Granger Cause FDIN FDIN does not Granger Cause ER”	26	3.43185 2.26337	0.0513 0.1288

Source- Compiled from EViews 14

Interpretation: This table reveals that there is no impact of foreign direct investment net outflow with portfolio investment net and vice versa since the p-value is more than 0.05. There is no impact of other variables over one another since the p-value is more than 0.05 except in two cases. In the case of portfolio

investment net and foreign direct investment net inflow and foreign direct investment net p-value is less than 0.05 which means that portfolio investment does have a significant impact on foreign direct investment net and foreign direct investment net inflow.

Table no.4 descriptive statistics

	PFIN	FDINO	FDINI	FDIN	ER
Mean	-8.47E+09	5.76E+09	1.75E+10	-1.18E+10	46.91619
Median	-3.41E+09	1.80E+09	6.35E+09	-4.35E+09	44.62500
Maximum	1.51E+10	1.93E+10	4.45E+10	-73537638	69.17130
Minimum	-3.77E+10	-11000000	73537638	-3.94E+10	31.22560
Std. Dev.	1.35E+10	6.57E+09	1.69E+10	1.24E+10	11.32796
Skewness	-0.889692	0.701610	0.419143	-0.865200	0.448225
Kurtosis	3.065882	1.932933	1.492226	2.323660	2.273116
Probability	0.157318	0.163196	0.176213	0.133520	0.459788
Sum	-2.37E+11	1.61E+11	4.91E+11	-3.29E+11	1313.653
Sum Sq. Dev.	4.93E+21	1.16E+21	7.72E+21	4.13E+21	3464.714
Observations	28	28	28	28	28

Source- Compiled from EViews 14

This table reveals that the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, a sum of the above variables. The mean value of the exchange rate hovers around 46.91. The mean value of foreign direct investment net is negative which implies that foreign inflow is less than foreign outflow which is a major cause of concern. The value of skewness is portfolio investment net and foreign direct investment is in the negative sign which is not a good sign for the Indian economy.

Conclusion

This examination reasons that there is no effect of foreign direct investment over the exchange rate as the likelihood value related to three illustrative factors is more than 0.05, The Portfolio investment net is having a huge effect on the exchange rate since the likelihood value of 0.0074 is under 0.05, so this variable is critical in clarifying the reliant variable It is a strong model since 87 % of the variable in the study supports this model. So ,it is one of the most significant variable to explain nominal conversion rate in India

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**THE EROSION OF AMERICAN FAMILY: SEARCH FOR HOME WITHIN
CONTEMPORARY AMERICAN CULTURE IN *DEATH OF A SALESMAN* & *THE
AMERICAN DREAM***

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ABSTRACT

*The American imagination in the present century has kept moving between the two central images of man—one of idealism and despair, and the other of strife and promise. The American playwrights, in particular, have been directly resolved to the depiction of human conflict in terms of man's capacity to control the chaos and the faith that man must somehow be able to guarantee or resuscitate the force of will which can eliminate the chaos and disorder that surround us. The final analysis is that modern American Drama is the symbolic chronicle of the human struggle for — survival and prevalence, for identity and purpose, for meaning and promise. This paper focusses on the decay of the American family, which can readily be seen as a synonym for the non-viability of today's American society. The American family gives the quintessential picture of the whole American culture today. Both Arthur Miller and Edward Albee treat this recurring theme in their plays more fully which marks the next stage of development that culminates in their definitive treatment of the American family in *Death of a Salesman* & *The American Dream*. Couching the problems of America in the metaphor of the breakdown of the American family, *Death of a Salesman* & *The American Dream* make them more accessible and understandable to the audience.*

Keywords: Family, Home, Culture, Dream, Identity, Selfhood, Struggle

Introduction

The general opinion about the 20th century is that it was an age of nightmares, an age of broken values, an age in which man was alienated from all sources and became rootless and disintegrated. Pressures of a standardized and regimented society have forced man to live at different levels of identity resulting in tension which seem to threaten his very entity as a human being. In a megalopolitan civilization, man is continuously suffering from spiritual isolation and it is felt that he has come to the end of his tether. The prominent American dramatists give an idea of their understanding of the human situation within the framework of symbolism and the strategy of selfhood. They also express within this framework their verging degree of commitment to the existence and the fate of man. They describe the helplessness of modern man. They also depict in dramatic terms goals of man and his values and the consequent adjustment of modes of human selfhood.

Arthur Miller and Edward Albee appeared on the literary horizon of America at a time when American people were facing a period of transition, and American Drama and the Theatre of the Absurd were in jeopardy. They carried forward the legacy of American Drama

left behind by the great American dramatists by writing and producing plays which portrayed the existential dilemma of the American people and the pain, frustration, anguish, despair born out of it. Both represented the fear and anxiety of the American society who looked into the changing scenario and future apprehensively. In their hands, American drama found new and wider dimensions and was enriched with new language, techniques and themes. Both Arthur Miller and Edward Albee suggest the possibility of returning to an America that was once strong, held promises and nourished its people. This return, however, is possible only when America's reality is confronted squarely, when the crimes of the past are acknowledged and atoned for and the young can be enlisted to accept their responsibility for the recreation of the Dream.

American dream is one of the finest portraiture of the vapidness and emptiness of many as American cultural concepts. The dominance of the American female, her inordinate sexual hunger and selfishness, the emasculation of the male, the appallingly vapid all American boy love of material comfort of the old illusory world to avoid harsh realities, the sense of insecurity in the midst of material abundance; incapacity for genuine emotion the craze for conformity, the much publicized

American love of children and family the myth of optimism and progress all this has been satirically treated with the view to dramatizing the spiritual emptiness of American life. Harold Clurman(1967) opines:

Lest this be misunderstood, it should be added that there are two versions of the American dream. The historical American dream is the promise of a land of freedom with opportunity and equality for all. This dream needs no challenge, only fulfilment. But since the Civil War, and particularly since 1900, the American dream has become distorted to the dream of business success. A distinction must be made even in this: The original premise of the American dream of success popularly represented in the original boy parables of Horatio Alger was that enterprise, courage and hard work were the keys to success. Since the end of the First World War, this too has changed. Instead of the ideals of hard work and courage, there is salesmanship. Salesmanship implies a certain element of fraud: the ability to put over or sell a commodity regardless of its intrinsic usefulness. The goal of salesmanship is to make a deal, to earn a profit—the accumulation of profit being an unquestioned, end in itself. (Clurman,1967,pp. 212-13)

Depicting the search for home within contemporary American culture, Arthur Miller and Edward Albee are no more optimistic about what this culture has to offer. Nevertheless, the plays assert that retracing roots is necessary no matter what the cost of outcome. Concurrent with this interest in home is a shift from the lone individual to people in relationships as a way of exploring possible reintegration and the forging of a community. This task of reshaping the cultural debris is hindered by many forces— internal and external to the individual. The inner conflicting desires of the characters or what may be called the 'obsessional behaviour' of the characters, builds the psychological barrier. The social barrier includes the bankruptcy of the past passed on from father to son, the surrounding social or political environment, the alienation of man from land, the apparent vacuum created by the scraping of old values and the essential claustrophobic nature of the American family. Arthur Miller and Edward Albee bring into

focus the interplay of all these forces and the subsequent plight of American family life.

The family has been called by Freud as the 'germ cell' of civilization. It is the corner-stone of the socialization process of the individual. In fact, family confers status on the individual, that is, it gives him a certain identity. This search for identity is the most extensively explored theme in contemporary American drama. Related to this, is the obsession of the modern American playwrights for the failure of family harmony and its disintegration. As long as the family exists with love, with its ideals and morals, it continues to be a training ground for the young mind. When indifference and personal selfishness sets in, it destroys family life. Parental indifference towards their children results in the disintegration of the family. The American family, today, is in a serious sociological plight.

Home and Family in Arthur Miller's *Death of a Salesman*

Home and family life has always been for Miller a major issue. He is concerned with the primal family before and after the economic 'fall' which is to say, before and after external social pressures have disrupted the essential family peace and unity. The family as a primal sociological unit seems to have dominated all Miller's plays. Without giving any direct answers he has presented the conflicts, the relationships and the effects of the family background on the protagonist's lives and character. He has also shown the relationship of the family with the wider social world and the way in which society influences family life and economic security. His major family plays focus on the family in crisis trapped in moments of stress and conflict resulting from present or past actions that threaten to destroy its members' individually or collectively. Miller reveals the utter negativeness of society and history, and yet offers the ultimate human self as the redeemer and transformer, and also the creator of its own social and historical environment. *Death of a Salesman*, to some extent, strikes a balance between the social problem of the shattered myth of success and Willy Loman's sex and family problems. Miller expressed his basic attitude toward the role of

social forces in drama in an address in which he said:

I hope I have made one thing clear... and it is that society, and you cannot even create a truthfully drama psychological entity on the stage until you understand his social relations and their power to make him what he is and to prevent him from being what he is not the fish is in the water and the water is in the fish.(Motrin,1978, p.185)

The play *Death of a Salesman* is really a challenge to the American dream. The play begins with the classical requirement that its protagonist be at a turning-point in his life. The salesman comes home carrying wearily the two battered, black sample cases which are his cross. They are like the two sons he has carried through life; they are a burden we want him to set down with honour, but we sense almost at once that they are to be his coffin. It is obvious from his first words that he has lost command of them just as he has lost control of his sons, control of his car, control of his mind.

Willy Loman is not in the eyes of his sons just a man, but a god in decay. To his first son Biff, Willy was a god who would protect him from all misdemeanour, who could 'fix' even a failure in mathematics; to his sons, Willy Loman was Salesman—Lord of New England. It is this illusion of sexless godhood that is shattered when Biff at seventeen comes to Boston on a surprise mission (to get his father to 'fix' a math failure) and catches Willy with a lusty woman, then breaks down, weeps, and walks out on his father who is on his knees pleading for forgiveness, understanding, and lost godhood. This is the repressed scene of infidelity and smashed authority dramatized in the restaurant. And it is followed immediately by the mother's accusation against her sons for killing their father by their whoring. This is as close to the original battle fought ages ago by man and his sons as has ever been put upon the stage. It is this very thinly and yet very adroitly disguised Oedipal murder which gives the play its peculiar symbolic prehistoric power. It is not only modern man exploited; it is also Neanderthal man raging against the restraint of civilization's dawn.

Every gesture of Willy Loman is visualized as psychoanalytic interpretation woven into reality. For example, near the end of the last act

Willy comes out of the washroom of the restaurant and is found on his knees by a waiter who cannot understand what is beautifully clear to the audience. For the audience has just shared Willy's hallucination of a scene of years ago, in which his son Biff caught him in a hotel room with a woman. Willy hammers at the present on the anvil of the past.

Again, it is the mother fighting savagely for the father as she accuses the sons; it is the mother who sets off the older son's fury. It is she who has faced with the father the agonies of salesmanship, refrigerators, mortgages, life insurance, exhaustion and withering. Her rage at being old and dried-up is implicit as she fights like a she tiger against the sons who have cast off the father for their own sexual philandering. It is thus she who is the protagonist of the external social theme: a society that destroys fatherhood makes primitives (criminals) of its sons.

The play, now, resolves itself powerfully upon its basic and hidden motivation; the guilt of a younger son for his hatred of his elder brother, for Willy Loman is also a younger brother. For again the repeated hallucination of Willy's older brother Ben appears, this tune summoning Willy now to come away to new adventure (Death) in. Ben's bragging, nagging refrain: "I was seventeen when I went into the jungle, and when I came out I was twenty-one and rich!"(Miller, 1998, pp.36-37) Here, in the play's final resolution, the entire necessity for the technique of hallucination becomes clear, though in fact it was announced at the very beginning of the play when Willy Loman commented that his elder brother Ben who struck it rich, is dead. Willy Loman, himself a younger brother (low man on a totem pole), was determined in his time to 'lick the system' by the magic of salesmanship and become 'No. I Man'—a son with a deep guilty hatred for his older brother.

As a salesman, he himself wants to become a hero; he has hallucinations of Ben as a hero, an old salesman as a hero, Biff as a hero—even if he is a football hero. Willy recalls how Ben went into the forest and emerged rich; he remembers how the eighty-four-year-old salesman did his sales job unflinchingly just with the help of the telephone and dominated everybody, including his customers. Willy's

dreams about Biff's career show the intensity of his illusions:

WILLY: Without a penny to his name, three great universities are begging for him, and from there the sky's the limit, because it is not what you do, Ben. It is who you know and the smile on your face! It's contacts, Ben, contacts! (Miller, 1998, p.65)

Thus, Willy unwittingly attaches importance to personality, persuasive power and the ability to outwit others by hook or by crook as being basically necessary for a successful survival in this world.

The hectic activities and the struggle for existence that characterise the present-day life are also not spared when Willy cryptically observes:

BIFF: And it's a measly manner of existence. To get on that subway on the hot mornings in summer. To devote your whole life to keeping stock or making phone calls or selling or buying. To suffer fifty weeks of the year for the sake of a two-week vacation, when all you really desire it to be outdoors with your shirts off. And always to have to get ahead of the next fella. And still—that's how you build a future. (Miller, 1998, pp.10-11)

Thus Willy consciously admits that life consists of only these things, although in points of fact, he also tried to live in this fashion by chasing after illusions all through his existence. It is his inability to get away from the beaten track of existence, an existence that is steeped in false ideals and universal commercialism that has become the main reason for his destruction of hopes. But one of his two sons, Happy, is wiser when he expresses frankly that "everybody around me is so false that I am constantly lowering my ideals" (Miller, 1998, p.120).

The height of pathos is touched in the scene when Linda explains to both of her sons as to how far their father has been suffering in his old age for their sake even by agreeing to work on "straight commission, like a beginner, an unknown of five weeks" (Miller, 1998, p.41). When this touches off a retort from Biff that his father's employers are being 'ungrateful bastards', Linda swiftly silences him by a biting counter thus: "...are they any worse than his sons!" (Miller, 1998, p.41). It is her inability to be patient any more with her sons' irresponsible

and indolent way of life that has forced her to come out with this caustic comment and in this Miller has achieved his sense of tragedy more explicitly.

Although Biff, the elder son of Willy on whom the father has pinned all his hopes and who could not 'find himself' for the last fourteen years for a proper settlement in life, did quarrel with his father often by attacking him mercilessly for having doted on him, he has pathetically clung to his father's essential goodness. His concern for his father and the fondness he displays towards him are eloquently brought to light when his younger brother's girlfriend Miss Forsythe attacks Willy as not being worthy to call himself their father. Biff is instantly provoked and he goes to the defence of Willy thus: "Miss Forsythe, you have just seen a prince walk by. A fine, troubled prince. A hard-working unappreciated prince. A pal, you understand? A good companion. Always for his boys" (Miller, 1998, p.90). In these lines, Miller establishes the abundant affection Willy's sons bear for him, although they could not see eye to eye with him on other matters. It is this affection and love that the sons bear for their father that makes the play tragic in more than one sense as this bond of relationship is based on sincerity tempered by sympathy.

Willy Loman has values that were born out of dreams and his desire to scale spectacular heights on the social ladder by his personal charm and persuasive salesmanship. The fact that the values were hard to maintain especially in a world of combative and conflicting interests had been driving him mad. When ultimately his values of successful career and prosperous life could not be realised, Willy sacrifices his personal life for the failure of his dreams by the act of suicide. His death earns him the sympathy of every member of his family as they demonstrate their concern for Willy in the 'Requiem' scene. Rightly did Biff remark that his father, "had the wrong dreams. All, all wrong" (Miller, 1998, p.111). His 'hubris', his arrogances lay in his thinking that he could reach the top in that society. The tragedy with Willy is that he has become so much part of the system of false values in a materialistic world that he dare not even deign to think of himself as apart from its Willy's

decisive resolve of killing himself is the cumulative effect of his agonies and the setbacks he has suffered by the demolition of his illusions. He achieves dignity in death, as he leaves a sizeable chunk of money to his family out of the insurance he had earlier executed.

In *Death of a Salesman*, Miller's attitude to Willy Loman is ambivalent. He has nothing but pity for Willy, the salesman, who can no longer justify his existence once he loses his ability to sell and whose fate mirrors a world in which the absolute value of the individual human being is believed in only as a secondary value. However, Miller's criticism is reserved for the web of deception and self-deception which Willy has woven round his own life and the lives of his sons, Biff and Happy. Thus for all his foibles, on account of which Willy has become a victim of his delusions that eventually takes his life.

Since his function precludes a normal human relationship, he substitutes an imitation of himself for the real man. He sells his 'personality'. This 'personality' now becomes only a means to an end namely, the consummated sale is a mask worn so long that it soon comes to be mistaken even by the man who wears it, as his real face. But it is only his commercial face with a commercial smile and a commercial aura of the well-liked, smoothly adjusted, oily cog in the machine of the sales apparatus.

Willy Loman never acknowledges or learns the error of his way. To the very end, he is a devout believer in the ideology that destroys him. He believes that life's problems are all solved by making oneself "well-liked" (Miller 34) in the salesman's sense and by a little cash. His wife knows only that he is a good man and that she must continue to love him. His sons, who are his victims, as he has been of the false dream by which he has lived, draw different conclusions from his failure. The younger boy, Happy, believes only that his father was an incompetent, but he does not reject his father's ideal. The older boy, Biff, comes to understand the falsity of his father's ideal and determines to set out on new path guided by a recovery of his true self.

So, the play is a dull picture of a broken-down, loud-mouthed, not too bright or presentable

braggart of a salesman who comes home irritable at his diminishing powers, disappointed in his sons, coddled by his wife who is full of solace but empty of excitement; a worn-out old man jealous of his relative's (next-door) success, and unable to obtain a more sedentary job better suited to his state of impending collapse. The irony of Willy's tragedy is that material wealth is only a mirage. He not only fails to live up to the image of an ideal father, but also never comes anywhere in his goal of immense wealth. At the end of the play, he is in moral and financial ruin, and can only think of suicide, so that his son Biff can have the benefit of the insurance policy. Willy Loman cannot directly identify the opposition. For Willy, the American dream of success is possible but Willy seeks short cuts to success, and having ultimately failed as salesman, gardener, mechanic, husband, father. Willy commits suicide. He too has destroyed himself, his son, and his family through the guilt that economic future in a highly materialistic society inflicts.

Home and Family in Edward Albee's *The American Dream*

Albee's plays highlight man's existential predicament in the modern loveless and hypocritical society where people seem to have surrendered their individuality. *The American Dream* is a one act play by Edward Albee. Through the depiction of relations between the character and their responses to particular situations, conflicts and tensions are seen to emerge. Their living conditions are shown to be so stressful that most of them get alienated from self and the world as is the case with Daddy in *The American Dream*. There is a lack of contact or communication between persons which makes an individual have a feeling of being a stranger among friends, family members and the people at large. Such a state comes only when an individual perceives an absence of meaningful relationships between his status identification his social relationship, his style of life and his work. Anne Paolucci(1972) sums up the relevance of his work in *Edward Albee: A Retrospective and Beyond*:

He dismissed the literal message of the political and social realism of the forties, fifties

and sixties as subject for drama and gave American theatre new content and form portraying our post existential tensions on stage swept bare of standard conventions. (Paolucci, 1972, p.15)

In the play, he attacks:

...the 'assumptions and ideals that shape the American cultural pattern: the success myth, the image of American manhood and womanhood, the ideal of marriage stability and of a happy integrated family.(Choudhuri, 1979,p.140)

The play portrays what is left of the American dream- vis-a-vis their shared household. The American dream is personified by the handsome young man who masks a hollow interior under his perfect exterior. When the play starts, Mommy and Daddy are shown sitting in their living room having small talk about a hat, quibbling with Grandma who is piling, nicely-wrapped boxes on the floor and waiting for them. The decor of the room suggests lack of intimacy of the inmates. The door-bell rings and announces the arrival of Mrs. Barker neither Mommy and Daddy nor Mrs. Barker remember why she is there. This gesture of forgetfulness signifies their lack of interest in the happenings of activities taking place around them.

Mrs Barker represents bye-bye adoption agency from where they had bought 'bumble' but with 'bumble' dead, they want to adopt another child. The door- bell rings for the second time, A young man called the American dream stands in the doorway. He is very handsome and ready to do anything for money. During his conversation with Grandma, he blurts out the truth that he is the identical twin of 'bumble' who was mutilated to death. He laments that beneath his beautiful body, lies the sterility of the soul for he lacks emotions. Both the human body minus soul and the empty picture frame portray betrayal of promise as well as failure of a dream both at political and personal level.

Albee also voices his concern about "the emotional void between husband and wife, parent and child as well as with the problem of the rejection of aged"(Stenz, 1978, p.25). His portrayal of alienation of married partners represents his castigation of the defunct family system of America. Mommy and Daddy have

no equilibrium in their relationship although they are living together under the same roof. In spite of all the years shared there is only "emptiness between them" (Stenz, 1978,p.30). Their marriage has been an act of convenience — a sort of social contract with no emotions involved. Both have entered into it to fulfil own desires; for Mommy it is a key to material comforts for Daddy fulfilment of sexual desires. Both of them live in their own separate illusionary worlds where Mommy's materialism and Daddy's workaholic attitude are not to be shared. Even their conversation is meant to fill the vacuity in their lives and revolve around such petty things as hat and its colour. Their conversation is "as empty and meaningless as the symbolic empty gilt picture frame that hangs over the sofa" (Bigsby, 1967, p.76).

There is lack of essential contact between the two and they are only bearing each other's presence. Through their relationship, Albee attacks the institution of marriage which has lost its significance in the eyes of people.

The root cause of their alienation lies in their unfulfilled dreams. Dreams have always fascinated man because they transport him to a world of ecstasy, fantasy, illusion and hope but when they are not fulfilled it causes anguish, pain and frustration - making life a dull and dreary routine. Both Mommy and Daddy bear this trauma because their dreams have remained unrealized.

Albee focuses on the hollowness, emotional sterility, frustration, anguish of alienation in the life of modern man who is chasing dreams. There is no genuine communication between the characters. Human contract is impossible. "There is total spiritual intellectual status" (Clurman, 1966, p.15).

Grandma plays the role of Albee's mouthpiece in the play and it is through her that he portrays the existential agony of the older generation. In this play, the character of Grandma through her relations with others portray the feelings of rejection and dissatisfaction of the older generation she represents the opposition of generations and old world charm of American humanistic tradition where real values like love, sympathy and concern for each other's welfare was paramount. She is sad by the superficiality of the modern world which has

become mechanized owing to the progress made by science she feels neglected by her own daughter who wants to get rid of her by sending her to a home for the aged. The treatment meted out to her at home gives her a feeling of being unwanted and disrespected woman. She cooks, polishes silver and moves furniture to keep herself busy and to pass her time fruitfully so that old age syndrome may not weigh heavily on her existence.

Grandma's condition reflects the declining phase of American ideal the dreams gone awry. She epitomizes value based existence of American society representing 19th century liberal values in the 20th century. In the dehumanized and alienated environment of the Daddy's household she alone bears the standard of benevolent humanism and essence of dignity associated with man's existence.

Albee calls this play a significant one because through this play the American society's transitional period when people backed by scientific and technical knowledge dared to dream of conquering the whole world. It refers to the ideas of feelings associated with his dream but then dream are illusionary; in this chase man has been left disillusioned, frustrated, anguished and alienated. Entry of young man called the American dream and exit of Grandma occurs simultaneously, former representing hollowness of the American society and later exit of humanistic tradition.

Through the depiction of relations between the character and their responses to particular situations, conflicts and tensions are seen to emerge. Their living conditions are shown to be so stressful that most of them get alienated from self and the world as is the case with Willy in *Death of a Salesman* and Daddy in *The American Dream*. There is a lack of contact or communication between persons which makes an individual have a feeling of being a stranger among friends, family members and the people at large. Such a state comes only when an individual perceives an absence of meaningful relationships between his status identification

his social relationship, his style of life and his work. Many questions start taking shape — who am I? Where do I belong? What is the meaning of my existence? And he sets out to solve the mystery of his existence. Sometimes meaninglessness in life generates a feeling of nothingness which according to Jean-Paul Sartre “lies coiled in the heart of being like a worm” (Kaur, 1988,p.28). Both Willy in *Death of a Salesman* and Daddy in *The American Dream* also encounter a feeling of nothingness. Their repeatedly saying 'I just want to get everything over with' conveys their disillusionment with life.

Conclusion

All of the above discussion shows that Arthur Miller and Edward Albee, however, refuse to mourn at the condition America has come to. Even if one feels they are mourning, more than mourning, they are fighting against this degeneration in the American family life. Miller and Albee's voice is raised primarily to denounce the illusions people nurture as an escape to reality as illusions tend to block the path of communication and become a source of anxiety, despair and pain. But when illusions are broken, the end result is always dramatic and sometimes fatal. So, *Death of a Salesman* depicts the eternal problem of sterility, emotional vacuity and alienation in familial relationships leading to fantasy living while *The American Dream* is about man's preference for superficial values over old cultural values and his race for materialistic ambitions which have converted him into a machine. So, The American Dream of bountiful Eden, the poetic image of the land, seems no longer fulfil able in an industrial, mechanized, computerized and dehumanizing society. For years now the farmlands, like those of Thebes in *Oedipus Rex*, have lain fallow, and the family has lived a monotonous still life from which there seems to be no escape.

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IMPACT OF MULTIDIMENSIONAL HOME-BASED PHYSICAL EXERCISE ON CARDIO-RESPIRATORY ENDURANCE AND MUSCULAR ENDURANCE AMONG MIDDLE-AGED MEN

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ABSTRACT

To determine the impacts of multidimensional home-based physical exercises on cardiorespiratory endurance and muscular endurance among middle-aged men. To achieve the purpose of the study 30 middle-aged men, working as teaching and non-teaching staff at Government Degree College, Sopore, in Jammu and Kashmir State, selected for the present study and their aged between 45- 50 years. The selected subjects were randomly assigned into two equal groups, Group - I (n=15) underwent multidimensional home-based exercise and Group - II (n=15) acted as a control. The frequency of training was fixed to six-day per week (Monday to Saturday) for twelve weeks. The subjects in the control group did not undergo any special training apart from their regular or routine work. The criterion variables selected for the present study were: cardio-respiratory endurance and muscular endurance and the cardio-respiratory endurance was assessed by administering Cooper's 1.5-mile run/walk test and muscular endurance was measured by conducting sit-ups test. The collected data from both the groups were statistically analyzed by applying Analysis of Covariance (ANCOVA), to find out significant improvement if any. The result of the present study indicates that the cardio-respiratory endurance and muscular endurance were improved significantly due to the impact of multidimensional home-based physical exercises and there was a significant difference also found between the training group and control group on selected criterion variables in favour of experimental group.

Keywords: cardiorespiratory, endurance, muscular, multidimensional, significant, and middle-aged.

Introduction

Home-based exercise for the elderly is effective in keeping and increasing functional and health status when carried out correctly (Campbell *et al.*, 2000). Health-related quality of life is a multidimensional concept that encompasses physical, mental, emotional, and social functioning (Ferrans, 2005). It relates to a person's self-perceived health in terms of well-being and functionality in different areas of life, such as physical well-being and functioning, emotional well-being, self-esteem, social functioning, and family relations (Ravens-Sieberer *et al.*, 2008). The concept has gained much attention in the past few decades, as it is a stronger predictor of mortality and morbidity than many other objective measures of health (DeSalvo, *et al.*, 2006 and Dominick *et al.*, 2002).

Cardio-respiratory and muscular endurance is the level at which the heart, lungs, and muscles work together when people performing an exercise for an extended period of time. This shows how efficiently the Cardio-respiratory system functions, and is an indicator of how physically fit and healthy. It is useful to know Cardio-respiratory endurance level because it

can be either be a sign of health or a sign that you need to improve your level of fitness. Increasing Cardio-respiratory endurance has a positive effect on overall health. Lungs and heart are able to better use oxygen. This allows exercising for longer periods without getting tired. Most people can increase their Cardio-respiratory endurance by doing regular exercise. Cardio-respiratory endurance is an indication of a person's overall physical health and it monitors how well the heart, lungs, and muscles perform during moderate to high-intensity exercise (Cronkleton, 2018).

Cardio-respiratory endurance is defined as a health-related component of physical fitness that relates to the ability of the circulatory and respiratory systems to supply fuel during sustained physical activity and to eliminate fatigue products after supplying fuel (Caspersen, *et al.*, 1985). Cardio-respiratory endurance is a performance factor in all activities in which adenosine triphosphate (ATP) is resynthesized, mainly by aerobic metabolism or oxidative processes that produce energy. In the training program, the expended effort typically lasts longer than five minutes, primarily depending on the metabolic level of

the oxidative processes involved (**Bassett & Howley**, 2000).

When a person inhales, his/her lungs fill up with air and some of the oxygen it contains passes into the bloodstream. This oxygen-rich blood then travels to the heart, which circulates it around the body to the tissues and organs that need it. The muscles require an adequate supply of oxygen and other nutrients to work properly during high-intensity or extended periods of exercise. If the muscles do not get enough nutrients, waste products begin to accumulate and cause fatigue, because the level of cardio-respiratory endurance can directly affect their physical performance (**Eske**, 2019). The maximum oxygen uptake (VO₂ max) test determines the maximum amount of oxygen the body is capable of using during high-intensity activities, such as sprinting or biking. The VO₂ max test typically involves running on a treadmill or pedaling on a stationary bike as fast as possible. During the test, the person wears a chest strap or other body attachment that records their heart rate and a face mask that measures oxygen consumption (**Eske**, 2019).

Moderate exercises are constantly increasing the performance of these muscles means they can continue to contract and work against these forces. Greater muscular endurance allows a person to complete more repetitions of an exercise, for example, running, crunches, pushups, and squats. Muscular endurance is the ability to continue contracting a muscle, or group of muscles, against resistance, such as weights or bodyweight, over some time, with the help of muscular endurance helps to maintain good posture and stability for a long period. Moderate resistance training, with short intervals in between for rest, creates short bursts of tension to build strength (**Sissons**, 2021). According to the National Strength and Conditioning Association, individuals training for muscular endurance should aim to complete three or more sets of 15 or more exercise reps with a load that is 50% or less of their one-rep max (RM). Muscular endurance tests measure how many repetitions of a movement people can do before the muscles reach a state of fatigue and cannot continue the exercise (**NSCA**, 2021).

Exercise training has a positive effect on lipid and carbohydrate metabolism, and can cause moderate reductions in body weight, fat depots, total cholesterol, LDL cholesterol, and serum triglyceride levels, and can increase the levels of antiatherogenic HDL cholesterol. These improvements can have significant impacts on cardiovascular risk (**La Monte, et al.**, 2001). Due to the sedentary lifestyle causes adversely affects to human life is emerged to exercises of fitness program, has been in the direction generally protective of human health and the physical suitability. Especially in later life, there are many substantial benefits of exercise (**Kay**, 1995). Exercise prescription should be tailored to the person's wishes and the state of the cardiovascular and musculoskeletal. Home-based and resistance exercises are low-cost and low-risk activities that have been proven to benefits. Moderate exercises (walking and running) make a positive contribution to health when applying warm-up and cool-down exercises with appropriate intensity and duration (**Oktik**, 2004). Home-based exercise is a method of aerobic exercise that accompanied by music consists of various movements on step platform and paced stretching movements and can also be used as a training program. It is a fun way to exercise that is especially applied to lose weight and run intensive muscle groups (**Tortop**, 2010). A sedentary lifestyle or physical inactivity is a risk factor for cardiovascular diseases Recognized as Important. Regular physical activity Improves muscular function, cardiac function, and metabolic syndrome-related disorders (**Lollgen and Lollgen**, 2012).

Wthin this context, the aim of present research is to find out the impact of multidimensional home-based physical exercise on improving the cardiorespiratory and muscular endurance among middle aged men.

Material And Methods

Experimental Approach to the problem

The study was formulated as a pre and post-test simple random sampling technique. Totally 30 middle-aged men participated in his study and their age between 45 and 50 years, working as teaching and non-teaching staff at Government Degree College, Sopore, Jammu and Kashmir

State. The subjects were randomly assigned into two equal groups, Group - I (n=15) underwent multidimensional home-based physical exercise, Group - II (n=15) acts as a control group. The respective training program was given to the experimental group for six-day per week for twelve weeks. The control group did not undergo any training method apart from their regular or daily routine work.

Design

The cardio-respiratory endurance and muscular endurance were assessed by 1.5-mile run/walk and sit-ups tests. The respective test and the unit of measurements were recorded in the shortest possible time, at the end of the test calculate the total distance covered and recorded the number of corrective executed sit-ups performed within one minute.

Training program

All subjects were divided into two groups, experimental and control groups. The control group was not given any training. The experimental group underwent the training

programme for six days per week, i.e. Monday to Saturday between 6:00 am to 8.00 am, for 12weeks. Sixty minutes included 10 minutes of warm-up, 40 minutes of multidimensional physical exercises, and 10 minutes cooling down period to avoid injuries. Every four weeks of training, 5% of Intensity of load was increased from 55% to 80% of the workload. All the subjects involved in the training program were questioned about their health status throughout the training period. None of them reported injuries; however, muscle soreness was reported in the early week but subsided later.

Analysis Of Data

The collected data were tabulated and analyzed using both descriptive and inferential statistics. The mean and standard deviations of all of the data were calculated and the Analysis of Covariance (ANCOVA) was used to find out the differences between pre-, post- and adjusted post-test mean values and the $p < 0.05$ was accepted for the level of significance.

Table- I

Analysis Of Covariance Of The Data On Cardio-Respiratory Endurance And Muscular Endurance Of Pre, Post And Adjusted Post Test Scores Of Experimental And Control Group

Variable Name	Group Name	M Home-based physical exercise	Control Group	'F' Ratio
Cardio-respiratory Endurance (in Mts.)	Pre-test Mean \pm S.D.	1336.67 \pm 102.02	1340.00 \pm 58.55	0.012
	Post-test Mean \pm S.D.	1502.00 \pm 62.92	1342.67 \pm 57.93	52.046*
	Adj. Post-test Mean	1503.13	1341.53	399.18*
Muscular Endurance (in numbers / min)	Pre-test Mean \pm S.D.	14.20 \pm 2.21	14.13 \pm 1.767	0.008
	Post-test Mean \pm S.D.	17.20 \pm 2.45	14.60 \pm 1.805	10.92*
	Adj. Post-test Mean	17.16	14.63	172.71*

* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 3.18 and 3.19 respectively).

Results Of The Study

Table-I shows that the pre-test mean values of multidimensional home-based physical exercise and control group on cardiorespiratory endurance and muscular endurance are 1336.67 \pm 102.02, 1340.00 \pm 58.55 and 14.20

\pm 2.21, 14.13 \pm 1.76 respectively. The obtained 'F' ratio of 0.012 and 0.008 for pre-test scores are less than the required table value of 3.18 for significance with df 1 and 28 at 0.05 level of significance.

The post-test mean values of multidimensional home-based physical exercise and control

group on cardiorespiratory endurance and muscular endurance are 1502.00 ± 62.92 , 1342.67 ± 57.93 and 17.20 ± 2.45 , 14.60 ± 1.80 respectively. The obtained 'F' ratio of 52.04 and 10.92 for post-test scores is greater than the required table value of 3.18 for significance with df 1 and 28 at 0.05 level of confidence.

The adjusted post-test mean values of multidimensional home-based physical exercise and control group on cardiorespiratory endurance and muscular endurance are 1503.13, 1341.53 and 17.16, 14.63 respectively. The obtained 'F' ratio of 399.11 and 172.71 for adjusted post-test scores is

greater than the required table value 3.18 for significance with df 1 and 27 at 0.05 level of confidence.

The above statistical analysis indicates that there was a significant improvement in cardio-respiratory endurance and muscular endurance after the training period. Further the results of the study showed that multidimensional home-based physical exercises have significantly improved the cardio-respiratory endurance and muscular endurance when it compared to the control group. The data on cardiorespiratory endurance and muscular endurance is graphically represented in figure-1 and 2

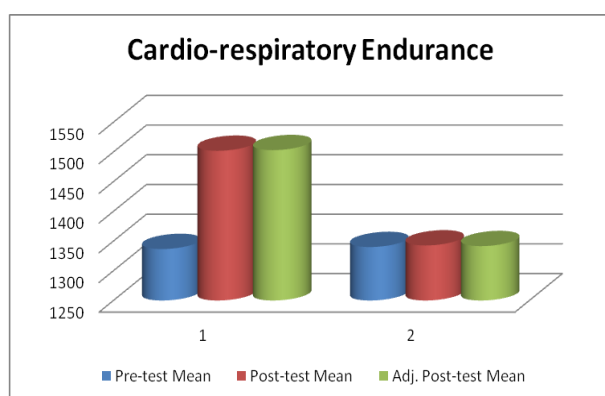


Fig – 1: Bar Diagram showing mean values of Cardio-respiratory endurance of experimental group and control group

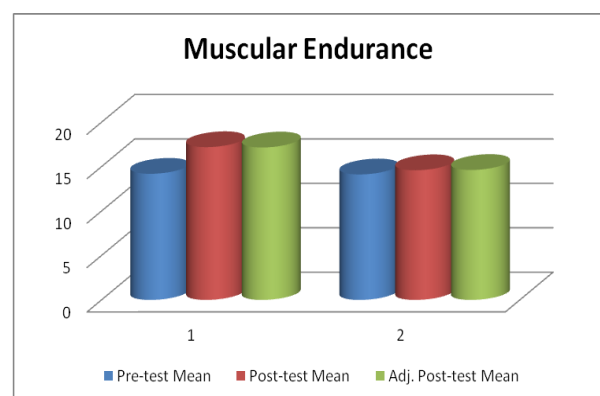


Fig – 2: Bar Diagram showing mean values of Muscular endurance of experimental group and control group

Discussion On Findings

The present study experimented with the impact of multidimensional home-based physical exercise on cardio-respiratory endurance and muscular endurance among middle-aged men. The result of this study indicates that multidimensional home-based physical exercise is more efficient to bring out desirable changes over the cardio-respiratory and muscular endurance among the middle-aged person. However, the hypothesis that multidimensional home-based physical exercise is superior in improving cardio-respiratory and muscular endurance has to be accepted. **Pollock et al.**, (1971) suggested that walking is appropriate for middle-aged men to reduce the heart rate (HR) and blood pressure (BP). **Jurio-Iriarte and Maldonado-Martín**, (2019) found in their study that the effects of different structured, formal, and supervised physical exercise training programs are to

promote the cardiorespiratory fitness of overweight/ obese adult population diagnosed after 8-12 and 16 week intervention period.

However, to maximize health gains, this study showed home-based physical training should target both the cardio-respiratory system and the skeletal musculature to improve physical fitness and health (**Kodama et al.**, (2009) and **Ruiz et al.** (2008)). Due to the enacted regulations, the majority of the general population has only limited space and equipment available to exercise. Hence, physical training should involve bodyweight exercises.

After 6-weeks of training studies, that employed briefly, intermittent exercise interventions including vigorous stair climbing (**Allison et al.** (2017)) and stationary cycling (**Gillen et al.**, (2014); **Metcalfe et al.**, (2012)), results in modest improvement on cardio-respiratory fitness, associated with a reduction in mortality risk and small changes may confer

benefits to cardiometabolic health (**Imboden et al.** (2019)).

Lovell, et al., (2012) in their study they applied for the training program for the duration of 12-weeks where daily activity lasted for 3.5 hours twice or three times a week may alter the physical fitness of elderly people. Upon completion of three months of training, the experimental group had a significant increase in absolute VO₂max by 7% where no changes had been observed in the control group. **Herrero et al.**, (2006) and **Peel et al.**, (2009) supports the result of the present study, which encourages the home-based and moderate-intensity nature of the intervention. Improvements in relative VO₂max can

enhance the ability to perform activities of daily living, increase independence, promote a sense of well-being, and may ultimately confer a positive survival benefit. **Menz et al.**, (2019) comparing the cardio-respiratory endurance and muscular endurance responses between running and functional high-intensity interval training regimes and the main findings are that both interventions caused similar improvements in VO₂max and muscular endurance (toes-to-bar, and burpees).

It may be concluded from the results of the present study, that multidimensional home-based physical exercise is better tool for improving cardio-respiratory endurance and muscular endurance.

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PSYCHO-EDUCATIONAL INTERVENTIONS FOR CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD): A CRITICAL ANALYSIS

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ABSTRACT

Children with Attention Deficit Hyperactivity Disorder (ADHD) have inattentive and hyperactive nature as well as poor social skills, functional impairment, and other behavioural problems. Studies suggest that psycho-educational interventions have a positive effect on the core symptoms (inattention, hyperactivity/impulsivity) of ADHD. The present study focuses on the analysis of various psycho-educational interventions useful to reduce the core symptoms of ADHD. Psycho-educational interventions include cognitive behavioural therapy, physical activity-based interventions and psychosocial interventions that are beneficial for children with ADHD. This paper critically analyses previous studies conducted which are effective psycho-educational interventions to reduce the core symptoms of children with ADHD. An analysis of various studies shows that psycho-educational interventions positively affect the core symptoms of ADHD (inattention/hyperactivity).

Keywords: Attention Deficit Hyperactivity Disorder, Psychoeducational, Cognitive Behavioural Intervention, Physical Activity-Based Interventions, psychosocial Interventions

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) or attention deficit disorder (ADD) had already been recognized by the leading doctors and psychiatrists such as Still (1902) and Treadgold(1908) but from 1902 to 1980, it was related to behaviour problems like patient being unable to sit still and disrupting others. The disorder was renamed several times, but each time it was identified as a behavioural problem (Lange et al., 2010). However, for the first time since 1980, the term "attention deficit" was included in the disorder by DSM-IV (Diagnostic and Statistical Manual of Mental Disorders-IV) and realized that the disorder is not just a behavioural problem, but a far bigger problem which is associated with the brain management system. ADHD is a neurological and chronic genetic disorder that causes inattention, hyperactivity, and impulsivity. Arjun Mehta, who has ADHD, shared his experience in the classroom, saying that the uncontrolled movement of his legs, the urge to get up from the chair, make it challenging for him to sit in one place for more than 15 minutes. The urge to do something continuously in classrooms makes his teachers angry. Apart from this, the worst thing is that getting blacked out during exams and forgetting everything despite hard work makes the ADHD affected student feel helpless. He

has endured all this during his academic journey (Times of India, 2020). This is not just the case of Arjun Mehta, but all children with ADHD experience the same as Arjun Mehta's experience in his academic journey. Dr Alok Shah, an experienced educationist and career consultant who has worked extensively with ADHD students, states that "students with ADHD simply have to employ in different and more unique methods". According to the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders-IV), children with ADHD have a short attention span, unable to follow instructions, easily distracted, restless nature, interrupting others, and forgetful nature. Due to which they have problems with motor coordination, executive function, cognitive ability, academic performance and social competency (Pfiffner et al., 2014). Boys have been diagnosed with ADHD more often than girls (Owens et al., 2009). There can be many reasons for ADHD in children, some of which are genetic and environmental factors. Genetic factors such as children of parents with ADHD are being half as likely to develop ADHD (Starck et al., 2016). Some environmental factors responsible for ADHD are prenatal complications, prenatal maternal drug and alcohol use, low premature birth weight, and psychosocial stress (Guney et al., 2015) which is represented in figure 1.

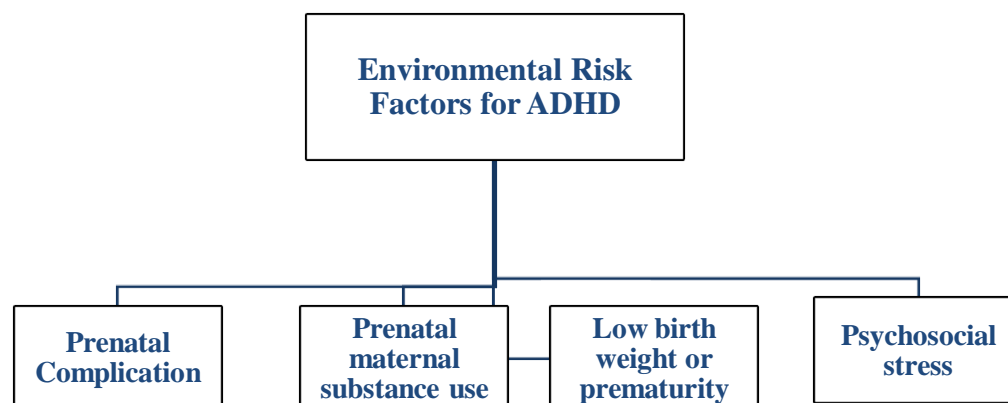


Figure (1): Environmental risk factors for ADHD

Prenatal Complication: Prenatal complications are related to the duration of gestation. Problems that occur before, during or after birth have a long-term negative impact on the brain development of the child. Prenatal complications associated with ADHD include mental and physical problems during pregnancy, intrauterine infection and stress during pregnancy. All these prenatal complications can negatively affect the brain development of the infant (Guney et al, 2015).

Prenatal maternal substance use: Consumption of alcohol and other types of drugs by the prenatal mother can become a risk factor for ADHD. These drugs increase the risk of hyperactive, inattentive/impulsivity and mental disorders in the infant. Prenatal alcohol consumption has a long-term negative effect on the child's IQ level (Guney et al, 2015).

Low birth weight or prematurity: ADHD is a neuropsychological disorder; children born with low birth weight are more likely to be at neuropsychological risk, causing difficulties with executive functioning, working memory, inhibition and motor coordination (Hatch et al., 2014).

Psychosocial stress: Psychosocial challenges have a negative impact on a child's brain; it also promotes neurological disorders such as ADHD. Psychosocial challenges include low social or economic status, large family, lack of family cohesion and emotional stress which negatively affects the mental development of the child (Guney et al, 2015).

Thus, all of these environmental and genetic factors have a negative impact on the neurological and cognitive development of children. ADHD is a neurological, chronic genetic disorder for which environment or genetics are the high-risk factors for the development of ADHD. This paper on critical analysis focuses primarily on psycho-educational interventions that are useful for reducing the core symptoms (inattention, hyperactivity/impulsivity) of ADHD. The study focuses on different Psycho-educational interventions such as cognitive behavioural therapy, physical activity-based interventions, and psychosocial interventions helpful for children with ADHD. The main objectives of the study are: (a) To focus on various psycho-educational interventions useful for children with ADHD. (b) Critically analysing various studies on psycho-educational interventions (cognitive behavioural therapy, physical activity-based interventions, and psychosocial interventions) for children with ADHD.

Method

This study examines the literature on useful psycho-educational interventions for children with ADHD. Electronic databases were used from Google Scholar, ERIC, Research Gate, Science Direct, Sage and PubMed. The keywords used were attention deficit hyperactivity disorder, risk factors, interventions, core symptoms, psycho-education, cognitive behavioural therapy, physical activity-based interventions, and psychosocial interventions.

Table 1: The Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Age	3–18-year-old	Above 18
Participants	Children who diagnosed with ADHD by DSM-V criteria	Not diagnosed with ADHD
IQ level	Average IQ level/ above 80	Below 80
Interventions	Interventions focus on core symptoms (inattention, hyperactivity/impulsivity) & behavioural related problem among children with ADHD	Not focus on core symptoms
Study design	Randomized control design, quasi-experimental, pre-experimental, single group A-B-A, In a between subject design	Qualitative design
Published	Published from 2010-2021	Published before 2010

The table 1 deals with the type of participants included in the various interventions for ADHD children. It includes children of 3–18-year-old who diagnosed with ADHD by DSM-V criteria and those having the Average IQ level/ above 80. The Interventions focus on core symptoms (inattention, hyperactivity/

impulsivity) & behavioural related problem among children with ADHD. The design followed in the studies are Randomized control design, quasi-experimental, pre-experimental, single group A-B-A, In a between subject design.

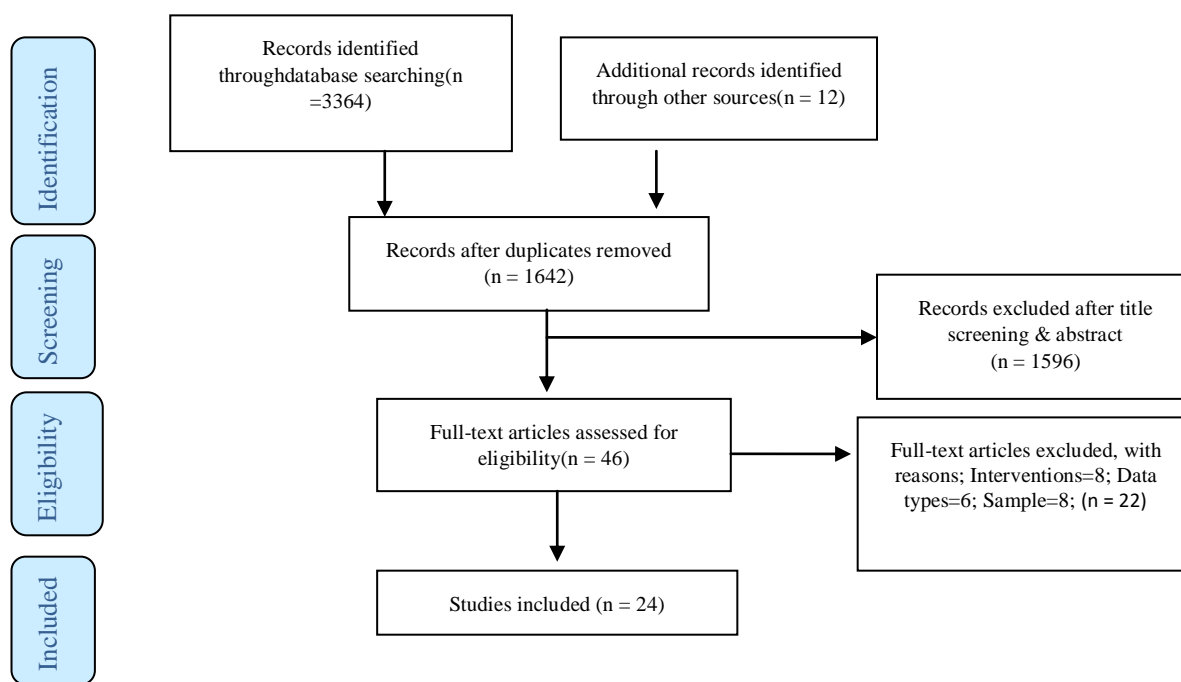


Figure (2): PRISMA diagram

A total of 3376 studies were searched from the database searched for this study from Google Scholar, Erics, Research Gate, Science Direct, Sage and PubMed. The (1642) studies were removed from the review after removing duplicates and (1596) studies were removed after examining the title and study abstract. A total of 46 full-text articles were taken to be assessed for eligibility for this study, from which some articles were excluded based on

study interventions, methods, types, and samples. So, in this study the investigator reviews 24 studies by using PRISMA criteria shown in figure 2.

Psychoeducational Interventions for children with ADHD

Psychoeducation (PE) is defined as the systematic, structured and transferring knowledge for the treatment of mental illness

and it provides therapeutic support to patients by integrating cognitive, emotional, behavioural and motivational aspects to deal with the mental disorder (Bäumel et al., 2006). It is also effective for reducing the core symptoms of ADHD (Ekhtiari et al., 2017). It uses various remedial therapeutic program/activities along with education to reduce the core symptoms of ADHD and these remedial activities can be given individually or in groups. In this study, psycho educational interventions involve cognitive behaviour therapy, physical activity-based intervention and psychosocial interventions used to reduce the core symptoms of ADHD (inattention, hyperactivity and impulsivity).

a) Cognitive-Behavioural Therapy (CBT)

CBT is a kind of psychotherapy that includes behavioural therapy for behaviour modification, and cognitive therapy (Beck, 1970). The main purpose of CBT is to change or modify behaviour by changing thought patterns in order to make the person feel better. A person's feeling of any situation depends on his thoughts or perception and the person always behaves according to his thoughts and feelings. Investigators in CBT provide useful interventions to improve a person's irrational beliefs, misconceptions, and negative thoughts (Nehra et al., 2013).

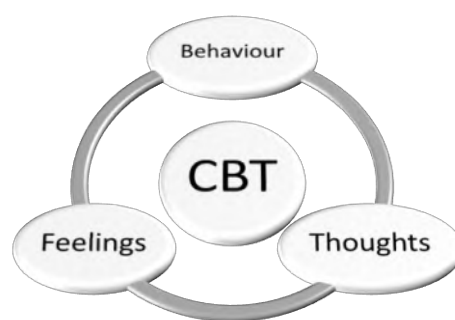


Figure (3): Cognitive Behavioural Therapy

A person's thoughts are influenced by their feelings towards a situation, negative thoughts and feelings reflect negative behaviour, as well as positive thoughts or feelings, reflect positive behaviour, so we can say that thoughts, feelings, and behaviour are related to each other (shown in figure 2). Cognitive behaviour therapy is a therapy that provides remedial treatment to children diagnosed with ADHD or other related symptoms. In CBT, the investigator provides a therapeutic treatment to modify the disruptive behaviour of children with ADHD by modifying negative thoughts or feelings.

Therefore, in order to modify the disruptive behaviour of the person, there is a need to focus on the positive thinking and attitude.

Positivity in thought generates positivity in feelings and this is reflected in the behaviour of the individual. The main purpose of CBT is to modify behaviour by changing negative thinking and feelings such as "I can definitely do my work on time". In this study, Cognitive behaviour therapy is defined as the activities used to reduce hyperactive nature, inattentiveness, impulsive behaviour, improve problem-solving skills, executive function, improve social skills and quality of life by using activities such as self-directed learning, cognitive functional intervention, cool-kids CBT program and self-instructional cognitive instruction. The various interventions on Cognitive Behavioural Therapy are given in table 2.

Table 2 Interventions on Cognitive Behavioural Therapy

Authors	Intervention	Objectives	Participant	Session	Method	Outcome
Amel et al., 2018	Parent-Based CBT	Core symptoms & self-esteem	40 children (6–11 years)	6 weeks with 2month follow-up	quasi-experimental	Significantly Improvement
Nøvik et al., 2020	CBT Programme	inattention/hyperactivity	Total 96 participant (14–18-years)	12 weeks with 9-month follow-up	RCT	Positive improvement
Kim, 2020	Cog-fun & self-directed learning	Improve executive function	3 children (9-11 years old)	16 sessions twice a week	Single subject A-B-A design	Significantly greater improvement
Flores et al., 2014	CBT	core symptoms of ADHD	10 children (6-8 years)	30 sessions, 60 minutes each	quasi-experimental	Significant reduction of symptoms
Markowitz et al., 2011	Cognitive-Functional program	Executive function of ADHD	Total 14 children (7-8 years)	10 session, 1 hr each	One group pre-test post-test design	Significant improvement
Sciberras et al., 2019	CBT (cool kids) Vs clinical care from a paediatrician	Cognitive & functional impairment, anxiety	228 participants (8-12-years)	12 sessions for 12 weeks	RCT	CBT leads to improvement in anxiety & functional outcomes
Sciberras et al., 2015	Cool Kids CBT program	Core symptom, functional impairment & anxiety	12 children (8-12 years)	10 sessions, 60 minutes each	RCT	Positive improvement

CBT= Cognitive Behavioural Therapy; RCT= Randomized Control Group; Cog-Fun= Cognitive Functional Intervention.

Parent-centred CBT is effective for treating low self-esteem in children with ADHD. Therefore, if parents are trained for interventions, it can reduce children inattention, hyperactivity and impulsivity (Amel et al., 2018). Cognitive behavioural therapy (CBT) is used in children with ADHD to self-regulate daily habits, improve positive thinking, use strategies to behave appropriately, and self-evaluate behaviours (Flores, 2014). Cog-Fun promotes improvement in executive function, response inhibition and self-efficacy by providing a playful environment and metacognitive learning (Markowitz et al., 2011). The Cool Kids program is one of the major interventions for ADHD as it includes activities such as positive reinforcement for task-oriented behaviour, repeating instructions, use of audio-visual aids, and emphasis on skill-based activities that help to reduce the cognitive, functional impairment and core symptoms of ADHD (Sciberras et al., 2019).

b) Physical Activity-Based Intervention

The mind is healthy only when the body is healthy. Physical activities and exercise (walk, jump) help ADHD children to reduce stress and improve body-mind coordination, sustain attention and functional impairment (Nejati, 2020). The physical activity-based interventions include various physical activity programs, play-based activities and fitness exercise. Tai-chi is an effective mind-body exercise that includes various moves or postures to refresh the body and mind. It helps the ADHD children to improve attentiveness, improve motor coordination, and stress reduction (Converse et al., 2020). Another physical activity-based intervention for children with ADHD is the TEAMS (training, executive, attention, and motor skills) which is a neuro-cognitive training program that consists of collaborative learning, problem-solving, aerobic exercise and relaxations programs which help ADHD children to improve attention, motor skills and executive function (Halperin et al., 2019). High-Intensity Interval Training is an interval training

consisting of 10–15 seconds of intense aerobic and cardiovascular exercise. Each intense exercise session is followed by a 2–5minute warm-up session. The study found that HIIT is helpful in improving motor coordination and social behaviour in children with ADHD (Mebleret al., 2016).

Go/Nogo is another task-based intervention to improve attention, motor skills, and body-mind coordination among children with ADHD. The main objective of this work is to investigate the restraint inhibitory component of response inhibition. The representation of Go/Nogo task is given in figure 3.

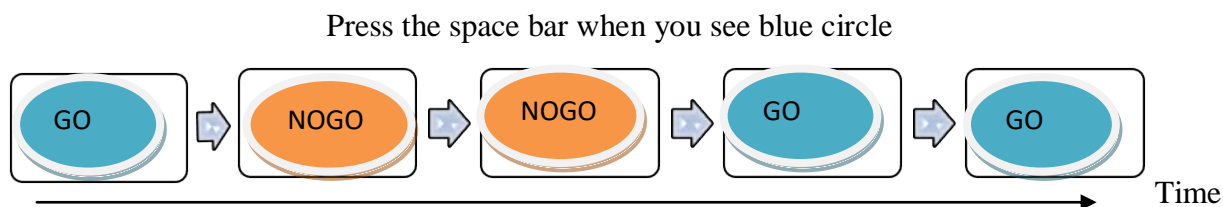


Figure (4): GO/NOGO task

In Go/Nogo task, children have to respond to certain stimuli like blue colour circle and press space button, when he/she see that blue colour circle on computer screen and withhold response to other stimuli like orange colour circle (figure 3). At the end measure the task performance through error rate; like no errors correlated with significant better attention, inhibition and motor skill coordination. Chang et al., 2014 found that children with ADHD have significant improvements in the coordination of motor skills, response inhibition and attention. Thus, the activity-based intervention is helpful for children with

ADHD to reduce their core symptoms, functional impairment, and disruptive behaviour and improve motor-skill coordination. In the study, Physical-activity-based interventions include TEAMS (training, executive, attention, and motor skills), Go/NoGo task, HIIT, aerobics, gardening and music, cardio-aerobic fitness training and high-intensity exercise. These are useful for improving children's attention, mind-body coordination, reducing stress, inhibition, functional impairment, lightening mood and reducing disruptive behaviour.

Table 3 Physical Activity Based intervention

Authors	Intervention	Objectives	Participant	Session	Method	Outcome
Nejati, 2020	Physical activity and Exercise (walk, jump)	Cognitive & executive function	30 children (6-14 year)	12 sessions	RCT	Greater improvement
Gillanet al., 2016	Play-based intervention	Attention & social skill	29 children (5–11 years)	10-week session	RCT	Significantly improved
Bustamante et al., 2016	Physical activity & exercise	Cognitive & behaviour outcome	35 children (6-12 years)	10-weeks session, 2:45 hr each	RCT	Overall improvement
Benzing et al., 2018	Acute intervention	Improve executive functions & inhibition	46 children (8–12 years)	Each participant plays 15 min	In a between-subjects design	Significant improvement
Ziereis et al., 2015	physical activity program	Inattention, cognitive functioning	43 children (7-12 years)	12-week session, 60 min each	Quasi-experimental	Significantly improved
Torabi et al., 2018	HIIT	Motor proficiency & physiological system	50 participants (12-18 years)	6-week, 3-session per week	Quasi-experimental	Improved

Mebleret et al., 2016	HIIT vs TRAD	Motor skills, social behaviour & quality of life	28 boys (8-13 years)	3-week session	RCT	HIIT was more effective than TRAD
Kosari et al., 2012	Physical Exercises	Gross-motor skills	124 children (8-10 years)	18 session, 45 min each	Quasi-experimental	Positive improvement
Halperin et al., 2020	Play-based interventions like TEAMS vs. Parent education and support	Reduced ADHD symptoms & disruptive behaviour	54 children (4-5 years)	5 weeks session, 90 min. each	RCT	significant correlated, both provide similar benefit
Chang et al., 2014	Aerobic exercises, go/nogo task	Executive function & motor coordination	Total 30 children (5-10)	8-week session, 90 min. each	Non-randomized control trial	Significant improvement

HIIT= High Intensity Interval Training; TRAD= Multimodal Therapy; TEAMS= Training Executive, Attention & motor-skill; RCT= Randomized Control Group.

Children with ADHD are unable to coordinate with fine motor skills, because of which they have problem in writing, psychomotor task and fine motor performance. The regular exercise and yoga may help the person to improve motor coordination and attention (Chang et al., 2014). In Aerobic exercise, high-intensity interval training (HIIT), person performs the intense aerobic and cardiovascular exercise with interval training, that involves a warm-up session after each intense exercise session. The study found that HIIT is helpful in improving motor coordination and social behaviour among children with ADHD (Mebleret et al., 2016). In addition, Training Executive, Attention and Motor Skills (TEAMS) are an innovative program that promotes improvements in motor coordination and neuro-cognitive functions, including working memory, inhibitory control and planning. This includes collaborative learning, problem-solving, aerobic exercise, and relaxation programs that are helpful in improving the attention, motor skills, and executive function of children with ADHD (Halperin et al., 2019).

c) Psychosocial Interventions

The word psychology- the study of human nature, behaviour, mind and its functions. Social means society- a group of human beings who share rules, laws and live together. Thus, the term psychosocial includes psychological and social aspects that reflect an individual's emotional, cognitive, and physical potential. Children with ADHD face problems with social competence, self-esteem, emotional ability and cognitive skills, (Able et al., 2007).

So, psychosocial interventions are necessary to improve social competence, impulsive behaviour, self-regulation, functional impairment, and disruptive behaviour in children with ADHD. This includes various interventions such as ACT (Acceptance and Commitment Therapy), a child-based learning therapy that includes self-acceptance training, collaborative learning, the ability to describe one's own needs and values, self-directed actions, and self-monitoring. It helps children with ADHD to improve cognitive ability, critical analysis ability and social ability (Vanzin et al., 2019). The other psychosocial intervention is IBBS (Integrated Brain, Body and Social) includes a brain component, physical component and social component. Brain components as computer-based play develop cognitive abilities in ADHD children, physical components such as exercise and yoga help to improve motor skills, mind-body coordination and stress reduction. The classroom-based intervention is a social component that includes collaborative learning, peer learning, and the use of skill-based activities in the classroom to help ADHD children to improve their social ability and reduce impulsivity and disruptive behaviour (Smith et al., 2020). Parents and teachers are aware of the strengths and weaknesses of children with ADHD. Therefore, if we incorporate them and provide training, it may be more helpful to reduce the core symptoms and other related symptoms (executive function, motor coordination and functional impairment) of children with ADHD (Raghibi,

2014). Thus, psychosocial intervention is training-based programs that include ACT (acceptance-commitment therapy), IBBS (Integrated Brain, Body, and Social), friendship building program, consequent and antecedent based intervention. These

intervention programs are used to reduce inattentiveness, hyperactivity, impulsivity, social competency, control disruptive behaviour, and improve academic achievement and self-regulation.

Table 4 Psychosocial Intervention

Author	Interventions	Objectives	Participant	Session	Method	Output
Pfiffner et al., 2014	CLAS Vs PFT & TAU	inattention, social skills & functional impairment	199 children (ages 7–11 years)	13-week session & 7-month follow-up	RCT	CLAS resulted in greater improvement
Miranda et al., 2011	Psychosocial Intervention	Inattention & executive function	27 children (7 to 10 years)	10-week session, 45min each for children	RCT	Highly effective
Vanzin et al., 2019	ACT & Parent training	Reduce impulsive behaviour & self-regulation	Total 31 children (8-13 years)	26-weeks session, 90 min each	pre-experimental design	Significant improvement
Smith et al., 2016	IBBS Vs TAU	ADHD symptoms & executive function	92 children (5 to 9 years)	30-weeks (15-IBBS; 15-TAU); 2hrs a day	RCT	IBBS showed significant improvement
Raghibi et al., (2014)	Parent training, behavioural therapy & psychosocial techniques	ADHD symptoms	61 children (6-14 years)	Total 16 session, each for 1 hr	One group pre-test post-test	ADHD Symptoms significantly reduced
Lo et al., 2017	family-based mindfulness intervention	inattention & hyperactivity	Total 100 children (5-7 years)	8 session, 1 hr each	RCT	positive results
Staff et al., (2021)	Antecedent-based intervention Vs consequent-based intervention	inattention & disruptive behaviour	90 children (6-12 years)	2 sessions for 2 hrs 45 min	RCT	Consequent intervention- highly effective

CLAS= *Child Life & Attention Skills*; PFT= *Parent Focus Treatment*; TAU= *Treatment as Usual*; ACT= *Acceptance & Commitment Therapy*; IBBS= *Integrated Brain, Body & Social*.

Studies show that psychosocial interventions are effective in improving social competence, impulsive behaviour, self-regulation, functional impairment, and disruptive behaviour in children with ADHD. The IBBS programs include integrated remedial treatment of mind, body and social interventions for children with ADHD. According to Smith et al., (2016) the IBBS programs showed significant positive improvement in ADHD symptoms and executive function. Psychosocial techniques and special training provided to parents of children with ADHD positively affect children's inattention, hyperactivity, and impulsivity (Raghibi et al., 2014). The child

life and attention skills (CLAS) programs are behaviour or attention-related treatment in which attention-related programs, parent training, and classroom intervention are provided to children with ADHD to improve their attention, hyperactivity and disruptive behaviour. According to Pfiffner et al., (2014) CLAS provides significant positive results for improvements in social skills, functional impairment and inattention.

Conclusion

The study focused primarily on psycho-educational interventions including CBT,

physical activity-based interventions, and psychosocial interventions to reduce the core symptoms of ADHD. Cognitive-based interventions include the Cog-Fun program, the Cool Kids CBT program, self-directed learning, and parent-based CBT. Physical activity-based interventions include TEAMS, HIITS, TRAD, acute interventions, aerobic and play-based interventions. In addition, there are psychosocial interventions that include CLAS, ACT, IBBS, antecedent-based intervention, consequent-based intervention and parenting training. Studies suggest that any intervention should be at least for three weeks in duration,

and interventions should include activities or programs that can attract the attention of students with ADHD. The involvement of parents and teachers is proven to be more effective at improving ADHD symptoms. In addition, interventions given in the group provide more improvement rather than in the individual. Therefore, a critical analysis of various studies showed that psycho-educational interventions have a positive effect in reducing core symptoms (inattention/hyperactivity and impulsivity), improving executive function and social competence in children with ADHD.

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EFFECT OF ISOMETRIC AND ISOTONIC TRAINING ON SELECTED MUSCLE GIRTH AND STRENGTH PARAMETERS AMONG MALE VOLLEYBALL PLAYERS

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ABSTRACT

The study focused on the effect of a 12 week isometric and isotonic training on selected muscle girth and strength parameters among male volleyball players. Thus 45 players of govt. degree college Kulgam volleyball team with mean \pm SD: (19 \pm 3.6 years, height of 176.18 \pm 4.1 centimetres, 65.70 \pm 5.10 kg and BMI 21.20 \pm 3.21 were chosen). The subjects participated in 3 weekly 45-60 minutes training sessions in a 12 week period. Before and after 12 week period the muscle girth and strength were checked. A paired t-test with $\alpha=0.05$, effect size and ANCOVA was used. The results revealed that 12 weeks of isometric and isotonic training had significant effect ($p<0.05$) on the muscle girth and relative strength. According to the results, isotonic and isometric training can increase the lower body muscles and strength in athletes.

Keywords: isometric, isotonic, volleyball, muscles and strength

1. Introduction

Volleyball is one of the most popular sports in the world, and as a result of its huge popularity, several studies have been done in an attempt to better understand the programme training necessary for a volleyball player to improve complete body performance. [1,2]. Unfortunately, there is still a lack of scientific knowledge of this issue, with most young participants learning muscle performance from personal experience rather than research-based instructions [3,4]. Volleyball is a sport that needs upper and lower limb strength [5-7]. Muscle strength and specialised technical skills development are especially essential for young players, particularly male athletes [6], as priority elements for success [8-10]. Successful volleyball performance depends on both ball throwing and leaping abilities [1]. In ball throwing, distance is a significant factor, as evidenced by prior research [1, 11]. During the competitive season, strength training focusing on explosive movements can enhance upper extremity performance [5]. According to the research, this might be a transfer to specific volleyball duties in terms of ball speed, because the athlete's training period allows for these adaptations. When performing numerous leaps and blocking, spiking without power, there is a higher danger of injury. The ligaments, as well as the joints and shoulder, may be damaged by the stress of blocking.

Strength training appears to have a significant impact on the motor performance of young athletes in this sport. Although some writers have shown substantial impact in upper body strength in volleyball players [4], there is a paucity of data on the impact of isometric and isotonic training programme, particularly in young male volleyball players. Isometric and isotonic training is an interesting way to increasing strength. In isometric tension develops in muscles without changing length. In isotonic training, the tension in the muscle remains constant despite a change in muscle length [12]. The goal of this research was to see how 12-weeks isometric and isotonic training affected upper body performance in young male volleyball players.

2. Methodology

2.1 Participants

This study is of applied in nature and is semi-empirical. The participants were college level volleyball players of govt. degree college Kulgam. (N=70). For this study 45 subjects were chosen randomly, after they signed the signed consent forms. Descriptive characteristics of the subjects are given below in table 1. Using a questioner, the subjects made clear that they had no records of any pain and surgery and that they were completely healthy.

Table. 1 Descriptive characteristics of the subjects.*

Age (y)	Body height (cm)	Body weight (kg)	BMI
19.79±3.6	176.18±4.10cm	65.70±5.10	21.20±3.21

* Data is reported as mean ± SD.

2.2. Measurement

The effect of isometric and isotonic training on the flexed arm girth and relative strength was measured when performing the pre-test and, after 12 weeks of training, during the post-test. For better results, fore-arm arm girth changes and relative strength mayo tape (in cm's) for fore-arm and pull-ups (in no.'s) for relative strength was used.

2.3. Procedure

The training programme consisted of a 3-session, weekly training programme in a 12 week period. To enhance the participant's physical abilities and preparation, light training activities were performed in the first week. The training pressure was gradually increased from the second week onwards. The number of repeats depended on the pressure of the activities during the training program. An important factor that was considered during the training period was the performance of the

isometric and isotonic movements on a suitable surface to prevent possible injuries.

2.4. Statistical Analysis

To examine the hypothesis, a paired t-test with $\alpha = 0.05$. Effect sizes were determined using the method and interpreted based on the recommendations of Rhea [16] who defines < 0.50, 0.50–1.25, 1.25–1.90, and > 2.0 as trivial, small, moderate, and large, respectively. and ANCOVA was used. Statistics were analysed using SPSS ver. 25.

3. Results

3.1 Analysis of Fore-arm Girth and Relative Strength

The descriptive analysis showing mean, percentage and effect size of improvement and 't' ratio of the collected data on fore-arm girth and Relative Strength among experimental and control groups are presented in table 2.

Table –2 : Paired T-test for the pre-and post-test of the fore-arm girth and relative strength

Variable Name	Groups	Pre-Test Mean	Post-Test Mean	M.D	% Change	E.S	'T' Ratio
Fore-Arm Girth (in cm)	ISOM Training	24.55	25.25	0.69	2.85	1.59	8.80*
	ISOT Training	24.65	26.18	1.53	6.20	1.64	10.12*
	CG	24.61	24.68	0.07	0.28	0.17	0.51
Relative Strength (in no's)	ISOM Training	12.06	15.13	3.06	25.45	1.58	14.86*
	ISOT Training	12.73	17.73	5.00	39.27	3.18	9.51*
	CG	12.80	13.00	0.20	1.56	0.09	0.82

*Significant at 0.05 level (Required table value 2.14 with df 14) E.S= effect size

It is clear from the table 2, that there were significant differences between pre-test and post-test data on fore-arm girth and relative strength of isometric training, isotonic training and control group because the obtained 't' ratios were 8.08 and 10.12 for fore-arm strength and 14.86 and 9.51 for relative strength which were greater than the required table value of 2.14 at 0.05 level of significance for the df 14. The results of the study shows 2.85%,

6.20% and 0.28% with 1.59, 1.64 and 0.17 effect size within the groups for fore-arm girth, and 25.45%, 39.27% and 1.56% with 1.58, 3.18, and 0.09 effect size within the groups for relative strength by the respective trainings. The percentage of changes on fore-arm girth and relative strength of isometric training, isotonic training and control group are given in the figure 1 and 2.

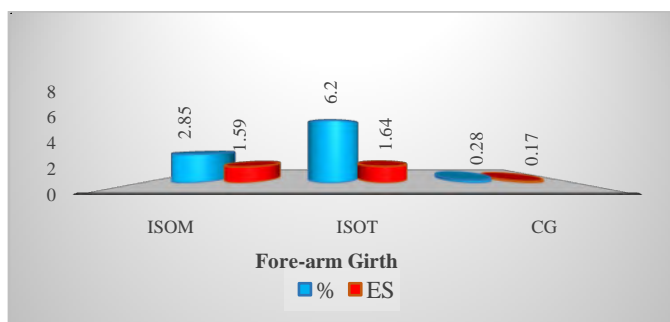


Fig. 1. % change and effect size in three groups of Fore-arm Girth

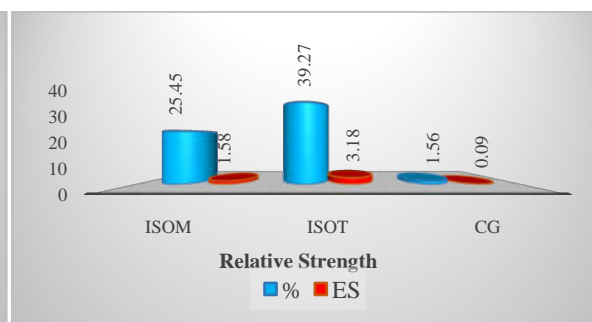


Fig. 2. % change and effect size in three groups of Relative Strength

The analysis of the covariance (ANCOVA) on the data obtained for fore-arm girth and relative strength of pre and post-test of isometric training (ISOM), isotonic training (ISOT) and

control group (CG) have been absolutely done. The table 3 given below presents the performance

Table -3 Analysis of covariance of pre-test and post-test data and adjusted post-test on fore-arm girth and relative strength score of ISOM, ISOT and CG

Variable Name		ISOM Training	ISOT Training	CG	'F' Ratio
Fore-Arm Girth (in cm)	Pre-Test Mean ± SD	24.55±0.44	24.65±0.93	24.61±0.40	0.80
	Post-Test Mean ± SD	25.25±0.46	26.18±1.25	24.68±0.61	11.82*
	Adj. Post-Test Mean	25.30	26.13	24.68	30.72*
Relative Strength (in no's)	Pre-Test Mean ± SD	12.06±1.94	12.73±1.57	12.80±2.14	0.68
	Post-Test Mean ± SD	15.13±1.80	17.73±1.33	13.00±181	30.34*
	Adj. Post-Test Mean	15.42	17.60	12.83	60.92*

* $F_{(0.05)}(2,42 \text{ and } 2,41) = 3.22$, * Significant at 0.05 level of confidence

Table 3 , shows that pre-test mean values on fore-arm girth and relative strength of isometric, isotonic and control group are 24.55, 24.65 and 24.61 and 12.06, 12.73 and 12.80 respectively. The obtained 'F' ratio of pre-test score is 0.80 and 0.68 respectively for both the variables which was lesser than the required table value of 3.22 for df 2 and 42 for significance at 0.05 level of confidence. The post-test mean values on fore-arm girth and relative strength of isometric, isotonic and control group are 25.25, 26.18 and 24.68 and 15.13, 17.73 and 13.00 respectively. The obtained 'F' ratio value of post-test score is 11.82 and 30.34 which is greater than the required table value of 3.22 for the df of 2 and 42 for significance at 0.05 level of confidence.

The adjusted post-test means of isometric, isotonic and control group are 25.30, 26.13 and 24.68 for fore-arm girth and 15.42, 17.60 and 12.83 for relative strength respectively. The obtained 'F' ratio value of 30.72 and 60.92 for adjusted post-test score was greater than the required table value of 3.23 for df 2 and 41 for the significance at 0.05 level of confidence on fore-arm girth and relative strength. It was concluded that differences subsist among the adjusted post-test means of isometric, isotonic and control group on fore-arm girth 0.83, 0.62 and 1.45 and 2.18, 2.59 and 4.17 for relative strength. Besides isotonic training was found better in fore-arm girth and also in relative strength. The changes in the fore-arm girth and relative strength is presented in figure 3 and 4.

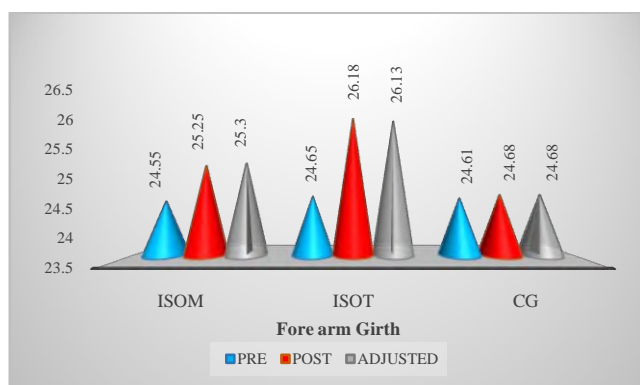


Fig. 3. Fore-arm Girth in three groups from pre to post and adjusted test

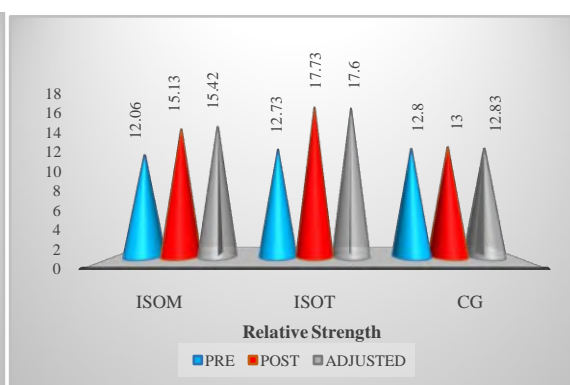


Fig. 4. Relative Strength in three groups from pre to post and adjusted test..

4.

Discussion and Conclusion

The findings of this study showed that 12 weeks of 3-session per week isotonic training caused an increase in fore-arm girth and relative strength than isometric training. The nature and type of isotonic exercises add much more tension and force to muscle chords performing such activities or tolerating extreme force and tension may lead to needed physiological and biological changes in muscle cords and other parts of the contraction system and can also cause muscle girth and relative strength to rise. Hence, when an athlete is trying to reach maximum strength, it is probable that plyometric training will not be as influential as weight training. The findings of Olson (2010) and chimera (2004) verify the results.

Statistical analysis of the findings of this study showed that 12 weeks of isometric and isotonic training in 3 sessions per week caused a significant increase in the muscle girth and relative strength, when performing bicep curls and pullups. The cause can be noted as sufficient training specific to the muscle or the sufficiency in the severity of training. These findings are similar to those Joshi et al. (2020),

Jackson et al. (1985), Magray et al. (2020), Saric et al., (2019), Aube et al. (2020) and Seynnes et al. (2007) also found changes in muscle girth and relative strength to other muscles. Takashi et al. (2000) reached other conclusions. Some of the reasons for such a verity of results may be noted as the difference in participants, type of exercises applied, the time of training and the difference in the muscles studied.

This study shows that a 12 week isometric and isotonic training period can create improvement in muscle strength in some lower-body muscles of volleyball players. These type of exercises can be used for preparation seasons, as well as competition seasons to increase lower-body muscle strength in volleyball players.

Acknowledgement

I am delighted to Annamalai University for allowing us to conduct this study, and I would like to express my heartfelt gratitude to the subjects, college principals, physical trainer, and other assistants who worked tirelessly to compile this report.

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A VARIATION OF PARTICULATE MATTER AND GASEOUS POLLUTANTS IN COVID-19 PANDEMIC, DURING MARCH (PRE-LOCKDOWN) AND APRIL (TOTAL WEEKEND LOCKDOWN) 2021, AT RATNAGIRI CITY, MAHARASHTRA, INDIA

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ABSTRACT

Air pollution is the biggest problem in all the cities and towns in India. The present attempt is being made to study variation of gaseous pollutants (SO₂, NO₂) and particulate matters (PM₁₀, PM_{2.5}, & SPM) during the COVID-19 pre-lockdown and total lockdown period at Ratnagiri city, Maharashtra, India. Ratnagiri city is located to the west coast of India on the Arabian Sea coast. This study aimed to assess ambient air quality in the Ratnagiri city at two sampling sites viz. Site number – I is located at industrial area at Ratnagiri Sub-Campus, University of Mumbai (SCRTG), and Site number – II is located at a commercial and residential area at Ratnagiri District Central Co-operative Bank (RDCC). This study was carried out between the pre-lockdown (8th March to 8th April 2021) and the total weekend lockdown (9th April to 17th April) period. It is observed that all the parameters of gaseous pollutants and particulate matter are within the standard norms as provided by Central Pollution Control Board (CPCB) with some exceptions. Also, the study further concluded that there is a significant improvement of ambient air quality at the Ratnagiri city during the lockdown period imposed by the state government.

Keywords: Ambient air quality monitoring, air pollution, COVID-19, CPCB standard norms

Introduction

The disastrous spread of the corona virus disease (COVID-19) has become a global public health hazard. In the month of December 2019, an unknown disease, later named 'COVID-19', was detected in Wuhan, China. A small tiny virus spread across the world and created a health hazard. Within the short period of time i.e. five months, the disease had spread and affected more than 210 countries and becoming a global pandemic which causing devastating effects. To stop spreading the virus, many countries have adopted several measures to minimize human interaction, including strict quarantines, prohibiting large-scale gatherings, restricting transportation, and even locking down entire cities (Guojun *et al.* 2020). The World Health Organisation (WHO) officially declared the virus as a global pandemic on 11th March 2020. Later on, the virus spread at a devastating rate, with more than one million COVID-19 cases within the four months. However, by the end of April, there were more than three million COVID-19 cases. More than five million confirmed cases were recorded by the end of May and also, confirmed deaths above 337 thousand (death rate is 6.4%) (WHO 2020). The concept of air quality plays an important role and acknowledges the global burden of

diseases because of atmospheric pollutants. According to the WHO, air pollution is the number one environmental health risk factor globally, causing health effects to 7.1 million people annually, out of which 4.2 million are attributable to outdoor air pollutants (WHO 2020). To reduce the air pollution levels, mitigation strategies and public awareness activities were launched under the National Clean Air Program with a focus on a 20-30% reduction in particulate matter (PM) by 2024 in India (MoEFCC 2019). Human beings require a continuous supply of air for existence. The requirement for air is relatively constant about 10-20 m³ per day (Manglekar *et al.* 2015). An increasing number of vehicles especially in developing countries is responsible for causing severe air pollution (Silva *et al.* 2012). The primary sources of anthropogenic emission of particulate matter (PM₁₀ and PM_{2.5}) are households, industries, and transport sectors (Gurjar *et al.* 2016). For gaseous pollutants, Nitrogen Dioxide (NO₂) emissions are influenced by transport, industries, and coal-based thermal power plants; Sulphur Dioxide (SO₂) emissions are dominated with the sulphur contained fuel which is used in different industries and coal-based thermal power plants (Singh *et al.* 2020). However,

with the implementation of (nationwide) lockdown in India due to the COVID-19 pandemic which has resulted in a considerable change in air pollution. COVID-19 is an infective disease spreading and affecting humans to humans primarily. A nationwide lockdown was implemented in various phases to prevent the spread of COVID-19 by restricting the transport and non-essential activities (MHA 2020). The first phase of lockdown was officially announced on March 24, 2020 and implemented for 21 days from 25th March to 14th April 2020. This was further extended from 15th April to 3rd May 2020 and also it was further extended with some relaxations. Before the first lockdown, a voluntary public curfew was encouraged on March 22, 2020, followed by restrictions in affected areas (MHA 2020). As all the nonessential services and offices were closed and the movement of the people was restricted. Reduction in anthropogenic emissions has resulted from this. Data from Petroleum Planning & Analysis Cell (PPAC) suggests that around 50%- 60%, 90%, 40%, and 70% reduction in transport, aviation, industrial, and construction activity respectively (PPAC 2020). Several studies show that there is a significant improvement in air quality over Indian cities and towns during lockdown (Sharma *et al.* 2020, Jain *et al.* 2020, Srivastava *et al.* 2020, Sarfraz *et al.* 2020, Kumari *et al.* 2020, Selvam *et al.* 2020, Navinya *et al.* 2020, Manal *et al.* 2020). The present study attempts to assess the variation of gaseous pollutants and particulate matter during the pre-lockdown period and in the total weekend lockdown period during the COVID-19 pandemic at Ratnagiri city, Maharashtra. According to the census of India 2011, Ratnagiri Municipal Council has a population of 76,229 (Seventy-Six Thousand Two Hundred and Twenty-Nine) of which 37,670 (Thirty-Seven Thousand Six Hundred and Seventy) are males while 38,559 (Thirty-Eight Thousand Five Hundred and Fifty-Nine) are females (Census of India 2011). According to the Maharashtra State Motor Vehicle Department, there are 2, 47,349 (Two Lacs Forty-Seven Thousand Three Hundred and Forty-Nine) numbers of registered vehicles in 2014 and 3, 09,114 (Three Lacs Nine Thousand One Hundred and Fourteen)

numbers of registered vehicles in 2017 in Ratnagiri District (R.T.O. Maharashtra 2016-17). As of the geographical configuration, Ratnagiri district has a 180 km long north-south coastline and an expansion of 64 km. Ratnagiri is at 11 m elevation from sea surface (Maharashtra State Gazetteer, Ratnagiri District 2006). The present study is focused on the variation of air pollutants i.e. gaseous pollutants and particulate matters during pre-lockdown and total weekend lockdown during the COVID-19 pandemic at Ratnagiri city.

Study Area

Two sampling sites were selected as per the CPCB guidelines for the measurement of ambient air pollutants. Site number – I is located at P-61 MIDC area at Ratnagiri Sub-Campus, University of Mumbai, and Site number – II is located at commercial and residential area at Ratnagiri District Central Co-operative Bank near Jaystambh area. RDCC is a moderately populated area and in front of the site, National Highway (NH-166) passes which increases vehicular influence.

Material and Methods

Parameters considered for the ambient air quality monitoring are Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Particulate Matter (PM₁₀), Suspended Particulate Matter (SPM), and Particulate Matter (PM_{2.5}). Criteria for the monitoring is carried as per the CPCB guidelines for the measurement of ambient air pollutants (CPCB 2012). Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) are monitored two times a week at 4 hourly basis, also PM₁₀ & SPM is monitored two times a week, for 8 hourly basis at both locations and PM_{2.5} is monitored two times a week, at 24 hourly basis, only at one location. To measure the gaseous pollutants and particulate matters, instruments which conform to BIS standards and approved by CPC Board, manufactured by Envirotech Instruments Pvt. Ltd. are used. To measure SO₂, NO₂, PM₁₀, and SPM, Respirable Dust Sampler (RDS), APM 460 DXNL is used and for PM_{2.5}, APM 550 MFC is used. To fix the monitoring location, guidelines are, i) Height of the inlet of sampler must be 3-10 m above ground level, ii) Sampler must be more than 20 m from trees, iii) Distance of sampler to any airflow obstacle

i.e. buildings, must be more than two times the height of the obstacle above the sampler, and iv) There should be no nearby furnace or incinerator fumes, are taken into consideration. Laboratory analysis methods for the analysis of

parameters are used accordingly guidelines, viz. for SO₂, Improved West & Gaeke method, for NO₂, Modified Jacob and Hochheiser method, for PM₁₀, PM_{2.5} & SPM, Gravimetric method is used.

Table 1: Location, zone and monitoring frequency of sampling sites

Sr. No.	Sampling Sites	Longitude & Latitude	Elevation	Zone	Monitoring Day & Time
1	(PM ₁₀) Administrative building (Terrace) Ratnagiri Sub-Campus, University of Mumbai ,P-61, MIDC Mirjole, Ratnagiri – 41563 Site No. – I (SCRTG)	17°00'55.8"N 73°20'27.6"E	67.26 Feet	Industrial	Wednesday 6 AM to Thursday 6 AM & Saturday 6 AM to Sunday 6 AM
	(PM _{2.5}) Administrative building (Terrace) Ratnagiri Sub-Campus, University of Mumbai ,P-61, MIDC Mirjole, Ratnagiri – 41563 Site No. – II (RDCC)				Tuesday 6 AM to Wednesday 6 AM & Friday 6 AM to Saturday 6 AM
2	Ratnagiri District Central Co-operative Bank (Terrace), Major State Highway, Jaistambh, Ratnagiri – 415612	16°59'23.4"N 73°17'56.3"E	10.10 Feet	Commercial & Residential	Monday 6 AM to Tuesday 6 AM & Thursday 6 AM to Friday 6 AM

Result and Discussion

Variation of particulate matter and gaseous pollutants were studied at two sampling sites at the Ratnagiri city, Maharashtra. This study is based on CPCB guidelines for the measurement of ambient air pollutants (CPCB 2012). Samples of gaseous pollutants and particulate matter were collected and analysed for the parameters of SO₂, NO₂, PM₁₀, SPM, and PM_{2.5} respectively. Samples were collected from 8th March 2021 to 30th April 2021 at two sites. Site details are given in Table No. – 2. Day wise variation in values of gaseous pollutants and particulate matter in the month of March & April at SCRTG and RDCC site is shown in Table No. – 4, 5, 9, and 10. Also, day wise values of PM_{2.5} are shown in Table no. – 3 & 6. Monthly averages of min, max, and an average of gaseous pollutants & particulate matter are shown in Table No. – 7, 8, and 11. Graphical re-presentation of monthly average variation of min, max, and an average of gaseous pollutants and particulate matter are shown in Fig. No. - 1, 2 & 3. CPCB standard norms (CPCB 2009) are given in Table No. – 2.

Table 2: CPCB, National Ambient Air Quality Standards

Sr. No.	CPCB Standards	24 Hrs.	Annual	Unit
1	SO ₂	80	50	µg/m ³
2	NO ₂	80	40	
3	PM ₁₀	100	60	
4	PM _{2.5}	60	40	

Site number – I, (SCRTG) is located at the MIDC industrial area in Mirjole of Ratnagiri city. This site is surrounded by frozen food products and fabrication as well as ion exchange resins products industries. There is an ongoing construction of a highway in front of the campus area. Mazgaon road which enters Ratnagiri city is at northeast and approximately 1 km behind the sub-campus. Values of gaseous pollutants at the site in the month of March & in the month of April are within the CPCB standard norms except the values of PM_{2.5}. During the pre-lockdown period the maximum average values of SO₂, NO₂ in the month of March for 24 hrs were 15.20 µg/m³ & 34.00 µg/m³ accordingly. Also, the maximum average values of SO₂, NO₂ in the month of April for 24 hrs were 11 µg/m³ & 24.2 µg/m³ (Table 3,4). During both months values of gaseous pollutants are within the CPCB standard norms. In the month of March, due to

the relaxation in lockdown by the government of Maharashtra all the activities such as industrial, commercial shops, transport (government & private) increased throughout the state. In the month of March, the maximum average values of PM10 for 24 hrs were 89.96 $\mu\text{g}/\text{m}^3$ & 53.7 $\mu\text{g}/\text{m}^3$ (Table 3, 4), and these values are within the standard norms.

Monthly average values of SO₂ in the month of March were 9.86 $\mu\text{g}/\text{m}^3$, NO₂ was 21.32 $\mu\text{g}/\text{m}^3$, PM₁₀ was 75.85 $\mu\text{g}/\text{m}^3$ and SPM was 143.40 $\mu\text{g}/\text{m}^3$ (Table 5). During total weekend lockdown in the month of April monthly average values of SO₂, NO₂, PM₁₀, and SPM were 7.64 $\mu\text{g}/\text{m}^3$, 18.91 $\mu\text{g}/\text{m}^3$, 37.79 $\mu\text{g}/\text{m}^3$, 64.78 $\mu\text{g}/\text{m}^3$ (Table 5).

Table 3: Day wise values of air pollutants as min, max, average in March at SCRTG

Site No. I - SCRTG									Unit
Sr. No.	Parameters	March 2021							
		08/03/21	11/03/21	17/03/21	20/03/21	24/03/21	27/03/21	31/03/21	
1	SO ₂ Min	9.20	13.33	7.88	8.08	5.82	4.88	6.38	$\mu\text{g}/\text{m}^3$
2	SO ₂ Max	15.20	16.89	12.76	15.02	8.82	6.95	9.01	
3	SO ₂ Average	11.92	15.20	10.14	11.39	7.01	5.85	7.54	
4	NO ₂ Min	20.64	28.11	12.78	18.08	7.64	11.40	12.78	
5	NO ₂ Max	31.45	41.27	18.87	31.25	13.36	27.71	20.24	
6	NO ₂ Average	26.89	34.00	16.54	25.65	10.68	19.62	15.82	
7	PM ₁₀ Min	11.92	15.20	77.65	51.14	41.67	58.71	49.24	
8	PM ₁₀ Max	140.15	107.95	98.48	68.18	138.26	96.59	56.82	
9	PM ₁₀ Average	89.02	78.28	88.07	59.97	89.96	72.60	53.03	
10	SPM Min	11.92	15.20	149.62	81.44	64.39	107.95	79.55	
11	SPM Max	215.91	191.29	221.59	172.35	159.09	166.67	206.44	
12	SPM Average	150.25	170.45	184.97	126.89	104.17	134.47	132.58	

Table 4: Day wise values of air pollutants as min, max, average in April at SCRTG

Site No. I - SCRTG											Unit
Sr. No.	Parameters	Apr-21									
		03-04-2021	07-04-2021	10-04-2021	14-04-2021	17-04-2021	21-04-2021	24-04-2021	28-04-2021		
1	SO ₂ Min	5.1	6.00	8.3	3.2	8.3	2.1	5.4	4.3	$\mu\text{g}/\text{m}^3$	
2	SO ₂ Max	8.45	16.1	14.1	5.82	14.6	7.7	9.57	9.01		
3	SO ₂ Average	6.76	9.45	11	4.88	10.9	4.76	7.2	6.1		
4	NO ₂ Min	12.4	14.5	14.5	10.6	17.7	13.6	11.2	13		
5	NO ₂ Max	21.4	22.2	23.4	31.6	30.7	26.1	26.9	26.5		
6	NO ₂ Average	15.2	18.2	19.5	20.2	24.2	17.7	18.3	18.1		
7	PM ₁₀ Min	34.1	32.2	28.4	34.1	1.7	30.3	28.4	22.7		
8	PM ₁₀ Max	75.8	51.1	54.9	39.8	37.9	51.1	36	36		
9	PM ₁₀ Average	53.7	42.3	42.6	36.6	24.6	39.8	32.8	29		
10	SPM Min	60.6	66.3	39.8	39.8	26.3	39.8	36	45.5		
11	SPM Max	117.4	181.8	81.44	54.92	51.14	90.91	53.03	87.12		
12	SPM Average	92.17	106.7	60.61	47.98	42.24	58.71	46.08	63.76		

Table 5: Monthly average values of min, max and average of air pollutants at SCRTG

Site No. I - SCRTG				Unit
Sr. No.	Parameters	March	April	
1	SO ₂ Min	4.88	2.06	µg/m ³
2	SO ₂ Max	16.89	16.14	
3	SO ₂ Average	9.86	7.64	
4	NO ₂ Min	7.67	10.61	
5	NO ₂ Max	41.27	31.64	
6	NO ₂ Average	21.32	18.91	
7	PM ₁₀ Min	11.92	1.70	
8	PM ₁₀ Max	140.15	75.76	
9	PM ₁₀ Average	75.85	37.79	
10	SPM Min	11.92	26.33	
11	SPM Max	221.59	181.82	
12	SPM Average	143.40	64.78	

Maximum values of PM_{2.5} for 24 hrs for the month of March and April were above the standard norms and are shown in table number

6&7. However, due to the opening of the total weekend lockdown, the values of PM_{2.5} were increased.

Table 6: Day wise values of PM_{2.5} in March at SCRTG

Site No. I – SCRTG (PM _{2.5})									Unit
Sr. No.	Parameters	March 2021							
		09/03/21	11/03/21	16/03/21	19/03/21	23/03/21	26/03/21	30/03/21	
1	PM _{2.5} (24Hrs.)	45.98	33.42	46.51	50.48	46.38	76.30	42.23	µg/m ³

Note: Value above CPCB standard is shown in bold

Table 7: Day wise values of PM_{2.5} in April at SCRTG

Site No. I – SCRTG (PM _{2.5})			
Sr. No.	April 2021	PM _{2.5} (24Hrs.)	Unit
1	02/04/21	20.96	µg/m ³
2	06/04/21	58.63	
3	09/04/21	35.15	
4	13/04/21	55.34	
5	16/04/21	46.92	
6	20/04/21	55.47	
7	23/04/21	41.67	
8	27/04/21	104.21	
9	30/04/21	87.96	

Note: Values above CPCB standard limitare shown in bold

Table 8: Monthly average values of min, max and average of PM_{2.5} at SCRTG

Site No. I - SCRTG				Unit
Sr. No.	Parameters	March	April	
1	PM _{2.5} Min	33.42	20.96	µg/m ³
2	PM _{2.5} Max	76.30	104.21	
3	PM _{2.5} Average	48.76	56.26	

Site number – II, (RDCC) which is situated near Jaystambh chowk which is the most trafficular area of Ratnagiri city. Government

offices such as Nagar Parishad, district collector's office, tahsildar karyalay and also banks, civil hospital Ratnagiri and commercial

shops are nearby. Hotels and lodging are also there in a nearby area. National Highway (NH-166) is passing in front of the sampling site. Behind the sampling site, there is a residential area. It is in that sense site number – II is commercial and residential in nature. The maximum average values of PM10 for 24 hrs in the month of April are within the standard norms with a minor exception in the first week of April 2021. The maximum average values

of SO₂, NO₂ in the month of March were 11.79 µg/m³ & 22.31 µg/m³ (Table 10) and in the month of April were 10.45 µg/m³ & 23 µg/m³ (Table 11) accordingly. However, it is seen that values of SO₂, NO₂ are lesser in the month of April as compared to the month of March. Monthly average values for the month of April are lower as compared to the month of March as shown in table number 12.

Table 9: Day wise values of air pollutants as min, max, average in March at RDCC

Site No. II - RDCC							Unit
Sr. No.	Parameters	March 2021					
		15/03/21	18/03/21	22/03/21	25/03/21	29/03/21	
1	SO ₂ Min	4.13	3.00	6.19	7.51	8.07	µg/m ³
2	SO ₂ Max	11.26	18.02	15.7	14.64	14.83	
3	SO ₂ Average	7.16	8.70	11.48	10.95	11.79	
4	NO ₂ Min	14.94	12.79	11.01	6.49	10.42	
5	NO ₂ Max	35.97	28.70	23.98	19.85	23.59	
6	NO ₂ Average	22.31	17.89	16.61	15.40	16.94	
7	PM ₁₀ Min	72.92	70.83	87.50	66.67	70.83	
8	PM ₁₀ Max	91.67	104.17	131.25	135.42	129.17	
9	PM ₁₀ Average	81.25	90.97	114.58	97.92	104.86	
10	SPM Min	289.58	112.50	87.50	181.25	87.50	
11	SPM Max	364.58	212.50	210.42	281.25	314.58	
12	SPM Average	316.67	167.36	145.14	219.44	204.86	

Note: Values above CPCB standard are shown in bold

Table 10: Day wise values of air pollutants as min, max, average in April at RDCC

Site No. II - RDCC										Unit	
Sr. No.	Parameters	Apr-21									
		01-04-2021	05-08-2021	08-04-2021	12-04-2021	15-04-2021	19-04-2021	22-04-2021	26-04-2021	29-04-2021	
1	SO ₂ Min	6.76	5.07	4.32	3.57	9.01	2.44	2.44	2.44	2.25	µg/m ³
2	SO ₂ Max	14.64	10.89	8.07	9.57	11.4	3.57	5.82	4.51	5.26	
3	SO ₂ Average	10.29	6.88	6.13	5.66	10.45	2.97	3.97	3.28	3.66	
4	NO ₂ Min	17.69	7.86	16.9	6.09	10.61	9.24	6.88	11.2	7.08	
5	NO ₂ Max	31.05	17.89	30.46	13.17	23.59	23.98	16.12	20.83	15.33	
6	NO ₂ Average	23	12.41	21.82	10.25	17.79	15.23	11.24	15.69	11.01	
7	PM ₁₀ Min	60.42	22.92	27.08	33.33	25	22.92	22.92	22.92	29.17	
8	PM ₁₀ Max	154.17	43.75	54.17	39.58	45.83	33.33	41.67	60.42	50	
9	PM ₁₀ Average	109.72	34.03	38.19	36.11	36.8	27.78	34.72	39.59	37.5	
10	SPM Min	197.92	39.58	37.5	45.83	47.92	41.67	31.25	70.83	41.67	
11	SPM Max	289.58	181.25	72.92	160.42	56.25	54.17	60.42	112.5	79.17	
12	SPM Average	231.94	100	51.39	88.89	52.78	47.92	45.83	87.5	59.72	

Note: Value above CPCB standard is shown in bold

Table 11: Monthly average values of min, max and average of air pollutants at RDCC

Site No. 2 - RDCC				Unit
Sr. No.	Parameters	March	April	
1	SO2 Min	3.00	2.25	µg/m ³
2	SO2 Max	18.02	14.64	
3	SO2 Average	10.02	5.92	
4	NO2 Min	6.49	6.09	
5	NO2 Max	35.97	31.05	
6	NO2 Average	17.83	15.38	
7	PM10 Min	66.67	22.92	
8	PM10 Max	135.42	154.17	
9	PM10 Average	97.92	43.83	
10	SPM Min	87.50	31.25	
11	SPM Max	364.58	289.58	
12	SPM Average	210.69	85.11	

Figure 1: Monthly average graph of min, max and average of PM2.5 at SCRTG

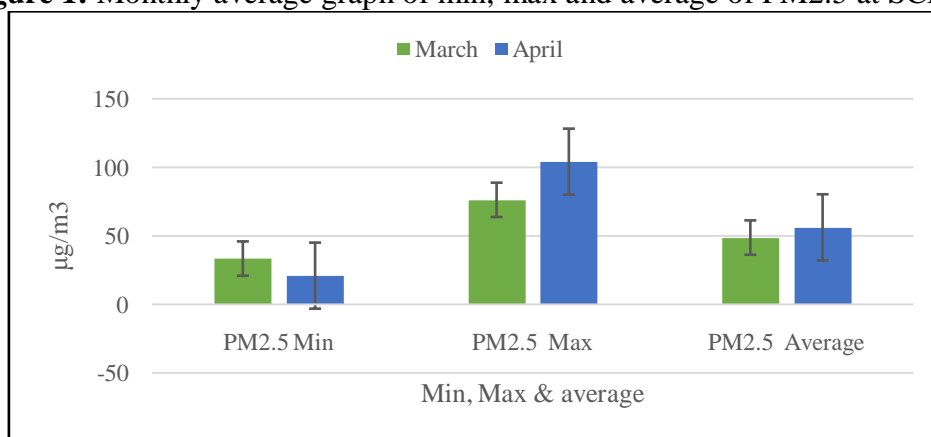


Figure 2: Monthly average graph of min, max and average of air pollutants at SCRTG

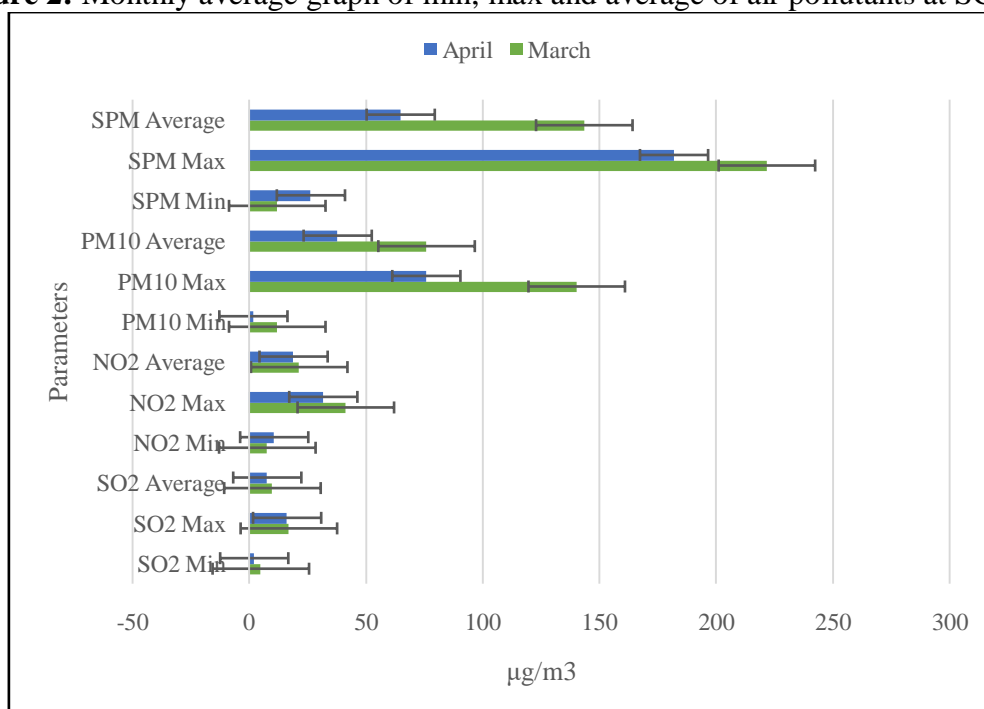
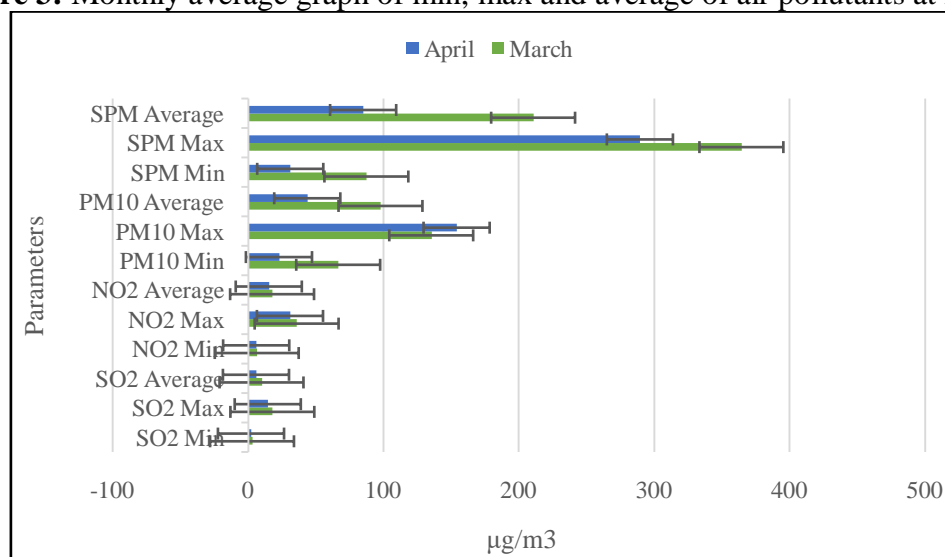


Figure 3: Monthly average graph of min, max and average of air pollutants at RDCC

Conclusion

It is observed that values of gaseous pollutants for the month of April are lesser as compared to the month of March. This decrease is because of restrictions imposed by the state government to combat COVID-19. The values of PM_{2.5} which were increased above the standard norms during the both months. At site number – II the gaseous pollutant values are within standard norms during both the months. Also the values of particulate matter (PM₁₀) are above the standard norms provided by CPCB. However, the values of PM₁₀ were increased above the standard norms in the last week of March and also in the first week of April. During this period COVID-19 regulations were relaxed by the state government. From the analysed data it is found that values of parameters of gaseous pollutants and particulate matter are lesser at SCRTG site than the RDCC site. The Ratnagiri Sub-Campus (SCRTG) site is situated at MIDC area, which is outside of the residential and commercial area whereas RDCC site is situated at the commercial and residential area. From the study it is clearly observed that values of air pollutants are lesser at SCRTG site as compared to thickly populated, commercial

and residential RDCC site. Overall it is observed that all the parameters at both the sites are within the standard norms with some exceptions. Also there is significant improvement of gaseous & particulate matter pollutants at the Ratnagiri city during the pre-lockdown and total weekend lockdown period.

Acknowledgements

I would like to express my deep sense of gratitude to M.P.C. Board for granting project entitled “Ambient Air Quality Monitoring Stations at Ratnagiri”. We are also thankful to Dr. V. M. Motghare, Joint Director - Air Pollution Control (APC), S.R.O. JD (APC) Smt. Sneha Kamble, and Smt. Indira Gaikwad S.R.O. Ratnagiri for providing support during the project. I express my sincere thanks to Director Ratnagiri Sub-Campus Dr. K. V. Sukhtankar & Assistant Registrar Mr. Abhinandan Boragave for support and help since inception of project. I am extremely thankful to Hon. Vice Chancellor, Pro-vice Chancellor, Registrar, all Deans, Board of Sub-Campus and all other authorities of University of Mumbai for their support and encouragement.

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ROLE OF GOVERNMENT TO DEVELOPMENT OF BUDDHIST TOURISM IN BIHAR**A. Dhiraj, S. Kumar and Divya Rani**

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ABSTRACT

The history of Buddhist culture in India has long years back approximately 2500 years and spread over South East Asian country. In context of Bihar it is important due to Buddha enlightenment in Bodhgaya (Bihar). The growth of Buddhist tourism is depends on good infrastructure, accommodation facility, transportation, aviation, host behavior. All these facility creates the foundation of Buddhist tourism. Central Government as well as state government play important role for development of these facility. In recent year's government focused to development of Buddhist tourism. Central government introduced Look East Policy and Act East Policy. Central government/ State government launched many development works in the Buddhist circuit of Bihar. Government play important role for getting world heritage of two Buddhist site (Mahabodhi Temple Bodhgaya and Nalanda Mahavihara) by UNESCO. As part of the study mentioned above, my research paper will identify role of government organization like Ministry of tourism, ITDC, IRCTC, TFCI, IITM, BSTDC, BTMC and supported other organization to development of Buddhist tourism in Bihar.

Keywords: Buddhism, Tourism, Bihar, Bodhgaya, ITDC, IRCTC, TFCI, IITM, BSTDC, BTMC

Introduction

Bihar is a land of enlightenment and salvation (Geary, 2013). The name of Bihar derived from the Word Vihara, means monastery (Prasad et al., 2018). Located in the central and lower Gangetic plateau in the North-eastern sector of India (between 83°-30' to 88°-00' longitude), Bihar is bound by Nepal on the North, West Bengal on the east, Uttar Pradesh on the west and Jharkhand, bifurcated from Bihar in 2000, on the south (Jharkhand State, n.d.). Bihar is the twelve largest by territory with an area of 94163 km² and third largest state by population (Salam et al., n.d.). Bihar occupied an important position in the early history of India. For centuries it was the principal seat of imperial powers and the main focus of Indian culture and civilization. The birth place of Bihar has two religions i.e. Buddhism and Jainism & birth place of Guru Govind Singh, 10th guru of Sikh religion (Agrawal et al., 2010). There are many holy places for Hindu and important place for Gandhian movement. Bihar is rich for spiritual, heritage and culture.

Tourism in Bihar: An Overview

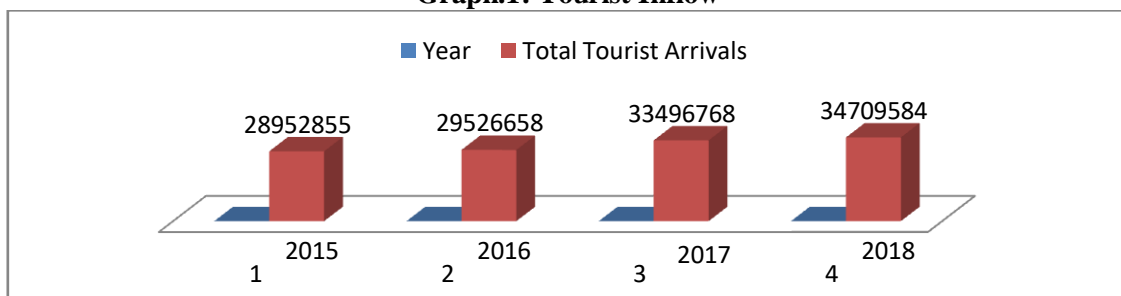
History of Bihar is going back of 3000 years. Some of the famous traveler visited Bihar in ancient period; Megasthenes a Greek geographer visited Bihar in reign of Chandragupta Maurya (BC 350- BC 290) (Ramachandra Dikshitar & literal, 1993), Dionysius, who visited Pataliputra in reign of Ashoka (Gawroński, 1925), Hsuan-Tsang visited Nalanda (Bihar) to study in the 7th century in Nalanda university (BARUA & Basilio, 2009). Bihar has rich history, culture and monuments. The state is covered with river, fountain, mountain, hills, abhayaranya, pilgrims, historical places etc. Bihar is a unique state for its spiritual status. There are many religious and non-religious tourist places in Bihar; these are Buddhist circuit, Jain circuit, Sikh circuit, Ramayana circuit, Sufi circuit, Shiv Shakti circuit, Gandhi circuit, Eco circuit. Bihar has many tourist attractions and visited by large number of tourist every year from all over the world. Around 6 million tourist visited Bihar every year (Welcome to Bihar Tourism, n.d.). Even Bihar has found a place in the top 10 list of foreign tourist arrivals in the country, on the other hand, a state like Rajasthan, a popular destination of foreign tourists along with Kerala and Goa, is trailing behind many other unpopular tourism states.

Table.1: Share of Foreign Tourist

Rank	State/UT	Foreign Tourist Visit In 2018	
		Number	Percentage Share
1	Tamil Nadu	6074345	21
2	Maharashtra	5078514	17.6
3	Uttar Pradesh	3780752	13.1
4	Delhi	2740502	9.5
5	Rajasthan	1754348	6.1
6	West Bengal	1617105	5.6
7	Punjab	1200969	4.2
8	Kerala	1096407	3.8
9	Bihar	1087971	3.8
10	Goa	933841	3.2

Source: India Tourism Statistics 2019 (MOT,India)

Graph.1: Tourist Inflow

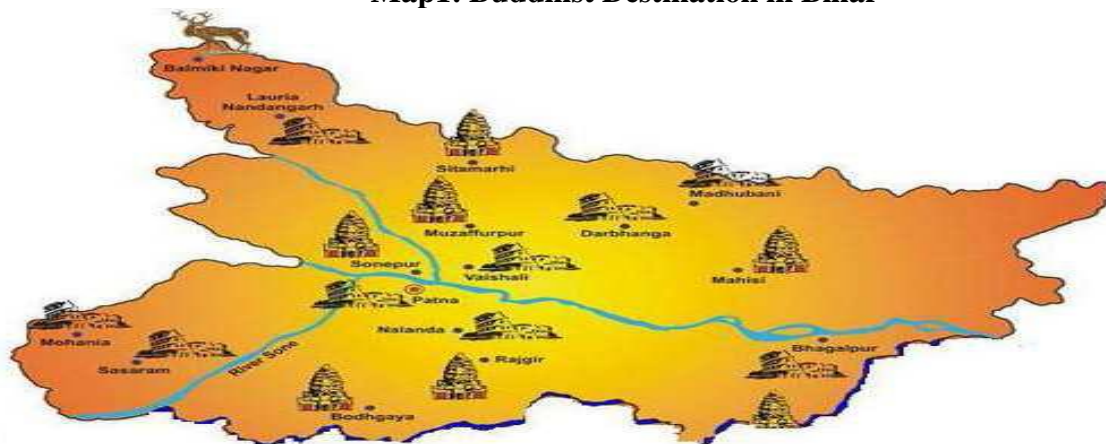


Source: (BSTDC)

Buddhist Tourism in Bihar: An Overview

Bihar is a most important place for Buddhist. Buddhism was founded in the late 6th century B.C.E. in India. Buddha enlightened in Bodhgaya, Bihar. Bodhgaya has around 47 Buddhist temples; in the entire state of Bihar, there are some 1,600 accredited Buddhist sites(Studies, 2016). Mahabodhi Temple Complex at Bodh Gaya was recognized as a UNESCO World Heritage Site in 2002(Singh & Landscapes, n.d.).Lord Buddha spends many years of his life in Bihar. Some of the major Buddhist footprints in Bihar are Bodhgaya, Rajgir, Nalanda, Vaishali, Patna, Vikaramshila, Barabar, Jethian, Bakaraer, Mocharim, Kesariya, kerkihar, LaeriyaNandangarh, Gerpa, Ghosrawan, Dona Stepa, Champanagar, Pragabodhi.

Map1: Buddhist Destination in Bihar



Source: http://bstdc.bih.nic.in/esefel_maps.htm



: Buddhist Destination

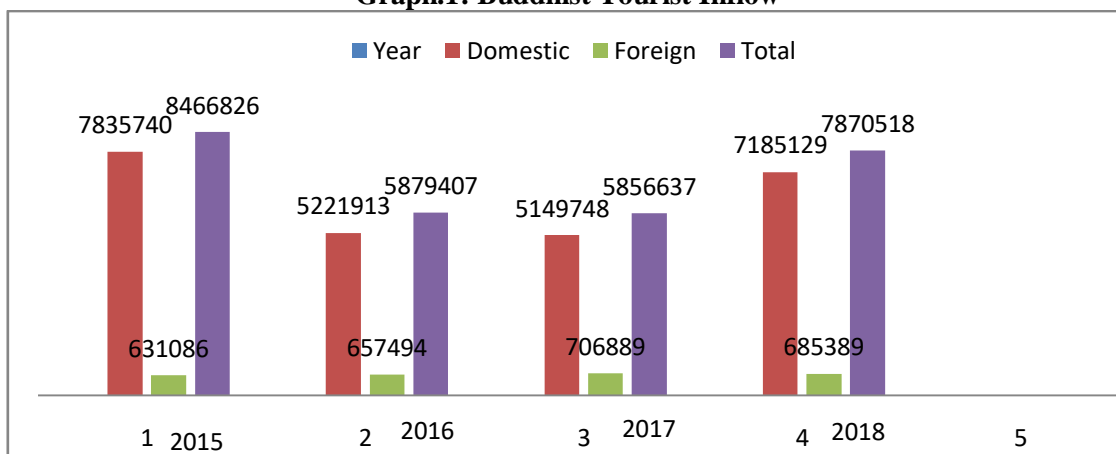
Map2: Buddhist Route Map



Buddhist is most emerging religion that originated in Bihar and left its mark throughout the ASIAN country like Korea, Japan, China, Bhutan, Indonesia, Cambodia, Laos, Singapore, Thailand, Myanmar and Vietnam. Buddhist population is 8% of the world population with 535 million (UN, 2019). Tourism industries contribute 9.2% of total GDP (USD 247.3 billion) and generate 8.1% (40.2 million) of total employment. India set the target of 20 million overseas tourist arrivals by 2020 & 30.5 million foreign tourist

arrivals by 2030 (IBEF, n.d.). In the context of Bihar, the total share of tourism is 11.99% of Bihar SGDP and 11th largest wage earner in revenue with \$3.13 billion in 2017 (Raju, S. S. 2019). Buddhist tourism plays an important role in the Indian tourism industry as well as Bihar tourism industry. Even in the last 10 years, the growth of Buddhist Tourism has been increasing, and the Bihar government launched a new tourism policy in 2009, and the central finance minister targeted a 15% growth rate of Buddhist Tourism.

Graph.1: Buddhist Tourist Inflow



Source: (BSTDC)

Objective

1. Study the growth of Buddhist tourism in Bihar
2. Analysis the role of government to increase Buddhist tourism in Bihar
3. Discuss different initiative taken by government in Buddhist circuit in Bihar.

Research Methodology

The review paper depends on secondary data and research methodology is descriptive, casual and exploratory. To measure all above objectives, information and data has been collected through Journals, Internet, Article, Newspaper, Book Magazine, Reports of

UNESCO, WTTC, MOT and different tourism organization.

Role of Government Organization

The Government of Bihar has been given high priority to the development and promotion of tourism as well as the hotel industry sector in Bihar. Tourism in Bihar has been identified as one of the most important sectors of the economy and it became major engine of the state economy. Government of Bihar as well as government of India has given high priority to development of appropriate infrastructure which is essential for development of tourism in Bihar like transport, airport, roads, public utility services, communication network services, water supply and many more.

There are important role of some organization to development of Buddhist Tourism in Bihar

1. Ministry of Tourism Government of India

MOT is a main role to development of all tourist destinations and performing all regulatory functions in the area of tourism. Ministry of tourism operates with department of tourism. The main function of Ministry of tourism is making of policy and co-ordinate with central to state tourism department. The MOT is a nodal agency for the development of tourism in country. MOT has 20 offices in country and 8 offices in abroad. The main function of MOT is policy making, promotion, publicity and conference, trade and hospitality, wildlife and accommodation.

Some of the following policy to development of Buddha tourism by MOT

a). To promote of Buddhist Heritage of India, Ministry of tourism organized an International Buddhist Conclave in 2012 in Varanasi. 132 international delegates coming from around 30 countries. The delegates were taken for a visit to Sarnath and Bodh Gaya (Secretariat, 2013).

b). An "International Conclave on Buddhism and Spiritual Tourism" was held in New Delhi in 2004. It was inaugurated by the President of India and attended by the Dalai Lama. The conclave urging the government of India to set up commission for study the situation of ancient Buddhist monuments and give suggestion to develop it (Geary, 2008).

c). MOT has identified the Buddhist Circuit as one of the fifteen thematic circuits for development under the Swadesh Darshan

Scheme. MOT has sanctioned five projects for Rs. 355.26 Crore under the Buddhist Circuit theme covering the States of Uttar Pradesh, Bihar, Madhya Pradesh, Gujarat and Andhra Pradesh and work on all the projects is under implementation (Tourism Minister, n.d.).

d). Ministry of tourism Organized of biennial International Buddhist Conclave.

e). MOT has also produced two films viz. 'India – The Land of Buddha' and 'Following the path of the Buddha' which have been promoted on electronic and digital media, and at Road Shows and Know India Seminars etc. organized by the India Tourism Offices overseas. MOT also has a dedicated section for the promotion of Buddhist heritage and destinations on its promotional website.

2. ITDC (India Tourism Development Corporation)

ITDC was established in October 1966. ITDC performs different activities like management, marketing and construction of hotels and restaurant in different tourist destination in the country, publication of tourist promotion materials, arrangement of sound and light show and music concerts, and shopping facility in different destination, consultancy service in India and abroad. ITDC established hotel named Hotel Bodhgaya Ashok in Bodhgaya and Hotel Pataliputra Ashok in Patna. Presently Hotel Bodhgaya Ashok sold to Lotus Nikko Hotel.

3. TFCI (Tourism Finance Corporation of India Ltd.)

TFCI set up after the recommendation of "National Committee on Tourism" under aegis of planning commission in 1988. TFCI provide finance of hotel projects, amusement parks, ropeways, multiplexes, restaurants etc. TFCI, as a specialized institution for finance tourism project and generate direct employment opportunities. TFCI financed Rs 30182 crore in tourism sector till 31st March 2018.

4. IITTM (Indian Institute of Tourism and Travel Management)

IITTM came into being on January 1983 was its registration at New Delhi. It is a premier institute in country to offering training, education and consulting in tourism. IITTM Bodhgaya campus opened in July 2016 as an extension center of IITTM, Bhubaneswar

center and present running in the campus of SIHM Bodhgaya. IITTM Bodhgaya presently running, short term skill development training programmes in six languages i.e Korean, Chinese, Japanese, Burmese, Thai and Sri Lanka etc. for fulfillment of requirement of Buddhist tourist in the state of Bihar. There is a plan to start the short term training programmes in skill development for other foreign languages also at a later stage at IITTM camp, Bodhgaya.

5. IRCTC (Indian Railway Catering and Tourism Corporation)

Indian railway incorporated a subsidiary company named IRCTC in 27th September, 1999 (Kumar, 2017) to manage hospitality and catering service on train, at station and other location. IRCTC promote budget hotels, special tour package for international as well as domestic tourist. IRCTC (Indian Railway) starting The Mahaparinirvan Express is a special tourist train that takes passengers on a spiritual tour through Bihar/Uttar Pradesh in India, where Buddhism originated. Its sacred journey includes visits to the most important Buddhist pilgrimage sites of Lumbini (where the Buddha was born), Bodhgaya (where he became enlightened), Varanasi (where he first preached), and Kushinagar (where he passed away and achieved nirvana) and Rajgir & Nalanda. IRCTC provide accommodation facility, transportation facility and guide facility in this train.

6. MOT, Bihar

Ministry of Tourism, Government Bihar introduced New Tourism Policy-2009 (Tourism Policy (Bihar), 2009). Main motto of this policy is to accelerate the growth of tourism in Bihar. Bihar governments find out some area to development of tourism, one of the area is Buddhist Tourism. There are two Buddhist site recognized UNESCO world heritage site in Bihar, one is Mahabodhi temple at Bodhgaya in 2002 and another is Nalanda Mahavihara at Nalanda in 2016 (Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar - UNESCO World Heritage Centre, n.d.). Bihar government strategy for development of tourism

1. Establishment of Tourism Security Force

2. Preparing and implementation of master plan and marketing
3. Upgrading of accommodation and recreational facility
4. Improvement of transportation
5. Improving and Expanding Tourism Products to meet new market requirements
6. Improvement and open new institution for development human resources
7. Effective Marketing of Destinations both in the Domestic and International Market
8. Promotion of Arts, Crafts, Festivals and Cuisine of the State Bihar government provides special incentive for private entrepreneur. These are
 - a. 100% stamp duty and registration fee exemption if set up tourism project
 - b. 7 years Luxury tax exempted for new project
 - c. 100% electricity duty free for seven years
 - d. 100% conversion charges exemption
 - e. Financial support for preparing project report by tourism units up to 50% maximum Rs 75000
 - f. Development of Food Park/ Agri Export Zone offering subsidy up to 25% maximum Rs 15.00 lakh
 - g. Seven years entertainment tax exempted for new unit

7. BSTDC (Bihar State Tourism Development Cooperation)

BSTDC was established in the year 1980 for the development of tourism in Bihar, commercialization of Tourist Resources available with the State. To achieve this objective various tourist infrastructures like Tourist Bungalow, Cafeteria, Restaurant, Transportation facilities and Ropeway are provided at various tourists spots by Bihar State Tourism Development Corporation. BSTDC maintain all monuments and museum. Its primary objective shall be to set up infrastructural facilities like hotels in untapped areas of tourist interest. Once these areas are developed, the BSTDC would seek to privatize the facilities and move to provide similar facilities in other underdeveloped areas of tourist interest. There are following role of BSTDC to development of Buddha tourism in Bihar:

Table.2: BSTDC Initiative

Type	Place
Events	
1.Rajgir Mahotsav	Rajgir
2.Bauddh Mahotsav	Bodhgaya
3.Vaishali Mahotsav	Vaishali
Statue	
1. Statue (70 x 30 feet)of Lord Buddha Dharma Chakra Mudra	GhoraKatora lake in Rajgir
Hotels	
1.Siddharth Vihar	Bodhgaya
2.Sujata Vihar	Bodhgaya
Patna	
1.Hotel KautilayaVihar	Patna
Transport	
1.Rental Car Service	Bihar
2. Patna-Rajgir-Nalanda One Day Tour Bus Service	Patna
3. Patna- Bodhgaya One Day Tour Bus Service	Patna

Source: (Bihar State Tourism Corporation)

8.BTMC (Buddha Temple Management Committee)

BTMC constituted in 1949, is the executive body for the management of the site; it works under the supervision, direction, and control of the State Government of Bihar. The Temple Complex is guarded by its own staff and the State Police collaborates in its protection. The Committee, which serves for a three-year term, must by law consists of four Buddhist and four Hindu representatives, including the head of Sankaracharya Math monastery as an ex-officio Hindu member. A 2013 Amendment to the Bodhgaya Temple Management Act allows the Gaya District Magistrate to be the Chairman of the Committee, even if he is not Hindu. In June 2002, the Mahabodhi Temple became a UNESCO World Heritage Site. The BTMC is a main body to maintain Mahabodhi temple at Bodhgaya.

The role of government in development of tourism cannot involve directly except some national importance like developing national tourism policy, tourism information system. The government is to act as an economic power that will guide and manage tourism development. Some of the important role of government for development of Buddhist tourism in Bihar:

a. MOT, India launched **Strategy for Integrated Tourism** in the part of the project **“Investing in the Buddhist Circuit”** in Bihar

and UP. Under this project International Finance Corporation A body of World bank will provide 180 lakh, Tourism ministry Government of India give 225 lakh and Bihar government contribute 22.50 lakh (Project to Develop Buddhist Circuit Launched | Business Standard News, n.d.).

b. Bihar government taken loan of 1350 crore from Japan Bank of international cooperation (JBIC) for construction of Gaya- Patna -Dobhi 127 km (The Hindu BusinessLine, n.d.) and 1267 Crore for Gaya- Bihar Sharif 92.93 Km four lane Buddhist Circuit road (The Economic Times, n.d.).

c. Bodhgaya Airport also known as Gaya Airport is 5 kilometer away from temple city of Bodhgaya. This is only International Airport in the state of Bihar. This airport is playing a bigger role for development of Buddhist tourism in Bihar. This is a seasonal and operates international flights primarily Buddhist tourist coming from Sri Lanka and South East Asian countries like Thailand, Vietnam, Myanmar, Cambodia, Laos, etc (Gaya Airport | AIRPORTS AUTHORITY OF INDIA, n.d.).

d. Bihar Urban Infrastructure Development Corporation (Urban Development & Housing Dept BUDDHA SMRITI PARK, n.d.) developed a Buddha Smriti Park in also known as Buddha Memorial Park in Patna to celebrate the 2554th birth anniversary of Lord Buddha, inaugurated by 14th Dalai Lama in 27th May 2010 (The Hindu, n.d.).

e. A Bangalore based company, named Prachin Bharat Tourism Technologies Pvt Ltd set up Nalanda Multimedia Museum, Bodhgaya Multimedia Museum and Laser show at Buddha Smriti Park Patna narrate the story of NalandaMahavihara and Buddha life of journey.

f. Government of India introduced Look East Policy and Act East Policy. The aim of

government will improve relationship between East Asian countries specially Buddhist country.

Above some of the important project has been directly impact on development of Buddhist tourism in Bihar. But some project sanction through Bihar government as well as central government does impact on Buddhist Tourism in Bihar.

Table.3: Government Project at Buddhist Destination in Bihar

Si No	Project	Place	Year	Amount (Crore)
1	Convention Centre	Bodhgaya	2018	145.00
2	JNNURM	Bodhgaya	2008	1333.79
3	Wildlife Safari	Rajgir	2018	60.00
4	Construction of New Ropeway	Rajgir	2018	20.18
5	Nalanda International University	Rajgir	2014	
6	Nalanda International Cricket Stadium& Sports Complex	Rajgir	2013	927.00
7	Buddha Museum And Stupa	Vaishali	2019	315.00

Source: (Bihar Vikash Mission& related District Data)

Conclusion & Suggestion

Buddhist Tourism can bring massive benefits for the state of Bihar due to Buddha enlightened in Bihar and spend most of time. Government of India framed Look East Policy and Act East Policy. There are two Buddhist monuments recognized as a world heritage site by UNESCO. Airport Authority of India developed Bodhgaya Airport as a international airport due to international Buddhist tourist came in Bodhgaya easily. Government of Japan financed for construction of road. In recent year state government focused more on Buddhist tourism and sanctions many project work for development of Buddhist tourism.

The image of Bihar is unsafe and security and safety are major problem in Buddha destination, lack of cleanness, behavior, corruption and terrorism, tourism infrastructure, begging and cheating. Role of Government is important to take concrete step for removal of above things.

Today Buddha is a brand for peace and Bodhgaya become land of enlightenment. Government should cash this opportunity and attract more and more tourist to visit Buddha footstep in Bihar. The role of government will participate of promotion activity, Cooperate with tourism board and its abroad public relations advisors, appoint advertisement agency, overseas advertisement, and arrange high profile chanting facility.

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HR ANALYTICS IN CRISIS TIMES OF RECRUITMENT IN ITES COMPANIES- A CASE STUDY**P. Narendar¹, M. Mishra²**¹Faculty of Business and Arts, Lovely Professional University, Phagwara, Punjab, India²Mittal School of Business, Lovely Professional University, Phagwara, Punjab**ABSTRACT**

HR Analytics is widening its scope and is playing a vital role in all the core activities of HR importantly in recruitment in ITES companies. The rise of HR Analytics is highly due to acceptance to implement by top management. In ITES companies especially the companies that provide technical support, recruitment seems to be a major problem during the year end. The present study discusses a case where descriptive, predictive and prescriptive analytics helps to overcome such problems of meeting the recruitment requirement which generally occurs due to increase in sales during festive season and festive holidays in foreign countries.

Keywords : Analytics, recruitment, implement, festive holidays, core activities

Introduction

To manage the human capital is the most important activity of HR and HR department always looks for opportunities to build strategies to meet the shortfall of manpower. In ITES companies due to high attrition rate, holidays in foreign countries and increase in sales of technical products, the companies find it hard to meet the demand of manpower during the year end. HR Analytics through its descriptive, predictive and prescriptive analytics plays a vital role in fulfilling such short fall of man power.

HR Analytics is applying statistical techniques to overcome the problems and to improve HR activities. Descriptive analytics helps in understanding the existing HRIS data, predictive analytics helps in identifying the needs of HR department such as no. of vacancies to be filled monthly, placing the right employee at right place..etc. and prescriptive analytics helps to overcome the problems of HR by strategic innovations.

To meet the HR department objectives by using HR Analytics is a challenging job as it requires strategic analytical skills with experience. An experienced resource with analytical knowledge can able to identify the key factors required to achieve the objectives and can analyze with the help of suitable statistical skills will certainly help the organizations. Most of the HR assume that it is easy to use HR Analytics customized software, however they should also understand that not only using is important but also understanding the key

factors and then rating such factors according to their contribution and then collecting the correct data and analyzing is a skillful job requiring high experience with common sense and hence need to achieve those skills also.

Literature Review

Momin, W. Y. M., & Mishra, K. (2015) brings out that the use of HR Analytics in helps in manpower planning and to develop future leaders. The use of HR Analytics gives the right information at right time. They also found that HR Analytics helps in reducing the attrition rate and gives value added training. The author has used multi dimensional approach.

Sue Lam Ben & Hawkes (2017) found that due to volatility in business, adoption to dynamic market conditions is required. They have conducted research in Shell corporation and found that the shift from physical interviews to digital mode have brought major improvement in the quality hires and better candidate experience. The researchers have used focus group interview method.

Ghosh(2014) analyses that talent analytics clubbed with strategic planning has positive effect on recruitment, staffing and attrition and recommends for effective implementation of strategic people analytics like cost reduction, finding the business metrics, understanding the business lines and integrated HRIS.

Chalutz Ben-Gal, H. (2019) reviews about HR analytics and its impact on return on investment. The author used integrative analysis

of literature along with practical implications that helps managers in understanding how to go ahead in implementing HR Analytics. The outcome indicated that the return on investment is higher in recruitment and selection.

Peisl T., Edlmann R. (2020) investigated about the acceptance of predictive analytics by the managers and behavior of the managers while using predictive analytics. The researcher used empirical research questionnaire and PLS-SEM model. The outcome of the study analyzed how far the managers behavior was effected by predictive analytics in daily routine.

Mamta Mohapatra (2017) using secondary data detected the hurdles in recruitment and metrics required to check the efficiency of employees based on parameters for recruitment strategies and suggested that companies should invest on training of employees on HR Analytics which helps in strategic decision making with the help of data. HR Analytics certainly removes the weak areas in recruitment.

Process In Detail

Most of the ITES companies conduct recruitment almost 365 days in a year due to high attrition rate and other factors. They conduct written test and then the selected profiles will be sent first either to Technical round or Soft skills round. The candidate has to clear both the rounds i.e technical round and soft skills round in order to go for final round i.e HR round. Then the candidate will be given offer letter after negotiations.

Role Of Big Data Through Hr Analytics

In traditional recruitment process there is a lot of money and time of resources is wasted. In modern recruitment process through the concept of Big Data and HR Analytics, HR started identifying the best possible way of recruitment which used to be a big challenge of every HR in recruitment. Before implementing the idea of HR Analytics, HR needs to understand company HR policies thoroughly so

that they can implement it in an efficient manner. Now the HR are very happy as HR Analytics not only reduced the recruitment costs but also helping the recruitment process in a very positive direction.

HR Analytics has given HR to analyze and use the available data in efficient manner. This has made HR to keep track of rejected profiles also. Now the HR started segregating the rejected profiles in the below manner

Technical Rejected Profiles	Soft skills Rejected Profiles
Technical Cleared Soft skills Cleared Profiles	Soft skills Cleared But Technical Rejected Profiles

And ITES recruitment process can be classified as

Voice based	Non Voice based
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This clear segregation of rejected profiles helps at crucial times like when there is huge recruitments normally in the months of November to January. Now if a company is looking for recruiting for voice based, they can choose ‘ Soft skills Cleared But Technical Rejected Profiles’ with a view that they can train them in technical but a candidate without communication skills with good technical skills may not be suitable as training in soft skills requires lot of time comparatively than technical training.

This segregation using HR Analytics has helped HR in fulfilling the recruitment gap in sense of volume.

Conclusion

This paper solves the problem of recruitment in crucial times by giving a right methodology how to modify the way of maintaining HRIS data. HR Analytics plays a role of Prescriptive Analytics. This has to be carefully designed after understanding the company policies.

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ANALYTICAL STUDY OF DIGITAL LENDING PROCESS OF BANKS & MSMEs**Utkarsh Chirag Shandilya¹ and Mohd. Farhan²**^{1,2}Mittal School of Business, Lovely Professional University, Phagwara, Punjab, India¹shandilya.utkarsh@gmail.com, ²farhan.18777@lpu.co.in

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ABSTRACT

In recent years the digital lending reports can be acts as a primary source to everyone to gain insights in the present scenario. Both in terms of the number of new age fintech start-ups and the emerging technologies leveraged. In this regard an attempt has been made to identify the challenges (Complex application procedure, Long processing times, Limited capital and Improper banking knowledge, Lack of transparency in loan process, Non Availability of Suitable technology) and opportunities (Re-innovate & Re-direct, Technological advancements, Innovative operating model, Cost Efficiency and Credit acquisition, Reduction of credit gap, Easy Banking) faced by the banks and MSMEs in digital lending process in NCR region of Delhi. The data has been collected from the 600 respondents from NCR Region and it is related to the demographic variables and challenges and opportunities and computing both descriptive and analytical statistical tools used to analyze the relationship between the challenges and opportunities and digital lending process. The results of this study reveal digital lending process is profitable to Banks & MSMEs. It is expected from a traditional money lender to adopt the digital lending process efficiently and use the new technology to decrease the processing time and to provide cost effective easy banking solution.

Keywords: Challenges and Opportunities, Digital Lending, Banks, MSMEs

I. Introduction

The process of digital lending consists series of activities that are undertaken by a financial service provider to offer credit and it will provides a large number of benefits to banks as well as MSMEs for improving customer experiences, increasing operational efficiencies, increasing opportunities for cross-selling, better cost savings & decisions. In India Banks and MSMEs face several challenges with high cost of credit. In the absence of sufficient financial support, they are unable to maintain the quality of standards in their competitive strengths and provide the protection to their intellectual property. They are facing risk with fast changing technology and becoming technologically obsolete. Finally, most of the studies have identified the challenges and opportunities faced by the banks and MSMEs and explore the availability & accessibility for promoting the growth of MSMEs in developing economies. In the India the pose inherent challenges (Complex application procedure, Long processing times, Limited capital and Improper banking knowledge, Lack of transparency in loan process, Non Availability of Suitable technology) and opportunities (Re-innovate & Re-direct, Technological advancements, Innovative operating model, Cost Efficiency

and Credit acquisition, Reduction of credit gap, Easy Banking) for financing to MSMEs as well banks due to lack of awareness of funding schemes among banks & MSME Entrepreneurs with limited role of NBFCs, venture capitalists, Angel investors, and initial public offerings in financing MSMEs.

II. Objectives Of The Study

- ❖ To study the problems faced by banks and MSMEs in Digital Lending.
- ❖ To analyze the factors affecting the Digital lending process of Banks and MSMEs.

III. Hypotheses Of The Study

H₀: There is significant relationship between the Opportunities and challenges of banks and MSMEs in Digital Lending Process.

1. H₁₀: There is no significant relationship between the Complex application procedure of banks and MSMEs in Digital Lending Process.
2. H₂₀: There is no significant relationship between the Long processing times of banks and MSMEs in Digital Lending Process.
3. H₃₀: There is no significant relationship between the Limited capital and Improper banking knowledge of banks and MSMEs in Digital Lending Process.
4. H₄₀: There is no significant relationship between the Lack of transparency in loan

process of banks and MSMEs in Digital Lending Process.

5. H₅₀: There is no significant relationship between the Non Availability of Suitable technology from banks and MSMEs in Digital Lending Process.

6. H₆₀: There is no significant relationship between the Re-innovate & Re-direct of banks and MSMEs in Digital Lending Process.

7. H₇₀: There is no significant relationship between the Technological advancements of banks and MSMEs in Digital Lending Process.

8. H₈₀: There is no significant relationship between the Innovative operating model of banks and MSMEs in Digital Lending Process.

9. H₉₀: There is no significant relationship between the Cost Efficiency and Credit acquisition of banks and MSMEs in Digital Lending Process.

10. H₁₀₀: There is no significant relationship between the Reduction of credit gap of banks and MSMEs in Digital Lending Process.

11. H₁₁₀: There is no significant relationship between the Easy Banking of banks and MSMEs in Digital Lending Process.

IV. Review Of Literature

Reynolds, P. D., and R. T. Curtin. (2009) explores condensed breakdown reasons for in the Panel Study of Entrepreneurial Dynamics (PSED). These components influence every one of the units, "the clarification for one unit becoming ill ought to be looked for inside that unit with reference to why there was disintegration in its ability to adjust to the adjustments in the earth. Consequently, the qualification amongst outer and inner causes does not appear to be applicable for pivot choices".

Ramdani, B., Kawalek, P. and Lorenzo, O. (2009), examined on small scale ventures different issues and the development dissected. "Advertising has been distinguished as a vital issue range influencing the development of the small-scale units. The focused qualities are past the compass of the small scale modern units. Thus, it is inferred that a legitimate association is fundamental in any type of business to conquer the troubles in the field of promoting". The desires separated, it had prompted deceleration of agribusiness development

influencing provincial employment in India. "They have to counter the unfair parts of globalization mutually from one viewpoint and bolster each other, on the other, by expanding intra-creating nation exchange and venture, in spite of the fact that the creating nations are a heterogeneous gathering.

Walsh, M. F., & Lipinski, J. (2009), consider the Marketing is the key function at the times of decisions are made. This study concludes marketing increases the influence of value to the firm and firm's entrepreneurial orientation and marketing departments have a responsibility to market the firm's products and services, the task of marketers marketing themselves to internal stakeholders.

Irwin, D., and J. M. Scott. (2010) explore the reasons for disorder phenomenon in raising finance in banks, i.e., Persevering money Scarcity, Always raising the present proportion model, offensive commitment on value proportions, defaults in repayments to banks, lenders, Government representatives and budgetary foundations.

Soumitra K Mallick, Amitava Sarkar, Kalyan K Roy, Tamal Dutta Chaudhuri & Anjan Chakrabarti (2010) analyzes the various properties of Non-Performing Assets (NPA) in Banks and in this study they identify the Bank loans can be considered as the primary sources of capital to MSMEs. This concludes that the NPA are significantly sticky over time and larger advances are associated with larger advances or vice versa.

Rao, Jagapathi (2010), reveals that the small scale industry (SSI) is a most dominant tool for creating "Productive Employment Opportunities" and achieving "Accelerated Industrial Growth" in the country. The SSI addresses the agents for facilitate mobilization of local resources and skills and extenuating regional imbalances and SSI acts as a producer of consumer goods and absorbers of surplus labour. This study concludes that the SSI sector has emerged as a dynamic and vibrant sector in the varied fields of production, employment and dispersed development of the Indian economy.

Dey, S. K. (2014) examines the effective tasks for connecting makers to new markets and Powerful undertakings with a vital condition and likewise absence of reasonable

involvement with venture Implementation. In business enterprise and projects, the term "progress" is advancing a more sensible way. The small manufacturers has progressed act of bolster innovation progressed since the mid 1970's.

Peng Wang, HaichaoZheng, Dongyu Chen, and Liangchao Ding, (2015), reveals the online lending system is a supplement to the traditional financial system which meets the financial needs of small and medium-sized enterprises. In this study trust and perception of information asymmetry are the important factors and also their impact affects the lenders loan process. This study concludes that there is significant difference between the online lending and online purchasing. Trust is significantly affected by the borrowers' reputation and information integrity & Information asymmetry has various causes, including structural assurance and legitimacy. Traditional e-commerce market cannot be applied in the field of online lending without verification.

Khan, G. J. & Dalu, S. R. (2015) acknowledges the advancement and improvement of SSI with the help of monetary power. Settling on choices & Statement of purpose helps to develop the firm abnormal destination among different parts of communication that influence the point configuration issues and it is a most noticeable point of the vital administration process in the light of condition, assets and abilities accessibility.

Ghatak, Shambhu (2016) explains the essential part required for upgrading nations is small scale industries and investigates the changes of arrangement with the expectation of increasing the quality of insistent small firms, concentrates on the comprehensive development of the potential areas. The framed segment system focuses on the creating units, relationship makers, clients, input providers, monetary establishments, Govt. and controls.

Rajeshkar, D. (2016) the concluded in India the small scale industries are exponentially expanded development at compounded rate and its current costs. Capital development, Asset preparation, monetary exchange, extensive business scale and other techniques will be

needed for the financial improvement of any nation.

Biswas, I (2016) inspecting the strategies, issues, trading prospects, non-sending out units and works on identifying with small scale industries to get acknowledged which have been neglected. This study concludes that the degree of rivalry is the important factor for selecting the potential market by sending out and non-trading units and buyers demographic factors and way of life are the key components in sending out units and non-experiential units for choosing the market.

Bidja, A. B., & Mandizvidza, K (2017) reveals that the connection between the focused needs and upper hands of small scale ventures and to enhance the needs of assembling firms. The study concludes that the aggressive need and upper hand will vary in view of the level of field in which the firm works.

Peterson K. Ozili (2018) explores the relationship between digital finance and economic crises to determine whether digital finance helps to propagate financial contagion during a crisis. This study determines the implications of digital finance for financial stability and financial inclusion through Fintech providers in emerging and advanced economies.

Subrahmanya, B. (2019) examines the benefits of maintaining the bookkeeping to the Small scale industries. This study identifies the most of the SSI doesn't have the bookkeeping records and drawn out stretch of time hence they feel that business isn't going great. This study concludes that for raising the capital requirement SSI is not equipped or store to list their organizations on the stock trade showcase.

V. Research Methodology

The study is both descriptive and analytical in nature and empirical analysis appropriate for the study based on survey method. The structured interview schedule method was chosen and it consists of about the Opportunities & Challenges and digital lending process of the respondents and sustainability with a sample size of 600 respondents from NCR region.

Statistical Tools Used:

Primary data collected was analyzed by using SPSS - 21 (Statistical Package for Social Science) Descriptive statistics, Simple Linear Regression

5.1. Limitations Of The Study

1. The study limited to NCR region only.

2. Some of the respondents are not interested to reveal the personal profile.

VI. Data Analysis and Interpretation

H1₀: There is no significant relationship between the Complex application procedure of banks and MSMEs in Digital Lending Process.

Table 1: Regression Model for the complex application in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.090 ^a	.008	.006	1.3506	4.866	1	596	0.02

a. Predictors: (Constant), Complex application procedure. b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H1₀ is tested by using simple linear regression. The above table 1 reveals that the predictor variable (Complex application procedure) contribute significantly and it has moderate impact on the Digital

Lending process (R²= 0.090). The ANOVA value (F =4.866, p=0.020) for the regression model had indicated the validation with Digital Lending process.

Table 1.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with complex application Procedure

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.803	.146	-	19.218	.000
	Complex application procedure	.094	.043	.090	2.206	.028

a. Dependent Variable: Digital Lending

The above table reveals that the Beta values of the Complex application procedure (β=0.094, t=19.218, p=0.000) was significant predictor of Digital Lending process. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis was rejected,

The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 2.803 + 0.094 (\text{complex application Procedure}) X.$$

H2₀: There is no significant relationship between the Long processing times of banks and MSMEs in Digital Lending Process.

Table 2: Regression Model for the Long processing times in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.121 ^a	.015	.013	1.3461	8.874	1	596	0.003

a. Predictors: (Constant), Ineffective marketing strategy b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H2₀ is tested by using simple linear regression. The above table 2 reveals that the predictor variable (Long processing times) contribute significantly and it has moderate impact on the Digital Lending

process (R²= 0.121). The ANOVA value (F =8.874, p=0.003) for the regression model had indicated the validation with Digital Lending process.

Table 2.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Long processing times

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.724	.138	-	19.742	.000
	Long processing times	.121	.041	.121	2.979	.003

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table reveals that the Beta values of the Long processing times ($\beta=0.121$, $t=19.742$, $p=0.003$) was significant predictor of Digital Lending process. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H_{20} was rejected, The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 2.724 + 0.121 (\text{Long processing times}) X.$$

H_{30} : There is no significant relationship between the Limited capital and Improper banking knowledge and MSMEs in Digital Lending Process.

Table 3: Regression Model for the Limited capital and Improper banking knowledge in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig.
1	.138 ^a	.019	.017	1.3415	11.576	1	596	0.001

a. Predictors: (Constant), No sufficient Appetite for Credit b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H_{30} is tested by using simple linear regression. The above table 3 reveals that the predictor variable (Limited capital and Improper banking knowledge) contribute significantly and it has moderate

impact on the Digital Lending process ($R^2=0.138$). The ANOVA value ($F=11.576$, $p=0.001$) for the regression model had indicated the validation with Digital Lending process.

Table 3.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Limited capital and Improper banking knowledge

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.617	.153	-	17.077	.000
	No sufficient Appetite for Credit	.155	.045	.138	3.402	.001

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table reveals that the Beta values of the Limited capital and Improper banking knowledge ($\beta=0.155$, $t=17.077$, $p=0.001$) was significant predictor of Digital Lending process. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H_{30} was rejected,

The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 2.617 + 0.155 (\text{No sufficient Appetite for Credit}) X.$$

H_{40} : There is no significant relationship between the Lack of transparency in loan process of banks and MSMEs in Digital Lending Process.

Table 4: Regression Model for the Enabling Regulatory Environment in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.088 ^a	.008	.006	1.3508	4.662	1	596	0.031

a. Predictors: (Constant), Enabling Regulatory Environment b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H₄₀ is tested by using simple linear regression. The above table 4 reveals that the predictor variable (Lack of transparency in loan process) contribute significantly and it has moderate impact on the

Digital Lending process (R²= 0.088). The ANOVA value (F =4.662, p=0.031) for the regression model had indicated the validation with Digital Lending process.

Table 4.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Enabling Regulatory Environment

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.836	.134	-	21.129	.000
	Lack of transparency in loan process	.099	.046	.088	2.159	.031

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table reveals that the Beta values of the Lack of transparency in loan process(β=0.099, t=21.179, p=0.031) was significant predictor of Lack of transparency in loan process. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H₄₀was rejected,

The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 2.836 + 0.099 (\text{Enabling Regulatory Environment}) X.$$

H₅₀: There is no significant relationship between the Non Availability of Suitable technology from banks and MSMEs in Digital Lending Process.

Table 5: Regression Model for the Non Availability of Suitable technology in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.090 ^a	.008	.006	1.3521	4.877	1	597	0.028

a. Predictors: (Constant), Non Availability of Suitable technology b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H₅₀ is tested by using simple linear regression. The above table 5 reveals that the predictor variable (Non Availability of Suitable technology) contribute significantly and it has moderate impact on the

Digital Lending process (R²= 0.090). The ANOVA value (F =4.877, p=0.028) for the regression model had indicated the validation with Digital Lending process.

Table 5.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Non Availability of Suitable technology

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.398	.147	-	23.099	.000
	Non Availability of Suitable technology	.108	.049	-.090	-2.208	.028

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table reveals that the Beta values of the Non Availability of Suitable technology ($\beta=0.108$, $t=23.099$, $p=0.028$) was significant predictor of Non Availability of Suitable technology. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H_{50} was rejected,

The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 3.398 + 0.108 (\text{Non Availability of Suitable technology}) X.$$

H_{60} : There is no significant relationship between the Re-innovate & Re-direct of banks and MSMEs in Digital Lending Process.

Table 6: Regression Model for the Re-innovate and Re-direct in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.111 ^a	.012	.011	1.3461	7.413	1	596	0.007

a. Predictors: (Constant), Re-innovate and Re-direct b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H_{60} is tested by using simple linear regression. The above table 6 reveals that the predictor variable (Re-innovate & Re-direct) contribute significantly and it has moderate impact on the Digital Lending

process ($R^2= 0.111$). The ANOVA value ($F =7.413$, $p=0.007$) for the regression model had indicated the validation with Digital Lending process.

Table 6.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Re-innovate and Re-direct

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.774	.133	-	20.823	.000
	Re-innovate & Re-direct	.115	.042	.111	2.723	.007

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table 6.1 reveals that the Beta values of the Re-innovate & Re-direct ($\beta=0.115$, $t=20.823$, $p=0.007$) was significant predictor of Re-innovate & Re-direct. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H_{60} was rejected,

The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 2.774 + 0.115 (\text{Re-innovate and Re-direct}) X.$$

H_{70} : There is no significant relationship between the Technological advancements of banks and MSMEs in Digital Lending Process.

Table 7: Regression Model for the Technological advancements in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.089 ^a	.008	.006	1.3538	4.81	1	596	0.029

a. Predictors: (Constant), Technological advancements b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H_{70} is tested by using simple linear regression. The above table 7 reveals that the predictor variable (Technological advancements) contribute significantly and it has moderate impact on the

Digital Lending process ($R^2= 0.089$). The ANOVA value ($F =4.81$, $p=0.029$) for the regression model had indicated the validation with Digital Lending process.

Table 7.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Technological advancements

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.363	.135	-	24.919	.000
	Technological advancements	.099	.045	.089	2.193	.029

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table 7.1 reveals that the Beta values of the Technological advancements ($\beta=0.099$, $t=24.919$, $p=0.029$) was significant predictor of Technological advancements. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H_{70} was rejected,

The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 3.363 + 0.099 \text{ (Technological advancements) X}$$

H_{80} : There is no significant relationship between the Innovative operating model of banks and MSMEs in Digital Lending Process.

Table 8: Regression Model for the Innovative operating model in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.116 ^a	.013	.012	1.3454	8.082	1	595	0.005

a. Predictors: (Constant), Innovative operating model b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H_{80} is tested by using simple linear regression. The above table 8 reveals that the predictor variable (Innovative operating model) contribute significantly and it has moderate impact on the Digital Lending

process ($R^2= 0.116$). The ANOVA value ($F=8.082$, $p=0.005$) for the regression model had indicated the validation with Digital Lending process.

Table 8.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Innovative operating model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.753	.135	-	20.353	.000
	Innovative operating model	.125	.044	.116	2.843	.005

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table 7.1 reveals that the Beta values of the Innovative operating model ($\beta=0.125$, $t=20.353$, $p=0.005$) was significant predictor of Innovative operating model. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H_{80} was rejected,

The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 2.753 + 0.125 \text{ (Innovative operating model) X}$$

H_{90} : There is no significant relationship between the Cost Efficiency and Credit acquisition of banks and MSMEs in Digital Lending Process.

Table 9: Regression Model for the Cost Efficiency & Credit acquisition in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.106 ^a	.011	.010	1.3500	6.802	1	597	0.009

a. Predictors: (Constant), Cost Efficiency & Credit acquisition b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H₉₀ is tested by using simple linear regression. The above table 9 reveals that the predictor variable (Cost Efficiency and Credit acquisition) contribute significantly and it has moderate impact on the

Digital Lending process (R²= 0.106). The ANOVA value (F =6.802, p=0.009) for the regression model had indicated the validation with Digital Lending process.

Table 9.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Cost Efficiency & Credit acquisition

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.760	.140	-	19.649	.000
	Cost Efficiency and Credit acquisition	.114	.044	.106	2.608	.009

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table 9.1 reveals that the Beta values of the Cost Efficiency and Credit acquisition ($\beta=0.114$, $t=19.649$, $p=0.009$) was significant predictor of Cost Efficiency and Credit acquisition. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H₉₀ was rejected,

The simple linear regression equation as follows

Digital Lending (Y) = 2.760+ 0.114 (Cost Efficiency & Credit acquisition) X.

H₁₀₀: There is no significant relationship between the Reduction of credit gap of banks and MSMEs in Digital Lending Process.

Table 10: Regression Model for the Reduction of credit gap in Digital Lending Process

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.128 ^a	.017	.015	1.3432	9.985	1	595	0.002

a. Predictors: (Constant), Reduction of credit gap b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H₁₀₀ is tested by using simple linear regression. The above table 10 reveals that the predictor variable (Reduction of credit gap) contribute significantly and it has moderate impact on the Digital Lending

process (R²= 0.128). The ANOVA value (F =9.985, p=0.002) for the regression model had indicated the validation with Digital Lending process.

Table 10.1: Predictor effects and Beta Estimates (Unstandardized) for Digital Lending associated with Reduction of credit gap

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.491	.134	-	25.993	.000
	Reduction of credit gap	.133	.042	.128	3.160	.002

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table 10.1 reveals that the Beta values of the Reduction of credit gap ($\beta=0.133$, $t=25.993$, $p=0.002$) was significant predictor of Reduction of credit gap. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H₁₀₀ was rejected,

The simple linear regression equation as follows

Digital Lending (Y) = 3.491+ 0.133 (Reduction of credit gap) X.

H₁₁₀: There is no significant relationship between the Easy Banking of banks and MSMEs in Digital Lending Process.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	ANOVA Results			
					F	df1	df2	Sig
1	.090 ^a	.008	.006	1.3537	4.899	1	598	0.027

a. Predictors: (Constant), Easy Banking b. Dependent Variable: Digital Lending

Source: Authors' compilation

The above hypothesis H10₀ is tested by using simple linear regression. The above table 10 reveals that the predictor variable (Easy Banking) contribute significantly and it has moderate impact on the Digital Lending

process (R²= 0.090). The ANOVA value (F =4.899, p=0.027) for the regression model had indicated the validation with Digital Lending process.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.841	.127	-	22.423	.000
	Easy Banking	.080	.036	.090	2.213	.027

a. Dependent Variable: Digital Lending

Source: Authors' compilation

The above table 11.1 reveals that the Beta values of the Easy Banking ($\beta=0.080$, $t=22.423$, $p=0.027$) was significant predictor of Easy Banking. The results were implicit that predictor variable was related with dependent variable. The p-value was less than 0.05, hence null hypothesis H11₀ was rejected, The simple linear regression equation as follows

$$\text{Digital Lending (Y)} = 2.841 + 0.080 (\text{Easy Banking}) X.$$

VII. Findings, Suggestions & Conclusions

The analysis of the study reveals that the all the factors in both challenges (Complex application procedure, Long processing times, Limited capital and Improper banking knowledge, Lack of transparency in loan process, Non Availability of Suitable technology) and opportunities (Re-innovate & Re-direct, Technological advancements, Innovative operating model, Cost Efficiency and Credit acquisition, Reduction of credit gap, Easy Banking) has moderate impact over digital lending.

7.1 Suggestions

1. It is suggested to the banks & financial institutions to reduce complex application procedures in the process of digital lending.
2. It is suggested to the banks & financial institutions have to conduct large number of orientation programmes for creating awareness

about the various financial schemes to the MSME entrepreneurs.

3. It is suggested to the banks & financial institutions have to introduce technological advancements Easy banking system in digital lending process.

4. From time to time industrial policies should be assessed and reviewed.

7.2 Conclusion

The government of India has introducing the MSMED (Micro, Small and Medium Enterprises) Act for interest of the entrepreneurs and it is the backbone of the Indian economy. The various programmes and schemes are introduced to the MSMEs sector in the country. The analysis of the study concludes that the factors including in the opportunities (Complex application procedure, Long processing times, Limited capital and Improper banking knowledge, Lack of transparency in loan process, Non Availability of Suitable technology) challenges (Re-innovate & Re-direct, Technological advancements, Innovative operating model, Cost Efficiency and Credit acquisition, Reduction of credit gap, Easy Banking) faced by the banks and MSMEs having significant relation in digital lending process. Digital lending process is profitable to Banks & MSMEs. It is expected from a traditional money lender to adopt the digital lending

process efficiently and use the new technology to decrease the processing time and to provide cost effective easy banking solution.

VIII. Managerial Implication

The results of this study reveal digital lending process is profitable to Banks & MSMEs. The study provides analyzed inputs for Banks while

developing Digital Lending Products and services for MSMEs. It is an insight of relative factors and their impacts on digital landing process. The findings of this study may be used by Financial Institutions and Digital Lending departments to design, develop and implement better Digital lending services for MSMEs.

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INFORMATION TECHNOLOGY, ITS IMPACT ON THE GREEN HUMAN RESOURCE MANAGEMENT: A REVIEW

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ABSTRACT

Green Human Resource Management is an integration of Environment management practice along with Human resource culture. Now a day, the importance of Green human resource management is being understood and incorporated by different organizations at a great rate. Implementation and application of IT in HRM practice will create e-HRM. There has been a tremendous enhancement in the Green Human Resource Management during the last few years. IT plays an important role in the development of Green Human resource management practice worldwide like Green recruitment, Green training and Development, Green data storage, Green performance appraisal, Green HR records, all are byproducts of Information technology. The application of e-HRM enables the organizations to reduce their costs and investment, and use their resources for the betterment of the environment. Organizations that use IT in HRM practice the objective to enhance environmental outcomes. They, in turn, have gained customer satisfaction which has eventually increased their performance. Technological advancement is one of the driving forces for environmental sustainability. Thus, e-HRM has a direct impact on the environmental performance.

Keywords: GHRM, Green HR, Green HRM, e-HRM

1.0 Introduction

At present day, it has been observed that the green policies and its various practices are utilised in smart decision making in a business. Going green becomes a good trend in the business strategy. The green HR policies and practices help in branding and enhancing the revenue for a business firm. It also helps in making cost reduction strategies for a business as well. Further, green HRM practices support the system to retain efficient employees within the organization. The significance of green HRM practice thus lies to maintain environmental sustainability and to develop the confidence and work satisfaction for an employee in the business. This study analyses the impact of the information technology in the case of green HR system. It also discusses some negative aspects of the green HRM and also the importance of the green HRM in the organization and its employees.

2.0 Literature Review

Halawi and Zarakat (2018) in their study observed that role of the organization becoming challenges in facing their stakeholders. In this scenario, adopting green HRM practice can change the business perspectives. The authors have investigated

that green HRM practices may have a strong impact on employee work behaviour as well.

Sharanya and Radhika (2016) in their study have found the importance of the green HR practices in the field of Information Technology. The authors have also identified the perception of green HR practices in employees and employee awareness for these types of management strategies(Sharanya & Radhika, 2018).

Ahmed (2015) in his study has investigated the functionalities of green HRM in the organization. He also mentioned and suggested some potential and prolific HR initiatives with respect to the green organization(Ahmed, 2017).

Vahdati and Vahdati (2017) in their study have identified the barriers in green HRM practices to help the managers to avoid such obstacles. They have mentioned that there are two factors in an organization which develop the personality and upbringing which may have the highest effect in the green HRM practices. If those factors can be implemented effectively, employees can show more interest in green behaviour in an organization(Vahdati & Vahdati, 2018).

Bombiak and Marciniuk-Kluska (2018) in their study found the correlation within the evaluation of the impact of the individual activity of the green HRM in the case of

sustainable development of the company and its practical implementation. They also investigated the factors which have a direct impact of the green HRM policies and practices for the sustainable development in the organization (Bombiak & Marciniuk-Kluska, 2018).

2.1 Objective of Research

The objectives are as follows:

- To explore the impact of Information Technology in Human Resources (Green HR)
- To explore the implications of Green HRM on Organization and employees.
- To explore the negative aspects of Green HRM

3.0 Methodology

Only secondary data is utilised for this study. This study depends on the qualitative analysis. For these different sources, like books, websites, newspapers, peer-review journals are used to investigate the data related to green HRM and the impact of information technology on green HRM practices. All those data collected are analysed and provides a relevant discussion based on the implications of the green HRM in the organization and employee behaviour.

4.0 Results and Discussion

This section of the study elaborates the viewpoint according to the objectives of the study from various literature review and findings from the articles based on the impact of the information technology on the practices and policies of green HRM. The implication and the negative effects of the green HRM are also verified and discussed as follows:

4.1 Impact of Information Technology in Human Resources (Green HR)

According to Mampra (2013), green HRM is defined as the usage of HRM policies which can encourage for sustainable issues of resources with the business enterprises and that can promote every cause for the environmentalism. It can boost up employee morale as well as his work satisfaction (Zhang, et al., 2019).

On the other hand, information technology has a significant impact on human resource

management. It has a direct impact on Green recruitment, Green training and Development, Green data storage, Green performance appraisal, Green HR records etc. The organization can conduct the green campaign through various HR programs for the employee so that they can aware of effectiveness along with various issues of green HR. The sustainability and the environmental affair are considered as the important drive for HRM practices. Cherian and Jacob (2012) have pointed out that the organization can pay positive attention in order to green the functions of human resource management in respective to production (Halawi & Zaraket, 2018). For this, it needs to generate positive performance. On the other hand, information technology is considered as the most significant industry in a global perspective. Good practice in human resource management is found to encourage the IT professionals for being more productive and that can enjoy other activities as well. The green HR initiative can help the organization for finding out any alternative ways of cutting down the cost. This can minimise the reduction of the usage of the papers by the implementation of digital processes (Mamoudou & Joshi, 2016). Thus, green HRM practice can be utilised as a cost-effective way for which the revenue of the organization can increase. It can help in saving energy as well.

Green Training and Development

The green practices in employee training and development have the purpose to enhance the awareness and knowledge of the employee based on environmental issues. It can build a positive attitude and can take a proactive approach to environmental concerns. It also develops the competencies for conserving the energy along with it can reduce the waste. The employee training and the development programs should provide to overcome the issues pertaining to social and environmental causes. They should provide the training to take action according to the strategic sustainability for the improvement of the working condition (Sharanya & Radhika, 2018).

Green Data Storage

Information technology provides the security of the data storage system to the organization through big data, cyber-physical system, Internet of Things or cloud computing mechanisms. The necessity of integration of green HRM and IT system is realised for the sake of strengthening the sustainability of the organization (Dao, et al., 2016).

Green Performance Appraisal

Performance management is the key practice in human resource management in order to promote environment behaviour and in sustainable development. Gholami et al (2016) have emphasized on advocating green performance management. According to Opatha and Arulrajah (2014), it can advocate evaluation for the job performance of the employee based on the green-related criteria. E-performance management system can be applied as the effective green HRM practice so that it can measure the environmental performance of the employee effortlessly (Opatha & Arulrajah, 2015). It can be maintained as the separate components which need progression based on the performance feedback interview by implementing Green Performance Management or GPM. It has been observed that the green performance appraisal system should be implemented so judge the individual so that there is the necessary increment in work-efficiency (Peerzadah & Mufti, 2018).

Green HR records

E-HR records and the E-HR technology can be utilised as the green HR practices which can reduce the paper usage. It also helps in tracking the performance records of the employee in an effective way (Gopala & Mouli, 2019).

Besides these, information technology is used as the green commuting habit in the organization. In this case, car-sharing process, telecommunication or video conferencing etc are implemented for effective communication system among the employer, employees and the stakeholders (Rawashdeh, 2018).

Therefore, by applying the effective tools and techniques of the information technology in human resource management, it is possible to

reduce the extra cost and increase the savings in perspective to the operational expenditure.

4.2 Implications of Green HRM on Organization and employees

Green HRM practices are found to understand the manifesto as it will help in the creation and development of Green employees. According to Opatha and Arulrajah (2014), there are four roles which are necessary to become a green employee. Those are maker, preservationist, conservationist and non-polluter. Besides these, the purpose of this green HRM in an organization is to create, increase and retain the green insights in every employee so that he or she can provide maximum contribution while working on each of those pre-mentioned roles. It has been observed that the requirements of green HR include the green competencies, the green results, green attitude and also green behaviours. According to Renwick et al (2013), the green HRM can be augmented for enhancing the green behaviours, its attitude and the capabilities of the employees. The policies are implemented in such a way that it can motivate the employee to think green (Ahmed, 2017). Muller-Carmen et al (2010) have elaborated that the green HRM in the organization may be found to involve as the integration process for the environmental management of the company. It is very much necessary to analyse the green performance of the job as the HRM functions which can be adapted or modified to become green in the management practices (Halawi & Zaraket, 2018). Further, this green HRM system is utilised for gaining customer satisfaction along with reducing the costs for the organization. It helps to increase the investment in the right places for which the resources of an organization can be utilised for the betterment of the environment.

Some of the green HRM practices in the organization are discussed as follows:

Green employee involvement

This involvement can be defined as the creation of the environment for which people can impact decisions along with the actions that can affect jobs. The involvement of the employee can be considered as the continuous process in order to take the suggestions from

the employees under various cases of environmental strategies. This can involve in collecting the feedback from those employees which can improve their existing practices. It is found to act as the motivation tool for making the employees in the case of responsibilities and that can improve the cooperation of greening the organization. According to Philips (2007), it is observed that employee participation in green HRM practice is due to prevent pollution from the workplace (Mamoudou & Joshi, 2016). For this reason, it is necessary to encourage employee involvement and their participation in the organization for seeking the entrepreneurs in a company. Those entrepreneurs are known as eco-intrapreneurs. The ability to organize the existing financial, human along with the natural resources can be found inside these eco-intrapreneurs. Besides these, the employee involvement in green HRM practices can improve the key outcome of the environmental management for efficient usage of the resources, It can reduce the waste along with it can reduce the pollution from the workplace (Rawashdeh, 2018).

Cost-effectiveness and increasing investment

The organization incorporates the green HR philosophy by recycling and reducing the carbon footprint. It is used and helped to produce green products. HR managers can create awareness about the green movement among the employees to increase investment. They encourage retaining the natural resources and thus HR manager uses low-cost tools which is very much effective for the organization. It helps the firm to cut the extra cost so that it can gain its target with a faster rate (Sheikh, et al., 2019).

Customer satisfaction

For an organization, it is very much important to mitigate the customers' needs. Green HRM supports the organization in maintaining long-term relationships with its stakeholders and customers. The development of several opportunities leads to the enhancement of the profit maximization of the organization and thereby, stakeholders get satisfied by receiving a good return from the firm. Consequently, innovation in products development is

maintained through employer branding. It supports the customers to believe the organization products and services (Wikhamn, 2019).

4.3 Negative aspects of Green HRM

The green HRM is considered as the combination of environmental management and HRM practices in an organization. In one hand green HRM practice can be worked as the benefit of the organization, but at the other hand, to achieve and implementing the system of green HRM, the organization has to come across several obstacles. All those are considered as the negative aspects of this green HRM system (Vahdati & Vahdati, 2018).

Requirements of large investment to implement green HRM system

In case of a small-business or a homeowner, it requires a huge amount to invest for the installation of energy-efficient green and sustainable HRM system. In most of the cases, the large organization implements this system for betterment of its policies. Hence, the small organization needs more time to achieve those environment standards. The growth path of small business becomes slower as compared to the large organization (Mamoudou & Joshi, 2016).

People needs to acknowledge the green Technology in faster rate

Green HRM system is based on the advancement of the information technology. Hence, people need to have high level of knowledge to get selected in the large organization. Organizations have to maintain its process management and thus it can only select employees through convenience sources or renowned universities. Additionally, an organization has to be hired the people who has positive interest in sustaining the environment (Bombiak & Marciniuk-Kluska, 2018).

Required to set up a green orientation program

For a large organization, it can be easier to set-up green orientation program and training for its employees. But for a small business, many of times, it is not possible to grow the knowledge and efficiency of employees by setting up training centers separately. For those

small organizations, it takes some times, to grow the knowledge and efficiency of the employees (Ahmed, 2017).

Needs to keep reputation

Adopting the environmentalism and the green HRM practice, organization achieves better public image and a good productive business process. Once the reputation of the organization becomes high, it is needed to maintain by applying a continuous process of green HRM practice. Sometimes, it may be found to follow difficult the same reputation for companies due to strong competitions in market (Vahdati & Vahdati, 2018).

5.0 Conclusion

This study thereby elaborates all the objectives by thorough research. The green HRM practice is necessary to maintain for the organization as it can only provide a way out to cut the extra cost together with it can save extra energy. The

involvement of the employee in the organization can be enhanced by implementing the green HRM practices through the reward or compensation system. The E-HR, E-selection tools and techniques has shown that there is a great impact of the information technology in the green HRM practices. The communication system becomes much easier now by applying the various digital communication systems inside or outside the organization. It helps to conduct a meeting at any time with the valuable stakeholders and the employer. But, at the same time, it is needed to be clear on the implementation of the green HRM practice. Once the organization achieves a good brand name by applying this green HRM policies and practices, it is needed to continue because of its reputation. Sometimes, installation charges of green HRM system can be cost-effective and this can only be followed by the high revenue-generating company only.

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IMPORTANCE AND ACADEMIC VALUE OF INDUSTRIAL TRAINING – A STUDY ON HOTEL MANAGEMENT CURRICULUM

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ABSTRACT

Bachelor level programs in the field of hotel management are offered at various universities and institutes throughout India; one common and essential component of these courses is industrial training for students pursuing undergraduate degrees in the field of hotel management. Industrial training is provided in all four major operational departments of the hotel, which aids in the development of students' interpersonal and technical skills in all four departments. The purpose of this research paper is to investigate the need and importance of an industrial training program for hotel management students. This paper will also attempt to identify any gaps in the academic curriculum and industry requirements. The result of the study will be useful for students, hotel management institutions and hotels who would be hiring the industrial trainees.

Keywords: Industrial Training, Academic Curriculum, Need and Importance

Introduction

Industrial training is an important part of hotel management curriculum which combines classroom education and real-world experience, in other words it helps students to practice all the things that has been taught in class. This not only helps in development of skills but also changes students' behaviour (McClelland, 2002). All universities in India have industrial training as an essential component of their hotel management curriculum, the duration of which ranges from 18 to 24 weeks.

The primary goals of the industrial training program for hotel management courses are as follows:

1. To provide students with real-world work experience.
2. To assist students in acquiring skills that will help them advance in their careers.
3. Applying what you've learned in the classroom to the hotel industry
4. To boost students' self-esteem and morale.

Benefits to the students

Industrial training provides significant benefits to students since it develops a variety of talents in them that go beyond classroom learning. These skills are helpful for students when they compete for a final place in their academic course. (P. Barron, 1993)

Benefits for the Universities and Higher Educational Institute

The process of industrial training also benefits universities and higher educational institutes because it provides a platform for universities and higher educational institutes to develop links with industry, which will aid them in final placements of students and serve as a medium for establishing academic reputation. (Walo, The latest win-win strategy in recruiting hotel staff, 1999)

Benefits for the organization

Organizations providing industrial training can quickly identify trainees or students who are quick to respond to the training process, as a result of which they have grown skills throughout their time in the programme. In this method, a firm can quickly identify potential employees who are qualified to work for their well-known hotel brand. Training has a number of advantages, including improving team and individual performance, increasing production, and improving the abilities of industrial trainees, all of which can help a company improve overall output.

Review of Literature

Internship training is a crucial academic prerequisite in Indian tourism and hospitality curricula. Graduates from a successful travel and tourism academic program have high-quality learning, knowledge, skills, and the capacity to satisfy the industry's needs (F. Zhao,

2004). To do this, a strong focus has always been placed on students acquiring practical experience outside of the classroom learning setting (Samenfink, 2002)

Students in all disciplines benefit from training. This is because it aids in the development of communication and managerial abilities, as well as confidence and job placement. Our course curriculum should also be reoriented toward practical knowledge and the art of doing things, according to our findings.

Internships can help students prepare for careers in the hospitality sector by allowing them to learn about working conditions and form relationships with coworkers and superiors (C.Giousmpasoglou, 2013). Students' ability and confidence to work with people, their knowledge of how the sector operates, their ability to adapt to changes, their leadership, and their financial management skills all improve dramatically after they complete their internships (Ching, 2007). Students can also acquire insight into their careers, allowing them to make more educated judgments about the opportunities available to them (Y.J.Lee, 2014) and for many, an internship can serve as a stepping stone to full-time work (A.B.Collins, 2002).

Furthermore, internships not only provide better career and professional advancement chances, but also the ability to network within the business by establishing personal contacts. (Chillas, 2014). Internships assist students develop their abilities to deal with a diverse group of people in a corporate setting and provide them with the opportunity to work with professionals in their chosen industry (R.parker, 2004). Internships are beneficial in the development of soft skills such as interpersonal and professional abilities. Internships can assist students gain self-confidence and exposure to see if their chosen career is a good fit for their interests and personality (C.L.Dorbatz, 2014). (Dobratz et al., 2014).

"An internship system is not only an important shortcut for students to adapt to the actual workplace, but also a tool for students to test the suitability of the business, calling it integral to curriculum preparation," (M.S.Hsu, 2012) remarked.

Students' ambitions to pursue a profession in travel and hospitality can be favourably influenced by successful work experiences.

First impressions made during internships can have a big impact on undergraduates' perceptions about career choices in the hospitality and tourism business, which can either help or hurt the industry's reputation. (Park, 2013).

Students' industrial/internship training is extremely beneficial to students, colleges, teachers, and organisations because students gain a practical understanding of how to do their jobs, which allows teachers to more easily explain various subjects to students and also helps them learn how to work on the job without the need for additional training (D.Olumese, 2016).

Students receive training that they would not receive in college; they have the opportunity to interact with guests and understand how actual hotel work is done. Trainees are required to report to their supervisor on a daily basis about what they did and learned, and they are then assigned new work to learn (K.M.Sailaja, 2017). The duration of industrial training serves as a platform for university and higher education students to expand all knowledge and skills, including technical and non-technical skills, and to gain as much industry knowledge as possible for their future development, allowing students to be shown in the industry and eventually get hired after completing the course (Azamia, 2019).

Research Methodology

Secondary Data: - These have been taken from books, internet & other reliable research paper to analyse the data for our research.

Conclusion

The importance of industrial training in undergraduate hotel management courses cannot be overstated. According to the research, industrial training is a vital aspect of the hotel management undergraduate program's curriculum because it helps students enhance their professional skills.

There are certain gaps between academic curriculum and industrial requirements, according to the study, and some efforts should be done to enrich curriculum to match

contemporary industry requirements. Students are unaware of various raw materials, equipment, and software that are commonly utilized in the sector. Overall, industrial

training is vital for the curriculum of hotel management courses, and minor changes to the curriculum can be made with the help of industry experts and academicians.

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PSYCHOTHERAPY: THE DYNAMIC WAY OF SPORTS TO ENHANCE MENTAL TOUGHNESS FOR INJURED PLAYERS

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ABSTRACT

**“Physical Strength will get you to the Start line,
But Mental Strength will get you to Finish line.”**

The success or failure of an athlete is multifaceted. It is determined by a number of factors, including physical, tactical, technical, and psychological ones. In most sports, the psychological aspect is the deciding factor between a victor and a loser. Mental toughness is a collection of psychological traits that are required for peak performance. Mental toughness has been acknowledged by players, coaches, and sports psychologists as one of the most essential psychological variables in sports performance. Over the last few decades, numerous studies have been conducted to study the role of mental toughness in sporting success. Everything can now be treated in the comfort of psychotherapy, whether it's a fracture, dislocation of joints, sprains or strains that send players into deep melancholy, disorder, or worry. The goal of this research is to look at one of the newer definitions and conceptualizations of psychotherapy. As a result, the study focuses on how sports psychotherapy improves the mental toughness of injured sportsmen and how mental toughness may be cultivated through sports psychotherapy.

Keywords: Psychotherapy, Mental toughness, Counselling, Injuries, Cogitative development etc.

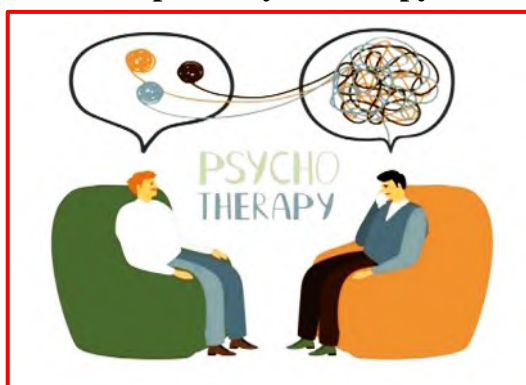
Introduction

Mental toughness (MT) has turned into a well-known space of examination and practice inside sport and exercise psychology in the course of recent many years. Since the turn of the twenty first century, there have been many investigations distributed on mental toughness, yet concerns stay about the conceptualization and measurement of mental toughness. Psychological characteristics are currently normally acknowledged as being significant supporters of achievement inside the space of sporting performance - persuasive elements, self-confidence levels, and the capacity to adapt to and interpret anxiety-related manifestations as help under tension (Cuijpers, et al 2008). This study looked into the many aspects of mental toughness as disclosed by 130 master

mentors and 140 athletes representing 20 different sports. An inductive substance investigation was used to dissect the written assertions of coaches and athletes.

Motivation, coping skills, confidence, cognitive ability, discipline and goal-directedness, competition, physical and mental prerequisites, group solidarity, preparedness abilities, psychological strength, rigid sentiments, and ethnicity are all elements that contribute to mental toughness. (Markser 2011) Fixation was considered as the most important characteristic by the coaches, while persistence was viewed as important by the players. Coaches gave coaches and sport psychologists a higher rating than players for their ability to reinforce mental toughness traits.

Sports Psychotherapy



Mental Toughness can be Taught



Source: <http://imgres/imgurl.com> (Fig 1)

Psychotherapy assists both experienced and inexperienced athletes in overcoming challenges, improving their presentation, and achieving their goals. Athletes of all levels can benefit from sports psychotherapists assistance in dealing with competition-related stress. They can help athletes regain control and perform at their best under pressure by using coaching tactics like as representation, goal setting, time management, and self-talk. Psychotherapy sessions are planned to assist injured sportsmen in re-establishing a better balance between mental and physical preparedness. (Currie et al 2021) They can help any athlete improve their execution and the pleasure they get from snorting. Players who have been afflicted by difficult life events, worry, and negative self-talk, for example, may find that these issues fade away, and their performance and enjoyment in sports return. Beyond these anticipated game benefits, the skills taught in sports psychotherapy meetings and practised at home can be applied to a player's complete life, benefiting them in their interpersonal connections, self-awareness and esteem, and overall mental wellness

Research objectives

To uncover the meaning and significance of psychotherapy, as well as the link between mental toughness, sports injury, pain, and adherence to sport injury psychotherapy in

order to improve Mental Toughness for Injured Players.

Methodology

The paper adopts document and analytical method. Data pertaining to Psychotherapy benefits for injured players taken from the 16 participants and 10 coaches of different games. Furthermore, other secondary data from books, journals and web sources had also collected for the study.

Design

A prospective design was employed that evaluated adherence over the entire sports psychotherapy process.

Literature Review

A review of the literature is an important part of any research project. It aids in obtaining knowledge about what has been done in the field of study, gathering up-to-date information about previous researches in the area, and obtaining information on the subject of investigation. For the creation of new grounds and the proper design of the study, familiarity with accessible material in the research space is required. Reviewing similar research helps to avoid duplication of work that has already been done efficiently in the area. The literature listed below assists me in identifying the gap and, as a result, forms the basis of my research article.

SN	Author	Title of the Paper
1	Pim Cuijpers and Gerhard andersson (2008)	Psychotherapy for Depression in Adults: A meta-analysis of Comparative outcome studies
2	Valentine Z marlser (2011)	Sport psychiatry and Psychotherapy, Mental Strains In professional sports
3	Mark Stillman and McDuff (2019)	Psychotherapy for Mental Health Symptoms and Disorders in Athletes
4	Allan Abbass and E Beuter (2014)	Review of psychodynamic Psychotherapy Studies
5	Vincent and Kerk Hoffs (2018)	Mental Health In Professional Players
6	Gerald Klerman and Weissman (1994)	Inter-personal Psychotherapy of depression: A Brief focused specific strategy
7	Lee crust (2007)	Mental Toughness in Sport: A Review
8	John Mahoney and J Mallet (2014)	Mental Toughness in Sport: Motivational Antecedents with performance in psychological health

Discussion

Psychotherapy, often known as talk therapy, is a type of treatment for people who are dealing with a variety of mental illnesses and emotional problems. By reducing or controlling terrifying negative effects, psychotherapy can help a

player function more efficiently, generate prosperity, and heal. The effects of trauma, medical sickness, or loss, such as the death of a friend or family member; and explicit mental disorders, such as wretchedness or anxiety, are some of the problems that psychotherapy can

help with. (Stillman et al 2019) There are a few different types of psychotherapy, and some of them may be more effective for certain conditions. (Currie et al 2021) Psychotherapy can be combined with other treatments such as medicine. According to research, the majority of players who have psychotherapy benefit from it and are more prepared to work in their life. Approximately 70% of injured players who seek psychotherapy benefit from it in some way. Psychotherapy has been linked to positive changes in the mind and body, as well as the further development of feelings and practises.

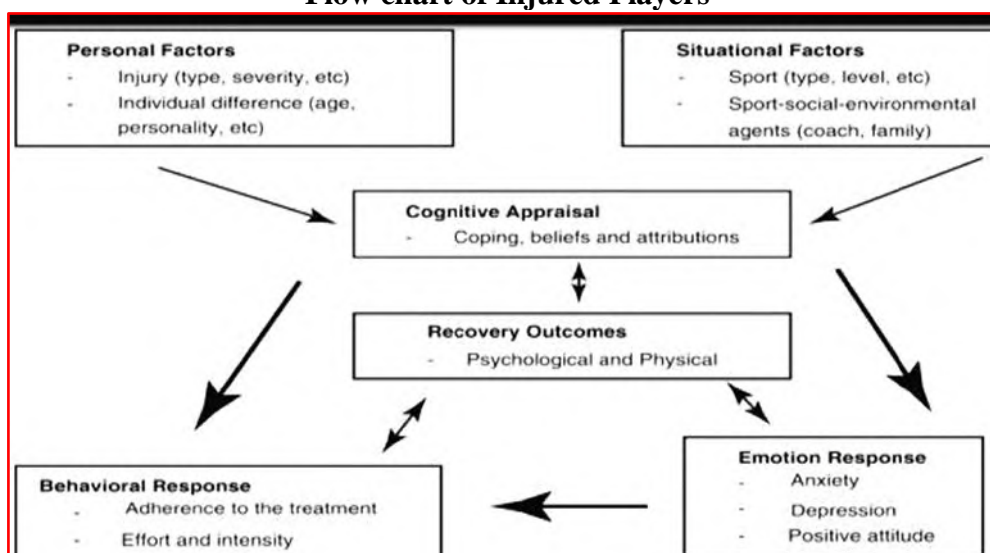
Professional and amateur athletes work with sport psychotherapists to overcome obstacles, better their presentation, and achieve their goals. (Markser et al 2011) Sports psychotherapists can assist athletes of all levels in managing sports-related stress. They can help athletes regain control and perform at their best under pressure by using coaching strategies such as visualisation, goal planning, centring, and self-talk. It establishes a stable setting in which you can speak freely with someone who is fair, objective, and non-judgmental. (Bar, K. J et al 2013) Psychotherapy's goals include reinforcing the brain, increasing the cognitive mind's limit, allowing a sports player to use

their mental potential, providing satisfaction and interior joy to each player, and instilling focus and increased drive in each injured player. It causes long-term changes in the behaviour of wounded athletes, as well as assisting them in identifying the root causes of their anxieties and phobias, learning how to relax, and improving their stress management and problem-solving abilities. Psychotherapy essentially equips people with the necessary tools to overcome worry. (Anderson et al 2008) As a result, psychotherapy is unquestionably the best option for injured players to improve their mental toughness and get past disappointments by remaining positive and serious. It also entails mentally preparing for any obstacle that may arise.

Types of Psychotherapy

Athletes like non-athletes, experience mental health symptoms and disorders that negatively affect their lives and performance. Psychotherapy is an important component of the treatment of mental health manifestations and problems in athletes, whether as a stand-alone treatment or in combination with other non-pharmacological and pharmaceutical techniques. (Magee et al 2016)

Flow chart of Injured Players



Source: <http://media.springernature.com> (Fig 2)

Individual, couples/family, or group psychotherapy should address athlete-specific difficulties while still being accepted as standard by athletes and other key stakeholders. Psychiatrists and other mental health providers

employ a variety of treatment methods (McAleavey et al 2015). The type of therapy a patient receives is determined by his or her disease, circumstances, and preferences. To better fulfil the requirements of the person

receiving treatment, psychotherapists may blend features from several techniques.

1. **Individual Counselling** is a one-on-one conversation between a therapist and the person seeking treatment. They form an alliance, a connection, or a link that promotes trust and personal development. (Tiana et al 2009) Personal counselling is a journey of self-awareness and development. Some wounded players seek counselling because they've had a stressful or traumatic life event, and talking to a therapist might help them process it.
2. **Group Therapy** is a type of psychotherapy that tries to assist people in coping with bad events and behaviours. Typically, group counselling is focused on a specific subject, such as anger management.
3. **Cognitive behavioural Therapy (CBT)** assists players in recognising and changing harmful or ineffective thought and action norms, replacing them with more precise reflections and practical practises. It can help a person face up to current problems and figure out how to deal with them. It incorporates "real-world" practise of new skills on a regular basis (Unwin et al 2016). CBT can help with depression, anxiety, injury-related difficulties, and eating disorders, among other things. CBT, for example, might assist a depressed individual in identifying and changing negative thought patterns or behaviours that contribute to their sorrow. Cognitive restructuring is a technique that has been shown to be effective in changing people's thinking patterns. The purpose of stress management is to replace stress-producing thinking (cognitive distortions) with more balanced, stress-free thoughts
4. **Interpersonal Therapy (IPT)** is a type of treatment that only lasts a few days. It assists patients in understanding inconvenient core relational dilemmas such as unresolved grief, changes in friendly or business relationships, disagreements with life partners, and problems identifying with others. It can assist people in learning efficient ways to express their feelings as well as techniques to improve their communication and how they identify with
5. **Dialectical behaviour Therapy** is a type of cognitive behavioural therapy that focuses on emotion control. It's commonly used to treat those who have frequent suicidal thoughts, as well as minor character flaws, eating disorders, and post-traumatic stress disorder (PTSD). It teaches people new skills to help them embrace personal responsibility for their actions and change undesirable or annoying behaviours. (Leichsenring et al 2013) Individual as well as group treatment is available.
6. **Psychodynamic Therapy** The potential that youthful experiences and unpleasant gloomy thoughts or sentiments that are oblivious (to the individual's knowledge) have an impact on behaviour and mental well-being is the underpinning for treatment. A person works with a therapist to enhance self-awareness and break old patterns so that they may fully control their lives. (Herpertz et al 2013) Psychoanalysis is a type of psychodynamic therapy that is more sophisticated. Meetings are held at least three times per week in most cases.
7. **Supportive Therapy** By offering training and assistance, therapy enables injured players to develop their own assets. Self-esteem, anxiety reduction, adaptive mechanisms strengthening and social and community functioning are all aided by it. Supportive psychotherapy helps injured sportsmen deal with psychological issues that have a long-term influence on their lives. A psychotherapist is prepared to monitor the player's behaviour during play meetings, analyse difficulties with the injured player, make a choice, and devise exercises to aid in the players' recovery through counselling. (Gill et al 1954) Harmed players often express their emotions and problems through play, which the counsellor can exploit.

Mental and psychological skills to enhance mental Toughness among Injured Players

Mental toughness (MT) is a psychological trait linked to tenacity and excellent performance in a variety of fields. MT and its evolution have been studied in a range of contexts and sports.

Dr. Bruce Ogilvie and Dr. Thomas Tutko released "Problem Athletes and How to handle them" just over 50 years ago. Despite the misleading title, this game-changing resource taught coaches how to assess athletes' personalities and motivations in order to give the most effective (Gucciardi et al 2017) performance-enhancing tactics. The following are the most important mental and psychological training qualities for players' mental toughness:

As per scientists, goal-setting can incorporate three sorts of objectives that can be pronounced and followed: Performance goals depend on a correlation of an athlete's own past accomplishments instead of a rival's presentation (e.g., working on passing exactness from 70% to 80% or expanding one's first serve rate contrasted with the past tournament); and interaction goals depend on how an athlete plays out a particular skill (e.g., working on passing precision from 70% to 80% or expanding one's first serve rate contrasted with the past tournament) (For instance, a gymnast focusing on keeping up with

legitimate stance and body pressure) The last two might help athletes in expanding their FAB by helping them in figuring out what they need to do and afterward coordinating their consideration and conduct in like manner. Cowden (2017, Cowden) Making athletes mindful of their own assumptions comparable to their present presentation may likewise persuade them to apply extra exertion and diligence. (Cowden et al 2013) Intelligent time management additionally further develops balance between serious and fun activities and fulfilment. Happy using time productively additionally diminishes stress and makes accomplishing your objectives simpler. Working more brilliant as opposed to harder is conceivable with happy using time effectively, bringing about more useful work being acted significantly quicker. Fun using time productively permits players to achieve more quicker than expected, bringing about more spare energy to seek after learning openings, diminish pressure, and upgrade concentrate, all of which lead to higher vocation achievement. (Schaefer 2016)



Source: Ohio Centre for Sports Psychology (Fig 3)

PST incorporates techniques, for example, self-talk, imagery, goal planning, and arousal reduction. Self-talk is characterized as a "grammatically perceived enunciation of an interior position that can be communicated either inside or for all to hear, where the message sender is additionally the expected collector." Self-talk can be educational (e.g., "take a gander at the ball") or inspiring (e.g., "check out the ball") (e.g., "I will run to the end goal with the entirety of my energy").

Purposefully oversaw self-talk may help athletes in recalling fundamental capacities and techniques and coordinating their consideration and conduct likewise, coming about in expanded FAB. (McAleavey et al 2015) Imagery is the most common way of encountering or re-encountering existing data from memory (e.g., a development) or recently produced pictures distinctively and deliberately. This interaction includes all of one's senses and can happen in any event, when

no evident stimulus exists (for instance, when a skier envisions hustling downhill). Symbolism might assist competitors with acting all the more practically by making it simpler for them to review relating psychological feelings and exercises.

Result and Findings

Psychotherapy is increasingly being applied in numerous neurorehabilitation models. Mental toughness is linked to higher achievement and performance. Higher degrees of mental toughness were linked to more problem-focused and avoidance coping strategies. The athletes' coping method had an impact on the effectiveness of their coping. Coaches should employ psychotherapy skills training in conjunction with technical and physical training to help athletes achieve maximum self-confidence and top performance. The study's findings revealed that the psychotherapy programme had a substantial impact on the athletes' mental health and self-confidence.

Conclusion

Players who are mentally tough have better stress management, involvement, are less likely to develop mental health concerns, sleep better, and are less prone to tormenting. To achieve outstanding outcomes, affected gamers must often recognise the need for change and follow the treatment plan as prescribed by the professional. They'll also need to choose a trustworthy therapist. Psychotherapy can help when unhappiness, low self-esteem, addiction, loss, or other conditions overpower an individual's natural proclivity. It can also help with bipolar disorder, schizophrenia, and a number of other mental health problems. People use psychotherapy and prescriptions on

a regular basis, although not always. A trusting relationship between the individual and the therapist is also necessary for the cycle to work. Insight is accompanied with mental tenacity. The better the results, the harder they push on the field. As players learn the difference between persisting and remaining psychologically tough, their mental state will become an increasingly valuable resource on the field. Finally, but certainly not least, sports psychotherapy focuses on improving game execution by addressing anxiety, lack of attention, and other issues that may arise in both novice and professional athletes, therefore Sports psychotherapy improves mental toughness and helps injured athletes acquire mental toughness, allowing them to perform at their best under pressure while keeping cool and bouncing back from setbacks.

Conflict of interest

Nil

Funding

Nil

Acknowledgement

I would like to want to express my heartfelt gratitude to everyone who made it possible for me to finish this paper. I owe special thanks to my guide, **Dr. R. Muthu Eleckuvan**, whose thoughtfulness and encouragement assisted me in organising my paper in a period-appropriate manner. Apart from that, I should express my gratitude to **Dr. M. Elamaram** for the vital contribution, also all those researchers and writers who had successfully produced their papers on a similar topic; their references and citations helped me a great deal in completing my article in a timely manner.

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FACIAL EXPRESSION RECOGNITION WITH DEEP LEARNING**A. Malhotra¹, M. Gupta², A. Bhalla³, A. Beri⁴ and Deepak⁵**^{1,3,4,5}Department of Information Technology, Netaji Subhas University of Technology²Department of Computer Science, Mata Sundri College For Women, University of Delhi¹uppalz_amar@yahoo.com, ²meghabis@gmail.com, ³arjunbhalla28@yahoo.com, ⁴anmol.beri@gmail.com, ⁵deepak.it.17@nsit.net.in**ABSTRACT**

A Facial expression is the visible manifestation of the affective state, cognitive activity, intention, personality and psychopathology of a person and plays a communicative role in interpersonal relations. Emotions are considered as the mediator and facilitator of interaction in this living world. Researchers have suggested that a whopping 65% of information in a spoken message originates from facial expressions and a mere of 9% through words and rest by the tone of speech. This clearly indicates the importance of visual component over the oral component which is even more important when we consider the case of understanding a message. This human ability makes us able to detect, recognize and understand social interactions with the help of facial expressions. This ability not only makes us aware of the current emotional state but also grants us with a hidden potential to allow the percipient to recognize conversational hints such as level of interest, level of understanding, speaking turns etc. With the advent of Deep Learning and Neural Networks our aspirations knew no bounds. The progress in the recent years have been revolutionary and is considered to exponentially ever-increasing. Despite much anticipated success, identifying facial expressions with absolute accurateness and within a limited time-frame is still a major challenge due to the complexity and variations of facial expressions. This paper presents an intelligent system for facial image-based expression classification using committee neural networks.

Keywords—Facial Expression Recognition (FER), Kernelized Dense Layer, Deep Learning, CNN, Rectified Linear Unit (ReLU)

1. Introduction

“Smiles are probably the most underrated facial expressions, much more complicated than most people realize. There are dozens of smiles, each differing in appearance and in the message expressed.” -Paul Ekman.

Facial expressions are important in facilitating human communication and interactions. Also, they are used as an important tool in behavioral studies and in medical rehabilitation. Facial image-based mood detection techniques may provide a fast and practical approach for non-invasive mood detection. The purpose of the present study was to develop an intelligent system for facial image-based expression classification using committee neural networks. Human emotions and intentions are expressed through facial expressions and deriving an efficient and effective feature is the fundamental component of facial expression system. Face recognition is important for the interpretation of facial expressions in applications such as intelligent, man-machine interface and communication, intelligent visual surveillance, teleconference and real-time animation from live motion images.

Facial expression plays an important role in smooth communication among individuals. Facial Expression Recognition (FER)[17] is a technology used for identification of human behavior based on facial expressions. The extraction and recognition of facial expressions has been the topic of choice of many researchers in the recent years. FER is mainly applied to enable smooth interaction between computers and their users as an attempt to give computers the ability to recognize the emotion of the user and offer advices in response to the mood of the user.

The Facial Recognition System (FER) which majorly aims to classify human emotions as per the classification suggested by Paul Ekman, a Jewish *American psychologist* [1] who is considered to be a pioneer and is considered to have brought up a revolution in the stream of facial expression recognition.

The system becoming popular day by day due its various applications in many fields like healthcare, security, human computer interface any infinitely more. Typically, specific expressions are characterized by some core characteristics, like for instance a smile or an upward movement of corner of lips is usually

associated with happiness. Research into automatic recognition of facial expressions addresses the problems surrounding the representation and categorization of static or dynamic characteristics of these deformations of face pigmentation. Most of the models in this field are limited to basic expressions like Joy, Anger, Disgust, Fear, Surprise and Neutral. In facial expression recognition it is vital to take into consideration factors like configuration of the face, orientation, location, lighting and many other environmental factors. It has often been said that the eyes are the "*window to the soul*." This statement may be carried to a logical assumption that not only the eyes but the entire face may reflect the "*hidden*" emotions of the individual. Darwin's research on facial expressions has had a major impact on the field in many areas; foremost, his belief that the primary emotions conveyed by the face are universal [2]. Darwin placed considerable emphasis on the analysis of the action of different muscle groups in assessing expression.

The research on the statement of *Darwin* was done by *Ekman and Friesen*[1]. They hypothesized that the universals of facial expression are to be found in the relationship between distinctive patterns of the facial muscles and particular emotions (Happiness, Sadness, Anger, Fear, Surprise, Disgust and Interest). They suggested that cultural differences would be seen in some of the stimuli, which through learning become established as elicitors of particular emotions, in the rules for controlling facial behavior in particular social settings, and in many of the consequences of emotional arousal. Many factors impinge upon the ability of an individual to identify emotional expression. Social factors, such as deception, and display rules, affect one's perception of another's emotional state. Therefore, there is a need to develop *Face Expression Recognition System (FERS)*.

The use of machines in society has increased widely in the last decades. Nowadays, machines are used in many different industries. As their exposure with humans increase, the interaction also has to become smoother and more natural. In order to achieve this, machines have to be provided with a capability that let

them understand the surrounding environment specially, the intentions of a human being. When machines are referred, this term comprises to computers and robots. A distinction between both is that robots involve interaction abilities into a more advanced extent since their design involves some degree of autonomy.

Affective computing claims that emotion detection is necessary for machines to better serve their purpose. For example, the use of robots in areas such as elderly care or as porters in hospitals demands a deep understanding of the environment. Facial emotions deliver information about the subject's inner state. If a machine is able to obtain a sequence of facial images, then the use of deep learning techniques 2 would help machines to be aware of their *interlocutor's mood*. In this context, deep learning has the potential to become a key factor to build better interaction between humans and machines, while providing machines with some kind of self-awareness about its human peers, and how to improve its communication with natural intelligence.

Introduction of Convolutional Neural Networks (CNN) has made things simpler for the researchers working in the field of computer vision and specifically, image classification. CNN is a deep neural network which was originally designed for the analysis of image. Many researchers used CNN for the same problem of facial expression recognition and they showed that CNN is far better as an approach to this problem. They can achieve high accuracy and can give better results. In our project also, we are going to use a CNN but with slight modification, we will use Kernelized Dense Layer in place of Fully Connected Layer. [3]

2. Motivation

Considered an archetypal masterpiece of the Italian Renaissance, painted by Leonardo da Vinci "The Mona Lisa". The ambiguity of her expression, often described as enigmatic, is maybe due to her slightly bemused smile. A slight smile that suggests that she may be holding back a secret as shown in Fig 1.

Here the researches sense an *optical illusion* [4] behind the interpretation of her smile by our

brain. Going into the minute details we find that your peripheral vision reads dark shadows painted near the mouth and also the big shadow over the left eye which somewhat resembles to the shadow around the mouth, gives a pronounced idea of a smile. In contrasting nature, the darkness around the upper-lips reduces the intensity of the smile. Its things like this, combined with the many other overactive imaginations that have contributed to the continuing fascination of the work. When Facial Encoding reads her emotion, no such conflict arises; it clearly tells us that Leonardo painted an expressionless face. Perhaps it's the lack of expression that gives this image its spirit of wonder. Often, her mouth is often tweaked to tease out a stronger smirk, as if compelled to add expression to what is an exceptionally neutral face. Perhaps da Vinci had purposefully avoided that emotional contagion between artist and muse? It's also possible that Mona Lisa had just about enough of smiling for hours on end and da Vinci has managed to capture those changes in emotion perfectly - a sort of mashup of emotions which causes one to re-read the face over and over.

Our motivation also involves factors such as benefits of Facial Expression Recognition System in the field of healthcare. Facial expressions convey very substantial information which is critical in many aspects of daily life. These help medical practitioners identify severity of the disease and some vital stats about the patients. Many different face components give a conclusive evidence of a particular health state by working synchronously in harmony. Specific disease like *Alzheimer's disease* in which patient loses his substantial cognitive capacity and even in some cases their verbal communication ability, facial expressions are the sole criterion left in such scenarios. Like Alzheimer's many other applications in healthcare take advantage of the FER and Image Processing to serve the patients with best possible care.



Figure 1: Mona Lisa's Smile in The Mind

Alt text for Figure 1[13 words]: Due to Mona Lisa bemused smile, there is ambiguity in reading her expressions.

3. Literature Review

Research in the fields of face detection and tracking has been very active and there is exhaustive literature available on the same. The major challenge that the researchers face is the non-availability of spontaneous expression data. Capturing spontaneous expressions on images and video is one of the biggest challenges ahead. Many attempts have been made to recognize facial expressions. Zhang et al investigated two types of features, the geometry-based features and Gabor wavelets-based features, for facial expression recognition. Appearance based methods, feature invariant methods, knowledge-based methods, Template based methods are the face detection strategies whereas Local Binary Pattern [5], phase correlation, HAAR classifier [2], AdaBoost [2], Gabor Wavelet are the expression detection strategies in related field [6]. Face reader is the premier for automatic analysis of facial expression recognition and Emotient, Affectiva, Karios[7] etc are some of the API's for expression recognition. Automatic facial expression recognition includes two vital aspects: facial feature representation and classifier problem. We will compare algorithms and the feature extraction techniques from different papers. The human emotion dataset can be a very good example to study the robustness and nature of classification algorithms and how they perform for different types of dataset. Usually, before extraction of features for emotion detection, face detection algorithms are applied on the image or the captured frame.

We can generalize the emotion detection steps as follows, shown in Fig 2:

- 1) Dataset Pre-Processing
- 2) Face Detection
- 3) Feature Extraction
- 4) Classification based on the features

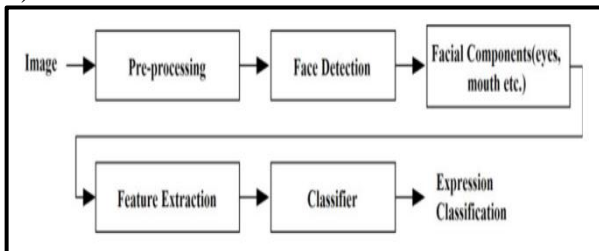


Figure 2: Facial expression classification block diagram

Alt text for Figure 2[8 words]: This figure represents the steps for detecting emotions.

Facial Expression Recognition (FER) has been an agile research area but due to intra-class variation is still considered a very challenging task. Conventional approaches are dependent upon SIFT, HOG [7] and other hand-crafted features which is then superseded by a classifier. This approach basically involves traditional two step machine learning approach which involves a combination of computer vision techniques (like feature point tracking, dense optical flow, histogram of oriented gradients HOG) [8] to extract important features from the images and a classifier step (such as Support Vector Machines, Random Forest or Neural Network) [9] which is used to detect the expression. These approaches started to show their bottlenecks with the arrival of more challenging datasets. Lately, evolving deep learning has given birth to number of different deep neural networks architectures like Recurrent Neural Network, Long Short-term Memory (LSTM), Convolutional Neural Networks. [7,8,9,10]

Fully connected layer is an essential component of *Convolutional Neural Networks* (CNNs), which demonstrates its efficiency in computer vision tasks. The CNN process usually starts with convolution and pooling layers that first break down the input images into features, and then analyze them independently. The result of this process feeds into a fully connected neural network structure which drives the final classification decision. In this paper, we propose a *Kernelized Dense Layer* (KDL) which captures higher order

feature interactions instead of conventional linear relations. We apply this method to Facial Expression Recognition (FER) and evaluate its performance on RAF, FER2013 and ExpW [4] datasets. The experimental results demonstrate the benefits of such layer and show that our model achieves competitive results with respect to the state-of-the-art approaches.

Wong *et al.* [10] focused more on the convolution part and they proposed to replace the convolution layers in a CNN by kernel-based layers, called kervolution layers. The use of these layers increases the model capacity to capture higher order features at the convolutional phase. In this paper, we build upon these works and introduce a novel FC layer. We leverage kernel functions to build a neuron unit that applies a higher order function on its inputs instead of calculating their weighted sum. The proposed Kernelized Dense Layers (KDL) permits to improve the discrimination power of the full network and it are completely differentiable, allowing an end-to-end learning. The experimental results demonstrate the benefits of such layer in FER task and show that our model achieves competitive results with respect to the state-of-the-art approaches

Many researchers used CNN for the same problem of facial expression recognition and they showed that CNN is far better as an approach to this problem. They can achieve high accuracy and can give better results. In our project also, we are going to use a CNN but with slight modification, we will use Kernelized Dense Layer in place of Fully Connected Layer.

4. Proposed Model

Machine Learning (ML) a subfield of Artificial Intelligence, is usually divided into 3 broad categories. Each category focuses on how the learning process is executed by a learning system, these categories are: supervised learning, unsupervised learning, and reinforcement learning. our problem falls into the supervised learning category since the images to be processed are labeled. In our case, the label is the emotion that the image represents.

Supervised learning has a set of tools focused on solving problems within its domain. One of

those tools is called Artificial Neural Networks (ANN). An ANN is a set of functions that perform label prediction. If the ANN is analyzed as a black box; the input would consist of labeled examples, and the output would be a vector containing a set of predictions.

In machine learning, a convolutional neural network (CNN or ConvNets) is a type of feed-forward artificial neural network in which the connectivity pattern between its neurons is inspired by the organization of the animal visual cortex. Individual cortical neurons respond to stimuli in a restricted region of space known as the receptive field. The receptive fields of different neurons partially overlap such that they tile the visual field [11]. The response of an individual neuron to stimuli within its receptive field can be approximated mathematically by a convolution operation. Convolutional networks were inspired by biological processes.

CNN are category of Neural Networks that have proven very effective in areas such as image recognition and classification. CNN have been successful in identifying faces, objects and traffic signs apart from powering

vision in robots and self-driving cars. Unlike traditional multilayer perceptron architectures, it uses two operations called ‘convolution’ and ‘pooling’ to reduce an image into its essential features, and uses those features to understand and classify the image. CNN consists of various steps which are described below briefly.

4.1 Convolution Step

ConvNets derive their name from the “Convolution” operator. The primary purpose of Convolution in case of a ConvNet is to extract features from the input image. Convolution preserves the spatial relationship between pixels by learning image features using small squares of input data. Brief view of how convolution operation works is given below.

Every image can be considered as a matrix of pixel values. Consider a 5 x 5 image whose pixel values are only 0 and 1 (For a grayscale image, pixel values range from 0 to 255, the green matrix below is a special case where pixel values are only 0 and 1) as shown in Fig 3. Also, consider another 3 x 3 matrix as shown below in Fig 4.

1	1	1	0	0
0	1	1	1	0
0	0	1	1	1
0	0	1	1	0
0	1	1	0	0

Figure 3: Pixel Matrix for an image

1	0	1
0	1	0
1	0	1

Figure 4: Filter Matrix

4	3	4
2	4	3
2	3	4

Figure.5: Convolved Image Matrix

Alt text for Figure 3,4,5[37 words]: Figure 3 is representing a 5 x 5 image's pixel values. Figure 4 is having a Filter Matrix. Figure 5 is showing a Convolved image matrix, which is calculated using matrix data of Figure 3 and 4. Then, the Convolved image of the above shown 5 x 5 image and the 3 x 3 matrix can be computed as shown in the Fig 5.

In CNN terminology, the 3x3 matrix is called a ‘filter’ or ‘kernel’ or ‘feature detector’ and the matrix formed by sliding the filter over the image and computing the dot product is called the ‘Convolved Feature’ or ‘Activation Map’ or the ‘Feature Map’. It is crucial to note the fact that the role of the filter is to detect the feature from original input image. That’s why

they are feature detector. Convolution operation is used to perform many operations on images like sharpening, blurring or edge detection by changing numerical values of the filter matrix.

4.2 Activation Step

The activation function that brings 'nonlinearity' to the CNN can be seen as a decision of whether to activate or 'fire' a neuron. The derivative of the linear function is a constant unrelated to the input, which leads to the problem in optimization that the gradient (which is constant) does not depend on the changes in the input so that the parameters are not updated. In addition, if all the activation functions are linear, the connection of layers in the CNN is a kind of linearity in which the whole network can be represented in a combination of linear manner, which is insufficient for the CNN to represent features. For this reason, the nonlinear activation function is introduced to the CNN, which provides an element-wise operation to compress pixels into a specific range.

The Rectified Linear Unit (ReLU) is one of the most famous examples of activation functions used in the CNN that replaces the negative values by zero. The function of the ReLU is shown in the formula.

$$f(x) = \max(x, 0) \quad (3.2)$$

ReLU is an element wise operation (applied per pixel) and replaces all negative pixel values in the feature map by zero. The purpose of ReLU is to introduce non-linearity in our ConvNet, since most of the real-world data we would want our ConvNet to learn would be non-linear (Convolution is a linear operation – element wise matrix multiplication and addition, so we account for non-linearity by introducing a non-linear function like ReLU).

4.3 Pooling Step

Spatial Pooling (also called subsampling or down sampling) reduces the dimensionality of each feature map but retains the most important information. Spatial Pooling can be of different types: Max, Average, Sum etc. In case of Max Pooling, a spatial neighborhood is defined (for example, a 2×2 window) and then the largest element from the rectified feature map is taken within that window. Instead of

taking the largest element we could also take the average (Average Pooling) or sum of all elements in that window.

4.4 Fully Connected Layer Step

The Fully Connected layer is a traditional Multi-Layer Perceptron that uses a Softmax activation function in the output layer. The term "Fully Connected" implies that every neuron in the previous layer is connected to every neuron on the next layer. The output from the convolutional and pooling layers represents high-level features of the input image. The purpose of the Fully Connected layer is to use these features for classifying the input image into various classes based on the training dataset.

Softmax is used for activation function. It treats the outputs as scores for each class. In the Softmax, the function mapping stayed unchanged and these scores are interpreted as the un-normalized log probabilities for each class. Softmax is calculated as

$$f(x) = \frac{e^{z_j}}{\sum_{k=1}^K e^{z_k}} \quad (3.3)$$

Where j is the index of the image and K is the total number of classes in which image is to be classified. For the purpose of facial expression recognition $K=7$.

4.5 Kernelized Dense Layer

In our proposed model to perform the project of facial expression recognition, we are going to use modified version of traditional CNN. In traditional CNN, there is a FC (Fully Connected) layer which is the last step of our CNN. This is basically a traditional multilayer perceptron structure.

In the proposed kernelized dense layers, different types of kernel methods are used to calculate the output instead of the way we calculate output for neuron in traditional CNN by calculate net input linearly and then applying activation function (Equation 3.1). Kernel methods are basically a distinct approach which basically maps the data into higher dimensional spaces in the hope that on mapping into higher dimensional space our data becomes more better structured [6]. Kernels, for the purpose of Kernelized dense layers are generally represented as $\kappa(x, w)$ where x is the input vector to neuron and w

represents the corresponding weight vector. There exist different kernel functions from the existing literature like Linear Kernel, Polynomial Kernel, Gaussian Kernel, Laplacian Kernel, Abel Kernel, Exponential Kernel, and many more.

The basic architecture of kernel neuron (neuron in kernelized dense layer) is shown in Figure 6. The simplest of all is Linear kernel, and in

fact, we were using it only in traditional CNNs unknowingly. Basically, Linear kernel is nothing but simply an inner (dot) product in addition to a constant (which is optional). Hence, the formula, we have applied above to get the net input of neuron (equation 3.1) is nothing but a Linear Kernel as it gives the linear relation between input vector and weight/filter vector.

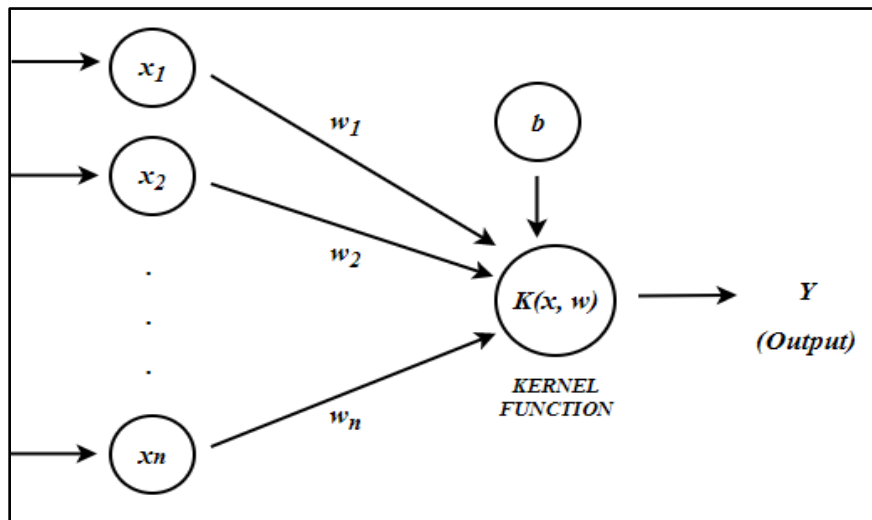


Figure 6: Architecture of Kernel Neuron

Alt text for Figure 6 [14 words]: This diagram is representing the basic architecture of a neuron in kernelized dense layer.

Linear kernel can be specified more technically as:

$$\kappa(x, w) = x^T w + b$$

$$b \geq 0 \tag{3.4}$$

Mehmoudi and Chetounan [3] worked on polynomial kernel and proved that kernelized dense layer are more efficient as compared to Fully Connected layer in all respects like speed, accuracy or convergence. Polynomial Kernels are represented as:

$$\kappa(x, w) = (x^T w + b)^n$$

$$b \geq 0 \tag{3.5}$$

For n equals to 1, it is same as linear kernel. So, we generally take n>1 in above equation. The main property of polynomial kernel is that along with encoding linear relations, it also introduces non-linear relationship between the two vectors, x and w. As, polynomial kernels introduce non linearity by themselves, here we do not need to apply activation function whereas in case of linear kernel we need to apply the activation function. Mehmoudi and Chetounan [3] performed the training for face expression recognition problem with n=1, n=2

and n=3 and studied that accuracy improved for n=3 and they got best results.

In our project, we are going to use *Gaussian Kernel* [12] in place of polynomial kernel. Gaussian Kernel are also known as *Radial Basis Function (RBF) kernel*. For the purpose of kernelized dense layer, we can define it as:

$$\kappa(x, w) = e^{-\frac{\|x-w\|^2}{2\sigma^2}}$$

where $\sigma > 0$ (3.6)

Like polynomial kernel, this kernel also introduces non linearity. One thing to note about this kernel is its property to generate nonparametric classification functions. This kernel can be best understood with the help of Gaussian Distribution. By expansion through Taylor's series [5], we can also see that it is a kernel with infinite set of features corresponding to polynomial terms. And here σ is used for the purpose of normalization.

4.6 Datasets

There are several popular datasets published for the purpose of Facial Expression Recognition. We are using FER2013 Dataset: It is the most challenging dataset as images are not aligned and some of them are incorrectly

labeled as we can see from the Fig 7. Images of this dataset have more variations as compared to other datasets. These variations include face occlusion (means a part of face is covered by

hand or cap), low contrast images, partial face (only a part of the face is visible in image) and eyeglasses.



Figure 7: Sample images from FER2013 Dataset

Alt text for Figure 7[9 words]: This image is showing a part of FER2013 Dataset.

FER2013 [2] dataset comprises a total of 35887 pre-cropped, 48-by-48-pixel grayscale images of faces each labeled with one of the 7 emotion classes: anger, disgust, fear,

happiness, sadness, surprise, and neutral. In the FER2013 dataset, usage field consists of three values: Training, PublicTest, and PrivateTest(validation). First five rows for each type are shown in Fig 8.

	emotion	pixels	Usage
0	0	70 80 82 72 58 58 60 63 54 58 60 48 89 115 121...	Training
1	0	151 150 147 155 148 133 111 140 170 174 182 15...	Training
2	2	231 212 156 164 174 138 161 173 182 200 106 38...	Training
3	4	24 32 36 30 32 23 19 20 30 41 21 22 32 34 21 1...	Training
4	6	4 0 0 0 0 0 0 0 0 0 0 0 3 15 23 28 48 50 58 84...	Training

	emotion	pixels	Usage
28709	0	254 254 254 254 254 249 255 160 2 58 53 70 77 ...	PublicTest
28710	1	156 184 198 202 204 207 210 212 213 214 215 21...	PublicTest
28711	4	69 118 61 60 96 121 103 87 103 88 70 90 115 12...	PublicTest
28712	6	205 203 236 157 83 158 120 116 94 86 155 180 2...	PublicTest
28713	3	87 79 74 66 74 96 77 80 80 84 83 89 102 91 84 ...	PublicTest

	emotion	pixels	Usage
32298	0	170 118 101 88 88 75 78 82 66 74 68 59 63 64 6...	PrivateTest
32299	5	7 5 8 6 7 3 2 6 5 4 4 5 7 5 5 6 7 7 7 10 10 ...	PrivateTest
32300	6	232 240 241 239 237 235 246 117 24 24 22 13 12...	PrivateTest
32301	4	200 197 149 139 156 89 111 58 62 95 113 117 11...	PrivateTest
32302	2	40 28 33 56 45 33 31 78 152 194 200 186 196 20...	PrivateTest

Figure 8. Sample images(pixel) from Training, Public Test and Private Test Set

Alt text for Figure 8[25 words]: This figure is showing the sample from FER2013 dataset that contains three types of values Training samples values, PublicTestsamples values and PrivateTest samples values.

4.6 Methodology

This work proposed a modified model of deep learning based convolutional neural network and is an experimental improvisation over the work proposed by *Mehmoudi and Chetounanin* [3]. Here, modification refers to the fact that in

place of fully connected layer component, which is last step of traditional CNN [13], we are going to use kernelized dense layer which uses kernel neuron described in the above section 4.5. To capture higher order and nonlinear interactions, we are going to use *Kernelized Dense Layers* in our *Convolutional Neural Network* (CNN) as this increases the judgment power of our *Fully Connected layer*. We have defined the architecture of our neural network as shown in following figure 9.

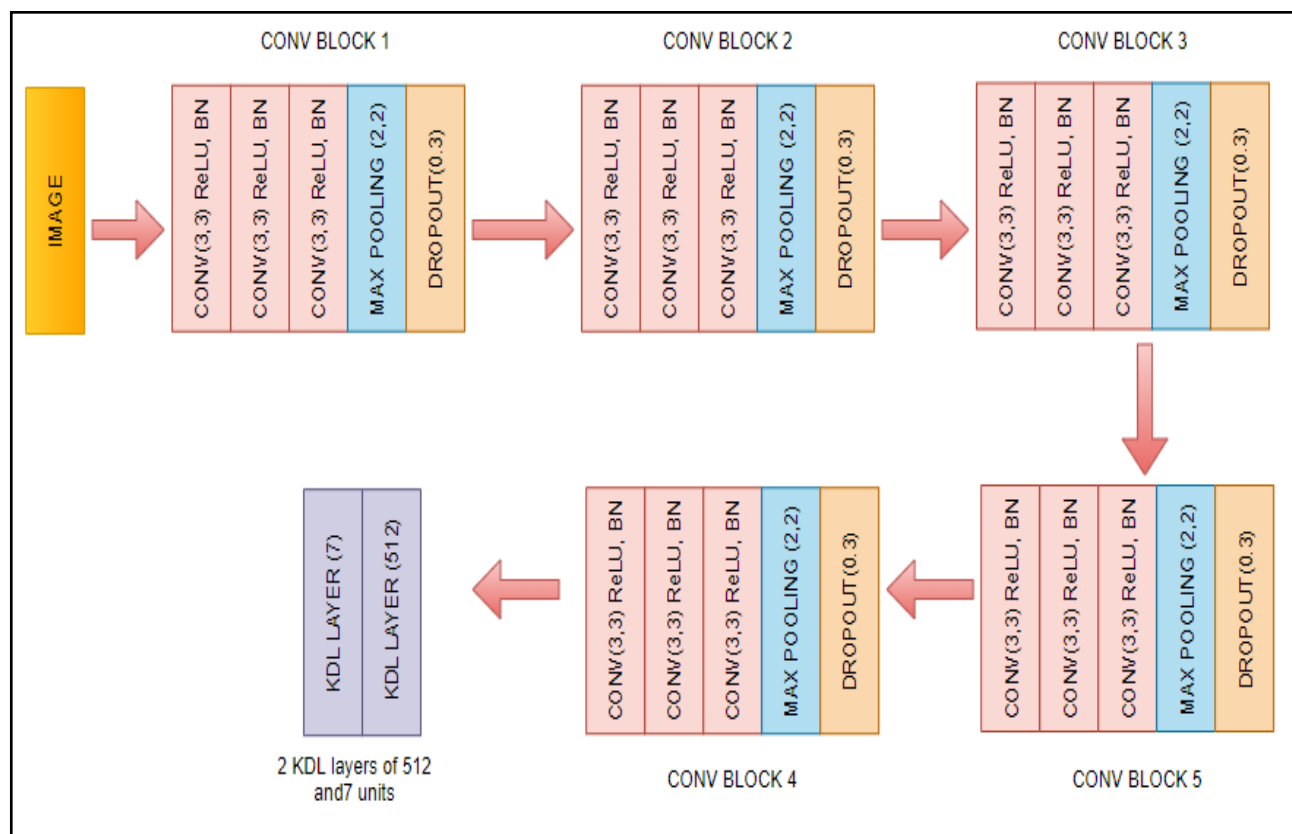


Figure 9. Architecture of the Proposed Model

Alt text for Figure 9[11 words]: The above picture is defining the architecture of our neural network.

In this project, we are going to show comparison of performance between designed

Base Model (CNN with FC layer) and Kernelized dense layer model (CNN with gaussian kernel). The architecture of our model will look like following figure. There will be five convolutional blocks. First block will

consist of two 2-dimensional convolutional layer [9,11,16] (with kernel size of 3X3 and *ReLU* activation function) and batch normalization after each layer and then max pooling layer with pool size of (2,2) and finally dropout layer of rate 0.3. Similarly, second block consists of three 2-dimensional convolutional layers (with kernel size of 3X3 and *ReLU* activation function) with batch normalization after each layer and then finally max pooling with pool of size (2,2) and dropout with rate 0.3.

Rest all the 3 blocks are exactly similar to this block with just variation in number of layers. Finally, flatten the output and then define the fully connected layer for the case of Base Model and define the kernelized dense layer (with gaussian kernel) [2,3,12] for the case of our proposed model in which we will use two kernelized dense layers which consists of 512 kernel neurons and 7 kernel neurons respectively. Final layer consists of 7 kernel neurons because of the fact we are trying to classify expressions in 7 different classes. On the last KDL, we will apply the *SoftMax* activation function.

And then for the purpose of evaluation of our model, we are going to compare it with a Base model, which is traditional CNN model with similar architecture as of our model shown in above figure. Then we can compare these two models and find out the improvement in performance. Also, we are going to compare variations of our own model of kernelized layers by tuning several values of a hyperparameter sigma [12] in the equation of Gaussian kernel. So that we can find out which value gives best result.

4.7 Implementation

Implementation of our project model is done in accordance with the architecture described in section 4.6. Primarily, we have used Python language and its frameworks and libraries to implement the model. And then trained our model on GPU for 200 epochs.

We trained our model with *Adam Optimizer* [13] with learning rate of 0.001 and defining loss as categorical entropy for 200 epochs using compile and fit functionalities of *keras* library. And finally, we ran our model

and evaluate the performance of both the models and compare their performance. Model was trained and evaluated for three values of a hyper-parameter sigma which is present in the calculation for output of gaussian kernel- 0.2, 0.3 and 0.4 and then compared their results. Here we have done training with the help of batch normalization to provide stability to the parameter initialization. We have used dropout layer as a regularizer with value 0.3. We have used an Adam Optimizer as it achieves good result fast, with a learning rate varying from 0.0001 to 1e-6. For training we have used accuracy metric. We trained our model on google colab for 200 epochs. Data is passed in the batch of 512 to the model.

5. Results & Discussion

Our Base Model (Fully connected Dense Layer is used) Consist of five blocks as shown below, here we have used batch normalization [14] for the purpose of providing stability to the parameter initialization. Architecture results of base model are shown in following Fig 10.

As Deep Learning Models are Data-Hungry. For such a small dataset there may be overfitting. To reduce the overfitting, we used Data-Augmentation. In Our Data-Generator, we have used `rescale = 1/255`, `rotation_range = 10`, `horizontal_flip = true`, `width_shift_range = 0.3`, `height_shift_range = 0.3`, `fill_mode = nearest` and `Batch_size = 512`. Some sample result images of Data Generation are shown below Fig 11.

As shown in Fig 12, our Base Model with Fully Connected Layer achieved maximum Validation accuracy of 66.38% for 196th epoch. The proposed model with kernelized dense layer (gaussian kernel) achieved maximum Validation accuracy of 67.83% for 186th epoch as depicted in Fig 13.

We have trained our model thrice for different values of hyperparameter sigma in our gaussian kernelized dense layer model. From various research papers we found that optimal value is between 0.2-0.4. we tried all 0.2, 0.3 and 0.4. as the value of sigma and conducted various experiments to compare them. We have plotted the results comparatively for all values of sigma in the following Fig 14.

Layer (type)	Output Shape	Param #
input (InputLayer)	[(None, 48, 48, 1)]	0
conv1_1 (Conv2D)	(None, 48, 48, 64)	640
batch_normalization (Batch Normalization)	(None, 48, 48, 64)	256
conv1_2 (Conv2D)	(None, 48, 48, 64)	36928
batch_normalization_1 (Batch Normalization)	(None, 48, 48, 64)	256
pool1_1 (MaxPooling2D)	(None, 24, 24, 64)	0
drop1_1 (Dropout)	(None, 24, 24, 64)	0
conv2_1 (Conv2D)	(None, 24, 24, 128)	73856
batch_normalization_2 (Batch Normalization)	(None, 24, 24, 128)	512
conv2_2 (Conv2D)	(None, 24, 24, 128)	147584
batch_normalization_3 (Batch Normalization)	(None, 24, 24, 128)	512
conv2_3 (Conv2D)	(None, 24, 24, 128)	147584
pool2_1 (MaxPooling2D)	(None, 12, 12, 128)	0
drop2_1 (Dropout)	(None, 12, 12, 128)	0
conv3_1 (Conv2D)	(None, 12, 12, 256)	295168
batch_normalization_5 (Batch Normalization)	(None, 12, 12, 256)	1024
conv3_2 (Conv2D)	(None, 12, 12, 256)	590080
batch_normalization_6 (Batch Normalization)	(None, 12, 12, 256)	1024
conv3_3 (Conv2D)	(None, 12, 12, 256)	590080
batch_normalization_7 (Batch Normalization)	(None, 12, 12, 256)	1024
conv3_4 (Conv2D)	(None, 12, 12, 256)	590080
batch_normalization_8 (Batch Normalization)	(None, 12, 12, 256)	1024
pool3_1 (MaxPooling2D)	(None, 6, 6, 256)	0
drop3_1 (Dropout)	(None, 6, 6, 256)	0
conv4_1 (Conv2D)	(None, 6, 6, 256)	590080
batch_normalization_9 (Batch Normalization)	(None, 6, 6, 256)	1024
conv4_2 (Conv2D)	(None, 6, 6, 256)	590080
batch_normalization_10 (Batch Normalization)	(None, 6, 6, 256)	1024
conv4_3 (Conv2D)	(None, 6, 6, 256)	590080
batch_normalization_11 (Batch Normalization)	(None, 6, 6, 256)	1024
conv4_4 (Conv2D)	(None, 6, 6, 256)	590080
batch_normalization_12 (Batch Normalization)	(None, 6, 6, 256)	1024
pool4_1 (MaxPooling2D)	(None, 3, 3, 256)	0
drop4_1 (Dropout)	(None, 3, 3, 256)	0
conv5_1 (Conv2D)	(None, 3, 3, 512)	1180160
batch_normalization_13 (Batch Normalization)	(None, 3, 3, 512)	2048
conv5_2 (Conv2D)	(None, 3, 3, 512)	2359808
batch_normalization_14 (Batch Normalization)	(None, 3, 3, 512)	2048
conv5_3 (Conv2D)	(None, 3, 3, 512)	2359808
batch_normalization_15 (Batch Normalization)	(None, 3, 3, 512)	2048
conv5_4 (Conv2D)	(None, 3, 3, 512)	2359808
pool5_1 (MaxPooling2D)	(None, 1, 1, 512)	0
drop5_1 (Dropout)	(None, 1, 1, 512)	0
flatten (Flatten)	(None, 512)	0
dense (Dense)	(None, 512)	262656
output (Dense)	(None, 7)	3591
Total params: 13,374,023		
Trainable params: 13,366,087		
Non-trainable params: 7,936		

Figure 10. Results of Model

Alt text for Figure 10[10 words]: This picture is showing the architectural results of base model.

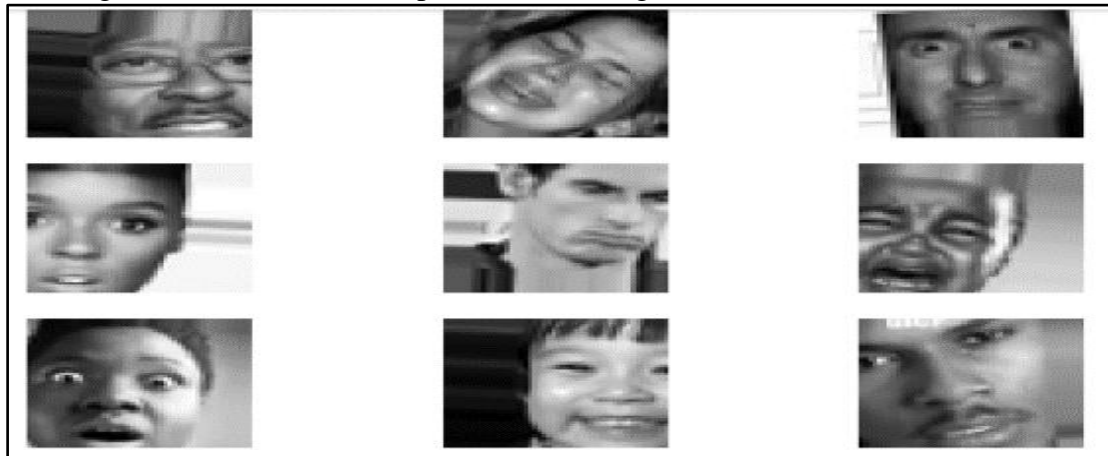


Figure 11. Sample result images of Data-Generation

Alt text for Figure 11[12 words]: This picture is representing the result images from our data generation model.

```
Epoch 00193: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1144 - accuracy: 0.9589 - val_loss: 1.9758 - val_accuracy: 0.6417
Epoch 194/200

Epoch 00194: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1070 - accuracy: 0.9611 - val_loss: 1.9930 - val_accuracy: 0.6582
Epoch 195/200

Epoch 00195: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1114 - accuracy: 0.9593 - val_loss: 2.0579 - val_accuracy: 0.6462
Epoch 196/200

Epoch 00196: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1151 - accuracy: 0.9573 - val_loss: 1.9830 - val_accuracy: 0.6638
Epoch 197/200

Epoch 00197: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1098 - accuracy: 0.9600 - val_loss: 1.9782 - val_accuracy: 0.6526
Epoch 198/200

Epoch 00198: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1024 - accuracy: 0.9626 - val_loss: 2.0516 - val_accuracy: 0.6487
Epoch 199/200

Epoch 00199: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1068 - accuracy: 0.9607 - val_loss: 1.9957 - val_accuracy: 0.6571
Epoch 200/200

Epoch 00200: val_loss did not improve from 1.03818
56/56 - 47s - loss: 0.1047 - accuracy: 0.9632 - val_loss: 1.9527 - val_accuracy: 0.6565
```

Figure 12. Training results of Base Model

Alt text for Figure 12[10 words]: The figure is showing the training results of the base model.

```
Epoch 00185: val_loss did not improve from 1.07472
56/56 [=====] - 47s 842ms/step - loss: 0.2760 - accuracy: 0.8991 - val_loss: 1.6918 - val_accuracy: 0.6627
Epoch 186/200
56/56 [=====] - ETA: 0s - loss: 0.2667 - accuracy: 0.9039
Epoch 00186: val_loss did not improve from 1.07472
56/56 [=====] - 47s 843ms/step - loss: 0.2667 - accuracy: 0.9039 - val_loss: 1.6758 - val_accuracy: 0.6783
Epoch 187/200
56/56 [=====] - ETA: 0s - loss: 0.2697 - accuracy: 0.9033
Epoch 00187: val_loss did not improve from 1.07472
56/56 [=====] - 47s 842ms/step - loss: 0.2697 - accuracy: 0.9033 - val_loss: 1.7594 - val_accuracy: 0.6579
Epoch 188/200
56/56 [=====] - ETA: 0s - loss: 0.2742 - accuracy: 0.9011
Epoch 00188: val_loss did not improve from 1.07472
56/56 [=====] - 47s 842ms/step - loss: 0.2742 - accuracy: 0.9011 - val_loss: 1.7783 - val_accuracy: 0.6593
Epoch 189/200
56/56 [=====] - ETA: 0s - loss: 0.2632 - accuracy: 0.9053
Epoch 00189: val_loss did not improve from 1.07472
56/56 [=====] - 47s 842ms/step - loss: 0.2632 - accuracy: 0.9053 - val_loss: 1.6901 - val_accuracy: 0.6680
Epoch 190/200
```

Figure 13. Training results of Proposed Model

Alt text for Figure 13[10 words]: The figure is showing the training results of our proposed model.

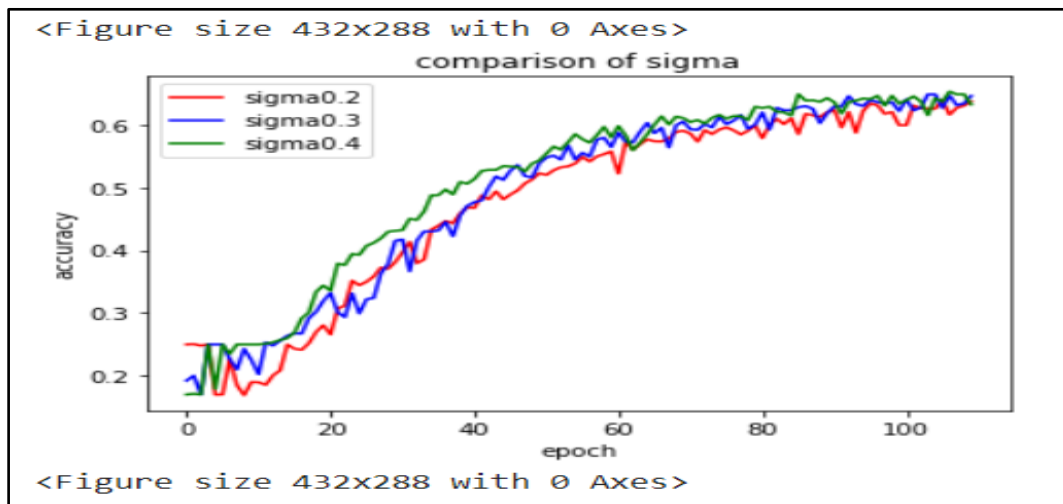


Figure 14. Graph showing comparisons of model accuracy between different values of sigma

Alt text for Figure 14[11 words]: The graph is representing the results for different values of sigma.

For comparison, we run our model for 110 epochs with sigma = 0.2, 0.3 and 0.4. In the above accuracy graph (Figure 15) red line denotes sigma = 0.2, blue line denotes sigma = 0.3 and green line denotes sigma = 0.4. We can conclude from the experiments that **sigma = 0.4 is performing better than the other two**

values as green line is always above the blue and red lines.

We also examined validation loss of all the three values as shown in the below graph (Figure 5.10). Here also the representation is same as above. Here, we can see that green line always below to the other two lines. It shows that validation loss is least for sigma = 0.4. Therefore, we can conclude that sigma = 0.4 is the optimal value for our Gaussian Kernelized Dense Layer.

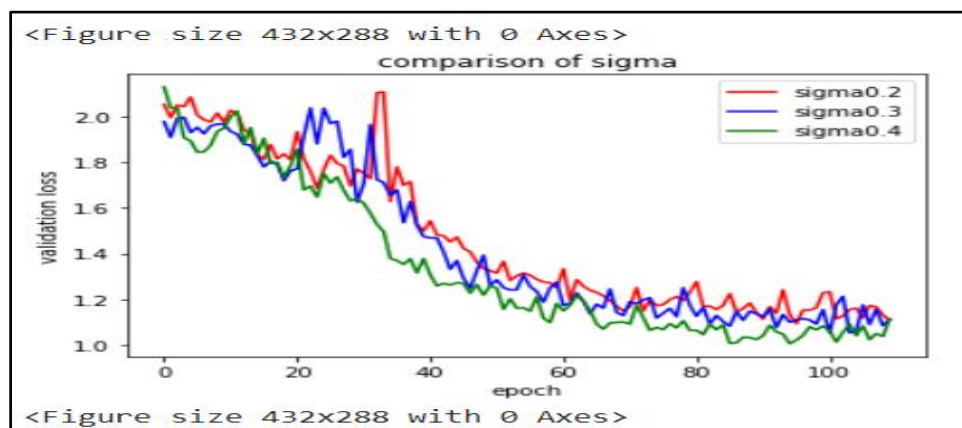


Figure 15. Graph showing comparisons of validation loss between different values of sigma

Alt text for Figure 15[15 words]: The graph is representing the results obtained for validation loss with different values of sigma.

Base model has achieved maximum validation accuracy of 66.38% whereas our gaussian model with kernelized dense layer has achieved maximum validation accuracy as 67.83%. We achieved a significant increase of 1.45% in maximum validation accuracy.

For most part of the training process accuracy of our proposed Gaussian Kernel model was greater than our base Model with fully connected layer. Its accuracy value was below initially, but after 60th epoch it was always above and the difference kept on increasing. Comparative plots of the model can be shown in the following Fig 16.

Figure 17 represents the confusion matrix to analyze the results of our model.

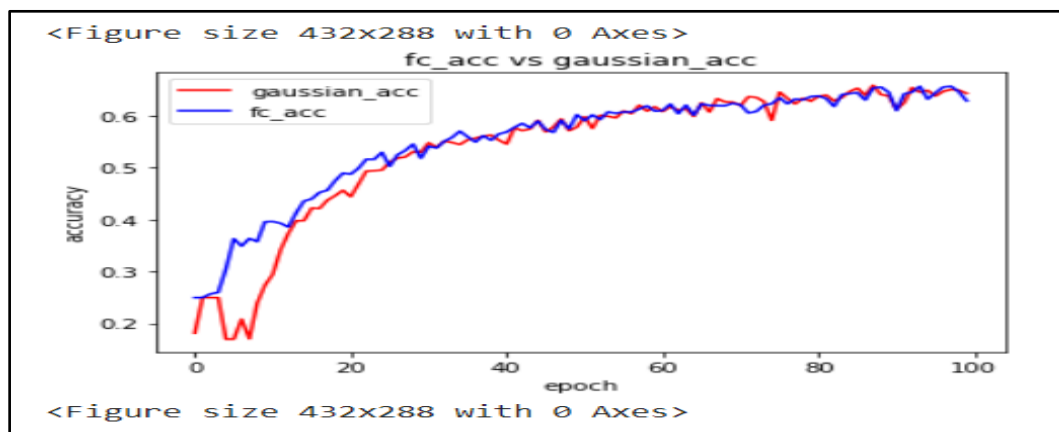


Figure 16. Graph showing comparisons of base model and proposed model

Alt text for Figure 16[13 words]: The graph is indicating the difference between base model and the proposed model.

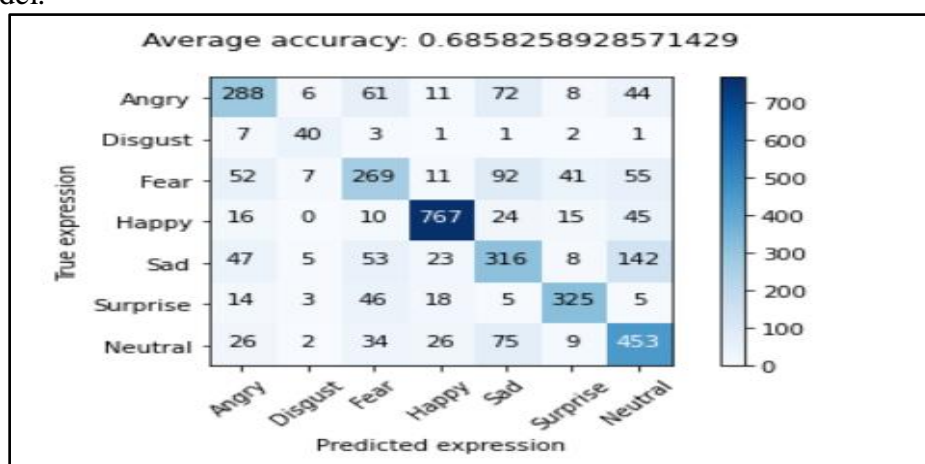


Figure 17. Confusion Matrix

Alt text for Figure 17[12 words]: This figure is representing the obtained confusion matrix of the proposed model.

We get average accuracy of 68.58% on the testing data. From the confusion matrix we can see that we get the best results for happy class as obvious because our dataset had most of the images of happy state and least for disgust class due to the low number of images of disgust class in the training data.

6. Conclusion & Future Work

The proposed model has been implemented and successfully tested with kernelized dense layer and gaussian kernel. Our model has outperformed base model by a margin of 1.45% in terms of accuracy and the achieved results are satisfactory as the average accuracies on the FER-2013 dataset is 65% ± 5% and therefore, our proposed model is nearly accurate. Also, it shows that our kernelized dense layer with gaussian kernel is able to explore the non-linear relationships between

the image pixels and weights of our network. It basically maps the data into higher dimensional spaces in the hope that on mapping into higher dimensional space our data becomes better structured. Our results of proposed model were better than many other approaches for task of facial expression recognition.

The future scope of this work will consist of more experimental trials of trainings with optimization, training hyper-parameters and assumptions of architecture of models to get better more results than base model. Also, more work can be done in studying and concluding results and performance of the proposed model with the help of parameters like confusion matrix and some more plots of graphs for the results obtained to make comparisons easy for us. We may also look upon specific methods of extracting important features from image that plays important role in recognition of emotion or expression

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A CRITICAL ANALYSIS USING ACTIVITY BASED COSTING (ABC) IN PHARMACEUTICAL SECTOR FOR INVENTORY MANAGEMENT: EMPIRICAL STUDY ON BENEFITS, CHALLENGES AND APPLICATIONS

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ABSTRACT

The present business environment has seen a basic requirement of important tools for efficiently undertaking management accounting processes. One such tool is Activity-Based Costing (ABC). This paper presents an analysis of the Activity-Based Costing Method. The paper further analyses the various ways in which this method is used in the businesses and the threats and weaknesses associated with it with a special emphasis on the pharmacy of Dessie Referral Hospital. It is divided into three sections depicting the pricing strategies of the product, efficient costing strategy and analysis with respect to profitability, among others. Activity based costing system has been a vital ingredient for achieving milestones of benchmarking, resource identification and administration, process of Total Quality Management and other management tools. Researchers found a statistically significant relationship between Activity Based Costing success and the concept of measuring activity performance and its further improvement for both American and British companies. The adoption of ABC has restored the importance of management accounting. The enormous costs and technical complexity of the system are the most significant challenges. Dessie Referral Hospital consumed a high portion of its overall budget on the purchase of high-quality pharmaceuticals for its patients. After each fiscal year's end, a strict ABC-Vital, Essential and Non-essential analysis was carried out at the organisation, and the results could be used for making corrections to the records and placing orders thereafter while acquiring.

Keywords: Activity Based costing, ABC in pharmaceutical companies, ABC adoption, Inventory Management, ABC-VEN Analysis.

Introduction

The system of maintaining accounts began in an incoherent and convoluted form, but it has since grown into a rigorous methodology of modern accounting, keeping pace with dynamic economic and technology improvements. This transformation has not happened overnight, just as Rome was not created in a day (Anderson & Young, 1999). Contemporary accounting is the result of a sequence of organised and structured procedures that have existed since the dawn of human civilisation and will continue to do so in the future (Bhimani, 2007).

Accounting has a long history, dating back to the dawn of civilisation. Initially, economic activity was limited to the exchange of nonmonetary items. To keep track of transactions, like these, people began coding using non-monetary measures based on the number of commodities being exchanged (Cokins, 2002). Although there was no formal record keeping system in place at the time, people kept track of their roles using manual system by giving commodities to others by

allocating ticks on trees and cave walls as needed (Cooper & Slagmulder, 2004). Accounting systems were not formed and disciplined at this primitive era, when individuals used accounting that was paper-less by marking ticks on walls and forming knots on ropes. However, with the increasing needs of human beings in terms of keeping track of their properties, there was the gradual development of a more systematized accounting structure thereby leading to an evolutionary phase of accounting systems in the mankind (Horngren, 2009).

The expansion in the number of commercial transactions in the system of bartering, the accounting system evolved as well. Transactions in the barter system was determined in advance by measurement and trade prices. Perara and Mathew (1966) found that challenges in keeping records and other intrinsic factors linked with barter system currency were established presumably in Lydia around 700BC.

Farming and industry thrived during the currency stage, resulting in an increase in the intensity of business as well as the number of

financial transactions (Kaplan & Anderson, 2007). As a result of which accounting practices were defined and formed which further resulted in the introduction of a system to keep accounts of each financial transaction under a different heading in the classification hierarchy.

The development of accounting was found to be undertaken in different geographies. Also, the evolution of accounting took place out of the necessities of humans for recording and keeping track of transactions (Kuchta & Troska, 2007). For example, in Mesopotamia, the ancient accounting procedures were basically based on recording the crops and animals being harvested or herded respectively. While, the ancient accounting system was adopted, there was a need felt to upgrade the system by the passing time due to increasing economic transactions and its complexities (Altawati, Kim-Soon, Ahmad, & Elmabrok, 2018). In Egypt, the humans begun to bring procedures of checking the transaction status in the form of goods movements to and fro the warehouse that were later found to be the emergence of a new system which is presently known as auditing.

From simple to complex coupons representing stock, to clay tablet computers, and finally to the advancement of abstractions and the attempt to write in cuneiform in Sumeria, there has been a long and winding road (3200 BC). During the following 5,000 years, surfaces and materials such as papyrus, bronze and abacus among others were used to record the accounting entries (Akyol, Tuncel, & Bayhan, 2005). A clear indication that financial reporting is socially constructed, as acknowledged by Goldberg, was provided by the recording of complex grain transactions that involved numerous individuals through the use of a system of documents (accounting) (1949).

The modern accounting is found to be developed due to the emergence of series of organized and systematized practices and procedures adopted by the businesses as the time passed from the ancient era to the globalized modern era. This collection of processes has culminated in modern accounting. Accounting techniques developed in the early 1900s were primarily intended to

assist the business owner in recalling financial information, and the only person who would ever read the report would be the business owner or record keeper (Abernethy, Lillis, Brownell, & Carter, 2001). Historical examples of businesspeople calculating profit or loss for the entire commercial enterprise are few and far between, and it is correct that there are very few historical examples of this.

Management and engineers prominently demanded the employing of cost accountants in order to improve the efficiency of production, which resulted in the establishment of the modern cost management trend in the industry. Rather than focusing on cost determination, the scientific cost management movement concentrated on cost control in order to improve production efficiency (Banerjee, Deaton, & Duflo, 2004). As a result, the standard system of costing was established as a reliable method of cost control, rather than the benefits and costs associated with the traditional method of costing (Chandler, 1977). The accurate calculation as well as the administration of overhead costs has been thoroughly described under one of the subject of accounting namely "Scientific Cost Control". Coordination of costs and performance was achieved through the use of timely standard costing reports that had been presented by understanding the concepts from the "Scientific Cost Control" branch of the account which were further available for modifications as per the needs (Cao, Toyabe, & Akazawa, 2006). The cost budgeting and accounting systems were earlier found to be used by different departments and were not integrated into a single system. For instance, the cost budgeting was majorly used by the production department while the accounting systems were handled by the financial department. As a result, the earlier structures were found more concerned about achieving efficient manufacturing as against the achievement of full financial efficiency of the company.

Inventory management has been regarded as the main component of a medicinal distribution system. The main tasks of inventory management in such a system have been found to be related with placing of order, procuring, issuing and interchanging products. It is also

involved in the distribution of products. It is vital that the customer orders are fulfilled in a coherent manner which requires development of supply chain that minimize total inventory costs while also optimizing quality. This is accomplished through the efficient usage of minimal materials.

It is estimated that the hospital spent around one third of the total budget forecasts for enabling procurement of several supplies that covered copious amount of medicines, with the remaining percent being spent on store acquisitions and inventory management. In order to achieve significant improvements in medical store management, it is necessary to implement efficient and effective inventory management.

Drug expenditures in developing countries accounted for 60–80 percent of total expenditures in those countries. However, in developing countries, up to 90 percent of the population purchases medicines with their own money, rather than through the government. According to a study conducted in Tanzania, receiving drugs that were close to expiring was the most common ground that lead to shortage of products. For instance, Saharan Africa is being found to be using inventory control for disseminating medications which led to high stock deficiencies at several times, as well as for demand seasonal changes and facility access interruptions, according to the study.

The health departments have been searching for processes that bring minimization, efficiency and control to the supply management under the healthcare industry. Nonetheless, planning in relation to drug industry is a tangled procedure, and the most common issues that arise when inventory is not surveilled properly and ineffectiveness is a high rate of inventory losses, inefficient utilization of technology, an ineffective supply chain and its management for storing and supplying drugs, inappropriate noting of expiry dates of medicines, provides different, and absurd drug use.

As a result, the chances of lack of stock or more than abundant stock of drugs are multiplied thereby resulting in financial resource wastage/ blockage, increasing spending followed by a decreasing overall healthcare quality provided to the public.

Materials and methods

Research data was gathered and evaluated by the researcher from previous investigations. The researcher identified the questions that the articles were attempting to answer in their respective articles. The researcher took note of the research methodologies as well as the participants in the studies. The researcher went over the findings and came to some conclusions. The areas in which the previous researchers agreed and those in which they disagreed have been identified. Because of the scarcity of related studies in the Pharmaceutical sector, this research review has some limitations. The researcher, on the other hand, included studies conducted by experts in the field.

The logistic information from the e-health commodity management system and physical information were reviewed retrospectively using a cross-sectional study design. All medicinal drugs procured at the Hospital from first day of January in 2013 upto 31st day of December in 2017 are included in this category. In addition to this, Pharmaceuticals purchased through the revenues from drug sale to patients i.e. through the funding system based on drug revolving concept at the Hospital from first day of January in 2013 upto 31st day of December in 2017 were also included in the study. Because all components of the pharmaceutical have same chance of being included in the sample, the sample was considered representative. The annual consumption and spending figures were obtained using the health related information within the e-commodity systems and physical records placed at the medical store of the hospital in each of the years studied. A Microsoft Excel Spreadsheet was used to keep track of the pharmaceuticals. The Vital, Essential and Non- essential data was obtained using the thorough medical remedies as formulated by the medicinal and rehabilitative council of the hospital and made available to the public.

All the procured products were recorded, the proportion of overall price was determined by calculating, and then the drugs were reconfigured in decreasing order based on their prices, whereby products with higher prices were kept at the top of the list. Following that,

the summation of the components were calculated, and rate - limiting step or limits for drugs were ascertained using the rule of vital few to determine cutoff points or boundaries. The ABC-VEN matrix was completed at long last. The data were analyzed with the help of Ms Office tools, and other Microsoft tools that were apt for such analysis.

Result and discussion

The Activity Based Costing analysis of the Hospital for the full period of 5 years on the specific medicinal drugs from the year 2013 till the year 2017 revealed that the year 2015 was the year in which the highest volume of items was purchased. According to the ABC analysis, in 2013, 12.78%, 20.77%, and 66.45% of drugs were classified among the identified classes under ABC system, accounting for 69.64%, 19.98%, and 10.38% of drug expenditures on an annual basis respectively, and fluconazole 200 mg, examination glove medium, and normal saline accounted for 7.9%, 6.7%, and 4.1% of such expenditures, respectively. Fluconazole 200 mg, examination glove medium, In 2014, 45.32% (55), 20.06% (72), and 64.62% (232) of items under classes as per ABC analysis consumed 75.93%, 15.20%, and 8.87% of ADE, respectively, while sodium chloride 0.9% solution and examination glove medium consumed 28.1% and 3.5% of annual expenditure related to drug, respectively. ADE was found in the examination glove medium, ceftriaxone 1 g injection, and sodium chloride 0.9% solution in 2015 and 2016, respectively. The sodium chloride 0.9% solution, propranolol and propylthiouracil 100 mg tablet were found to be 5.7%, 5.5%, and 3 percent of expenditures in 2015 and 2016, respectively. The examination glove medium, gauze surgical, and examine were found to be 5.7%, 5.5%, and 3.7%, 310 (17%), 368 (20.17%), and 1146 (62.83%) of classes under ABC analysis were included in the overall Activity Based Costing analysis of the Hospital for the five year period, which resulted in 2,088,612.1 (75.86%), 434,429.06 (15.78%), and 228,072.07 (8%) of USD ADE in total.

Table 1: ADE description (Part I)

Year	Class	Number of Items	% of items	ADE (USD)	% of ADE
2013	A	40	12.78	236852.12	69.64
	B	65	20.77	67956.15	19.98
	C	208	66.45	35313.01	10.38
2014	A	55	15.32	339938.91	75.93
	B	72	20.06	68039.03	15.20
	C	232	64.62	39720.41	8.87
2015	A	75	17.36	425030.07	77.64
	B	87	20.14	83608.26	15.27
	C	270	62.50	38802.70	7.09
2016	A	73	19.21	491045.38	76.78
	B	76	20.00	98045.88	15.33
	C	231	60.79	50493.57	7.89
2017	A	67	19.71	595745.63	76.52
	B	68	20.00	116779.75	15.00
	C	205	60.29	65992.42	8.48

This was revealed in the pharmaceutical analysis over a five-year period: 771 (43.68%), 967 (54.79%), and 27 (1.53%) of items were pharmaceuticals, with their respective expenditures of USD 2,268,405.64 (84.49%), 411,961.18 (15.34%), and 4483.97 (44.97%) being USD 2,268,405.64. (0.17%). Category I items included AV, AE, AN, BV, and CV items such as Hydralazine, insulin soluble and regular, intravenous fluids, sulfamethoxazole + trimethoprim tablet, ceftriaxone 1 g injection, tetanus antitoxin, carbamazepine and cimetidine 20 mg injection, and from supplies cut gut and syringe, which together accounted for Matrix BE, CE, and BN make up 54.76% and 15.34% of the items in category II, and category III includes chlorpheniramine tablets, talk powder, fluconazole suspension, and infusion, which are represented by matrix CN at 1.53% and 0.17% of items in category III, and ADE at 0.17% of items in category III.

Table 2: ADE description (Part II)

Year	Class	No. of Items	% of items	ADE (USD)	% of ADE
2013	A	1	0.32	4206.50	1.24
	B	1	0.32	1002.33	0.29
	C	8	2.56	855.88	0.25
	Total	10	3.19	6064.72	1.78
2014	A	2	0.56	6220.93	1.39
	B	0	--	--	--
	C	5	1.39	382.00	0.09
	Total	7	1.95	6602.93	1.47
2015	A	1	0.23	5721.26	1.05
	B	2	0.46	2317.53	0.42
	C	13	3.01	8671.22	1.58
	Total	16	3.70	16710.01	3.05
2016	A	1	0.26	5332.85	0.83
	B	0	--	--	--
	C	11	2.89	5850.11	0.91
	Total	12	3.16	11182.96	1.75

2017	A	3	0.88	13502.79	1.73
	B	6	1.76	10288.08	1.32
	C	11	3.24	4519.78	0.58
	Total	20	5.88	28310.65	1.03
Total	A	8	0.44	34984.32	1.27
	B	9	0.49	13607.95	0.49
	C	48	2.63	20279.00	0.74
	Total	65	3.56	68871.27	2.50

Benefits

There are various merits of the Activity Based Costing system with respect to the operational management of a company. An evaluation of the system's financial implications. ABC can persuade management that they need to take steps to become more competitive in order to survive. As a result, they can work to improve quality while also reducing costs. Because of this analysis, it may be possible to identify the most expensive manufacturing processes, which in turn may spur activity in the areas of process organisation, quality improvement, and cost reduction. This is more reasonable because the management will be able to conduct competitive bidding.

The ABC system can assist management in making decisions about what to buy and when to buy it, among other things. In addition to more accurate costing, the decision will be made by the management team as it gets better and more accurate over time. This is based on the accuracy with which the cost of products is calculated, which has become increasingly important in today's competitive environment. In order to continuously improve by conducting an activity analysis, the ABC system makes it possible to eliminate or take corrective action against non-value-added or inefficient activities. It is closely associated with the company's low productivity.

The traditional system conceals a large number of costs that are less relevant (cost reduction), making it more difficult to determine whether costs are less relevant (cost reduction). It is possible to identify and eliminate the sources of these costs that were caused by the ABC transparent system. With improved cost analysis, management will be able to make precise estimates of the production quantity required to achieve equalization for lower items.

The current business developments have presented the importance of using operational performance and financial performance of a

business by linking each other using an efficient management tool. The Activity Based Costing has been seen as such management tool that is studied under the cost accounting concepts (Paduano, 2001; Cagwin and Bouwman, 2000). Canby (1995) asserts that Activity Based Cost systems are capable of aligning the business goals and objectives with the business activities by analyzing how they are performed. Businesses are increasingly bending their existing systems towards the Activity Based Costing Method in order to materialize the merits which have a direct or indirect effect on the overall financial performance procedures (Dixon, 1996), (Kwon and Zmud, 1987), (Roberts and Sylvester, 1996). For example, Cagwin and Bouwman (2000) investigated the effect of Activity Based Costing on around 200 big companies in the United States and discovered a statistically significant and direct proportional relationship between Activity Based Costing and commercial performance as identified by three- and five-year ROI.

ABC adoption in the public sector is emphasized again by Buttross and Schmelzle (2003), who argue that such adoption will result in provision of the required information regarding the cost of government services that will help in undertaking the vital strategic decisions. Several authors, including Brimson (1991), Maiga& Jacobs (2006), have noted that Activity Based Costing could be efficiently used by the business management in order to generate enough resources for carrying the business operations effectively as well as terminating the underlying issues and waste in addition to bringing operation decisions in line with the business strategy of the business. Granof, Platt, and Vaysman (2000) argue that Government sector Organizations like the agencies, NPOs and other public companies could be able to streamline their financial management with the overall business operations and strategy using the Activity Based Costing System which will enable the organization in measuring the inputs as well as outputs of their operations. They argue that this will allow them to manage their finances more effectively. Finally, Brimson and Antos (1994) provided examples of successful ABC implementations in the United States public

sector, including telecommunications, parcel post companies, hospitals, electricity and gas utilities. According to the authors, Activity Based Costing assisted these sectors in bringing their expenses and related costs under control.

Challenges

A survey-case study method was selected by Sartorius, Eitzen, and Kamala (2007) in order to determine the causes behind the option chosen by the business organizations in diverse geographical locations in relation to the application or non-application of Activity Based Costing System. The findings indicate that the scope of Activity Based Costing application in South Africa is less extensive than that found in advanced nations, but the evidence is not definite on this point. The findings also suggest that the issues faced by Activity Based Costing applicators in South Africa are comparable to those obtained by ABC implementers in a wide range of other countries. The findings, according to the authors, provide companies of such region with an approximately similar system of vital variables to consider when applying the Activity Based Costing. As part of their research, Wessels and Magdalena (2000) compared the nature and extent of organizational issues that companies in the developed countries like United Kingdom, the USA, and Australia encounter when implementing activity-based costing. They found that South African companies experienced more problems than the companies in the United Kingdom, the USA, and Australia. The investigation included a review of the available findings as well as an actual investigation of the companies that are publicly traded in South Africa. Contrary to the findings of international studies, the findings of this study indicate that companies in South Africa have lower rate of struggle or trouble in getting the required direction and suggestions from the upper level management staff. Further, the budgets allocated towards the staff under the Activity Based Costing were also found to be sufficient and acceptable. According to the findings of the study, Activity Based Costing goals are consistent with organizational goals, corporate customs, and organizational strategy. However, while applicators have received

adequate training, the lack of training received by management and users were perceived as a barrier to positive results, and in the most of companies, other workings take priority over the Activity Based Costing project, according to the survey. Taba (2005) conducted an investigation into the perceptions of employees about ABC application, the benefits of Activity Based Costing application, and the situation that influence the potential advantages of Activity Based Costing application at the South African Post Office. He discovered that technological aspects like excessive application costs, inefficient data and a lack of cooperation between departments all contributed to the failure of ABC's implementation. The systems related to costing procedures of 45 Private Higher Education (PHI) institutions in South Africa were examined by Naidoo (2010) over the period 1990 to 2005, according to his previous research. PHIs were found to be using cost accounting systems, around 70 percent were found to be transitioning to more develop costing procedures, such as Activity Based Costing systems, according to the findings of the paper. However, according to the findings of the study, when considering the size of the PHIs as per the total of students, the expenses in relation to the implementing modern cost systems outweigh the benefits. The study concludes that the findings are not found to be exclusively essential to the public education organizations, investors, and shareowners, but they are also important to potential foreign investors from countries such as the USA, England, and Australia who are interested in investing in higher education sector of South Africa as a strategic priority.

Application

As one of the most resource-intensive industries, the healthcare industry is constantly looking for new ways to remain competitive in a market where the proportion of running costs out of the overall cost structure has increased as a result of globalisation. Janne&Jarvinem sought to understand the motivations and rationales behind the implementation of ABC practises in Finnish hospitals, which began in the 1990s and continued until the present day. She used case studies of co-integration to do so. Janne Jarvinem is a professor of linguistics at the University of Helsinki who has a

particular interest in the history of language. When the first preservation case study was conducted, it was decided to include documents created between 1996 and 2002 in the first preservation case study. The second example, which contains information from a hospital precinct activity-based cost accounting project that took place in 2000–2001, is based on data from research diaries and personal observations, according to the authors. The third case report, which was based on document analysis and field work, examined the development of budgeting and the likelihood of costs in a personal, non-profit hospital setting. The results and data from this study were analysed using institutional theory, which was defined by Roberts and Greenwood (1997) and was based on their definition of institutional theory. An often-quoted definition of this concept is that an organization's rational and efficient actions are hampered by both structural and financial constraints.

To determine how widespread the use of activity-based systems is in Ireland at the moment, it was decided to conduct a survey among all health-care facilities in the country. The results of the survey will be shared with the relevant stakeholders. Activity-based costing has been implemented by 55 percent of those who answered the survey's questions, according to the findings (Aljabr, 2020). This increase is significant in comparison to previous research on ABC/M implementation across other industries in Ireland – specifically manufacturing firms – which found a significant increase of only 10%. Companies that have implemented activity-based pricing in their hospitals did so in specific departments (such as the laboratory and radiology divisions) rather than implementing activity-based costing throughout the entire hospital, according to the survey results. ABC has been implemented in only two departments across the entire hospital, making it a rare occurrence in the medical field. For example, among the questions asked in the survey were those regarding the causes of applying Activity Based Costing, the advantages that were perceived and realized in the process as a result of doing so, and the causes of not applying the Activity Based Costing at all? Numerous elements contributed towards the adoption of

the system, including the need for more relevant and accurate patient cost data, which would enable greater progress toward lowering rapidly rising healthcare costs. A number of other issues were raised, including the need for more relevant and accurate patient cost data, which would allow for greater progress toward lowering rapidly rising healthcare costs.

Many sites have reported difficulties in implementing activity-based costing, with the primary reason cited as a lack of progress in the development of technology infrastructure necessary to effectively implement the method. In response to the survey question, 45 percent of those who responded stated that the cost and time required to implement activity-based costing were the primary reasons for not implementing it. It appears that 45 percent of the responding health facilities have not given any consideration to the possibility of implementing activity-based costing at this point in their operations, which is consistent with previous findings in Ireland or elsewhere (Gerardine Doyle et. Al, 2008).

Because of technological advancements and increased competition, healthcare organisations were compelled to broaden the scope, improve the quality, and make their services more easily accessible to their patients.

Increased interest in exploring and more efficient use of scarce resources resulted as a result of this, which was reflected in an increase in the popularity of the subject matter. An ABC model that was developed or utilised in urology division of a teaching hospital to obtain information on asset consumption in order for decision making in order to achieve optimal outcomes is presented in this study as a very practical tool for obtaining information on the consumption. This approach also has the advantage of being easily adaptable to other departments within the facility, which is another plus. As calculated by ABC, the costs of therapeutic interventions and surgical procedures vary significantly depending on the amount of resources used to perform the procedures (Arora & Raju, 2018). The ABC model was able to improve the allocation of external costs while also increasing the sensitivity of the calculation of actual expenses. This was accomplished through the use of motion and time studies.

Discussions

Drug inventory management methods that are scientific in nature are required for good and productive medical care. Using Activity Based Costing classifications, an asset manager can allocate priority for stock limit and secondly, encourage efficacious pharmaceutical stock control with minimum financial resources, while still keeping the necessary minimum stock levels of elevated medicines and reducing the quantum of drug hoarding problems.

The ABC- Vital, Essential and Non- essential matrix assessment of pharmacological stock at the Hospital was evaluated as part of the research. The findings indicated that pharmaceutical inventory levels required additional attention because only a small number of items (17 percent) consumed the major part of drug expenditure (75.86%) in the pharmacy. The intake, storehouse stability, and stock availability should be audited on a regular basis to ensure that the stock level remains constant.

Similar items such as antibiotics such as ceftriaxone 1 g injection, fluids such as sodium chloride 0.9 percent solution and ringer lactate, supplies such as examination glove moderate and gauze surgical, as well as others such as propranolol and thiouracil, were found to be in the same category (A) over the course of 5 years. This could be because of the increased intake levels, excess stock, and/or an increase in the price of drugs; however, examination glove medium may be used extensively by students so because the Hospital offers referral-level care and serves as a clinical attachment site for health sciences students at the Hospital. According to the findings of the current study, from 1,824 medicines, 17% did belong to category A, which devoured approximately 75.86% of drug expenditure. To effectively manage drugs in category A, rigorous regulation at the management level, correct demand predictions based on data, close monitoring of budgetary control, a minimum safety ordinary shares, staggered sales order, and an appropriate purchasing, issuing and inspecting strategy are all essential components.

Categories B and C accounted for 20.18% and 62.83% of items, respectively, equating to 15.78% and 8.31% of the total amount of ADE

generated in the pharmacy industry. Category B medicines necessitated average control measures, whereas category C drugs necessitated the bare minimum in terms of ordering and purchasing. Items in the C class can be retained with less stringent control and a higher level of safety stock. The ABC classification system, in conjunction with other management processes, could be implemented to create counting schemes. For items in the A and B classes, perpetual or cyclic trying to count could be used, whereas annual going to count could be used for items in the C class.

Comparing the results of the current study with those of similar studies conducted worldwide revealed a significant difference (Table 6) in the percentage of items obtained. The variances occurred due to the reason that all of these hospitals had varying levels of medical care, pervasiveness of disease conditions, job abilities, and monetary resources, among other factors. Results of the study were comparable to those of a black line specialized hospital study and to those of a similar hospital study in which there was a slight deviation from Pareto's principle. This resemblance may be due to the fact that all health-care facilities are required to purchase the majority of their pharmaceuticals from a single supplier, the Pharmaceutical Fund and Supply Agency.

It has been clear to view the zigzag nature of graph. The solvent effect was first nullified as blank reading. path length of cylindrical cuvette/cell was 1 cm^3 . Zero solvent absorbance line clearly indicates that there is no effect of solvent on the absorbance spectra of pure SnO_2 and composite 1%, 3%, 5%, 7% and 9% CuO incorporated into pure tin oxide (SnO_2). The variation of absorption coefficient with percentage composition follows the linear graph which was inclined in downward direction as depicted in fig . 6. According to Karthik et al., (2008). and Mursal et al., (2018) particle size and morphology plays an important role on the spectroscopic investigation of different constituent of tin oxide composite material.

Conclusion

Dessie Referral Hospital devotes 64.98%, 28.66%, and 6.36% of ADE, which accounts for 62.99 percent, 24.51%, and 12.50% of

medicines, emergency aid, and research lab starting materials, respectively. Dessie Referral Hospital needs to spend 64.98 percent, 28.66 percent, and 6.36 percent of ADE. This indicated that a significant amount of money had been allocated to the purchase of drugs, materials, and laboratory reagents, among other things. All of the findings from each individual year were consistent with the overall outcome of the study.

The Hospital consumed a large portion of its financial statement forecasts on the purchase of high-quality pharmaceuticals for its patients. It was discovered that Category A items had the lowest number of drugs but the highest cost. This highlighted the importance of maintaining strict stock control to prevent waste production and the productivity of wealth in buffer stocks.

More priority must be given to essential items, and sufficient stock should be maintained and updated, as roughly half of the ADE was engaged in such items in the first place. Items in Category I included life-saving and life-sustaining drugs that were extremely expensive. Despite the fact that they should be available in the store, a small safety amount of inventory should be kept on hand at all times. The total cost, the A class, the B class, the C class, and the E class items were all found to have statistical significance. After each fiscal year's end, a strict ABC-Vital, Essential and Non-essential analysis should be carried out in the hospital, and the results could be used for making corrections to the inventory and placing orders for the following procurement period.

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**REVEALING THE MEANING OF CLOWNFISH (*AMPHIPRIONINAE*),
A MARINE ORNAMENTAL FISHBASED ON MYTHOLOGIES BY ROLAND
BARTHESIN SPEMONDE ARCHIPELAGO, SOUTH SULAWESI PROVINCE**

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ABSTRACT

This study aims to investigate the meaning of Clownfish (amphiprioninae) as the name given by fishing communities in Barrang Lompo Island. The naming system on a fish is of such importance among the people in the Coastal of City Makassar because it serves as a symbol to mark each fish they have caught. This naming is influenced by the local language used by the fishing communities, the unique characteristics of the fish, and the cultural background culture among the agrarian societies. This study is intended to find out the criteria used in naming fish, the meaning of the given name, and the cultural background influencing it. First, the data was collected by observing the fishing communities in Barrarang Lompo Island. Then, the data was taken through direct interviews with respondents coming from the fishing communities in Barrarang Lompo Island which was carried out by recording the dialogues and matching fish pictures owned by researchers with the information on fish names derived from the respondents. The research data were fish names used by the fishing communities in Barrarang Lompo Island. This study was analyzed based on the work of Roland Barthes' semiotic theory. From the research conducted, it can be concluded that the meaning of myth and countermyth is formed in the naming of marine ornamental fish in the Coastal Water of Pangkajene Regency, South Sulawesi Province since the myth in each naming is always accompanied by another myth called countermyth. It is usually found in a society that has been open to the outside world.

Keywords: naming, marine ornamental fish, clownfish

Introduction

Naming, according to Kridalaksana (2008), is a process of searching for language symbols to describe objects, concepts, processes, and so on. This process is usually carried out by utilizing the existing vocabularies, such as possible changes in meaning or word-formation. It is performed by the fishermen in Barrang Lompo Island, Makassar, South Sulawesi by using their daily language to give the name on a fish that they have caught. For example, the name changing can be seen from milkfish (*chanoschanos*), is a popular Southeast Asia food fish. The people of South Sulawesi call it *bale bolu*, the naming of *bale bolu* was based on one type of Bugis traditional cake named *beppa bolu*. This cake can be used as a substitute for staple food, durable and authentic Bugis souvenirs that you will bring back from your travels.

As for the naming system on a fish, there are also those with the same referent but have different names. For example, the types of sharks, namely hammerhead sharks (common name) and *tononggo* sharks (names in the Depok Beach area). It is the same type of fish. However, the basis for naming the fish is

different, namely (1) refers to the head form horizontalhammer-shape and (2) refers to the location of the fish that are *tononggo* (neighbouring).

The naming of marine fish caught by the fishing community in Barrang Lompo Island is different from the naming given to people or buildings. The naming system of people and buildings is certainly rendered as a prayer or a hope. However, the naming system of fish concerning the mindset of language speakers within the area. Changes in people's livelihoods from being farmers and then becoming fishermen certainly provide new knowledge about the physical characteristics of the fish they catch. This further influences the process of the naming system of fish that are unique and based on their culture.

Naming is the process of symbolizing a reference concept. Naming was born not from things that were invented but it was existed before humans were created, in the Qur'an Allahtaught Adam all the names of things, then presented them unto the angels (Qur'an, 2:31).

In this connection, Aristoteles (384 BC-322 BC) a Greek philosopher, student of Plato and teacher of Alexander Agung argued that naming is a matter of convention or mere

agreement among members of a language community.

There are two things in modern society. First, society assumes that intuition and intellectuals are the main supporters because they occur naturally. Second, society considers language as a conventional medium.

According to Novia (2008), conventional is a custom based on surrounding conditions that is carried out by agreement or acceptance.

Based on the things that have been described previously, it can be concluded that the names of objects have existed since the creation of human beings and developed along with the development of civilization. Furthermore, by knowing the cultural background of the fishing community in Barrang Lompo Island, this research will be studied semiotically because this branch of linguistics studies the meanings of language in connotative and tries to find the hidden meanings behind the use of language. The linguistic aspect in this study is the use of Bugis and Makassar languages as daily language, which is also the main basis for naming various types of fish. In particular, this research will examine the perspective of the fishing community in Barrang Lompo Island, Makassar City, in terms of naming the fish they catch. In this connection, fishermen have traditionally believed that the naming of fish has its meaning. The cultural values contained in it cannot be separated from the traditional tendency of the fishing community regarding the existence of kinship and affection, the existence of the area in the form of introduction or environmental preservation, and the majority of the population is Muslim, consequently, rendering names that contain obedience, gratitude and prayer.

Roland Barthes, a French philosopher, was born in 1915. He was born in Cherbourg and grew up in Bayonne and Paris.

During his lifetime Barthes was known as the successor of linguistic and semiotic theory from Ferdinand de Saussure. Through a number of his works, it can be seen that Barthes not only continued Saussure's thinking about the relationship of language and meaning, but his thinking also surpassed Saussure's, especially when he described the ideological meaning of the language which he presented as a myth.

Barthes's (1972) semiotic theory argues that a name has three main analytical components, namely (1) denotative meaning, (2) connotative meaning, and (3) myth.

The idea put forward by Barthes (1957:114) emphasizes the interaction between the text and the culture and personal experiences of its users, as well as the interaction between the conventions in the text and the conventions experienced and expected by its users.

According to Barthes (1972), semiotics has several key concepts, namely signification, denotation and connotation, and metalanguage or myth. According to Barthes, signification can be understood as a process in the form of action, which binds the signifier and the signified, and which produces a sign. In the process, the two parts of a sign depend on each other in the sense that the signified is expressed through the signifier, and the signifier is expressed by the signified. For example, the word "fish". When we integrate the signifier "fish" with the signified "animals live in water", then the sign language of "fish" emerges. This process is referred to as signification or a signification system.

Meanwhile, in semiotics, denotation and connotation are two terms describing the relationship between the signifier and its signified. In addition, denotation and connotation also describe an analytic distinction made between two types of signified namely a denotative signified and a connotative signified. Denotation and connotation are often described in terms of levels of representation or levels of meaning.

Furthermore, Nugroho (2020) said that in the semiotics of Roland Barthes were found several terms including the first level, the second level and myths. The three stages are explained further below.

a. The First Level of Signification (denotation)

In semiotics, the first level contains Denotation namely image, object, or picture as it is. At this level, there is a sign consisting of a signifier and a signified. Denotation is what we think of as literal, fixed, and has a dictionary meaning of a word that is ideal that can be universally agreed upon. Barton and Beck, (2010: 108) state that the first level of signification is what de Saussure calls denotation. Denotation is a

process through which everyday meanings are created that are clear and following common sense. The signifier and the signified together do they form a sign, and it is used in a series of signs to produce various meanings.

The term denotation is often juxtaposed with the term connotation. Denotation is the actual meaning of the word, the literal meaning of a word, or also known as lexical meaning or the meaning found in the dictionary. In other words, the meaning of denotation is a meaning that is close to the literal meaning of an object. According to Yuniarti (2014), denotative meaning is the meaning of a word or group of words that starts from a straightforward relationship between language units and forms outside the language that is mixed appropriately. According to Chaer (2013), denotative meaning is a meaning that is following the results of observations according to sight, smell, hearing, feeling, or other experiences.

According to Parera (2004), denotative meaning is the actual meaning, natural, which appears first, it is the literal meaning, and the meaning is following reality.

Based on the description above, it can be said that denotative meaning is the meaning of a word or group of words that are following the results of observation, original, reality, smell and sight, the actual meaning, general, literal, does not interfere with taste values, and is not in the form of a figure of speech. In addition, the meaning of denotation is an important or central meaning that is based on a straightforward designation of something outside the language or which is based on certain conventions and is objective

b. The Second Level of Signification (connotation)

The second level of signification contains connotation (additional meanings), namely images, objects, or pictures containing something that does not fit as it is or contains an associative change in the meaning of the word. According to Barthes, this only applies at the theoretical level. On a practical level, limiting meaning to a denotative will be very difficult because signs always leave traces of meaning from the previous context. The second level of signification defined by Barthes is called connotation. At this level, the whole sign

created in denotation becomes a sign for the second round of meaning emergence. The signifier at this level is the context, both personal and cultural, in which the reader, listener or observer of the sign understands and interprets it.

Subet (2018) argues that every word spoken has a connotative meaning and requires deep understanding. In this connection, each name or term will acquire a connotative meaning and this connotative meaning will increase to a mythical meaning. Connotation theory then means a word that is linked to thoughts that creates a sense of value in someone when dealing with a word or it can also be interpreted as meaning added to the meaning of denotation.

According to the Great Indonesian Dictionary (Depdiknas, 2008) connotation is an additional meaning, namely meaning beyond the actual meaning (figurative meaning). In other words, the meaning of connotation is the meaning of words that are related to the value of taste.

The term connotation can be divided into two types, namely positive connotation and negative connotation. A positive connotation is a figure of speech that has a good or positive meaning. On the other hand, a negative connotation is a figure of speech that has a bad or negative meaning.

Fatimah (2018) argues that in semantic science, connotative meaning generally refers to the implicit meaning of an utterance.

Based on the description above, it can be understood that connotative meaning is seen as meaning that is related to culture, context, use, experience, estimation, emotion, education and worldview. In addition, the connotation can also be interpreted as meaning that is not related to the reference from denotation but has additional factors such as emotion, formality, and is usually a euphemism. Meanwhile, the connotation is ideological, a certain sense of value given to a word or symbol at the individual level, when this has become a collective (social) belief or perception, that perception is called a myth. Each type of naming will acquire a connotative meaning and there is a possibility that this connotative meaning will increase to a mythical meaning.

Myth is derived from the Greek word, *mutos* which means story. It is usually used to

designate an opinionated story or an artificial story that has no historical truth. Nevertheless, such stories are still needed apart from being a variation so that humans can understand themselves and their environment. The word myth is often heard in everyday life. It is traditionally defined as a story or narrative that expresses a layered aspect of human existence, such as the myth of human origins or the myth of cosmology. Often myths are irrational, different from the rational working logos. But when we use the word 'myth' in Barthes semiotics, we must be careful because its meaning is not entirely the same as the traditional definition. Myth is one of the interesting studies in anthropology (Levi-Strauss and van Peursen's cultural philosophy). This is what Barthes tries to theorize using a semiotic approach. He found that even modern society is surrounded by myths, modern society is also a producer and consumer of myths. These myths we hear not only from old people and books about old stories, but we find them every day on television, radio, speeches, and so on.

Myths present a set of basic beliefs and display meanings that are formed or natural. The ideological value of the myth appears when the myth provides its function to reveal and justify the dominant values that exist in society and will then give birth to counter myths.

According to Barthes, there are two big mistakes in modern social life. First, people think that institutions and intellectuals are a good thing because they are embedded in something natural. The second is to see language as a phenomenon that is more than a set of conventional signs. As in his book entitled *Mythologies* (1957), Barthes tries to analyze and criticize society. Where images and advertisements, entertainment, popular culture and literature, as well as goods that are consumed daily are examined subjectively in their results and applications.

In *Mythologies*, Barthes describes a new concept of myth. Myth is a message that the creator of the myth wants to convey and is not a concept, idea or object. Myth is a way of conveying a message, it is the result of speech, not language. What myths say is important and provides a disguise when incorporated into

ideology. Myth is concerned with what to say, it is not a lie or a confession but a twist.

Myth is described in three elements using the same naming as the first stage semiotic system, namely the signifier, the signified, and the sign itself. However, Barthes distinguishes it in a two-stage significance, namely the name of the form, the concept, and the signification between form and concept.

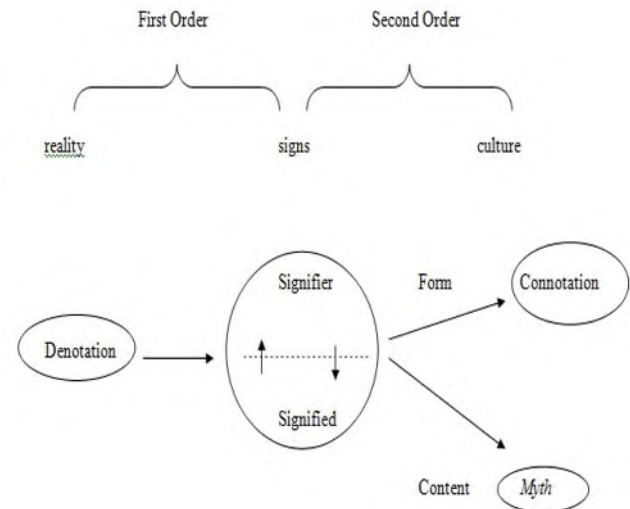


Fig 1: The Two-Stage Significance Process based on Roland Theory

The myth was created not to frighten but was created by the bourgeoisie (a group of individuals who control the means of production and the entire series of production systems) to perpetuate its power over the proletariat (labour). Myths are visible, so their effectiveness is certain, it is just that to reveal myths needs to be distorted. Messages in myth need not be interpreted, deciphered, or omitted. To read an image as a symbol, for example, is to let go of the reality of an image. If the ideology in the picture is clear, then it does not act as a myth. On the other hand, for myth to work, it must appear completely natural. Barthes brought and defined the concept of myth. In the end, myth is a second-order semiotic system.

In myth construction, a sign is a second level semiotic system. The sign is a combination of the signified (meaning) and the signifier (form) in the first system to become a signifier in the second system. In the first system, the linguistic system or object language is a myth that will form its system. Myths are formed by linking with socio-cultural aspects in society from outside themselves and as a system

reference system. Thus, the myth is motivated by an ideology of naming ornamental fish.

In signification, ideology as a referent system becomes a signifier in myth. Ideology is a signifier of the second system, a concept, view, and a signifier is a form of myth. So, the concept of view that forms the basis for the formation of a meaningful sign is called ideology. Ideology penetrates the signification of the sign and becomes the signified (meaning). When the meaning is steady, accepted as natural or natural, then it becomes an ideology.

Myth implies a very familiar and influential structure of social meaning. Often myths gain traditional and historical acceptance. The myth appears in the text as a sequence of connotations. Myth hides its identity as a social meaning among the meanings for the sign as the only natural meaning. At the text level, myth is parallel to sign and denotation acts as a connotation that looks true. A sign is anything that produces meaning (Thwaites, 2009).

Myth occurs when culture is taken as something natural, or when social, cultural, ideological and historical qualities become natural. All of these things are common to all societies.

Contemporary myths are discontinuous, no longer present in the form of long narratives with a standard format, but only in the form of discourse. Myth according to its substance is a misleading thing, because myth is a kind of speech, everything can be a myth if it is conveyed through discourse.

Based on the background described above, the research problems are (1) the connotation meaning increases to myth (2) the formation of mythical meanings and counter myths in naming an ornamental fish, clownfish in the Coastal Water of Pangkajene Regency, South Sulawesi.

Methodology

In this chapter, the methodology will be systematically explained, such as the research type and approach, data source, data collection method and technique, and data analysis method and technique.

This research methodologically adopts an interactive qualitative method with a data source to get meaning. Semiotic theory, as a

communication theory, has a function to virtually analyze everything being a part of the communication field including interaction, media, organization, context, culture, and so forth. This research theoretically adopts a semiotics approach to analyze how the sign system proves that a name is opened towards an interpretation through additional meaning or connotative meaning.

Result and discussion

The technique of data analysis used in this research is based on the semiotic theory by Roland Barthes. It is explained that the first stage of signification is the relationship between the *signifier* and the *signified* in a sign towards the external reality. Barthes defined it as denotation which means the most real meaning from the sign. The second stage of signification means a term used by Barthes to refer to connotation. This explanation depicts that the interaction happens when a sign deals with a feeling or emotion from the readers and their cultural values. Connotation consists of a subjective meaning that will rise a myth.

1. The Change of a Connotative Meaning into a Myth in the Marine Ornamental Fish Naming

There are two stages of meaning in the changes of a connotative meaning into a myth in the marine ornamental fish naming, such as 1) the first stage of semiotics, and 2) the second stage of semiotic.

a. The First Stage of Meaning



Fig. 2 Fish (Source: The Association of Coral and Ornamental Fish Sulawesi)

The *signifier* in the figure of fish(3) is *clownfish* well known as *anemonefish* that has a bright orange body, three white stripes, and a little black colour in the head, body, and tail base. The bones in the face and under the eyes do not have long spines and are shortly serrated. The dorsal fin spines do not have a similarity in length.

The *signified* in the figure of fish (3) is the description of the orange fish with white stripes as above that is being an inspiration for Nemo character and the father in the "Finding Nemo" movie.

The orange colour is a symbol of warmth for a relationship and of fiery passion. The colour has a philosophy as a symbol for those who love travelling, raising confidence, evoking big optimism, and rising strong willingness in socializing. In addition, the name of clownfish is indeed more famous since the bright colour is believed to be similar to the costume of a clown.

The *Signification* that ties the *signifier* dan the *signified* in the figure of fish (3) indicates the pattern and the bright orange colour in this kind of fish are the strongest attraction that clownfish has. The attraction causes the fish called Nemo to have a high price in the market. The shape and the orange colour which is similar to a clown are identical to this fish as a fish for entertaining purposes. The depiction of orange fish with white stripes becomes an inspiration for Nemo character and the father in the "Finding Nemo" movie.

Clownfish denotes a fish that has a pinky small sturdy body with white stripes variation. The colours are similar to circus clown makeup so that the fish is well known as clownfish. The fish is also known as *anemonefish* which has a bright orange body. It is called *anemone* because it has a symbiosis with sea anemone that seems like plants. However, the sea anemone is a kind of anemone animal if it is looked at closely. Sea anemones will protect clownfish from predators and clownfish will clean the anemone by eating the anemone food remainders and parasites. As the character of the clown, clownfish will get anemone' predators out, like butterflyfish, when they will prey on the anemone.

b. The Meaning Changes of Myth into Contra Myth in the Marine Ornamental Fish Naming

The contra myth of clownfish is explained in the video uploaded by Ashari (October 01, 2020). It states that all clownfish are indeed born male. Clownfish live in a group consisting of several clownfish. In the group, they are two top positions that only the two biggest clownfish can get. The biggest one will change

its sex into a female, that has to lay eggs. The second one becomes a fertile male that has to fertilize the female. Meanwhile, the other one will only be an ordinary male that is inactive sexually. If the female dies, the fertile male will level up to be a female. The other biggest ordinary male will also level up to be a fertile male. The main fertile male does not only fertilize, but also prepare a place for the female to lay eggs safely. Then, the father will take care of the eggs and clean up the nest from dirt. Clownfish cannot swim in a way. They can swim fast to avoid predators but in a short time and distance. Therefore, clownfish depend on sea anemone's protection, not on their swimming ability. In the sea, clownfish can live along until ten years. While, if they are maintained, life expectancy is only two to five years if they live in not their original habitat.

In the Ashari uploaded video (October 01, 2020), the contra myth of clownfish is explained that all clownfish are indeed born as males. Clownfish live in a group containing several clownfish. In the group, there are two top positions that only the two biggest clownfish can have. The biggest one will change into a female that has to lay eggs. The second one will be a fertile male that has to fertilize the female. The other ones will only be ordinary male that is inactive sexually. If the female dies, the fertile male will level up to be a female. The other biggest inactive male will level up to be a fertile male.

The structure and class societies, such as traditional fisherman society, modern fisherman society, and marine ornamental fish fans, have different views about a fish. The myth presence in the naming process has passed a creative process. Myth phenomenon has passed a new understanding and interpretation. Myth is used as a glue within society, that can explain reality and culture. It guides something real and important for social life.

Conclusion

The meaning of myth and contra myth is shaped in the marine ornamental fish naming in the waters of Pangkajene and the Islands regency, South Sulawesi province as a myth in every naming is always followed by another myth called contra myth. It is usually found in

the society that has been opened to the outside world, such as (1) coastal fishermen who have been touched by culture and the use of modern tools so that they leave the old habits, (2) the education level that begins to improve with their awareness to continue their children education along with the government program in building education facilities in the coastal region, such as higher education of Pangkep

State Polytechnic of Agriculture and Faculty of Fisheries and Marine Science of Universitas Hasanuddin at Barrang Lompo island, and (3) Religious activity implementation in religious life that gives many namings and terming to the marine ornamental fish in the Coastal Water of Pangkajene Regency, South Sulawesi Province.

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EVALUATION OF PARENTS PERCEPTION ABOUT THEIR TEENAGE CHILD BEHAVIOUR AND THEIR PARENTING ISSUES FOR INFORMAL EDUCATION

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ABSTRACT

Sources cite common ideas in research and literature on the relationship between parents and children, such as the importance of parents' interaction with their children and the importance of the child's development in the areas of physical, emotional, social, and intellectual development in the development of a person's personality. The child's connection with his father and mother, as well as their fundamental views toward him, are all significant aspects in his or her growth as a person. Parents should show their affection to their children and encourage them to gain their security. Respect and affection for children come first, even before the child's fundamental physiological requirements are met. In this paper, we studied the parent's awareness and knowledge about behaviour of teenagers and their parent's attitude towards them. We used percentage, tables and graphs for analyzing the data.

Keywords: Parent, Child, Awareness, Attitude, Graphs.

Introduction

Man is a very adaptable creature. His education begins with his birth and continues throughout his entire lifetime. As a result, learning is the most important and fundamental process. Education is a normal procedure that aids in this search for truth. It is necessary to examine everything that contributes to the growth of a kid when we claim today's education is child-centered. In most cases, this type of learning is accomplished through the sharing of experiences. Such experiences are gained by the kid as a result of his or her environmental stimuli and other people. As a result, in a broad sense, everything or anybody that provides a kid with the chance to learn via interactions qualifies as a teacher for him. It is perhaps the most distinguishing characteristic of the human species that it is constantly learning and developing new abilities. As seen in Figure 1, there are various fundamental forms of learning that may be distinguished based on the structure of the body of knowledge to be taught and the importance placed on teachers? As with any form of human learning, other people's influence is inevitable; however, in this paper, the distinctions drawn from the adult education literature and proposed in this paper are based on the degree of directive control of learning; they range from dominant teacher control to other forms that involve teachers/trainers/mentors to dominant learner control. Education, which derives from the Latin verb (*educere*), which means "to lead

forth," encompasses three types of learning that are distinguished by the presence of a teacher, the presence of someone presumed to have greater knowledge, and the presence of a learner or learners who are presumed to have less knowledge and who are expected to be instructed or led by said teacher. Education is defined as "the process of imparting knowledge to others." When a teacher has the authority to determine that people who have been designated as requiring knowledge are effectively learning a curriculum drawn from a pre-established body of knowledge, the form of learning is formal education, whether in the form of age-graded and bureaucratic modern school systems or elders initiating youths into traditional bodies of knowledge, formal education is the mode of instruction. When learners choose to further their knowledge or skills by studying voluntarily with a teacher who assists them in pursuing their self-determined interests through the use of an organized curriculum, as is the case in many adult education courses and workshops, the form of learning is referred to as non-formal education or further education, respectively. Informal education or informal training is a type of learning that occurs when teachers or mentors take on the responsibility of instructing others in more incidental and spontaneous learning situations, such as guiding them through the acquisition of job skills or the participation in community development activities, without the use of a

sustained reference to an intentionally organized body of knowledge. All other types of deliberate or tacit learning in which we participate either individually or collectively without relying on an externally-organized curriculum can be categorized as self-directed or collective informal learning, depending on who is doing the learning.

I. Literature Review

Marisa Costa (2017) Parental job in the young people's improvement is generally portrayed as trying, especially with respect to their association in school education. Fully intent on inspecting parents' insights about parenting job, parental association and family-school organization in the optional school, two center gatherings were led with parents in two state funded schools. Results, by and large, show that the foundation of rules, observing and support were exceptionally difficult and essential to the teenagers' turn of events. Parental inclusion change all through school and a few reasons were brought up to the progressions saw in optional school: the requests of the degree of education, the absence of time, youths' independence, and educators' correspondence style. Concerning school relations, the parents shared various encounters about the manner in which the organization was advanced and created.

Panahi (2015) this paper means to explain the idea of youths' issues and job of parents, instructors, and local area in adjusting or evolving them. Numerous writing audits have focused on the connection between teenagers' issues dependent on a few speculations and variables. In such manner, it is sensible to allude to personality arrangement during pre-adulthood, speculations of juvenile, parenting styles, significant assignments of parents and educators, and local area concerning direction and backing during the time of character arrangement, job of utilized parents in youths, local area and young people, instructor and moral advancement in schools, lastly, factors causing the puberty issues, and intercession programs. Along these lines, it very well may be prompted that the components referenced above would be significant perspectives in deciding the young people's issues.

Furlong (2013) standoffish conduct in children is normal and has drawn in impressive interest lately, not least due to the huge negative mental and monetary ramifications for influenced families and networks. An impressive assortment of exploration shows that parenting programs, especially those conveyed in social environments and in view of conduct and social learning standards, can deliver clinically critical enhancements in childhood enthusiastic and social troubles and in parental emotional wellness. Be that as it may, in spite of these uplifting results, a few difficulties require further investigation. These include: (1) a requirement for upgrades in the general nature of studies; (2) an investigation of gathering based parenting mediations comparable to results regarding which we know nearly nothing; (3) a requirement for further developed maintenance and commitment among socially burdened and socially particular families; and (4) the suitable and powerful interpretation of proof into strategy and practice. This part will examine these issues and feature potential roads for future exploration which might improve the proof base for, and the wide-scale execution of, parenting programs.

Vig et al (2009) the current review explored parent child relationship (PCR) according to the viewpoint of the parents of the teen children and little girls. Families for the current review were family units from center and upper working class where the two parents were basically graduate and were working and had one teenaged child and teenaged little girl between 1319 years old. The current review depended on an example of 400 respondents (100 of each fathers, moms, children and little girls). A self-developed socio-demographic poll, Socioeconomic Scale and Parent Child Relationship Scale were utilized in the current review. Results uncovered that greater part of parents apparent their general relationship with their children and girls as great. Parents apparent comparable sort of relationship regardless of the sex of the child. Parents detailed significant degree of acknowledgment, conjugal change, sensible job assumptions and moderate degree of assurance, extravagance, idealistic assumptions, serious moralism and extreme discipline for their young children.

Serious level of consistency was found between view of fathers and moms across every one of the measurements.

Lucie Grůzová et al (2005) this paper presents casual education through parent and child exercises. Marvel of early education turned into a Czech arrangement need and there are not many cycles, which are these days as an educational plan change and social, political and academic issues, how to put children who are two years of age into kindergartens albeit institutional pre-essential education begins in the age of three. It covers the setting of family and local area learning. The article brings see into an assortment of casual exercises for parents and children more youthful than three years old toward the start of the educational way in Czech Republic according to parents' perspective.

II. Research Methodology

As a result, the quasi-experimental approach was determined to be particularly appropriate for the current research, and its selection was a logical choice. There is just one group utilized in this study, which was recruited using a purposive sample approach. The effectiveness

of the therapy is defined as the variation between the scores obtained on the Pre Test and the Post Test in this design. Parents are taken into consideration for the sample, and the sample size in this study is 30. It is necessary to utilize the Parenting Program Opinionnaire. It was decided that both the before and post tests would be utilized for evaluation, and that they would only be used for summative evaluation. Throughout the sessions, the researcher required to receive input from participants at various points. Nowadays, activity-based assessment is becoming increasingly popular.

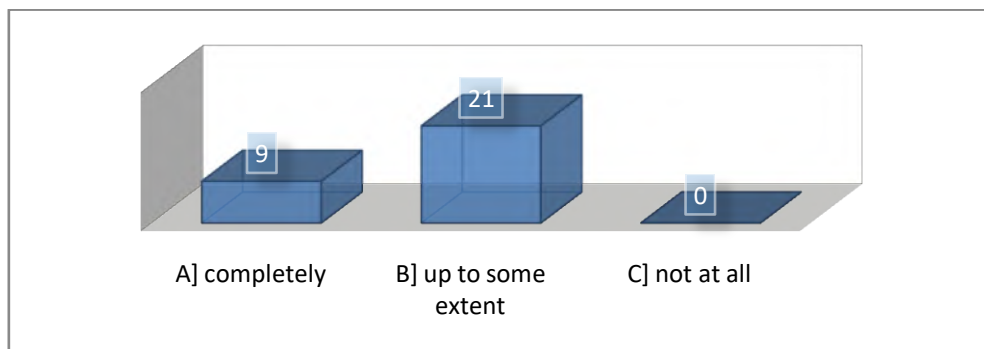
III. Data Analysis

The next section contains a question-by-question analysis.

4.1 Aware of that children’s behavior changes at this teenage.

Table 1 Parent’s Awareness about Teenager’s Behavioral Changes at Teenage.

	A]completely	B]uptosomeextent	C]notatall
Frequency	9	21	-
percentage	30.00	70.00	



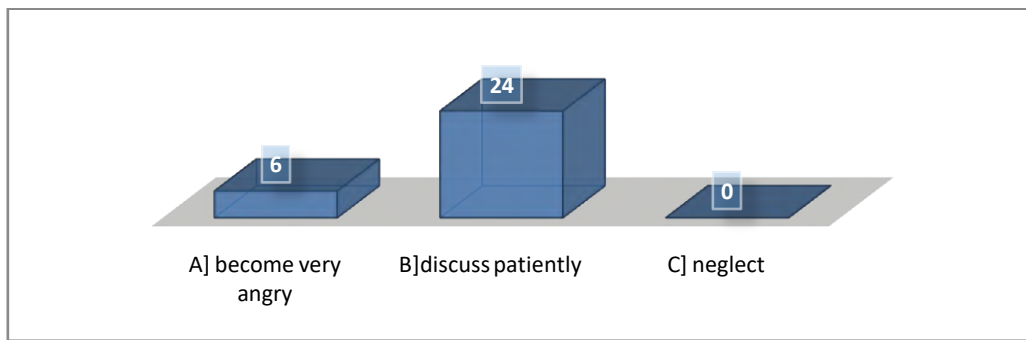
Graph 1 Parent’s Awareness about Teenager’s Behavioral Changes at Teenage.

Out of 30 parents surveyed, 9 (30 percent) are entirely aware of their children's changing behavior at this stage of development, whereas 21 parents (70 percent) are aware to some level of their children's changing behavior. Nobody chose the option "not at all." No one said "not at all."

4.2 When your child answers arrogantly, you

Table 2 Reaction to Teenager’s Arrogant Answers.

	A] become Very angry	B] discuss patiently	C] neglect
Frequency	6	24	-
percentage	20	80	-



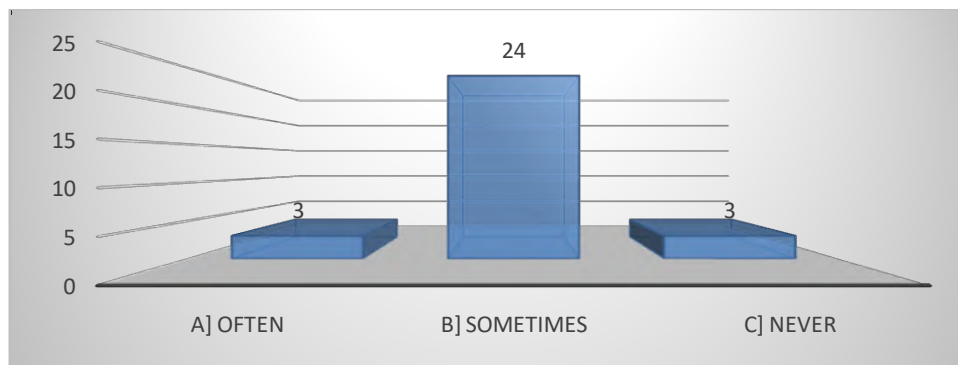
Graph 2 Reaction to Teenager’s Arrogant Answers

According to the chart, out of 30 parents, 6 (20 percent) become very angry when their child responds arrogantly, 24 (80 percent) talk patiently, and no one neglects their children.

4.3 Do you involve your child in the decisions of important family matters?

Table 3 Involving Teenager in the decisions of important family matters

	A] often	B] sometimes	C] never
Frequency	3	24	3
percentage	10	80	10



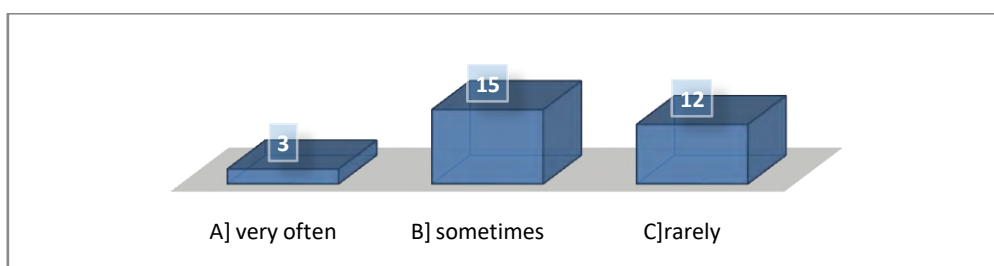
Graph 3 Involving Teenager in the decisions of important family matters

According to the graph, just 3 parents (10 percent) often include their children in key family choices, 24 parents (80 percent) involve their children sometimes, and 3 parents (10 percent) never involve their children in essential family issues.

4.4 Do you comment about the physical growth of your child in his presence?

Table 4 Comments on Teenagers’ Physical Growth in his/her presence

	A]veryoften	B]sometimes	C]rarely
Frequency	3	15	12
percentage	10	50	40



Graph 4Comments on Teenagers’ Physical Growth in his/her presence

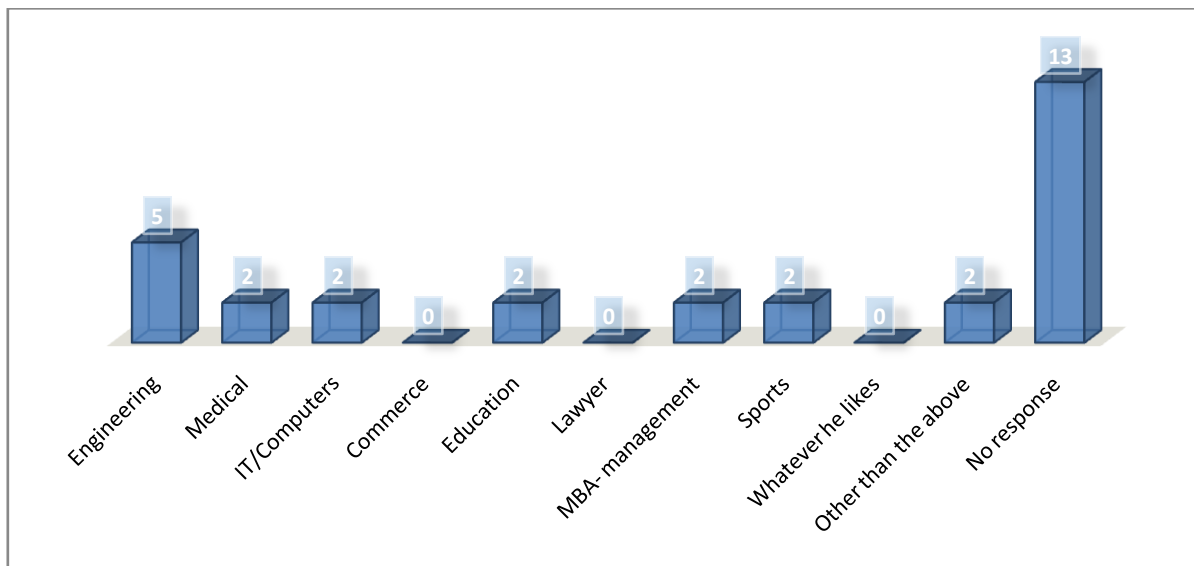
According to the chart, out of 30 parents, 3 (10 percent) make comments about your child's physical growth in his presence often, 15 (50

percent) make comments sometimes, and 12 (40 percent) never make comments about your child's physical growth in his presence.

4.5 You know that your child want to make his/her career in---- field.

Table 5 Teenager’s Own thinking about his/her Career in Parent’s Opinion

Field	Frequency	percentage
Engineering	5	16.7
Medical	2	6.7
IT/Computers	2	6.7
Commerce	-	-
Education	2	6.7
Lawyer	-	-
MBA-management	2	6.7
Sports	2	6.7
Whateverhelikes	-	-
Otherthantheabove	2	6.7
Noresponse	13	43.3



Graph 5 Teenager’s Own thinking about his/her Career in Parent’s Opinion

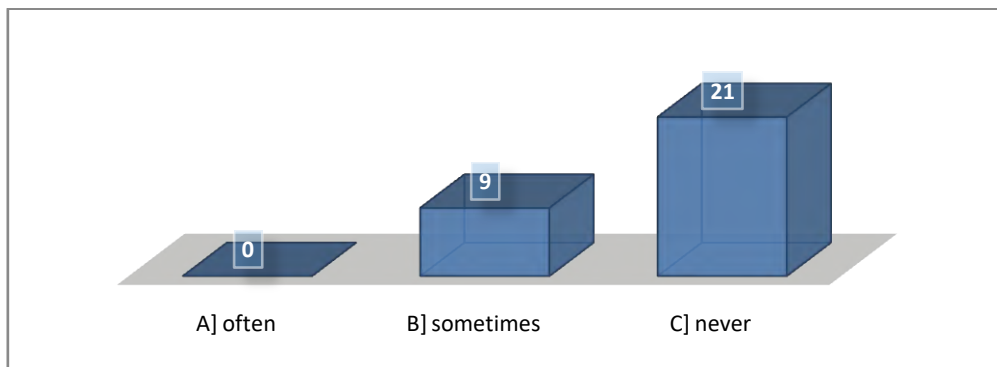
According to the chart, out of 30 parents, 5 parents select engineering, 2 parents (6.7 percent) choose medical, IT/Computers, Education, MBA / Management, Sports, and other than the options listed above. No one chooses it as a field in which their child will be

interested in pursuing a career. However, 13 (43.3 percent) of them stated that they would rather not respond.

4.6 Difficulties and problems in my previous life interfere in my parenting.

Table 6 Interference of Previous Difficulties and Problems, in Parenting

	A]often	B]sometimes	C]never
Frequency	-	9	21
percentage	-	30	70



Graph 6 Interference of Previous Difficulties and Problems, in Parenting

9 (30 percent) parents had challenges and difficulties sometimes, whereas 21 (70 percent) parents never experienced such difficulties and problems.

IV. Conclusion

Parents' attitudes toward their children's physical health practices, communication with their children, connection with their spouse, and attendance at parent-teacher conferences, among other things, were positive. They should be aware of the importance of teens

participating in home choirs as well as the need of interior discipline. The idea of intelligence has to be clarified for parents in greater detail. Some of the participants provided candid remarks, made ideas, and otherwise contributed significantly to the study once the researcher informed them that it was a component of it. A few of them stated that they would like to, but are unable, to participate in the parenting programme.

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A STUDY ON EDUCATION SYSTEM DURING BRITISH PERIOD AND TEACHING OF ENGLISH IN POST COLONIAL PERIOD

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ABSTRACT

Indians have had a long-standing reputation of being a highly educated people, dating back thousands of years. In the beginning, education was restricted to the priestly class, with traditional components like as religion, logic, and so on being taught to students. Then, with the formation of Islamic empires in India, Islamic education was introduced, and *Mqtabas* and *Madrasas* were established as places of study for students. The arrival of the British in India marked the beginning of a new era in the area of education, with the majority of the significant developments and growth taking place during the British education. They introduced a new educational system to India, which differed significantly from the previous educational system. Education was first neglected during the British rule, but a series of initiatives implemented throughout the first half of the twentieth century eventually built the groundwork for contemporary Indian education. They reorganized India's educational system and brought contemporary scientific learning to the education, among other things. Thus, India was inaugurated into a new period under the rule of the United Kingdom (British).

Keywords: British, Education, Student, Contemporary, Learning.

Introduction

When it comes to language, which has been dubbed "man's most remarkable achievement," we often take it for granted and are unaware of its distinctive characteristics because it is so ingrained in our lives, much like the air we breathe, that we take it for granted and are unaware of its distinctive features. Language is a set of rules and regulations. Although English is designated as an associate language in India, it is really the most widely spoken language in the country. It is the second most widely spoken language in India after Hindi, and it is also the most widely read and written language in the country. Languages such as English are utilized in India not just for access to the outside world, but also for communication between and within countries. Indians' perception of English is that it represents better education, better culture, and more intelligence. Indians who are fluent in English frequently mix it with their native languages in their communication. It is also common for Indians to quickly switch from their native language to proficient English in the middle of a discussion. English is often used as a means of communication between Indians who speak a variety of languages. In India, English is extremely essential in a number of systems, including the legal, financial, educational, and economic sectors. Officially, English is

regarded as an auxiliary language, but in reality, it is the most widely spoken language in the country. It is the second most widely spoken language in India after Hindi, and it is also the most widely read and written language in the country. Indians who are fluent in English will make every effort to demonstrate their proficiency in the language. Indians' perception of English is that it represents better education, better culture, and more intelligence. Indians who are fluent in English frequently mix it with their native languages in their discussions. It is also common for Indians to quickly switch from their native language to proficient English in the middle of a discussion. English is also used as a means of communication among Indians who speak a variety of languages. In India, English is extremely essential in a number of systems, including the legal, financial, educational, and economic sectors. Before the beginning of the 1990s, foreign films in India were not translated or dubbed into Indian languages, but were aired in English and intended solely for those who could understand the English language. The fact that India was a British colony is one of the reasons why Indians place such a high value on the English language. When the British established their rule over India, they looked for Indian mediators who could assist them in administering the country. The British hired high-caste Indians to work

for them instead of lower-caste Indians. They employed a large number of Indians from upper castes, particularly Brahmans. According to British policy, the goal was to develop an Indian class that would think and act like the British, or, as it was said at the time in the United Kingdom, "Indians by race and color but English by taste, ideas, morality, and intelligence." The British also created institutions in India that were modelled on British models and placed a strong focus on English. These Indians, too, received their education in British colleges and universities. The first English Christian missionaries arrived in India in 1813, and they also established schools for Indian children at the elementary level, where the language of teaching was the native language. Later on, the missionaries established high schools where English was the language of teaching, requiring Indians who wished to pursue further education to have a strong command of the English language. From 1857 onwards, the British authorities began establishing their own institutions in India. English has surpassed Hindi as the primary language of education in India. The 'modern' leaders of that era in India likewise promoted the English language and asserted that it was the most important factor in achieving success. Indians who were fluent in English were considered to be the new elite of India. A large number of new schools were created, using English as the primary medium of teaching. Following British rules, English was the language of teaching at the university level, and as a result, institutions that placed a strong emphasis on English were chosen by aspirant Indian students. Even after India gained independence, English continued to be the primary language spoken in the country. In official terms, Hindi was granted the position of an assistance language, and the status was intended to be terminated after 15 years of Indian independence, but it continues to be the most significant language in the country.

I. The Role And Place Of English

During the early years of India's independence, English was seen as a library language, and there was even a proposal that Hindi be given full official language status and English be banned from public usage. After being

designated as an "associate official language" (despite the fact that it is still not a language included in the eight schedule of the Indian constitution), English managed to lead higher education despite the fact that it was designated as such. This education has been expanding its wings and going into the realm of educational institutions. According to Ramanujam Meganathan's (2011) study, "Language policy in education and the role of English in India: From library language to language of empowerment," 75 different languages are utilized in the country's educational system. In the year 2000, 31 different languages were utilized as instructional media, which is about half the number of languages that were employed for this purpose in the previous decade. All 32 states and Union Territories that participated in the survey and contributed data for this study have English as a subject taught somewhere in their curriculum. Only Hindi is offered in as many states as this language. Between 1993 and 2002, the number of elementary schools that taught English as a "first language" more than quadrupled, rising from five percent to ten percent in basic schools and from seven percent to thirteen percent in upper primary schools. More states offer English as a second language than any other language, making it the most widely available. English is claimed to be the language of instruction in 33 out of 35 states, which is a higher percentage than any other language. It is estimated that between 1993 and 2002, an increase in the proportion of schools providing English as a second language increased by five percentage points, with elementary schools experiencing the greatest growth (from five to thirteen percent). As of 2002, more than a quarter of all secondary schools were providing English as a second language to their students. The British government, on the other hand, was the most important agent in the dissemination of modern education in India. It set up a network of schools and colleges throughout India, which produced a generation of educated Indians who were well-versed in contemporary knowledge. Initially, the advent of modern education in India was prompted largely by the political-administrative and economic requirements of the British Empire in India. Yet they were persuaded that the expansion of

British culture would result in the unity of the world's social and political systems. The third and most important reason for the expansion of modern education in India was the presence of enlightened Indians. The creation of modern education was made possible by the efforts of individuals such as Raja Ram Mohan Roy, Keshab Chandra Sen, Rabindra Nath Tagore, Ishwar Chander Vidyadhar, Ranade, Dayanand Saraswati, Ramakrishna Vivekanand, and many more. When compared to traditional education, modern education had a fundamentally different direction and organizational structure. The Western system of education, as a result, brought about substantial changes in both the meaning and the substance of education. Contemporary education also served as a vehicle for the dissemination of modern science as well as concepts of equality and liberty. It grows less religious as time goes on. Aside from that, numerous new fields of study were introduced. The printing press changed the educational system in that it shifted the focus away from personal, oral communication and toward impersonal conveyance of ideas through books, journals, and other media such as newspapers. It brings the sacred scriptures within reach of many castes who had previously been denied access to them due to customary restrictions. Modern education was increasingly displaced by the need to read them as a matter of course. Modern education was progressively made available to people of all castes, religious backgrounds, and genders. Education formed the foundation for taking advantage of new economic possibilities that were, to a large degree, caste-free in nature. Education possibilities assisted one in acquiring the essential skills outside of one's caste or social group. In this way, occupations are elevated to the status of a relatively autonomous part. The teaching of English as a topic is preferable to imposing an ineffective English medium education on students. Providing the fundamentals of English language education in native-language medium schools would be beneficial to learning in general and language acquisition in particular. In contrast, transforming schools to be English-medium institutions without enough assistance would be harmful and ineffective. Schools may be

transformed into multimedia learning environments in which both the core topics and the language are taught and learned effectively in a complimentary and supplemental way. A 'language throughout the curriculum' approach, as well as a multilingualism strategy, would be beneficial on a number of different levels. It is necessary to acknowledge the importance of language in the learning process. The use of English as a language of reciprocal benefit – benefiting both Indian languages and the English language itself – and hence as a means of enriching education as a whole may thus be extremely beneficial.

II. Education System In The Princely States Of India – The British Policy Of Educating The Royals

Due to the East India Company's desire to integrate India into a British dominion, two administrative systems were established in India - Provinces and Princely States. Sixty percent of the Indian Territory under British Control was comprised of provinces, with the remainder consisting of Princely States ruled by Indian kings who functioned as administrators of the British Empire. In order to maintain control of their kingdoms, these kings stayed loyal to Britain and accepted the fact that they would be subject to British authority. As a reward for their education, the British granted authority to these "Princely States" in order for them to govern the educational systems that existed inside their own borders. (See Fig. 4) Furthermore, as part of the 'Downward Filtration Theory,' it was believed that the class of educated Indians living in these regions would work to promote education among the general public. With the arrival of The Wood's Despatch in 1854, a national education strategy was established that placed a focus on expanding mass primary education, with the sole aim of establishing a group of elites trained in English who would be recruited for administrative responsibilities in the future. It paved the way for the establishment of numerous departments of education within the princely realms, as well as the development of various levels of educational institutions. The establishment of government-sponsored universities and their affiliated colleges, as well as a large number of

basic, primary, and secondary schools, marked the beginning of the change in the educational systems in these princely realms, which began around the year 1860. The immediate result of the education reforms that were implemented under the reign of the British was the development of a male-dominated educational system with English as the global language of teaching as the primary medium of instruction. The period witnessed the transformation of Indians into well-educated professionals, which prompted the establishment of educational institutions in India. Each Princely State functioned autonomously and was in charge of the administration of the schools in their own areas. The number of educational institutions grew fast from 4 universities and 67 colleges educating 600 students in 1882 to 14 universities and 167 colleges educating 46,000 students in 1922, representing a threefold increase in the number of schools. The Madras Medical College (1835) was established to provide medical education to women in order to provide medical advantages to the female population, which would otherwise be reluctant to seek treatment from male doctors. In 1857, Acts of Incorporation were enacted for the establishment of affiliating universities in the three Presidency towns of Bombay, Calcutta, and Madras, which resulted in the establishment of the University of Calcutta, Madras, and Bombay in the year 1858.

When new institutions and technologies were introduced during British control in Punjab, the state improved in terms of industrialization and technical advancement, which helped to boost the state's economy. A result of the construction of perennial canals, sophisticated agricultural equipment and techniques, and increased seed quality, it has come to be recognized as the best in agriculture. As mechanically manufactured items displaced handcrafted goods, traditional artisans saw a decline in their incomes, forcing them to search for economic possibilities outside of their own community. This resulted in the professional transformation of craftsmen into two groups: skilled and unskilled laborers working on building sites. Massive migration in search of employment to British colonies in western nations such as South Asia, Africa, and Latin America was seen during this time period in

search of labor. Some of those who were left behind chose to pursue careers in the professional education, obtaining degrees as attorneys, teachers, and engineers. Education reforms, in reality, were essential because they resulted in a shift in the occupations of a large number of individuals. As a result, the colonial government in the princely state of Patiala assumed the task of educating the populace in the English language and began to place greater emphasis on the dissemination of western knowledge. Its goal was to produce skilled workforce to meet the technological, defensive, and administrative requirements of the colonial state, with a particular emphasis on the teaching of secular and literature course content in order to achieve this goal.

III. English Language Teaching In Post Colonial Period

For centuries, people have used English as a means to spread the message of Jesus and his life on earth. When it comes to its value as a weapon for this goal, missionaries have been strongly divided among themselves. Even while English is the language of outstanding Christian writing, it is also the language of secular literature. Through the study of the English language and literature, secular humanism was able to spread to many different parts of the world. As a tool and purveyor of culture, its "ennobling" feature has more or less obscured the profound Christian basis upon which it is constructed, as has the modern science it opens up for those who study it and the ease with which one may do business with it. Many Christian English instructors, aided by the pull of secularism, have more or less abandoned the Christian curriculum while pursuing their English teaching certification. The ethics and values shown in literature were not viewed as originating from a Christian foundation, but rather as emerging from universal humanism. English is still replete with Christian metaphors, idioms, and set phrases, which cannot be fully comprehended and used without a thorough understanding of the underlying Christian message in question. It is possible that this is due to the final reason listed, but most countries have begun a process of textbook contextualization when it comes to English language instruction. The original

pieces of writing by native speakers of English are being sought to be replaced by the writings of nationals who are masters of English prose and poetry, rather than the writings of native speakers of English. Metaphors, idioms, and set phrases from the national languages, which indicate local culture and religion, are more freely utilized in their creative writing than in their academic writing. Translations from the local folklore are more commonly used in place of tales from the European continent. In addition, papers on ideology that are influenced by the government are included in the textbook. Nations (and people) are attempting to take English as a language, excluding the culture and religion that it symbolizes and transmits, and instead focusing on the language alone. In spite of the fact that the objectives of English teaching and learning are always being re-defined, it is important to remember that English will not be taught exclusively by native speakers of English in many countries. Some countries, such as India, Pakistan, Nepal, Bangladesh, and numerous African countries, have made provisions for the teaching of English, mostly via the use of their own citizens. In places like Japan and China, more native speakers of English are welcomed to work as English language instructors in their respective nations.

IV. Education In The Post Independence Era

Following independence, the responsibility for education was transferred to the states. The sole duty that the central government had was to coordinate technical and higher education and to set standards in these fields. This persisted until 1976, when education was transferred to the joint jurisdiction of the state and the Centre. Education in India is under the jurisdiction of both the Union Government and the states, with some duties falling under the Union's purview and some falling under the states' purview, with some responsibilities falling under the Union and others falling under the states' purview. Education is recognized as a basic right in the Indian Constitution, which is contained in several sections. The Union or the State Governments exercise jurisdiction over the majority of Indian institutions. India has made significant

strides in terms of raising the proportion of children who attend basic education and boosting literacy among the population, which now accounts for about two-thirds of the population. Indian education has advanced significantly in recent years, which has been recognized as one of the primary drivers to the country's economic development. A large part of the development, particularly in higher education and scientific research, may be attributed to a variety of governmental organizations. Macaulayism characterizes contemporary India because our people are being taught to think and behave in the same way that they were taught during the British Raj. Throughout our basic education process, rote learning is emphasized from the beginning, and it is extremely narrow-minded, with textbook authors and myopic, ego-encrusted dinosaurs who serve as instructors and professors deciding what and how pupils should study. We are actively discouraging not only creativity and innovation, but also talent, free thinking, idea creation, out-of-the-box thinking, intellect display, and world-changing endeavors, ensuring that no great brains emerge from our educational institutions. In part, this is because an education of creative, free-thinking Indians pouring out of their educational system and pushing our nation to glory was the last thing Macaulay, the East India Company, and subsequently the British Empire desired. Those policies are still in effect today, and we will continue to follow them. The message we receive is that brilliance has no place in our society, and that we are expected to "do jobs" rather than create them. Consider the implications of this. Since we were small children, it has been drilled into our brains that we must grow up, obtain jobs, and work our entire lives in order to become "decent people." Do you remember any of your middle-class parents saying to you, "Study well so that one day you will be able to establish a fantastic firm that will change the history of humanity"?

Our Macaulayized system of rote-learning teaches us nothing about how to think, act, look at things logically, make educated judgments in life, or any other skill that we might need later on. In our schools, we are never taught how to be proud of one's own self,

one's own people, one's own languages, and one's own heritage; we are never taught the importance of "good karma," as well as the importance of being honest, polite, sincere, punctual, helpful, disciplined, and culturally literate. We are also never taught how to make judgments based on common sense or the value of civic virtues in our lives. In reality, we are taught everything with the exception of what is truly required by the job. From a young age, children in more civilized countries are "taught" the need of discipline and order as well as politeness, honesty, and other similar virtues. Their behavior in public is taught, as well as how to respect and appreciate other people's time, space and money, as well as how to be proud of themselves and even small things such as avoiding littering, wishing others "Good Morning," crossing only at crosswalks, and so on. In their cultures, we are simply taught to mumble up answers to dumb questions on worthless subjects and vomit them on answer sheets in order to "get marks and grades," which will finally end in our receiving pointless degrees that would somehow assist us in "being successful in life." The primary goal of English education was to educate Indians for positions in the government. Consequently, the reaction to English education followed anticipated caste-based patterns. As a result, the higher castes, who had historically relied on government positions and patronage, flocked to the new English-language classrooms in droves, replacing Persian as their primary language of instruction. So, how current is Macaulay's legacy today? In any case, there's no doubting that in only four years, he altered the course of history for hundreds of millions of Indians for

generations to come. Essentially, Macaulay intended to establish "a class of individuals, Indian in blood and color, English in taste, in ideas, in morality, and in intellect" (Macaulay), and he was rather successful in doing so. Despite the fact that India is a country that takes pleasure in its unity in variety – different food, dress and language, as well as traditions and culture - there is a fundamental Indian culture and value system that links us all together. And today, whether we like it or not, we have a common language in the shape of "Indian English," which we can all communicate in. The majority of educated Indians are as proficient (and sometimes more so) in English as they are in their home tongue, and it is a delight to listen to them as they seamlessly move between the two languages throughout a discussion or within a phrase.

V. Conclusion

Prior to the arrival of the British, Hindus and Muslims received their education through Pathshala and Madrassa, respectively, but the arrival of the British brought to the establishment of a new center of learning, namely Missionaries. Due to their primary education on commerce and profit-making, The British East India Company was first unconcerned about the development of the educational system in India. It was their intention to educate a tiny part of the upper and middle classes in order to establish a class that was "Indian in blood and color but English in taste," which would function as an intermediary between the government and the general public in India. This was referred to as the "downward filtering theory" at the time.

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A DESCRIPTION ON SOCIALIZATION AND EDUCATION OF PEOPLE WHO ARE CHALLENGED MENTALLY

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ABSTRACT

Socialization may be a lifestyle technique, but it is typically separated into two components: number one socialization takes place early in life, as a child or teenager, and number two socialization takes place later in life, as an adult. Secondary socialization refers to the socializing that occurs throughout one's life, beginning as a toddler and continuing when a professional performer faces new teams that need further socializing opportunities. While students at the location unit argue that just one or the other of these events occurs, the most socially significant argument is that both events occur at the same time. Scientists frequently combine the two approaches, arguing that the fundamental or central identifying of the character develops during primary socialization, with more specific changes occurring during secondary socialization as a result of the acquisition of new cluster memberships and roles, as well as other structured social issues. The rising quality of society, together with the associated increase in the number of different tasks and duties, may necessitate the requirement of later existence socialization.

Keywords: Socialization, Secondary, Student, Cluster, Society.

Introduction

Tutoring isn't always restricted to creating papers, taking assignment help, or requesting a challenge composing provider to introduce composing a paper for the advantage of me; it may include a wide range of things. In fact, numerous factors such as socialization are considered to be part of the preparation process. The "clairvoyant socialization" occurs to a significant extent throughout the senior years, and this is true for the duration of the period of simple tutoring. Previously, the kid remained focused on asymmetrical relationships with adults, a route that was kept out of the reach of the modalities of our adult nature, at least in terms of its beneficial and vote-based measures. Following that, children become more individualistic and dissociate themselves from group attachments. They asserted that intellectual impairment had become static rather than dynamic in recent years and that nothing could be done to improve the situations of the human beings who were impacted by the condition. The concept of teaching individuals with high-brow impairments becomes an offer—approximately as a waste of time—and thus becomes a reality. Nowadays, however, many of us parents have become aware of the practicality of someone who can only be advanced by others, particularly people with mild to moderate disabilities, who would sooner or later

strengthen the motive that they will not be classified as mentally disabled. This is especially true for people with mild to moderate disabilities who would sooner or later strengthen the motive that they will not be classified as mentally disabled. This is also owing to the fact that they will work diligently and will eventually be integrated into the network. Many of the accomplishments achieved with the aid of individuals with high-brow impairments have resulted in a shift in thinking that serves as a part and parcel of a choice-making approach that respects their rights and responsibilities. Socialization for the mentally impaired does not always include a complete devotion to the mentally challenged or to the grown-ups in the community. Each condition should be identified before training the kid to become a productive member of society, if at all feasible, and before continuing to educate the child. Take into consideration the mentally challenged term and the degree to which the child is challenged, from borderline to very intense situations, and a real care set up may be developed to shape the child to greatness despite the fact that high-quality is not much more than going to the bathroom. The problem can develop and expand as a result of the mental endeavor, but how much is too much? Some themes would never be found for mentally handicapped children and adults because of the nature of their disabilities.

Education Specialized education or a specific area of interest Educating students who are physically or intellectually challenged and whose requirements cannot be fulfilled by a traditional university curriculum is referred to as specialized education or special education. There are certain academic approaches, techniques, and drugs that are used in this context. Students benefit from their education since it allows them to progress farther down the personal self-route; nevertheless, this record is based on estimates created by questionnaires, which are used to compile the data. According to estimates, 40 million young individuals in Asian nations are handicapped from the age of four to sixteen years, with the majority of them being under the age of four. The Asian United States of America checks for disability in five areas, in addition to others such as syndrome. These categories are: hearing and vision; voice; locomotors; and metallic. Keep in mind that surveys estimate that 35 million young people are physically challenged and 5 million are intellectually challenged; keep this in mind while making decisions. The scientific version of knowing disability may benefit from a social-ecological version of understanding disability in situations where disability is seen in terms of the healthy competency of a person and the requirements of network settings are important factors to consider. Information Oldsters can concentrate their expert efforts on altering the circumstances in which parents operate as a result of this arrangement. It is important to demonstrate that a social-ecological paradigm does not imply that persons with disabilities are incapable of recognizing their own personal capacity constraints. Their ability limitations, on the other hand, are not their most prominent characteristic. According to a social-ecological conceptualization, the most significant distinction between parents with disabilities and the general public is that people with disabilities would greatly benefit from additional guidance in order to participate in life-style activities in network settings that are satisfying.

I. The Role Of Socialization

Socialization prepares people for social interactions by instilling in them the common norms, values, beliefs, and behaviors of a community. In order for people to get acquainted with the norms of a specific social group or community, socialization must take place. Through displaying the expectations of a group, it paves the path to participate in a group environment. It is extremely vital for children to socialize with their peers. This process begins at home with their families and continues at school. They are taught the expectations that will be placed on them as they develop and become contributing members of the community. Socialization is particularly crucial for individuals who are new to a social group and want to become more involved. It may be described as the process of transmitting group norms, values, beliefs, and behaviors to future members of the group in general. Although the word "socialization" alludes to a generic process, socialization is always carried out in the context of a specific situation. Socialization is culturally specific: persons from various cultures are socialized in very different ways, leading them to have quite diverse ideas and values, as well as to behave very differently. Sociologists attempt to comprehend socialization, but they do not categorize various schemes of socialization as good or evil; rather, they examine practices of socialization in order to explain why individuals behave in the ways that they do. First and foremost, socialization teaches impulse control and aids in the development of a conscience in individuals. This first aim is achieved in a natural way: as people grow up in a specific culture, they scoop up on the expectations of those around them and internalize these expectations, allowing them to control their impulses and acquire a sense of responsibility. Socialization, on the other hand, teaches a person how to prepare for and fulfil certain social functions—occupational functions, gender functions, and the functions of institutions such as marriage and motherhood, among others. Third, socializing fosters the development of common sources of meaning and value. People learn to recognize what is significant and valued within a given culture as a result of their socialization experiences. Socialization is a lifetime process

in which people learn the values and conventions of a particular society, which can take many forms. Socialization is not the same as socializing in the traditional sense. When we say we're socializing, we're talking about mixing socially with others (i.e., family, friends, neighbors, coworkers). However, when we say we're socializing, we're talking about a process that may include socializing as one element, but is more complex, multi-faceted, and formative set of interactive experiences. Furthermore, because society is always changing, we may find ourselves in new situations—such as a new profession with a different set of norms and values—or in a new familial role—such as that of parent or caretaker to an ageing relative—which necessitates adaptive lifelong learning.

II. Education Of Mentally Challenged People

The Disability Act of 1995 in India provides a wide range of services for both children and people with disabilities in the Republic of India, including: Children with impairments have the right to free schooling until they got to the age of eighteen, according to the Disabilities Act of the Republic of India. They can attend colleges that are part of a larger institution or specific schools. Children with disabilities have the right to a restructured application and adjustments within the test system, as well as the removal of physical barriers, as well as the right to appropriate transportation. Throughout the republic of India, children with disabilities have access to free uniforms, scholarships, books, and training materials. Children with disabilities in the Republic of India have access to specialized institutions that are equipped with schooling facilities and non-formal education preparatory programmes. The Republic of India provides coaching institutes for teachers as a means of ensuring that they are in peak physical condition. Parents of children with disabilities in the United States of America will file a complaint with the proper court for the redress of complaints pertaining to their own children with disabilities in the country. In the Republic of India, each panchayat is provided with funds so that they can build roads, schools, and public ramps for people with disabilities with

the assistance of the government of the country. Individuals with disabilities are eligible for 3 percent of presidency posts in the republic of India, and the country's disability statute includes provisions for social movement for those with disabilities. What this demonstrates is that it is an undeniable reality that property is being allotted to persons with disabilities in the Republic of India for the purpose of housing, undertaking facilities, special schools, industries, and other forms of organization. It also makes it possible for persons with disabilities to have home equipment and assistance that are designed to be accessible to them. People with disabilities in the country of the republic of India who are looking for information about the services that are available to them should go to the Commissioner's office in their area. Parents have the option of taking their child's case to the handicaps commissioner if their child's school refuses to admit him or her because of a disability, or if a ramp or one-of-a-kind indicates that of obtain admittance is needed. The Republic of India has criminalized the International Organization for the Protection of the Rights of Persons with Disabilities; the Kingdom of the Republic of India now has four completely unique laws that apply to individuals with impairments. Despite the fact that the medical model of incapacity is supported by the overwhelming majority of legal guidelines in the Republic of India associated with individuals with disabilities, it takes a welfare-oriented approach, observing bodily impairments in humans and categorizing them as disabilities. "Handicap" is defined as a developing construct in the rights of persons with disabilities, according to the arena employer convention on disability rights. According to the conference, handicap comes from the interaction of impairments with a variety of impediments that prevent people from participating fully and actively in their communities. The medical definition of incapacity, which has been around for centuries, was one that sought to repair human beings who were born with disabilities. Making ensuring that people with disabilities have access to transportation systems, signs that are both audible and braille, sports arenas, public centers, hospitals, shopping malls, practices, as

well as outstanding Centers is not always a simple matter of creating ramps or constructing roadways.

III. Specificity Of The Problem Of Children With Disabilities

A big difficulty for children with disabilities may only arise as a result of this, particularly for those who have the most evident or severe impairments. For such children to gain from this structuring experience of parity, it is vitally essential that they are supported among children their own age and in their own neighborhood. In contrast to profiting from the shaping experience of reciprocal partnerships, it is systematically encircled by unequal interactions. The aid that one offers him, even if it comes from a decent heart, is heartbreaking, since it is always he who is in need of help, and he can never repay it unless in exceptional circumstances. Adults' illusions or fantasies about prospective reciprocities are a matter of fantasy and imagination. It is also essential to stress that, in the majority of cases, adults are naturally inclined to favor non-reciprocity, which is, after all, inextricably entwined with the very nature of the handicap and even the origin of the word that identifies it. The conclusion that may be drawn from this observation is that the handicapped kid who is integrated into regular school is not socialized in the full meaning of the term, and so does not benefit from the socializing mental maturity that comes from genuine experience of parity with peers. The same is true, if to a lesser level, for a youngster who has experienced a significant amount of school failure. The parents of these children had felt the desire to join together on a global scale, and they planned worldwide meetings for them and their children on a yearly basis to accomplish this. It was presumably a combination of their desire and their need for them. The need of these youngsters was also evident, as they discovered there the possibility to live for a little period of time as "normal," as "like the others," which was both valuable and freeing for them. It was only at these moments of grouping, or their evocation, that we were able to witness these youngsters and teenagers laugh or grin throughout the whole film. In order for a kid to mature, they need to have the social experience

of being successfully immersed in their peer group. It is previously a requirement for the relative release of oedipal issues, which marks the beginning of the second childhood and the beginning of the third childhood. It is this experience that the author recommends to refer to as the experience of parity, for the sake of simplicity and conciseness. This begs the question of the conditions under which such a parity experience is possible, and hence the question of the conditions under which one can profit from the developing advantages of such an experience. Because of the existing socialization settings of children of this age, we are forced to concentrate nearly completely on the specific identification of the ages. Except for the benefits generated by culture, this strict uniformity appears to be secondary, if not detrimental. Other social formations do not exhibit this level of uniformity at all. In tribal or rural communities, and even in metropolitan settings with little or no schooling, groups of youngsters have a wide range in age, which makes it difficult to categorize them. Furthermore, even when children are in the same class, true peer groups do not include all children of the same age, even though they are in the same group of children. The distinction between males and girls is the most distinct, the most consistent, and the most resistant to all environmental changes. This is the most visible manifestation of a characteristic trait of peer groups from the second childhood, namely, their high proclivity for intolerance of diversity in their behavior. What is clear about this radical difference, which is the difference between the sexes, is also true about all other modes of differentiation, even if it is clearly to a lesser extent and in a less consistent way: social differences, ethnic differences, differences in academic achievement, differences in dominant poles of interest, and so on. It's as if the identification of youngsters as belonging to a group could only be successful at the expense of the group's homogeneity. This is the furnace of the competitive spirit, of the "sports spirit" that is so characteristic of the second childhood and which systematizes the disparities between sexes and social classes.

IV. Conclusion

One of the most important aspects of socialization is that it allows people to learn how to function in a very specific society. While it is expected that all human beings will experience some form of socialization at some point in their lives, there have been some unusual instances in recorded history in which humans have either been forced to assess in social isolation, as in the instances, or have experienced socialization through distinctive methods, as in the case of Malaya, that have been documented. Both instances were presented at the outset of the bankruptcy, with the role of socialization in human development being emphasized throughout the process. While socializing among individuals is unquestionably crucial, it is necessary to point

out that socialization is very culturally relative, which means that the process and outcomes vary from one culture to the subsequent. As the amount of ignorance falls from profound to sensitive, the social quotient will soar to unprecedented heights. It is a long way away. The social quotient does not differ considerably between age groups that are mutually exclusive among dissentient people across fully exclusive age groups. For scientific psychologists operating in a unified worldwide locations agency place unit with vulnerable children/people, the Venal and Social Adulthood Scale may be employed to conduct a quick screening search for essential intelligence quotient and social adjustment functioning.

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STUDENTS WITH DYSLEXIA: STUDY ON TEACHER AND PERCEPTIONS ON STUDENTS WITH DYSLEXIA**R.K. Pathak¹ and S. Asthana²**¹Institute of Education & Research, Mangalayatan University, Aligarh, Uttar Pradesh²Department of Education, Himalayan University, Ita Nagar, Arunachal Pradesh**ABSTRACT**

At all levels of training, teachers are actively involved in boosting students' learning outcomes and building the own pedagogical encounter of theirs. Being a consequence, the teacher's role in controlling learning difficulties is actually of specific value. Dyslexia is actually a learning disability which affects different aspects of academic performance. Various students have explicit learning disabilities. Explicit learning incapacities incorporate; dyslexia, dysgraphia, and dyscalculia, Prominent among explicit learning disabilities is dyslexia. Dyslexia is learning incapacity that essentially influences how students read. It is essentially placed trouble in perusing. Dyslexia is an extreme issue in figuring out how to peruse with ordinary capability regardless of traditional guidance, legitimate inspiration, unblemished faculties, typical knowledge and independence from net neurological shortage. Students with dyslexia might have the option to peruse, yet peruses at a level lower than anticipated for their age and level of study. Their capability in perusing is poor and now and then less than ideal relying upon the seriousness of the handicap. This trouble in perusing is regardless of required inspiration from the two teachers and learning climate. For a student to be marked Dyslexic, such understudy's faculties are flawless and works maximally.

Keywords: Teacher, Training, Dyslexia, Student, Learning.

Introduction

Education must enable every individual to be confident and self-reliant. In this pursuit, education begins with informal education at home or in the society and then continues along with formal education in schools. Formal education in school includes learning of a set of skills and a set curriculum designed for the students of that particular age and IQ. The term curriculum often refers specifically to a planned sequence of instruction directed towards certain educational goals. It is generalized and administered to all the children in that specific grade/class room. This is called as main stream education and is imparted in all the schools except the special schools. The curriculum practiced in schools may vary in India, like the state board, the CICSE board, or the CBSE board. These are different educational bodies that decide on the curriculum to be administered. The researcher will limit the research to schools that impart the CBSE board education as it accounts for a sizeable proportion of the schools in the state. The mainstream schools render fixed curriculum to all the students but every learner has unique needs. Some learners are well adjusted to the classroom environment and well adapted for the curriculum while some have profound and on-going needs and others

have short-term or situation-based needs. The question that arises from this observation is what is the proportion of such students? The contemporary view of dyslexia as it occurs in university students are to consider it as a learning difference rather than a learning disability however the syndrome remains widely debated. Attempts to theorize developmental dyslexia and its aetiology differ quite widely not least when attempting to interpret the variety of characteristics that can be presented. This is especially so in relation to how cognitive differences, more usually regarded as deficits, are classified as dysfunctions (and whether these differences are causal, consequential or even covariants of dyslexia as a learning disability. The impacts of dyslexia and dyslexia-like profiles on learning are readily apparent in literacy-based education systems ranging from initial identification in early-age learners who experience challenges in the acquisition of reading skills, to university students who attribute many of their struggles to adapt to the independent and self-managed learning processes that are core competencies in higher education learning to a dyslexia or dyslexia-like learning profile.

I. Lack Of Awareness Of Dyslexia In Mainstream Schools

There are numerous reasons why mainstream educators need awareness with respect to the distinguishing proof and the executives of dyslexia. Educator aloofness towards the affirmation of dyslexia as a 'genuine disability' is as yet an unmistakable reality. A potential purpose behind this might be because of an absence of educator preparing in the field of dyslexia. Numerous guardians report that instructors will not acknowledge a determination of dyslexia and they accept this to be because of obliviousness of the wonder. As itemized above, examines show that numerous misguided judgments actually exist around dyslexia. For instance, many accept that dyslexia just influences people during their tutoring vocation. Not many individuals comprehend that it is a long lasting disability. A second explanation behind instructor absence of awareness is the pretended by school the executives and additionally neighborhood specialists. School the board doesn't assume a significant enough part in educator awareness of dyslexia. It is important for the board's obligation to guarantee that educators are exceptional with the techniques of distinguishing proof and the executives of the learning disability. Time after time educational committees don't perceive the significance of the issue or on the other hand, use it to legitimize helpless outcomes. A third explanation behind absence of awareness has to do with responsibility. Over and over again normal education instructors are of the assessment that distinguishing and overseeing children with learning challenges falls inside the domain of a specialized curriculum educators. Companion and Reid contend that custom curriculum is the job, all things considered, not simply the obligation of the extraordinary requirements office inside a school. Hayes contends that it is essential that all instructors view themselves as extraordinary requirements educators to give all students quality education. Examination has discovered that unique requirements instructors have a more inspirational demeanor towards learning handicaps. This clearly permits dyslexic students a superior possibility of accomplishment in their classrooms. Educator

awareness is urgent to the accomplishment of dyslexic students since a significant number of them report undeniable degrees of stress when instructors need comprehension and empathy. Last, and likely the primary purpose behind absence of educator awareness, is the absence of instructor preparing in the field of dyslexia. An investigation via Carroll, reports that there is a genuine absence of pre-administration and in-administration preparing here

II. Teacher Training And Awareness Of Dyslexia

Since absence of training adversely affects instructor awareness and information on learning handicaps and dyslexia, one needs to scrutinize the explanations behind this absence of educator training. One explanation proposed for absence of educator training is instructor mentalities. It has been discovered that instructors by and large have negative mentalities towards incorporation (for instance, a few educators may not accept that children experience learning handicaps) and along these lines probably won't pick applicable electives during pre-administration training or pursue workshops as a feature of their in-administration training. Truth be told, research shows that educators, who had taken courses in extraordinary necessities education during their pre-administration years, had more inspirational mentalities to students with disabilities. In any case, concentrates likewise uncovered that this idealism and excitement can rapidly wind down if newcomers end up in schools where they are not furnished with promising circumstances for proceeded with proficient advancement here. Accordingly if the uplifting mentalities of pre-administration instructors can be bridled and developed once they become full-time educators, students with uncommon necessities would profit by their insight and ability. An investigation led showed that female educators and elementary schools instructors display more inspirational mentalities towards extraordinary necessities education than their secondary, male partners. It was discovered that female educators for the most part had more compassion and less dread than male instructors. What's more, they found that instructors who had a relative with a disability were more open to overseeing

students who showed psychological and social challenges. Notwithstanding, contends that there is no uniqueness between the perspectives of guys and females towards exceptional necessities education. She battles that reviews uncovering positive female mentalities towards exceptional necessities education should be found in the setting in which the examination was led. For instance, in certain societies just females are allotted to really focus on individuals with incapacities and in this way would apparently display more uplifting perspectives. "Instructor training is still as lacking as could be expected in giving direction about learning troubles and about specific shortcomings in children whose learning capacities are generally typical for their age." It is certain that effective usage of incorporation approaches needs profoundly prepared educators in standard and uncommon necessities education. In any case, as per research, educator' absence of awareness of comprehensive education is because of the absence of sufficient instructor training. The equivalent can be said for the field of learning incapacities all in all and dyslexia especially. It's a well-known fact that instructors across the globe are insufficiently prepared to recognize and oversee children with learning handicaps, and the requirement for training programs is colossal. South African educators are much more terrible off as there is an extreme lack of appropriately prepared ordinary instructors not to mention educators prepared in the field of a custom curriculum.

III. The Impact Of Early Intervention And Role Of Parents In Supporting Pupils With SpLD (Dyslexia)

There are commonsense and different difficulties that obstruct early conclusion and/or intercession. Reid focuses to a portion of these troubles through his audit of numerous examinations. They incorporate the way that dyslexia determination frequently happens exclusively after a child has been educated for quite a while and has reliably fizzled. Disappointment brings about the related dissatisfaction, loss of inspiration, hostile to social conduct and different elements that hurt their confidence. There is a discussion on how best to give early mediations or give extra

instructional assets to children with SpLD. Right now, organized phonics methods are suggested by defenders of phonics-based reading guidance, to assist battling perusers with conquering their reading disabilities, as opposed to the essential utilization of whole language approaches. The above writers recommend that as opposed to teaching small kids to peruse and spell words by disentangling them dependent on their spellings, children ought to be educated to peruse by perceiving words as entire bits of language. At the end of the day, language ought not be separated into letters and mixes of letters and 'decoded'. It is suggested that a reasonable education approach ought to be utilized to consolidate phonics and entire language into one educational program. There is the regular suspicion that two people with dyslexia have similar scope of challenges. It is gradually unfolding on analysts and clinicians that this SpLD is certainly not a solitary homogeneous deficit. Truth be told, educators and different professionals are diagnosing children through the acknowledgment of troubles in a scope of cognitive abilities, utilizing the inconsistency model. The IQ-reading error that prompts the fitness accomplishment disparity recipe frequently keeps children out of a custom curriculum classes. Guardians of children with dyslexia lean toward the disparity based mark, as they will feel have confidence that their child doesn't need insight, despite the fact that the person might be a helpless peruser.

IV. Impact Of Teachers' Perceptions On The Progress Of Pupils With Dyslexia

Teachers' perceptions of students with dyslexia have helped enormously in acquiring a superior understanding of the issues experienced in educational organizations. These convictions or perceptions can decide a student's degree of accomplishment and affect their situation in sets as per capacity. A few teachers build up these perceptions at a beginning phase and think that it's hard to change their viewpoints, since they dread being viewed as clumsy and as not actually understanding the predicament of their understudies. Along these lines, a few teachers may basically keep marking students as per their perceptions. Here, it is contended

that a few teachers see children with unidentified dyslexia as 'apathetic and 'moronic', because of an absence of awareness of the conditions that bring about the SpLD and additionally because of their absence of training in distinguishing and separating children with dyslexia. In this manner, they neglect to give educational freedoms to a portion of their students. Hornstra inspected teacher's perspectives to dyslexia and the effect of their convictions on the scholastic accomplishment of students with dyslexia. It was subsequently discovered that most teachers didn't have a positive perspective on the learning trouble. For example, the teachers in the above investigation didn't grant appraisals for writing accomplishment to their students with dyslexia. In any case, not all the students had been formally analyzed as having dyslexia; the teachers had just marked them as having a SpLD, on the grounds that they unequivocally accepted that this was the situation.

Teachers accept that every one of their students' progress, and that all understudies ought to learn on equivalent premise, contingent upon the teacher's fitness. Nonetheless, because of an absence of appropriate awareness among teachers concerning dyslexia, it isn't in every case handily recognized. This may similarly be because of vulnerability, helpless training or the absence of a legitimate definition, in addition to other things. These misunderstandings and an absolute shortfall of assets cause numerous issues for people with dyslexia and in the event that they don't get the right master consideration and oversight, they may confront impressive adverse pressing factor, prompting uneasiness and low confidence. It is just teachers that can uphold children with dyslexia through these difficult situations and this requires devotion. Notwithstanding, relatively few teachers can be continually careful about such issues in their understudies and mainstream tension on them doesn't uphold them in such manner. This is additionally compounded by the way that teachers require exceptional training to be viable in such a job.

To show a student with dyslexia who has various reading and language issues, educational establishments should employ

specialists and experts that realize how to viably instruct a child with dyslexia and who have adequate tolerance. This is on the grounds that additional time and consideration is fundamental for a child with dyslexia to understand or peruse the undertakings being set by the teacher. The following stage is to guarantee that the teachers are prepared for this, have sufficient data on the best way to manage children with dyslexia, are adequately capable to intercede at the correct time and have the will to do this utilizing the important methods; for instance, by utilizing instructional techniques, for example, phonological and entire language approaches, or finding a strategy that suits the child, instead of anticipating that all children should learn similarly. Over the long run, teachers' overall ideas and perspectives have changed an extraordinary arrangement. For instance, during the 1980s and 1990s, teachers would in general be antagonistic to phonics. Afterward, they encountered some adjustment in their acumen and thinking. Writing recommends that phonics assume a vital part in learning for children with dyslexia, as it is a technique for teaching reading and writing by raising phonemic awareness at elementary school level. Despite the fact that teachers currently know the estimation of phonics, the examination shows that they are not really ready to grasp the techniques associated with teaching along these lines.

V. Dyslexia As An Academic Issue: Exclusion Of Other Factors

The relationship of dyslexia absolutely with proficiency, or all the more exactly with reading and spelling stays pervasive. This perspective is embodied in the meaning of the term distributed by Reid:

Specific learning difficulties/dyslexia can be identified as distinctive patterns of difficulties relating to the processing of information within a continuum from very mild to extremely severe which result in restrictions in literacy development and discrepancies in performances within the curriculum.

The American Psychiatric Association distributes a Diagnostic and Statistical Manual of Mental Disorders or DSM, refreshed intermittently and 'compelling as a

classificatory framework'. This used to incorporate dyslexia under 'scholarly abilities problems', yet the fourth release changed the last term to 'learning issues' and recorded under these 'reading issue' and 'turmoil of composed articulation' (among others), however not dyslexia. The definitions given for the terms in the fourth version are immovably founded on IQ/fulfillment disparity. Exclusionary language of the sort cited above is additionally utilized, under the heading of 'differential finding'. Talk of this sort limits the thing can be said about these marvels and enables specialists, for example, the DSM's editors to articulate on the idea of the human world. Likewise distributed in 1994 was the World Health Organization's likeness the DSM IV. Under 'specific formative problems of educational abilities', this rundowns 'specific reading issue', with 'formative dyslexia' showing up as an elective term. Once more, IQ/accomplishment inconsistency and exclusionary standards are utilized.

VI. Educational Responses To Dyslexia

As the NWP brings up, the consistently expanding number of Higher Education students who recognize themselves as dyslexic, and the legitimate status of dyslexia as a disability establish a test to the area. A fundamental component of the setting of the current investigation is the political one: how is the education calling to react to the marvel of dyslexia? Pumphrey propose that the reactions of individual experts rely upon their training. There is one of a few broad recorded reviews of the development in information about, and reaction to, dyslexia. It isn't valuable to rehash this work. What follows is a new gander at reactions to dyslexia in the 20th century, regarding the pictures of it which are uncovered by those reactions. The arrangement will be roughly ordered, the extent that such a methodology takes into consideration rationale and lucidity. In Britain, the soonest educational reactions to dyslexia occurred in a clinical setting; during the 1940s, expert 'facilities' were held by nervous system specialists at two emergency clinics in London. In 1964, Critchley composed the principal British endeavor to summarize current information ('Developmental Dyslexia'), later reconsidered.

The Preface to the amended release shows that he considered the to be of his book as comprising of 'specialists, guardians, teachers or clinicians'; he considers the to be of dyslexia as clinical, however the impacts as simply educational. Regarding teaching techniques, a more compelling occasion had in the mean time occurred in the USA: the private distribution in 1956 of Gillingham and Stillman's methodical teaching unit, which affected large numbers of the methodologies still being used today, for example, Hornsby and Shear's 'Alpha to Omega'. A critical part of this organized, phonic-based methodology is that it is individualized; the picture of dyslexia behind it is an educational disability - the 'word dazzle' being assisted with seeing words by developing them from their segment parts - and the supposition that will be that the student will be instructed independently.

The 1960s in Britain saw a few occasions and advancements regarding dyslexia. In 1962, the Invalid Children's Aid Association (ICAA) held a gathering at St Bartholomew's Hospital named "Word Blindness or Specific Developmental Dyslexia?" This gathering showed that albeit the issue was starting to be viewed as concerning language all in all (for example the propriety of the term 'word daze' was being addressed), the matter was as yet the area of Invalids'; the gathering procedures were distributed by a clinical engraving. That gathering prompted the foundation in 1963 of the Word Blind Center in London, which proceeded for a very long time. (It was anything but a unique thought: the main Word daze Institute had been opened in Denmark in 1936) The London community roused the establishing of willful nearby dyslexia affiliations, eight of which were set up somewhere in the range of 1965 and 1972, the time of the conventional establishing of the British Dyslexia Association: 'Here finally was a political ginger gathering to help bring the matter before both Parliament and general society'. The 1960s likewise saw the establishment of the main British expert schools for dyslexic children, and in 1969, the principal dyslexia-related teacher training in Britain was coordinated by the Bath Association. Likewise in 1969, a Bill named 'Children with Learning Disability' was

presented in the US Senate. 'Learning disability' is the term utilized in the USA for what is referred to in the UK as 'specific learning troubles' (which incorporate dyslexia). The very mark shows that the issue is viewed as one of disability. In Britain anyway there was for a long time a discussion with respect to the mark, yet in addition regarding the actual presence of dyslexia. In 1966, the beginning British Dyslexia Association was engaged with a global gathering of uncommon necessities instructors held in London; a B.D.A. record of its initial 25 years portrayed the 1966 gathering as 'essential to the improvement of the dyslexia development in Britain'. An elective view is that the wide scope of experts who went to may have had personal stakes in the extension of a custom curriculum. Moreover, the impact of gatherings with admittance to focuses of force may harmonize with the interests of educational foundations which desire to eliminate demanding students. These commonly creating bunch were, be that as it may, obliged during the 1970s by factors which defied the beforehand compassionate perspective on social arrangement: monetary emergency and cut-moves openly spending. The prevailing philosophy moved from 'doing great' to looking for methods of acquiring a monetary profit from venture. In any case, it was exclusively after the 1979 general political decision that the idea of impaired individuals seeking scant assets was transparently examined. The 1981 Education Act was driven by financial contemplations, to the degree that reconciliation of 'unique necessities' children would take into account the conclusion of exceptional schools and subsequent saving of additional remittances paid to their staff.

VII. Disability And Dyslexia In Higher Education

The Education Acts of the 1980s and 1990s didn't cover Further or Higher education. The 1992 Further and Higher Education Act which set up the 'new Universities' and was centered around financing and organization, trained (in regard of Further Education) that 'every board will have respect to the prerequisites of people having learning troubles' nevertheless mentioned no equal observable fact in regard of Universities. The Dearing Report 'Advanced

education in the Learning Society' didn't allude to dyslexia. It did anyway propose broadening the support in Higher Education of individuals from ethnic minorities, the socio-financially burdened and the handicapped and more extensive accessibility of the Disabled Students' Allowance (DSA). The last was at that point being asserted by dyslexic students, and numerous experts deciphered Dearing's references to the handicapped as including the dyslexic. Somewhere in the range of 1992 and 1997, quantities of students asserting the DSA for hardware, for example, PCs significantly increased. There was likewise a quadrupling of the numbers guaranteeing the remittance for 'non-clinical assistance' (under which expenses are paid for dyslexic students' individual learning support meetings). Reference to the DSA carries us to the development of dyslexia in Higher Education. Measurable data on students with inabilities was not separated before the 1992. Further and Higher Education Act; in the times of UCCA (the Universities' Central Council for Admissions) and PCAS (Polytechnics' Central Admissions Service), University and Polytechnic application structures contained just one check box for 'disability'. The current Universities and Colleges Admissions Service (UCAS) structure has boxes for nine unique kinds of uncommon need, including 'specific learning trouble'. The report on HEFCE's 1993-1995 'extraordinary activity' for the help of impaired students demonstrates that most of utilizations for project subsidizing were for dyslexia-related work. As far as enactment, Dearing had been gone before by the Disability Discrimination Act (DDA). This was centered on business issues, yet assigned duty regarding debilitated students to the Funding Councils for Higher Education. The direction notes to the Act alluded to 'extreme dyslexia' as falling inside its meaning of a disability (which recognizes a considerable antagonistic impact on an individual's capacity to do ordinary everyday exercises). The Disability Discrimination Act has now been reached out by the Special Educational Needs and Disability Act (SENDA) of which the Code of Practice gives numerous instances of manners by which unfair works on including dyslexic students might be unlawful under its terms.

VIII. Conclusion

The quality of preparation shifted strikingly across specialists and between schools. Practically all specialists arranged arrangement for children and youngsters with dyslexia inside more extensive approaches for incorporation, uphold for learning or extra help needs. Schools in these specialists utilized a comparative methodology. In the couple of specialists which had approaches for 'dyslexia-accommodating' schools numerous individual schools had built up their own arrangements on dyslexia. In such schools, staff exhibited a more clear comprehension of dyslexia and its

effect. These specialists would in general find education challenges inside an organized intercession system. As a result, arranging in schools was by and large more successful. In the prescribed procedures, staff utilized an extensive arrangement of information to screen and keep tabs on students' development and assess the effect of learning and teaching techniques and the utilization of assets to help learning. Self-assessment of training in gathering the necessities of learners with dyslexia was not a vital element of training in many schools.

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AN OUTLINE OF ACTIVITY BASED ENGLISH LANGUAGE TEACHING IN ODISHA: CHALLENGES AND SOLUTIONS

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ABSTRACT

The current article examines the relationship between Activity Based Learning and other prevalent teaching techniques in various schools across the block, as well as the obstacles that have been encountered and the resulting contrivances. Because of the increasing need for English in today's world, the hearts of all English experts have been broken in order to promote the best possible level in the language's teaching and learning process. Any language program's goal is to turn the student into a dictatorial and absolute user of the language, and this goal is even more stringent in the case of English, which is a worldwide and global language. The teacher's role is to support this process by giving chances for students to express themselves verbally. His efforts are made more difficult at the primary level because he is dealing with language learners who do not have the necessary support from their home environment, and he must therefore create a conducive environment in order for the natural functionality of the language learner to remain intact in a formal language learning setting.

Keywords: Activity, Learning, Language, Teaching, Program.

Introduction

In the context of the developing sense of English as a distant language, the unwelcome obsession with teaching the language in the opposite order of natural language learning sometimes interfered with the natural process of language acquisition. Although this initiative is not intended to reveal any errors made by teachers, parents, or the educational system as a whole, it is intended to help participants get a better knowledge of the issues at hand in order to encourage active involvement as a key to success. The state of English instruction in Odisha was previously in poor shape, due to education being a neglected element of the state. Particularly ineffective were the English teaching techniques used by certain harsh and rigorous English teachers, who failed to improve the English language proficiency of their students. With 36,419 primary schools and 20,917 upper primary schools (<http://www.opepa.odisha.gov.in>), the state government of Odisha is dedicated to the universalization of basic education, which will shape the future of about 6.6 million children between the ages of 6 and 14. Thanks to its collaboration with ELTI (English Language Teaching Institute) for the preparation of required textbooks and the provision of effective orientation programmes in English language education, it has been able to place greater emphasis on the nourishment of this

world tongue, attempting to raise the overall standard of teaching on a daily basis. In Richards' opinion, English Language Teaching (ELT) is a field that has undergone significant transformation, moving away from mostly teacher-centered techniques and toward more learner-centered approaches. So the scope of English language teaching has been broadened to include factors such as professional development for English language teachers, strategies for learning English as a second language, approaches and methods applicable in a multilingual context, the importance of learning the language for education, socialization, and globalization, among other things. Between now and then, the status of English language teaching in the state of Odisha may be determined by the clear perceptions held by instructors about current teaching techniques and the level of pedagogic savvy demonstrated by the teachers.

I. Current State Of Elementary Education In Odisha

This authority, which came into effect on 30th January 1996 in the state, has taken the responsibility for achieving the goals of Universal Elementary Education, which falls under department of "School and Mass Education." It does so by providing a "universal primary education" to all children between the ages of 6 and 14 (i.e. from class I to class VIII), which is a fundamental right for all children in the state. In addition to the

ongoing process of teacher empowerment, the provision of reference materials in addition to regular magazines of the talent repository, frequent visits by monitoring and pedagogic officials, the careful selection of resource persons for teacher training programmes, the reformation of textbooks, orientation on activity-based learning and group work, and other initiatives all contribute significantly to the educational process. Even yet, there are certain obstacles in the way of producing the greatest results as a result of the process. As we all know, human beings are born with the natural capacity to learn several languages at the same time, and they continue to enhance their language competence via exposure to a variety of relevant settings and adequate interaction with people throughout their lives. In this context, the language teacher's pedagogical responsibilities must be recognized. When developing classroom tactics, it is important to keep in mind the objectives that underpin the syllabus framework in order for students to gain the appropriate language skills in each session. Attempting to teach a second language should never be regarded a novice's prank. Evidently, the underlying ideas that underpin the development of a curriculum should be understood by every member of the teaching staff. Concerning education and evaluation procedures at the elementary level, the academic authority under the Department of "School and Mass Education" of the Government of Odisha has established some basic requirements, including the following: to promote the all-round development of the child, to raise the child's knowledge, ability, and aptitude, to develop the physical and mental abilities of the children thoroughly, to promote the all-round development of the child, and to raise the child's knowledge, ability, and aptitude.

II. English In Elementary Curriculum In Odisha

The teaching of English in our state's public schools begins in the third grade, in the government schools. A separate English textbook is provided for every student in each class from third to seventh grade. In addition to the primary English textbook, a separate tale book called 'Stories Past and Present' is

provided for students in eighth grade. English is taught from the pre-primary period onwards in private English medium schools, and students read other subjects in English, whereas in our government elementary schools, students are exposed to the language through one subject, English, in class three and the rest of the subjects are taught in the medium of the mother tongue, i.e. Odia. Class sizes in elementary schools range from 10 to 40 students, while those in upper primary schools range from 40 to 60 students. Throughout the lesson, students make use of TLMs (Teaching Learning Materials), which are either provided by the government or created by the students under the "low cost and no cost" principle. Aside from that, kids are also allocated some project work to complete outside of the classroom, which provides them with the opportunity to develop a variety of language skills on their own. On various dimensions, the current state of primary education in Odisha includes innovations in pedagogy with the latest trends, the advantages and disadvantages of various teaching methods, theoretical approaches and practical applications, and communication among colleagues, teacher empowerment through trainings, pre-primary education, phases of primary education, facilities and provisions by the government, and teacher empowerment through trainings, among others Dr. Kundu and his associates in the training module divide primary education into three convenient phases in order to better understand contemporary primary education in Odisha: the pre-primary phase (before class I), the basic competency phase (class I and II), and the Take Off Phase (after class II) (class III to class VIII).

"The pre-primer stage is a critical era in the development of a product. It establishes the foundations of education by serving as a halfway house between home and school, a connection, and a fusion of home and school atmosphere." This is the time period during which the youngsters are taught how to function inside a formal setting such as a school. The learning environment is similar to that found at home: full of love, affection, cordiality, and a relaxed attitude toward others. Learning occurs as a by-product of some fascinating activity and occurs automatically in

this situation. During the Basic Competency Phase, students will learn the mechanics of reading and writing such as recognition of the alphabet, linking symbols with sounds, use of simple and short vocabulary, phrases, and sentences; writing of the alphabet, words and phrases; writing of sentences with capitalization, punctuation, and spelling; and writing of sentences with capitalization, punctuation and spelling. During this phase, patience and tolerance are required in order to teach the sombre mechanics in an intriguing and entertaining manner. When it comes to the beginning, the fundamentals are fairly dull objects. The Take-Off Phase helps students to strengthen their reading and writing abilities, preparing them for further education. Just as an airplane generates an upward force that overcomes the plane's weight and maintains it in the air, a child in this stage develops fast reading skills such as skimming and scanning, study skills such as note taking and making, reference skills such as finding information in a dictionary, atlas, and other sources, and establishes himself as a self-learner by developing these skills. The learning of information-based topics and the learning of the English language are complimentary to one another, and as a result, the child's level of achievement increases significantly throughout this phase. It is crucial to note that this phase incorporates learning into three distinct stages: pre-reading, while-reading, and post-reading. It is important that learners are motivated towards the text during the pre-reading stage in order to facilitate maximum comprehension in the later stages. This can be accomplished through the use of jokes, riddles, a short story, a personal experience, a picture, brainstorming, recent news, or retelling an incident, depending on the theme of the text.

III. Challenges Of ELT

The overall notion of second language acquisition is similar to that of first language acquisition in that it is characterized by naturalness and spontaneity, and it necessitates contextualized and practice-based teaching and learning. As Palmer correctly points out, the acquisition of a second language occurs without our conscious awareness, and students should be exposed to this sort of natural setting

where they may express themselves spontaneously in order to improve their skills. Some supplementary difficult situations, which have been described below, act as roadblocks on the route of natural language learning in Odisha, preventing people from learning a second language.

4.1 Acquisition - Unfavorable Environmental Conditions

Accepting the fact that the majority of kids in our state's government schools come from lower middle and lower-middle-class backgrounds is the unavoidable truth. It is difficult for a child growing up in such an environment to gain exposure to the English language, as opposed to a child growing up in a non-rural, well-read, upper middle class home, where he or she has access to English in the speech circle of his or her residence and nearest neighborhood, particularly among his or her peer group (he is normally sent to private English medium schools). Parents from economically disadvantaged backgrounds, such as BPL (Below Poverty Line) or those who are uneducated, on the other hand, are more likely to send their children to government schools in order to take advantage of government-provided benefits such as free mid-day meal, free uniform, free text book, free school bag, and other educational materials.

4.2 The absence of a strong pre-primary education system

A workbook that is extremely thoughtful and illustrative. Arunima has been created for this purpose, but because the Anganawadi workers are overburdened with other tasks such as health and nutrition, immunization, health check-up, antenatal and postnatal care, and other duties, they are unable to provide the toddlers with the necessary substance, resulting in a shaky foundation on which to build the edifice of education in the future.

4.3 Assumptions Regarding the Use of English as a Second Language

Many people still consider English to be a foreign or difficult language to learn. However, in an atmosphere where a look may reveal several manifestations of it, as opposed to other foreign languages such as French or Japanese, elucidates the language as no longer being a weird foreign language. As a result, English may be taught in this state in the same way as

any other second language, such as Hindi, Bengali, or Sanskrit, can be taught without regard to difficulty. "Developing feasible classroom procedures based on a given perception of pedagogy involves reconciling with the constraints of the teaching context, and it should be regarded as a strength for classroom procedures to be able to develop within and draw support from such constraints while remaining consistent with the perception involved," writes Prabhu, who is correct.

4.4 Assumptions Regarding Activity-Based Education

This method makes use of educational aids and appliances that are extremely child-friendly in order to encourage the self-learning of the child and to provide him with adequate facility to prosper according to his or her own potentialities while stimulating his or her senses for a lasting experience. Different activities such as the execution of quizzes, puzzles, and riddles for interaction, arranging the natural order of brainstorming, organizing, drafting, editing, and proofreading for writing skill, facilitating language lab and Computer Assisted Language Learning (CALL), organizing English clubs, and organizing literary competitions such as Encompass are carried out for the proper development of the language skills. Promoting group and peer learning has the potential to make learning more practical and productive. The most noticeable feature is that, in the majority of institutions, although it has been several years since the debut of Activity Based Learning (ABL), some incorrect preconceptions about the method are still firmly entrenched in the minds of some English instructors who educate through explanations and translations.

4.5 A lack of awareness of one's own needs

Because our country is well-known for its multilingual, multireligious, multi-ethnic, and multicultural cohabitation, English has gained acceptance as an official language recommended in our country. As a result, English becomes a fundamental requirement for a child today in order to survive in a cooperative manner amid the many different cultures that exist. However, the needs of a learner can be divided into three categories: personal needs (expression, attitude, interest, cultural and educational background, gender,

and so on), learning needs (past language experiences of the learners, learner's autonomy, individual learning styles, availability of time, learning gap: the difference between current level of language achievement and target level of language achievement, and so on), and social needs (expression, attitude, interest, cultural and educational background, gender, and so on) (language mastery at job place, rapport with colleagues, business growth etc.).

4.6 The Course Book and Supplementary Materials are not in proper working order.

A course book, also known as a text book, is a standardized fundamental teaching tool that is created to meet the needs of different educational institutions based on the age, aptitude, and interest of the students. It is also known as a text book. It is written in an understandable and straightforward manner, demonstrating that it is a child-friendly tool. It may contain a student's book, a workbook, or a teacher's handbook, among other things. Furthermore, the teacher's book may include audio-visual aids such as a tape script, a CD-ROM, and other such items. In addition to this, some supplementary materials such as phonology practice materials, other authentic sources such as newspaper and magazine articles, video, class library for graded learners, and some objective specific activities such as communicative activities, language practice activities, follow up activities, reflection and discovery activities, sum up activities such as plenary sessions, and some objective specific activities such as communicative activities, language practice activities

4.7 The Teach to Test Methodology

Its purpose is to examine the reality that the majority of today's lessons are "test" focused. It demonstrates that teaching is devoid of passion and that pupils are disengaged from the learning results when they place an inappropriate emphasis on excessive technical drill in preparation for test performances. This merely assures the level of recall, not the degree of understanding, as previously stated. Children who have remembered some language from a target section, for example, may receive high results while having a limited knowledge of the entire target portion's vocabulary. The goal to get high marks, scores, and places in the test takes the place of language abilities,

study skills, the ability to undertake projects, to think, to regenerate, and to reflect. Consequently, the moment has come for the teacher to focus on the overall development of the child through language, making it the vehicle for self-expression rather than the primary focus of the examination process.

IV. Ways Of Solution

The need of the hour is to face the obstacles encountered throughout the process of learning and teaching English as a second language. The following extremes provide some potential solutions to the previously identified difficulties.

5.1 Learning Languages in the Order in Which They Should Be Learned L-S-R-W:

The perspective formed during the process of language learning and development indicates that the first stage of language learning is characterized by the act of listening. This most crucial time, often known as the "silent period" or the "incubation period," serves as a platform for the internalization and self-regularization of the learners on a sub-conscious level. This is similar to the way a newborn begins to babble after ten to twelve months of uninterrupted listening to the significant sounds in his environment. The abstraction of cognitive structure for speaking ability is prepared via repeated instances of extensive exposure to the activity of listening.

5.2 use the Total Physical Response (TPR) method

Professor James J. Asher was the first to suggest that motor activity should come first, before verbal activities. Thus, he advocated the use of physical reactions such as limb motions, functioning of all senses, and language in order to ensure that learning is long-lasting and effective. He was the first to demonstrate scientifically the importance of the complete bodily response technique in the field of impulsive learning. The results show that TPR rhymes, stories, and instructions performed with the whole body are an extremely effective method of learning a language in a positive and understanding environment with ample opportunities for listening, development of the right hemisphere and stress-free natural instinct, which is specifically designed for beginners at the elementary level.

5.3 Placing a greater emphasis on fluency rather than precision.

An important factor that can be discussed is the fact that language learning is no longer treated as a purely cognitive process, but rather as a socio cognitive process in which the learners are given opportunities for free social interaction and open conversations in order to improve their communicative competence. As a result, kids should be encouraged to speak freely and generously when it comes to the use of language at the beginning.

5.4 Teachers should strive to be lifelong learners.

It would be unfair if instructors did not participate in their own learning. Teaching is a profession in which the capacity to adapt and keep up with the latest developments is essential. Education and problems are always changing and growing. Teaching positions teachers in the center of the learning process, coordinating among students as they progress through the evolution of being equipped with up-to-date skills and ideal brain health. Children are insatiably inquisitive. They require a solid basis upon which to build. Schools must be locations where students' curiosity can be encouraged and where learning can be encouraged in order for that foundation to be a strong one. A learning instructor may battle ignorance in the same way that a burning candle can illuminate those around him. Obtaining a government position does not put a stop to one's learning; rather, it provides an opportunity for further knowledge acquisition in order to satisfy the learners' insatiable desire for information.

5.5 Input That Is Understandable

The importance of comprehension and understanding in the study of a foreign language cannot be overstated. To ensure that the learners have grasped the material, thorough questions should be constructed from each and every sentence in the passage. Teachers must exercise much caution in providing abundant and purposeful communicative and comprehensive inputs in order to produce healthful outputs, such as speaking and writing proficiency, in their students. According to Krashen, who emphasizes the importance of understandable inputs, they should be provided to pupils in a

scenario where the incidence of concerns and anxieties is extremely low. The emphasis should be on the input rather than on the adjustment of production or output. In situations when the inputs are desired, the outcomes must be commendable.

5.6 Getting to Know the Language It has nothing to do with the language.

The acceptance of the fact that using a language is similar to operating a vehicle. In the same way that a driver must master the skill of driving a vehicle perfectly along a road rather than becoming concerned with the structure and mechanism of the vehicle, a speaker of a language must master the skill of communicating effectively rather than becoming concerned with the engineering of the language (grammar). As a result, the second language instructor must place focus on the input of functional aspects rather than the structural aspects of the language among his or her students. The grammar of a language is like a vast ocean. Even if we lack a basic understanding of the grammar of our native language, we use it to communicate with everyone and everything throughout our whole lives. So formal grammar with all of its rules and meanings is no longer a concern; rather, functional grammar is of value at all levels of education, especially at the primary level. As Krashen points out, the teaching of the facts, rules, and laws of a language is just discussing the language, which is referred to as language

appreciation or linguistics, and is not the same as the learning of the language as Krashen explains.

V. Conclusion

We may end by demonstrating some general facts that instructors must take seriously the concept of "language of opportunity" and offer more pedagogic innovations while losing sight of their own educational system in order to contribute more pedagogic innovations. Language is not learned completely at once, but rather in stages throughout time. As a mother, the teacher familiarizes the kid with the language at the primary level; as a father, the teacher demonstrates the linguistic forms at the upper primary level; and as a guardian, the teacher channels his or her potential in the language at the secondary level. At the elementary level, a teacher's job is considered to be more difficult because she is taking on the role of a mother and is responsible for teaching the act of communication. This is especially true at the foundation level. When it comes to communicative tasks, according to David Nunan, they are defined as follows: "a piece of classroom work that involves learners in comprehending, manipulating, producing, or interacting in a target language while their intention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than manipulate form."

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RURAL AND SOCIAL DEVELOPMENT AND ROLE OF VOLUNTARY ORGANISATIONS IN ADVANCEMENT OF INDIA

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ABSTRACT

All agree that volunteer organizations have tremendous potential and can make significant contributions to the promotion of micro-level development. Individuals and volunteer organizations voluntarily donating their time and resources to the improvement of their communities have been recognized by the government and even international organizations. Authorities in poor countries and international development organizations have recognized the efficacy of VOs and are increasingly ready to cooperate with them on a variety of projects. In reality, this type of teamwork is unavoidably necessary. Even though the origins of volunteerism or voluntary action as a concept can be traced back to the functioning of social structures in ancient times and even outside of social institutions in the mediaeval period, for the purposes of this study, it is restricted to the 19th century and onwards because it has more tangible links to volunteerism as it is currently understood.

Keywords: Voluntary, Social, Government, Organization, Volunteerism.

Introduction

The notion of voluntary organizations is one that is always changing and developing. Its significance and character are always shifting over time. As a developing concept, voluntarism is dependent on three types of dynamics: I the dynamics of "social capital," which serves as the very foundation from which it emerges and grows; (ii) the internal dynamics of voluntarism itself; and, (iii) the general politico-administrative aspects and authority social constructions in which it is being implemented. As previously stated, social scientists believe that there exists an independent space of civil society and intermediary institutions between the states and the citizens of a country. They get their essence from "social capital" (Putnam, 1995), which is defined as "the body of moral attitudes, cultural practices, pattern of interaction, and degree to which social as well as mutual trust predominate in a community." It is this "social capital" that either motivates or discourages people from cooperating in the pursuit of "shared goals" that are beneficial to the public good. The body of social values, the structure of connections, and the degree of mutual trust all change throughout time as a result of the overall process of social transformation. Voluntarism and voluntary organizations, like social capital, are always evolving in response to the shifting landscape of social capital. It is important to remember that the dynamics of a

volunteer organization are tied to the changing needs of the community and the cliental group to whom it caters. The changes in the political-administrative structure, international diplomacies, the interface between society and industry, and the nature of the interaction between the market and the family maintain the volunteer organizations in a state of transition from one phase to another. VOs have been approached from a variety of perspectives in India over the years, and at various times in time. Various definitions have been proposed, including: an essential feature of democracy; a development sector in terms of its functional complementarity with state action; a pattern or form of organization in relation to social activism or social action; a development process; a development technique; a developmental planning strategy; a means of delivering developmental benefits to those who are most in need.

When it comes to the voluntary sector, there has yet to be a definitive definition of the terms "non-profit" and "non-profit-making." The conflict between the VO's resource contribution to the realization of a project and the provision of nourishment and logistical assistance to its employees, workers, and organizers is the root of the problem. The question is whether or not a volunteer possesses the necessities of his or her existence. If he is required to dedicate his time and energy to the volunteer service, he should consider where he will fulfil these obligations.

If he is required to commit his available resources, voluntary action will continue to be regarded as a leisure pastime reserved for the upper classes. Was there any progress made toward improving efficiency and professionalism in the volunteer sector as a result of this? Within the framework of social legitimacy, there are a slew of unresolved issues, including these and several more related issues. As the answers to these challenges receive societal legitimacy at both the macro and micro levels, the volunteer sector will be able to go to the next higher phase of its development cycle. Additionally, the volunteer organizations themselves are in the midst of a changeover period from disaster relief and charity to advocacy and people's movement work. Voluntary organizations have evolved through four generations, namely, the first generation, which was primarily involved in relief and welfare, the second generation, which was involved in development, the third generation, which was involved in sustainable system development, and the fourth generation, which was involved in peoples' movements.

I. Emerging Challenges, Tasks In Rural Development And VOS

VOs may be required to acquire various types of capacity building in order to maintain their space and further cement their position in the marketplace. Only in this way will they be able to build the potential and competence that will be required to assist in the paradigm change in rural development that is underway. The conclusion is clear: if volunteer organizations are unable to meet the demands of developing new problems, others with superior managerial and technical abilities, as well as financial resources, will step in to take over the job that has historically been performed by voluntary organizations. Agriculture extension, contract farming, floriculture, and information technology-based intervention are examples of sectors where the private sector has made significant inroads in areas where the public sector has not. Before moving forward, it would be beneficial to identify the developing issues that have major implications for the operation and role of volunteer organizations in rural development before moving forward. The

following are some of the rising areas in rural development:

- Farming diversification is important in order to decrease reliance on seasonal food crops. Once farmers have overcome the barrier of subsistence farming, agriculture may expand to encompass the production of high-value crops such as vegetables, horticulture, poultry, and pisciculture through the use of a farming system method. This refers to the technique of viewing land as a productive asset from which revenue should be generated by optimum use (rather than suboptimal use) of scientific, management, and financial inputs, as well as the efficient use of land and water resources, in order to maximize income.
- Energy security in rural areas may be improved by advancing the use of renewable resources such as solar energy and biogas. It will be accomplished via engagement of the community and the combination of conventional and non-conventional energy sources. It will be further encouraged by initiatives that may necessitate the effective use of energy at the household level.
- Farmers can benefit from the promotion of value-added services such as marketing, agribusiness, and agricultural clinics, which can provide them a comprehensive package of technical and management services. This is a crucial precondition for the transition to a market-oriented agricultural system and the diversification of crop production options. State-run agricultural extension and a variety of other support services are no longer solely the responsibility of the government. We shall discuss how the business sector has already intervened in these sectors in a later section. To offset the negative impacts of the market, providers of agricultural inputs and services, and other stakeholders, it is critical that volunteer organizations get involved on their behalf as well as those of the stakeholders themselves. The function of the voluntary organization (VO) is extremely essential since VOs, in conjunction with government field divisions, are responsible for educating farmers on the many inputs and services available. Farmers' interests may be better protected if the state and VOs work together to combat aggressive marketing. Considering the high rate of farmer suicides in cotton-growing

districts of Maharashtra and Andhra Pradesh, it is clear that such an endeavor by grassroots non-governmental organizations (NGOs) is required in an increasingly liberalized market.

- Ensure proper implementation of strategic rural employment programmes such as those under the National Rural Employment Guarantee Act (NREGA) of 2005, the National Social Assistance Program, the Swarnjayanti Gram Swarozgar Yojana (SGSY), community Grain Banks, the Sampoorna Grameen Rozgar Yojana (SGRY), the Pradhan Mantri Gram Sadak Yojana (PMGSY), and other similar initiatives. VOs have the potential to play a critical role in mobilising the rural poor and aiding Gram Panchayats and government agencies in the monitoring and assessment of rural development programmes.
- Effective participation of VOs in all activities aimed at promoting sanitation, the provision of safe drinking water, the provision of immunization services for the poor, the provision of health and nutritional security, particularly for women and children, and the resolution of all gender issues in the context of rural development are essential.
- Participants in efforts to eradicate adults and female illiteracy, as well as the development of functional literacy and vocational education are encouraged. In order to raise broad knowledge of villagers' rights and entitlements in relation to local self-governance institutions and the government, VOs must work hard to raise their profile. In order to effectively implement the Panchayati Raj System, VOs may be required to organize training sessions for both the panchayat electorate and panchayat functionaries, as well as elected representatives, notably women, in their respective rights and responsibilities.
- VOs may ensure people's participation in the management of natural resources, for example, by organizing Water Users Associations, Joint Forest Management Committees, Watershed Management or Waste Land Development Committees, Village Environment Protection Committees, tree plantation events, and

other activities of this nature. They may also be able to guarantee that the rural poor are represented as stakeholders in these community-based organizations as well.

- Encourage the development of microcredit and microfinance organizations in order to empower rural families, particularly those led by women. They may also make it easier for Self-Help Groups (SHGs) to connect with banks, and they may play a critical role in enabling the poor to progressively transition into the microenterprise segment with credit input and marketing assistance from the organized sector.

II. Role Of Voluntary Organization In Social Development In India

A change in the socioeconomic environment has resulted in a shift in the function of volunteer organizations. In ancient times, these organizations were beneficial in meeting the needs of the people; but, nowadays, policymakers are utilizing these organizations as development agencies. Non-profit organizations not only provide services to the poor or disadvantaged sections of society, but they have also brought attention to issues such as health, education, rural and urban development, environmental protection, women and children's welfare, and have become an active participant in India's contemporary development scene. Voluntary organizations have grown in importance as a worldwide force in recent years. Many more services are provided by these organizations in India than are provided by public or private agencies. They not only have a clear position in the contemporary state, but they also fulfil a variety of duties for their members. The non-profit organization provides humanitarian assistance to the poor, the needy, the neglected, the elderly, and the sick in India, with the goal of making India a shining example for the world. They have made various efforts not only to reduce poverty and inequality in society, but also to control social evils such as drug addiction, suicide, dowry child marriage, and so on. Voluntary organizations also provide their services on a large scale in emergency situations such as droughts, floods, and other natural disasters, as well as in peacetime. In

addition to teaching important civic qualities such as trust, compromise, and reciprocity to members of the public, it is thought that voluntary organizations help to bring society together by building bridges between various groups. They strive for the growth and well-being of people, and their extensive service is to link people together in the pursuit of progress and the well-being of society, nation, and country. The non-profit organization has long been a facilitator and driver of fair progress in India and throughout the world, and it has made major contributions to the well-being of the general public. Voluntary organizations are autonomous, flexible, democratic, secular, non-profit organizations that strive for the welfare and development of society. As the concept of the state shifts, the function and relevance of voluntary organizations has grown in prominence in India. The reason for this is that government structures are not geared for integrated development in areas such as agriculture, energy, the environment, water resources, and equality, whereas the voluntary sector is capable of achieving these objectives very easily and smoothly. As a result, their role in the development process has increased while also becoming more complex. After starting out with a welfare and clarity strategy, volunteer organizations in India have steadily evolved and broadened their perspectives to include the entire development of society.

III. Benefits And Characteristic Of Voluntary Organisation In India

People in need, the community, and volunteers benefit from voluntary organizations, but the benefits can be even greater for you. Volunteering and helping others can reduce stress, depression, and keep you mentally stimulated. While it is true that the more time you devote to volunteering, the more benefits you will reap. Voluntarism helps you interact with others, removes your shyness, and makes you feel confident. It will help you to enhance your mind and body while also inspiring you to be more active. It may help you grow in your job while also adding enjoyment and pleasure to your life. The voluntary organization possesses specific features that distinguish it from other organizations in the society. These

traits are listed below. The following are the primary features of a volunteer organization:

1. They are created by people or groups of persons with the purpose of carrying out welfare and development activities for the most disadvantaged members of society, as well as for other purposes.
2. They are neither established nor operated for the purpose of earning a profit.
3. It is a non-profit organization founded and run entirely by its members on democratic principles, with no outside influence.
4. It is registered under the applicable statute in order to grant cooperative status to a group of people.
5. It has well defined targets, objectives, and plans to achieve them.

IV. Conclusion

With the rapid changes taking place in the world, the role of volunteer organizations in India has also grown in importance. Government agencies are not equipped for integrated development in areas such as agriculture, energy, the environment, water resources or equity; but organizations in the voluntary sector are able to fulfil these objectives with relative ease. Their importance in the development process has grown in recent years, and it has also become more complex. In many regions, these organizations provide services that are more responsible, effective, and equitable than those provided by public or private institutions. Voluntary organizations in India are organizations that are autonomous, flexible, democratic, secular, and non-profit in nature, and which strive for the benefit and development of society as a whole. From a welfare and clarity perspective, volunteer organizations in India have progressively evolved and broadened their view, recognizing that the roads to development are all roads to growth of society. Despite the fact that there are varying levels of performance and dispersion. Voluntary organizations have the capacity to make a difference in a variety of sectors, and the government should encourage and enhance voluntary efforts in all their forms throughout India. Special efforts are necessary in order to correct the regional disparities in volunteer activity in India, which is a pressing need of the hour... Voluntary organizations

must acquire professionalism and emerge as effective agents of knowledge-based change in order to bring about sustained socio-economic

development in India, which will aid us in our efforts to make the country shine.

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