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(SRG/Kaniyakumari/97/2024)
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A STUDY ON SWISS BALL TRAINING AND ITS BENEFITS FOR SCHOOL VOLLEYBALL ATHLETES

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Abstract

This study aimed to explore the impact of Swiss ball training and its advantages for school-level volleyball athletes. A total of forty volleyball players, aged between 15 and 17 years, were randomly chosen from different schools in the Madurai district, Tamil Nadu. These participants were evenly divided into two groups, each consisting of twenty players. The research design adopted was a true random group method, incorporating both pre-test and post-test assessments. One group underwent Swiss ball training, while the other served as a control group. The experimental group followed a structured training regimen for twelve weeks, whereas the control group did not engage in any additional training. To analyze the results, a paired 't' test was employed, with a significance level set at 0.05 for hypothesis testing. Findings revealed that the group subjected to Swiss ball training exhibited notable improvements in all selected physical parameters following the twelve-week training period.

Keywords: Swiss Ball Training, Physical Performance, Volleyball Athletes

Introduction

The Swiss ball, an inflatable sphere made of durable elastic material, is commonly used in physical exercises and physiotherapy to enhance neuromuscular development. It serves as a dynamic platform, requiring the body to maintain stability and balance during exercises. Swiss ball exercises are designed to engage either specific body parts or the entire body, contributing to overall physical fitness. Various studies have examined the effects of different exercise regimens on physical fitness, highlighting the role of specialized training programs in improving athletic performance. Recognizing this, Swiss ball exercises have been developed to enhance fitness levels. The name "Swiss ball" originates from its initial use in Switzerland rather than Italy, explaining why it is not referred to as an "Italian ball" (Clap, 2006).

Volleyball is a fast-paced sport that has gained popularity worldwide and is recognized as an Olympic discipline. The game's straightforward rules, minimal equipment requirements, and high-speed action make it a favored sport in schools and educational institutions. Additionally, volleyball is relatively cost-effective, requiring

only a small playing area, a manageable number of players, and simple sports attire (Kuldeep, 2002).

Methodology

This research investigated the influence of Swiss ball training on physical attributes among school volleyball players. Forty volleyball athletes from various schools in Madurai district, Tamil Nadu, aged between 15 and 17 years, were selected through a random sampling method. These players were split into two equal groups, each consisting of twenty individuals. The study followed a true random group design, incorporating pre-test and post-test evaluations. One group was assigned Swiss ball training, while the other functioned as a control group. The experimental group participated in a twelve-week training program to assess its impact, whereas the control group did not engage in any structured training regimen. A paired 't' test was conducted, with the confidence level set at 0.05 to examine the hypotheses.

Table 1: Variables and Test Items

S. No	Variables	Tests
1	Speed	50MetresRun

Table 2 : SIGNIFICANCE OF MEAN GAINS AND LOSSES BETWEEN PRE- AND POST-TEST SCORES ON SELECTED VARIABLES OF THE SWISS BALL TRAINING AND CONTROL GROUP (SBTG)

S. No	GROUP	Variables	Pre-Test Mean	Post-Test Mean	Mean difference	Std. Dev (±)	σDM	't' Ratio
1	Experimental Group	Speed	7.09	6.89	0.20	0.11	0.02	8.49*
2	Control Group		7.07	7.06	0.01	0.09	0.02	0.56

*Significant at 0.05 level

The data presented in Table II illustrates the calculated 't' ratios for the pre-test and post-test mean differences between the experimental and control groups in relation to the selected variable, speed (8.49 and 0.56, respectively). When compared to the critical table value of 2.09 at a degree of freedom (1,19), these values indicate statistical significance at the 0.05 confidence level. The analysis further revealed that the mean changes observed from pre-test to post-test demonstrated notable improvements in the physical variable of speed (0.20, $p < 0.05$), whereas the control group showed an insignificant change (0.01, $p > 0.05$).

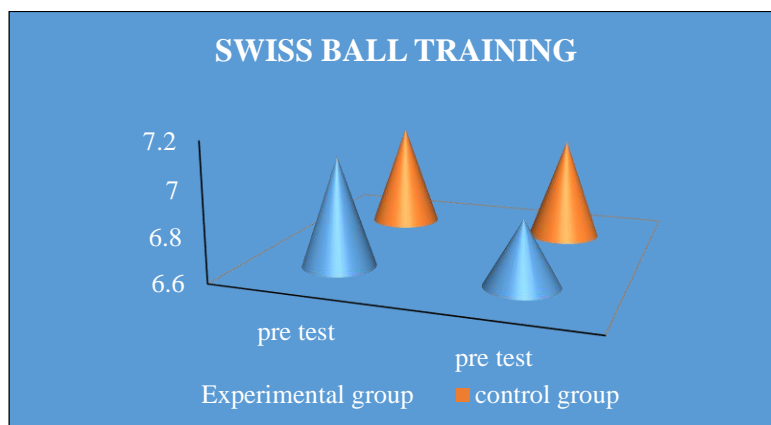


Figure 1: Shows the Pre and Post Mean Values of Experimental Group and control group on Speed Selected Variable.

Conclusion

Based on the analysis of the data, the following conclusion was derived:

- The group that participated in Swiss ball training demonstrated significant enhancement in all the selected physical variables among volleyball players after completing the twelve-week training program.

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EFFECT OF LADDER TRAINING AND YOGIC PRACTICES ON SELECTED PHYSICAL FITNESS VARIABLES IN SCHOOL LEVEL FOOTBALL PLAYERS

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Abstract

Football is one of the most popular sports worldwide, both in terms of spectator numbers and player participation. It is a fast-paced, aggressive, and exciting game that requires a high level of fitness and mental agility. Key attributes for elite players include alertness, speed, strength, balance, and flexibility. The purpose of this study was to examine the impact of ladder training and yogic practices on selected physical fitness variables among football players at Cheran Matric Higher Secondary School. Forty-five school-level football players, aged between 14 and 17 years, from Punnam Chathiram, Karur, Tamil Nadu, India, were randomly selected as participants. The subjects were divided into three groups: Group I underwent ladder training, Group II engaged in yogic practices, and Group III served as the control group. The experimental groups followed their respective training programs, ladder training and yogic practices—alternating every three days for a duration of six weeks. The independent variables in this study were ladder training and yogic practices, while the dependent variables included explosive power and speed. These variables were assessed using standardized test measures. Data were analyzed using Analysis of Covariance (ANCOVA). If the adjusted post-test means showed significant differences, Scheffe's post hoc test was applied to identify which paired means differed significantly. Results indicated that after twelve weeks of training, both the ladder training and yogic practices led to significant improvements in explosive power and speed among the participants.

Keyword: Ladder Training, Yogic Practices, Explosive power and speed

Introduction

Yogic practices encompass a wide range of physical, mental, and spiritual disciplines aimed at achieving harmony between the body, mind, and soul. Rooted in ancient Indian traditions, these practices include asanas (postures), pranayama (breathing exercises), meditation, and ethical guidelines, all designed to promote physical health, mental clarity, and emotional balance. Regular engagement in yoga enhances flexibility, strength, and relaxation while reducing stress and anxiety. By fostering mindfulness and

self-awareness, yogic practices help individuals cultivate a deeper connection with themselves and the world around them, promoting overall well-being and inner peace.

Ladder training is a form of exercise designed to enhance speed, coordination, balance, and quick foot movements. By performing various drills on a ladder placed on the ground, athletes develop better body control, improve reflexes, and increase their ability to change direction rapidly. This type of training is widely used in sports like football, basketball, and track, as it enhances both physical and mental agility. It also helps in building strength in the lower body and improving cardiovascular fitness, making it a versatile workout for athletes of all levels.

Explosive power and speed are essential athletic qualities that enable rapid, forceful movements in a short period of time, critical in sports like sprinting, basketball and football. Explosive power refers to the ability to generate maximum force in the quickest possible manner, often requiring the activation of fast-twitch muscle fibers. Speed on the other hand involves quickness in movement, agility, and reaction times. Training to develop both attributes typically includes plyometric, sprint drills, and strength exercises, all of which enhance muscle efficiency and neuromuscular coordination. Together explosive power and speed allow athletes to perform dynamic actions such as jumping, sprinting and changing direction with precision and intensity.

Methodology

The purpose of this study was to examine the impact of ladder training and yogic practices on selected physical fitness variables among school-level football players at Cheran Matric Higher Secondary School. Forty-five football players, aged between 14 and 17 years, from Punnam Chathiram, Karur, Tamil Nadu, India, were randomly selected as participants. The subjects were divided into three groups: Group I underwent ladder training, Group II practiced yogic techniques, and Group III served as the control group. The experimental groups followed their respective training programs—ladder training and yogic practices—alternating every three days for six weeks. Ladder training and yogic practices were chosen as the independent variables, while explosive power and speed were selected as the dependent variables. These dependent variables were assessed using standardized test measures.

Experimental Design

The primary objective of the study was to assess the impact of ladder training and yogic practices on selected physical fitness variables among school-level football players. Forty-five football players, aged between 14 and 17 years, from Punnam Chathiram, Karur, Tamil Nadu, India, were randomly selected as participants. The subjects were divided into three groups: Group I underwent ladder training, Group II practiced yogic techniques, and Group III served as the control group. The data were analyzed statistically using Analysis of Covariance (ANCOVA). When the 'F' ratio for adjusted post-test means was found to be significant, Scheffe's post hoc test was used to determine which paired mean differences were significant. The subjects were tested on selected physical fitness variables, including flexibility and physiological variables such

as heart rate. Pre-tests were conducted before the specific training commenced, and post-tests were administered after the training program was completed.

Statistical Technique

To determine the difference between the pre-test scores of each group, a paired 't' test was used. Analysis of Covariance (ANCOVA) was employed because, while the subjects were randomly selected, the groups were not equated based on the factors being examined. Therefore, the differences between the pre-test means of the groups needed to be considered when analyzing the post-test mean differences. In this study, ANCOVA was applied to adjust the post-test means for any initial differences in the pre-test scores. The adjusted post-test means were then tested for statistical significance.

Results and Discussions

The data pertaining to the variables in this study were examined by using dependent 't' test to find out the significant improvement and analysis of covariance (ANCOVA) for each variables separately in order to determine the difference and tested at .05 level of significance. The analysis of dependent 't' test on data obtained for explosive power and speed of the pre-test and post-test means of experimental and control group have been analyzed and presented in Table I.

TABLE 1: IMEAN AND DEPENDENT 't' TEST OF EXPERIMENTAL GROUP AND VARIABLES CONTROL GROUP ON EXPLOSIVE POWER AND SPEED

Variables	Mean	Ladder Training	Yogic Practices	Control Group
Explosive Power	Pretest mean	47.06	47.20	47.62
	Posttest mean	55.00	54.60	47.90
	't' test	12.19*	34.10*	1.74
Speed	Pretest mean	8.79	8.78	8.80
	Posttest mean	8.73	8.72	8.79
	't' test	5.14*	5.14*	0.72

significant at 0.05 Level of confidence 2.14

The obtained 't' value on explosive power and speed of experimental group is higher than the table value, it is understood that the ladder training and yogic practices has made significant improvement on explosive power and speed. However, the control group has not made significant improvement as the obtained 't' value is less than the table value; because it was not subjected to any specific training. The analysis of covariance on the data obtained on explosive power and speed due to the effect of ladder training, yogic practices and control groups have been analyzed and presented in table II.

TABLE 2 : ANALYSIS OF COVARIANCE OF EXPERIMENTAL GROUP AND CONTROL GROUP ON EXPLOSIVE POWER AND SPEED

Variables	Adjusted posttest Means			Source of variance	SS	df	Mean squares	'F' Ratio
	Ladder training	Yogic practices	Control group					
Explosive power	48.32	48.17	48.11	Between	34.24	1	21.29	87.29*
				Within	15.49	41	0.89	
Speed	8.70	8.72	8.80	Between	65.71	1	31.30	48.15*
				Within	27.16	41	0.58	

Significant at .05 level of confidence, $df(1, 41) = 2.02^$

The adjusted post-test means of the ladder training, yoga training control group (CG) explosive power were 48.31, 48.17, and 48.11 respectively. The obtained F-ratio for means was 87.27. Hence the adjusted post-test mean explosive power F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 41.

The adjusted post-test means of the ladder training, yoga training control group (CG) speed were 8.70, 8.72 and 8.80 respectively. The obtained F-ratio for means was 48.15. Hence the adjusted post-test mean speed F-ratio was significant at 0.05 level of confidence for the degree of freedom 1 and 41.

Conclusion

The findings of the study concluded that both the ladder training group and the yoga training group showed greater improvement in physical fitness variables, specifically explosive power and speed, compared to the control group. Furthermore, the ladder training group demonstrated more significant improvements in explosive power and speed than the yoga training group.

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EFFECT OF SPECIFIC DRILL TRAINING ON MOTOR FITNESS COMPONENTS VARIABLES ON SCHOOL LEVEL HANDBALL PLAYERS

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Abstract

The objective of this study was to examine the impact of specific drill training on motor fitness components in handball players. To achieve this, thirty school-level handball players from Madurai District, Tamil Nadu, India, were selected. The participants, aged between 13 and 15 years, were randomly assigned to two equal groups: an experimental group and a control group. The experimental group underwent specific drill training, whereas the control group did not participate in any specialized training. The training program lasted for six weeks, with sessions conducted six days per week. Specific drill training was considered the independent variable, while motor fitness components, particularly explosive power, were the dependent variables. To analyze the pre-test and post-test data of both groups, the statistical technique of the 't' test was employed. The findings indicated that the specific drill training program resulted in a significant improvement ($P \leq 0.05$) in explosive power among the participants.

Keywords: Specific Drill Training, Explosive Power

INTRODUCTION

The term 'Handball' is derived from the Danish name for the sport, later translated into German. This game, which is gaining popularity worldwide, has historical roots that some claim date back over four thousand years to ancient Egypt, Rome, and South American civilizations. However, its modern form was established in the late 19th century in Northern Europe, particularly in Denmark, Germany, Norway, and Sweden. The game's name was also influenced by basketball. Handball began to gain traction across Europe, and the first official rules were formulated by Dane Holger Nielsen in 1898 and published in 1906. Due to the harsh climate in Northern Europe, adaptations were made, leading to the development of an indoor version of the sport. This modification made the game faster and more dynamic, significantly increasing its popularity. Today, handball is recognized as one of the fastest sports in the world.

Statement of the Problem

The aim of this study was to investigate the effects of specific drill training on motor fitness components in handball players.

Hypothesis

The hypotheses formulated for this study were:

1. Specific drill training would result in a significant improvement in motor fitness component variables among handball players.

Methodology

This chapter details the selection of participants, variables, measurement criteria, subject orientation, data collection procedures, reliability of instruments, test administration, training program implementation, and statistical techniques used for analysis.

Analysis of Data

The collected data on explosive power, influenced by specific drill training, was statistically analyzed and discussed in this chapter. Thirty school-level handball players were divided into two equal groups: an experimental group (N=15) and a control group (N=15). The data were examined for statistical significance using the 't' test to determine differences between the groups.

TABLE 1 : COMPUTATION OF 't'-RATIO BETWEEN PRE AND POST - TEST MEANS OF EXPERIMENTAL GROUP ON EXPLOSIVE POWER

Group	Mean	Standard Deviation	Mean Difference	Standard Error Mean	t- Ratio
Pre test	18.66	3.10	4.73	1.03	-4.55
Post test	23.40	2.94			

In Significant at 0.05 level of confidence (2.14), 1 and 14.

Table 1 presents the calculated 't' ratio comparing the mean values of pre-test and post-test scores on explosive power among school-level handball players. The mean values for the experimental group were 18.66 in the pre-test and 23.40 in the post-test. The obtained 't' ratio of -4.55 exceeded the required table value of 2.14, making it statistically significant at a 0.05 level of confidence with degrees of freedom 1 and 15. These findings clearly demonstrate that the explosive power of the experimental group improved as a result of the specific drill training.

TABLE 2: COMPUTATION OF ‘t’-RATIO BETWEEN PRE AND POST-TEST MEANS OF CONTROL GROUP ON EXPLOSIVE POWER

Group	Mean	Standard Deviation	Mean Difference	Standard Error Mean	t- Ratio
Pre test	20.26	1.53	1.33	0.25	0.52
Post test	20.13	1.06			

Table 1.5 presents the calculated ‘t’ ratio comparing the mean values of pre-test and post-test scores on agility among school-level handball players. The control group had mean values of 20.26 in the pre-test and 20.13 in the post-test. The obtained ‘t’ ratio of 0.52 was lower than the required table value of 2.14, making it statistically insignificant at a 0.05 level of confidence with degrees of freedom 1 and 14. These results indicate that there was no significant improvement in the agility of the control group. The bar diagram illustrates the mean values of pre-test agility for both the experimental and control groups.

Discussion on the Findings

The findings of this study reveal that specific drill training significantly enhanced the performance of selected motor fitness components, particularly explosive power. This improvement can be attributed to the structured nature of the specific drill training, which effectively contributed to the performance development of handball players. The study further demonstrates a notable enhancement in speed, agility, and explosive power within the experimental group when compared to the control group. These findings align with previous research conducted by Tomislav Krističević et al. (2016) and Shaik et al. (2015), which also support the effectiveness of specific drill training in improving athletic performance.

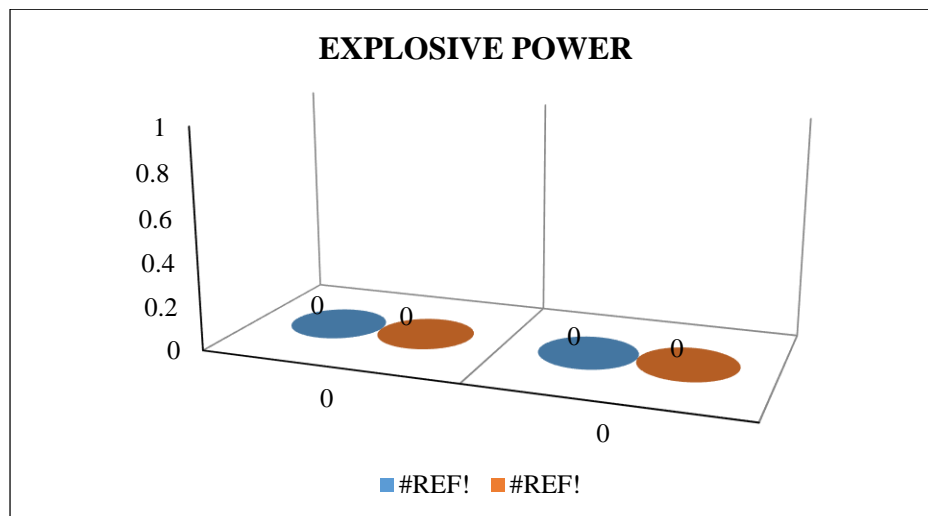


FIGURE 1: MEAN VALUES OF EXPERIMENTAL AND CONTROL GROUPS ON LEG EXPLOSIVE POWER

Conclusion

1. Based on the study's findings, it can be concluded that the implementation of specific drill training played a significant role in enhancing the motor fitness components of handball players.
2. The results also indicate a progressive improvement in the selected criterion variables of the experimental group following an eight-week training program. Furthermore, the training regimen contributed to the overall enhancement of other motor fitness components, particularly explosive power.

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EXPLORING THE RELATIONSHIP BETWEEN PERCEIVED SOCIAL SUPPORT AND SELF-EFFICACY AMONG MANONMANIAM SUNDARANAR UNIVERSITY STUDENTS

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Abstract

This study explores the relationship between perceived social support and self-efficacy among university students. Social support plays an important role in shaping ones' confidence especially in shaping students' confidence in their abilities and overall academic success. This study aims to determine whether higher levels of perceived social support exhibit greater self-efficacy. Under the convenient sampling, 50 participants from the university were surveyed. The study employed the multi-dimensional scale for perceived social support (MSPSS) and the General self-efficacy scale (GSE). Findings indicated that there is very weak positive correlation between perceived social support and self-efficacy, among university students indicating a slight association but not a strong relationship. This result suggests that while social support may play a little role in self-efficacy, other factors also likely to contribute to self-efficacy development.

Keywords: Perceived social support, Self-efficacy, University students

Introduction

In the academic and personal development of college students, perceived social support plays an important role in shaping their self-efficacy and belief in their ability to succeed in various tasks. Perceived social support refers to an individual's belief that they have access to emotional, informational, or instrumental support from family, friends, or educational institutions (Cohen & Wills, 1985). Self-efficacy refers to an individual's belief in their ability to successfully complete tasks and achieve goals (Bandura, 1997). Students who receive academic encouragement from teachers and peers tend to develop higher confidence in their abilities (Komarraju & Nadler, 2013).

The emotional support from family contributes to students' motivation and belief in their competencies (Liu et al. 2020). Social support plays a crucial role in reducing stress increase the sense of belongingness and enhancing confidence. The students who feel socially integrated within their academic environment are more likely to persist in their studies and demonstrate academic resilience (Tinto, 1930). Despite Extensive research on these constructs, there is still a need to explore the relationship between perceived social support and self-efficacy among college students. By exploring this

relationship, the study aims to provide insights that can help educators, policymakers, and mental health professionals develop strategies to enhance psychological well-being.

Methods and Materials

The primary aim of this study is to examine the relationship between perceived social support and self-efficacy among students at Manonmaniam Sundaranar University. The study has the following objectives; including assessing the level of perceived social support among the students, to measure the self-efficacy levels of the students and examining the relationship between perceived social support and self-efficacy. And also, to measure the difference between under graduate, post graduate students perceived social support and self-efficacy. Based on the reviews the hypotheses are proposed H₁: There will be a significant relationship between perceived social support and self-efficacy. H₂: There will be a significance difference between undergraduate and post graduate students in perceived social support and self-efficacy. A convenient sampling method was utilized, resulting in total of 50 participants from the university. Data collection was carried out through a google form with participants informed about the study prior to their participation

Two inventories were employed: The multi-dimensional scale for perceived social support (MSPSS) developed by (Zimet et al., 1988). It measures social support across three dimensions- Family, Friends, Significant other in a 7-point Likert scale. The MSPSS demonstrated excellent internal consistency and test-retest reliability (Cronbach's $\alpha=0.88-0.95$) ($r=0.72-0.85$). The General self-efficacy scale (Schwarzer & Jerusalem, 1995) which measures general self-efficacy beliefs related to coping with daily challenges and problem solving. The scale demonstrated high internal consistency with Cronbach's α typically ranging from 0.75 to 0.91. The correlation research design is used to examine the relationship between two variables. SPSS (Windows version 20.0) was used for normality testing; Pearson's correlation test is used to find the differences.

Results

Table 1: Normality testing for perceived social support and self-efficacy

Variables	N	Mean	Skewness	Kurtosis
Perceived social support	50	58.4400	-0.655	0.691
Self-efficacy	50	28.3400	-0.031	0.156

Table 1 shows the result of normality testing for the study variables. The skewness and kurtosis values for perceived social support are -0.655 and 0.691 respectively. The skewness and kurtosis values for self-efficacy are -0.031 and 0.156 subsequently. The skewness and kurtosis values lie between the acceptable range of -2 to +2 and -7 to +7 respectively, which shows that the data were normally distributed based on West et al, (1996).

Table 2: Frequency distribution of the demographic variables (N=50)

Demographic variables	Category	Frequency	%
Gender	Female	38	76
	Male	12	24
Education	Post graduate	21	42
	Undergraduate	29	58

Table 2 shows the frequency distribution of the demographic variables such as Gender and Education. The participants were predominantly female 76% and male 24%. In terms of education, the majority were undergraduate students comprised 58% of the sample while postgraduate comprised of 42%.

Table 3: Correlation between perceived social support and self-efficacy

Variables	N	Mean	SD	r
Perceived social support	50	58.4400	15.54475	0.189
Self-efficacy	50	28.3400	5.06936	

Table 3 shows the descriptive statistics of mean and standard deviation for the study variables (SD). The mean value for perceived social support is 58.4400 and for Self-efficacy is 28.3400. The SD values for perceived social support and self-efficacy is 15.54475 and 5.06936 subsequently. The correlation analysis revealed that there is a very weak positive correlation between perceived social support and self-efficacy. The r value is 0.189, $p = 0.188$ which is not statistically significant ($p > 0.05$). Hence, H_1 is rejected.

Table 4: Significance of Education Difference in Perceived social support and Self efficacy

Variables	Groups	N	Mean	SD	t
Perceived social support	UG	29	20.25	15.54	0.38
	PG	21	24.00	5.06	
Self-efficacy	UG	29	27.86	15.54	0.78
	PG	21	29.00	5.06	

Table 4 Shows that the t values for perceived social support and self-efficacy are respectively 0.38 and 0.78 these values are not significant, indicating there is significant difference between undergraduate and post graduate students among the variables. So, the H_2 is accepted.

Discussion

The findings of this research indicate that for this particular sample, perceived social support does not have a substantial impact on self-efficacy. While social support is often considered a key factor in enhancing an individual's confidence and ability to

manage challenges, the lack of a significant relationship in this study implies that self-efficacy may be influenced by other factors as well such as personal resilience, previous experiences, or intrinsic motivation (based on reviewed articles). Some individuals may rely more on personal determination and past successes to build their self-efficacy rather than external encouragement. Additionally, the specific context, sample size and characteristics of the sample including demographic factors may have played a role in this finding. This study did not find a significant relationship; it highlights the complexity of self-efficacy and the need to explore other contributing factors.

Conclusion

This study finding did not support a significant association between perceived social support and self-efficacy and there is a significant difference between undergraduate and post graduate students perceived social support and self-efficacy. This suggests that though social support is important in enhancing self-efficacy it may be shaped by multiple factors beyond social support. Future research should continue to explore these dynamics to gain more comprehensive understanding of what truly influences self-efficacy in different populations.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE IN HUMAN COMPANIONSHIP IN THE MOVIE “*ANDROID KUNJAPPAN VER 5.25*”

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ABSTRACT

Android Kunjappan Version 5.25 (2019) is a Malayalam science fiction movie directed by Ratheesh Balakrishnan Poduval. The film shows the themes of technology on human life. The movie goes through the cultural clashes by introducing comedy through a heart warming narrative. The story starts with Bhaskaran, an old conservative man living in a small village in Kerala, and his son Subramanian, an engineer who moves to Russia for work. Subramanian creates a humanoid robot named Android Kunjappan to help his father. The story creates a bond between a robot and Bhaskaran. The movie brings affection to the humanoid robot at first but later at the climax audience will realize the dangerous effects of robots on human life. Machines are preprogrammed and cannot make emotional decisions like human beings. One thing that lacks in machines is that, they don't have humanity. Their support is limited to the commands designed by the engineer. The Malayalam movie *Android Kunjappan Version 5.25* pictures the limitations of a robot.

Keywords: Artificial Intelligence, human companionship, affection

INTRODUCTION

Artificial Intelligence is the use of computers to perform various tasks that are mainly done by using human intelligence. Now a day, we can see the domination of artificial intelligence in every field. Human intelligence is being replaced by computers. We share our day to day life with machines. *Android Kunjappan Version 5.25* is a unique Malayalam science fiction movie that focuses on the impact of AI in human companionship. The protagonist, Bhaskaran shows the condition of many elderly parents in India who struggle to live their life with loneliness when their children go to work abroad. After being left alone by his son Subramanian, Bhaskaran feels an emotional void in his life, and it is filled by a robot. At first, he could not accept his son's choice, but later he becomes friendly with the robot. In the movie, we can see Bhaskaran dressing up the robot in the ethnic wears of Kerala, mundu and shirt. This itself shows that Bhaskaran has completely accepted the robot as a human being and started to see him as a good companion. The film portrays how companionship is not just about physical presence but also about emotional connection and relationships. To avoid human loneliness we associate ourselves with other people and objects in the world. And here, Bhaskaran chose a robot as his friend and emotional support to overcome the sadness and alienation faced by an average Indian Old man.

The movie *Android Kunjappan Version 5.25* can be compared with the Hollywood movie *Her* directed by written, directed, and co-produced by Spike Jonze. Both movies talk about the relationship between human beings and robots. According to Imm and Kang, “Humans and AI interact with others through learning. As with this movie, an advanced humanoid system collects data about people’s characteristics and ways of interacting through emotions and thoughts as they counsel humans. In this way, AI can provide a good experience to their users” (Imm and Kang 92). AI’s cannot understand human emotions and they work according to the instructions given to them. Both films end with a note that, AI, no matter how advanced, cannot replace human presence. The emotional bond between Bhaskara and his son shows that, real relationships need mutual understanding, and affection. But an AI does not have emotions.

In the movie we can see Bhaskara’s transformation from rejecting the robot to developing an emotional attachment to it. This shows the increased rely on technology for companionship. Unlike a real caregiver, the robot cannot offer emotional support during moments of deep sadness or share memories from the past. That is the important limitation of a robot. It cannot provide real life advices based on its past, because it is just a programmed object not a human being. Human companionship is built on shared experiences, emotional understanding, and the ability to feel empathy. It involves not just words but also non-verbal cues like tone, touch, and expressions. These aspects make human relationships meaningful. When Subramanian moves to Japan, Bhaskara is left alone in a traditional village and he has no one to talk or spend his time. The absence of such meaningful interactions makes him an introvert. His stubbornness to be friends with robot can be seen at the beginning of the movie. His loneliness is not just physical but emotional—he longs for conversations, arguments, and moments of warmth with his son. But after some time, the robot learns Bhaskara’s habits and routines and he provides assistance in daily tasks, ensuring he is well-fed and cared for. This makes both of them closer.

Today, AI has become advanced in every fields of our society. In Japan, robots are used in their day to day activities, assisting people with their needs. However, studies show that while these robots can provide company, they cannot fulfill the deep emotional and psychological needs that come from human interaction. While AI can offer comfort and reduce loneliness to an extent, it cannot replicate the warmth, and deep emotional bonds that humans share. In the end, *Android KunjappanVer 5.25* reflects as both a warning and reminder that, machines are important to human life but, don’t let machines to be the master of human beings. The essence of companionship lies in human connection, which no amount of machines and computers can replicate. As technology advances, the film urges us to strike a balance embracing innovation while valuing the irreplaceable depth of human relationships.

CONCLUSION

In *Android KunjappanVer 5.25*, the Malayalam film shows the intersection of technology and human companionship. The movie focuses on the emotional complexities of artificial intelligence (AI) and its role in reducing loneliness. The story follows Bhaskaran, an elderly man who is at first reluctant to the idea of a robot

companion, later he forms an unexpected emotional bond with a robot. The film brings the psychological and emotional challenges posed by AI companionship. While Kunjappan, programmed with advanced artificial intelligence, he is able to understand and respond to Bhaskaran's needs, the film highlights the inherent limitations of this connection.

Moreover, *Android Kunjappan* touches on the theme of generational divide, where the younger generation embraces technology while the older generation troubles with its implications. In conclusion, the film, *Android Kunjappan Ver 5.25* leaves us with an important message that, technology is a tool, not a replacement for human relationships. While AI can assist, it cannot replicate emotions, memories, or genuine love. The film beautifully portrays that companionship is about emotional depth. In the end, Bhaskara's story is a reminder that while machines may evolve, the human need for love, warmth, and true connection will always remain unchanged.

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EFFECT OF AEROBIC TRAINING ON SELECTED PHYSICAL VARIABLES AMONG SCHOOL MALLAKHAMB GIRLS

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Abstract

The purpose of the study was to find out effect of different training on selected physiological variables among state mallakhamb boys. To achieve this purpose of the study, 30 Girls mallakhamb performers in the Govt Girl's Hr Sec School Villupuram, Tamilnadu were selected as subjects at random. Their age ranged between 14 to 17 years. The selected subjects were divided in to two equal groups of fifteen each namely aerobic training group and control group. The following variables namely speed and agility was selected as criterion in variables. The experimental groups have undergone twelve weeks of training program, whereas the control group maintained their daily routine activities and no special training was given to them. The subjects of the two groups were tested on selected physical variables namely speed and agility using 50 mts dash test and 20-meter shuttle run test respectively at before and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant differences, if any among the groups. The .05 level of significance was fixed to test the level of significance which was considered an appropriate. The results of the study showed that aerobic training group showed significant improvement on selected physiological variables namely speed and agility when compared to control group.

Keywords: Aerobic Training, speed and agility, ANCOVA.

Introduction of Aerobic Training

Aerobics is a form of physical activity that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness, flexibility, muscular strength and cardiovascular fitness. It is usually performed to music and may be practiced in a group although it can be done solo and without musical equipment. With the goal of preventing illness and promoting physical fitness practitioners perform various routines comprising a number of different dance like. Aerobics is a vigorous physical activity that can provide an inexpensive and practical workout for most people. Aerobic fitness helps to promote the cardio- respiratory system from disease and it promotes physical, mental, emotional and spiritual development.

Aerobic program can be started at any age and the intensity of the program can also be suited to meet the larger needs of the individual (Cooper, 1985).

Mallakhamb

The main aim of sports is physical and mental ability along with physical, mental relaxation and wellness is the key factor of healthy life in this world. Mallakhamb is one of them, probably even best of them. The mallakhamb is an art. Mallakhamb is a traditional Indian sport in which the player performs poses and feats while hanging from a vertical wooden pole. Mallakhamb also refers to the pole used in the sport.

At present in competition there are three different types of mallakhamb

- Fixed Mallakhamb (wooden)
- Hanging Mallakhamb (wooden)
- Rope Mallakhamb (rope-cotton)

Boys and girls both perform on the Mallakhamb. Boys perform on all those types of Mallakhamb, while girls perform fixed mallakhamb and rope Mallakhamb.

Methodology

The purpose of the study was to find out effect of aerobic training on selected physical variables among school mallakhamb girls. To achieve this purpose of the study, 30 girls mallakhamb performers in the Govt Girl's Hr Sec School Villupuram, Tamilnadu were selected as subjects at random. Their age ranged between 14 to 17 years. The selected subjects were divided in to two equal groups of fifteen each namely aerobic training group and control group. The following variables namely speed and agility were selected as criterion in variables. The experimental groups have undergone twelve weeks of training program, whereas the control group maintained their daily routine activities and no special training was given to them. The subjects of the two groups were tested on selected physical variables namely speed and agility using 50 mts dash test and 20-meter shuttle run test respectively at before and immediately after the training period. The collected data were analyzed statistically through analysis of covariance (ANCOVA) to find out the significant differences, if any among the groups. The .05 level of significance was fixed to test the level of significance which was considered an appropriate.

Analysis of the Data

The analysis of covariance on selected physical variables namely speed and agility of aerobic training and control groups have been analyzed separately and presented below.

TABLE-I: COMPUTATION OF ‘T’ RATIO BETWEEN THE PRE AND POST TEST MEAN VALUES OF SPEED ONCONTROL GROUP

Group	Mean	Md	Sd	Sd Error	Df	‘t’ Ratio	Table Value
Pre test	8.31	0.04	0.12	0.03	14	1.70	2.15
Post test	8.35		0.14	0.03			

Insignificance at 0.05 level of confidence df (14) is = 2.15.

An examination of table V shows that the obtained mean values of pretest and posttest were 8.31, 8.35 respectively. The standard deviations were 0.12 and 0.14 and mean difference is 0.04; the obtained ‘t’ ratio is 1.70; the required table value is 2.15; insignificance at 0.05 level. The obtained ‘t’ ratio is lesser than the table value. It is found to be insignificant.

TABLE-II: COMPUTATION OF ‘T’ RATIO BETWEEN THE PRE AND POST TEST MEAN VALUES OF SPEED ONEXPERIMENTAL GROUP

Group	Mean	Md	Sd	Sd Error	Df	‘t’ Ratio	Table Value
Pre test	8.20	1.39	0.16	0.04	14	10.48*	2.15
Post test	6.81		0.44	0.11			

*Significance at 0.05 level of confidence df (14) is = 2.15.

An examination of table II shows that the obtained mean values of pretest and posttest were 8.20, 6.81 respectively. The standard deviations were 0.16 and 0.44 and mean difference is 1.39; the obtained ‘t’ ratio is 10.48; the required table value is 2.15; significance at 0.05 level. The obtained ‘t’ ratio is greater than the table value. It is found to be significant.

TABLE – III: COMPUTATION OF ‘T’ RATIO BETWEEN THE PRE AND POST TEST MEAN VALUES OFAGILITY ON CONTROL GROUP

Group	Mean	Md	Sd	Sd Error	df	‘t’ Ratio	Table Value
Pre test	15.19	0.23	0.35	0.09	14	1.53	2.15
Post test	15.42		0.63	0.16			

Insignificance at 0.05 level of confidence df (14) is = 2.15.

An examination of table III shows that the obtained mean values of pretest and posttest were 15.19, 15.42 respectively. The standard deviations were .35 and .63 and mean difference is 0.23; the obtained ‘t’ ratio is 1.53; the required table value is 2.15; insignificance at 0.05 level. The obtained ‘t’ ratio is lesser than the table value. It is found to be insignificant.

TABLE – IV: COMPUTATION OF ‘T’ RATIO BETWEEN THE PRE AND POST TEST MEAN VALUES OF AGILITY ON EXPERIMENTAL GROUP

Group	Mean	Md	Sd	Sd Error	df	‘t’ Ratio	Table Value
Pre test	14.93	3.74	0.45	0.11	14	16.75*	2.15
Post test	11.19		1.00	0.26			

*Significance at 0.05 level of confidence df (14) is = 2.15.

An examination of table IV shows that the obtained mean values of pretest and posttest were 14.93, 11.19 respectively. The standard deviations were 0.45 and 1.00 and mean difference is 3.74; the obtained ‘t’ ratio is 16.75; the required table value is 2.15; significance at 0.05 level. The obtained ‘t’ ratio is greater than the table value. It is found to be significant.

Results and Discussions

- The results of the study showed that there was a significant difference among aerobic training group and control group on selected physical variables namely speed and agility
- And the results of the study showed that there was a significant improvement on selected physical variables namely speed and agility due to aerobic training.
- the results of the study showed that there was a significant improvement on school mallakhamb girls for speed and agility due to aerobic training
- Significant differences were found among the experimental group to improving the selected physical variables namely speed and agility.

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INNOVATIVE APPLICATIONS OF WEARABLE TECHNOLOGIES IN VOLLEYBALL COMPETITIONS

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Abstract

In recent years, wearable technologies have revolutionized sports, offering athletes and coach's unprecedented opportunities to enhance performance, prevent injuries, and optimize strategies. Volleyball, a sport demanding agility, precision, and teamwork, has particularly benefited from these innovations. This article explores the innovative applications of wearable technologies in volleyball competitions, emphasizing their transformative impact on the game.

Keywords: Volleyball, Tactical Analysis, Player Performance Monitoring Referee Assistance and Training and Skill Development.

Enhancing Player Performance

One of the most significant applications of wearable technologies in volleyball is performance monitoring. Devices such as smart watches, fitness bands, and specialized sensors can track key metrics, including:

1. Heart rate and cardiovascular performance.
2. Jump height and frequency.
3. Acceleration and movement patterns.
4. Muscle activity and fatigue levels.

These data points provide valuable insights for athletes and coaches, enabling tailored training programs to address individual strengths and weaknesses. For instance, wearable devices can help identify trends in player performance during matches, allowing for real-time adjustments in tactics and rotations.

Improving Team Strategies

Data collected from wearable devices also aids in developing more effective team strategies:

1. **Performance Analytics:** Aggregated data from all players offer coaches a detailed understanding of team dynamics and individual contributions.
2. **Opponent Analysis:** Wearable technology can be used to analyze opposing teams' strategies, helping teams adapt their gameplay accordingly.

3. **Real-Time Adjustments:** Some devices enable real-time communication of data to coaches, allowing for immediate tactical changes during a game.

Injury Prevention and Recovery

Injuries are a common concern in volleyball due to the repetitive jumping, diving, and quick directional changes inherent in the sport. Wearable technologies have emerged as critical tools for injury prevention and recovery. By monitoring biomechanical data, such as joint angles and impact forces, these devices can:

1. Identify early signs of overuse injuries.
2. Provide feedback on improper techniques that may lead to injuries.
3. Track rehabilitation progress for injured players.
4. Advanced wearables equipped with motion analysis capabilities can alert players and medical staff to potential risks, enabling timely interventions and reducing downtime.

Challenges and Considerations

While wearable technology offers numerous benefits, it also comes with challenges:

1. **Data Privacy:** Protecting sensitive player data is a growing concern.
2. **Cost:** High-quality devices can be expensive, limiting accessibility for some teams.
3. **Integration:** Seamlessly integrating wearable data into training and competition requires expertise and infrastructure.

The Future of Wearable Tech in Volleyball

As technology advances, the role of wearables in volleyball is set to expand. Emerging trends include:

1. **AI Integration:** Artificial intelligence can analyze wearable data more effectively, providing deeper insights.
2. **Customized Wearables:** Devices tailored to the unique demands of volleyball players will enhance usability and effectiveness.
3. **Virtual Reality Training:** Combined with wearables, VR can simulate real-game scenarios for enhanced practice sessions.

Conclusion

The innovative applications of wearable technologies are redefining the landscape of volleyball competitions. From enhancing player performance and preventing injuries to improving fan engagement, these tools are transforming every aspect of the sport. As technology continues to evolve, the potential for wearables in volleyball will only grow, promising an exciting future for athletes, coaches, and fans alike.

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ENHANCING PHYSICAL FITNESS IN TENNIS PLAYERS THROUGH RESISTANCE TRAINING

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Abstract

The objective of this study was to examine the impact of resistance training on improving physical fitness in tennis players. A total of thirty tennis players were randomly selected as subjects from Madurai Kamaraj University, Madurai, Tamil Nadu, India. The participants were divided into two groups: the experimental group, which underwent resistance training, and the control group, which did not receive any specialized training. All participants were assessed through pre-test and post-test evaluations measuring agility and leg explosive power. The experimental group engaged in ladder training five days a week (Monday to Friday) for a period of eight weeks, while the control group continued with their regular activities without any additional training. Agility was assessed using the 4 × 10-meter shuttle run (measured in seconds), and leg explosive power was evaluated using the standing broad jump test. The results, analyzed using a paired 't' test, indicated that twelve weeks of resistance training led to significant improvements in agility among tennis players. The findings further confirmed that resistance training is an effective method for enhancing both agility and leg explosive power in tennis players.

Keywords: Resistance Training, Agility, Tennis Players

Introduction

Tennis is a dynamic sport characterized by unpredictability in terms of point duration, shot selection, strategy, match length, weather conditions, and opponent tactics. These variables significantly influence the physiological demands placed on players. Effective training programs for tennis require a thorough understanding of the physiological components essential for optimal performance. The sport involves frequent, explosive bursts of energy that must be sustained throughout a match or practice session. Unlike many other sports, tennis does not have a fixed match duration, with matches varying from under an hour to over five hours in five-set competitions. Due to this variability, successful tennis players must develop both anaerobic fitness for performance and aerobic endurance for recovery during and after play.

Despite the global popularity of tennis, comprehensive research reviews on training methodologies remain limited. Studies have shown that resistance training plays a crucial role in improving strength levels in young athletes. Meta-analysis findings suggest that resistance training programs contribute to significant increases in muscular strength among children and adolescents (Payne et al., 1997). Additionally, resistance training is widely regarded as a fundamental component of fitness and conditioning programs (Faigenbaum et al., 2009). Research has demonstrated that it is a safe, effective, and beneficial training method for young athletes (Faigenbaum et al., 2003). High school strength and conditioning coaches frequently incorporate resistance training into their training regimens. However, only a few studies have investigated its effects on enhancing athletic performance in adolescent athletes (Christou et al., 2006).

Resistance training has also gained prominence as a key method for improving speed and explosive power in athletes. Research findings indicate that this type of training enhances explosive power, vertical jump performance, and sprinting ability by strengthening the leg extensor muscles, particularly in professional soccer players (Balciunas et al., 2006).

Materials and Methods

To achieve the objectives of this study, thirty tennis players aged between 21 and 25 years were randomly selected from various academies in the Madurai district. The participants were drawn from Madurai Kamaraj University, Tamil Nadu, India. The selected players were then randomly assigned into two equal groups of fifteen each: the resistance training group ($n = 15$) and the control group ($n = 15$).

The experimental group followed a structured resistance training program for five days a week (Monday to Friday) over a period of twelve weeks, while the control group did not participate in any additional training beyond their regular routines. Agility was assessed using the 4×10 -meter shuttle run, measured in seconds, and leg explosive power was measured using the standing broad jump test. These assessments were conducted at the beginning of the study and after the twelve-week training period. The intensity of the training was progressively increased every two weeks to introduce variation in exercises.

Each training session lasted for 45 minutes per day, six days a week, for twelve weeks. The sessions included a 10-minute warm-up, 25 minutes of resistance training, and a 10-minute cooldown. The training volume was structured to ensure a balance between intensity and recovery, with exercises scheduled for five days a week (Monday to Friday).

Statistical Analysis

The collected data on agility improvements due to resistance training were analyzed using the paired 't' test to determine significant differences between pre-test and post-test results. A significance level of 0.05 ($p < 0.05$) was set as the criterion for statistical analysis.

TABLE 1: COMPUTATION OF ‘T’ RATIO ON AGILITY OF TENNIS PLAYERS ON EXPERIMENTAL GROUP AND CONTROL GROUP, (SCORES IN NUMBERS / SECONDS)

Group	Test		Mean	Std. Deviation	T ratio
Agility	Experimental Group	Pre test	11.32	1.08	14.64*
		Post test	10.43	1.25	
	Control Group	Pre test	11.29	0.99	0.82
		Post test	11.26	0.78	

*significant level 0.05 level(degree of freedom 2.14,1and14)

Table 1 presents the calculated mean, standard deviation, and ‘t’ ratio for agility in both the experimental and control groups. The ‘t’ ratio obtained for agility was 14.64 for the experimental group and 0.82 for the control group. The critical table value at a 0.05 level of significance, with degrees of freedom (1,14), was 2.14. As the ‘t’ value for the experimental group exceeded the table value of 2.14, the results were statistically significant. Conversely, the control group’s ‘t’ value was lower than 2.14, indicating that the results were not statistically significant.

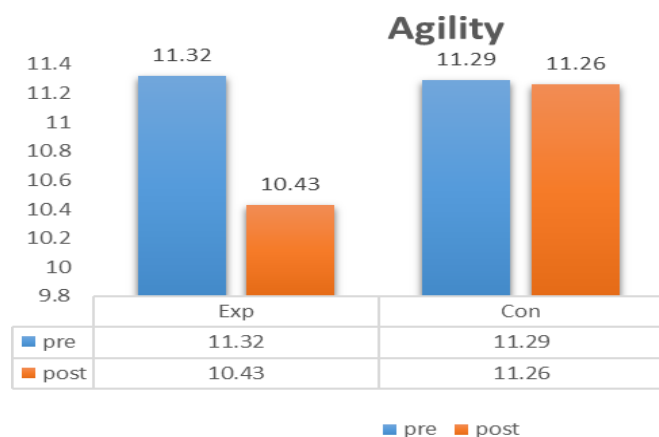


Figure 1: Bar diagram showing the mean value on agility of tennis players on experimental group and control group

Discussion

This study investigated the impact of resistance training on enhancing physical fitness in tennis players. The findings demonstrated that ladder training was particularly effective in improving agility among tennis players. Results indicated that eight weeks of resistance training significantly enhanced agility performance, aligning with the findings of Miller et al. (2006) [23], but differing from those reported by Tartibyan et al. (2012) [20]. Agility is a crucial component of physical fitness, closely linked to other factors such as balance, coordination, speed, power, and reaction time. It is likely that resistance training-induced muscle fiber hypertrophy contributed to the participants' ability to change direction quickly while maintaining balance and precision. However, the study also found that eight weeks of resistance training did not lead to significant

improvements in speed performance. This outcome was consistent with the findings of Tartibyan et al. (2012) [20] but contradicted those of Shahidi et al. (2012) [19].

Previous research has shown that resistance training enhances speed in professional soccer players by strengthening the leg extensor muscles. However, factors such as muscle length, temperature, body composition, and flexibility also play a crucial role in speed performance. The findings of this study highlight the benefits of resistance training in improving athletic performance. Tennis players not only incorporate dance-based exercises to enhance flexibility but also utilize resistance training to improve overall movement efficiency. Additionally, the study supports the idea that improvements in mobility can be achieved through a structured 12-week resistance training program.

Conclusion

Based on the study's findings, it can be concluded that resistance training leads to significant improvements in agility among tennis players.

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EFFECT OF AEROBIC AND CIRCUIT TRAINING ON KEY PHYSICAL FITNESS VARIABLES IN COLLEGE LEVEL FOOTBALL PLAYERS

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Abstract

Aerobic training, often referred to as cardiovascular or endurance training, involves prolonged physical activities that elevate the heart rate and enhance the efficiency of the cardiovascular system. This type of exercise, which includes activities like running, cycling, swimming, and dancing, primarily utilizes oxygen to generate energy, improving overall stamina and endurance. Regular aerobic training not only strengthens the heart and lungs but also aids in weight management, boosts mood, and promotes overall health by reducing the risk of chronic diseases. By engaging in consistent aerobic exercise, individuals can enhance their physical fitness and improve their quality of life. The purpose of the study was to find out the impact of aerobic training and circuit training on selected physical fitness variables among college level football players. To achieve the purpose of the study, was delimited to sixty male intercollegiate football players selected randomly from Pasumpon Muthuramalinga Thevar College Usilampatti, Tamil Nadu. The age of the subjects was from 18 to 25 years from the academic year 2023-2024. The selected subjects were divided into two groups. Group I underwent aerobic training, Group II underwent circuit training and Group III acted as control. The experimental groups were subjected to the aerobic training and circuit training for six days for eight weeks. The aerobic training and circuit training was selected as independent variable and the criterion variables flexibility and muscular strength were selected as dependent variables and the selected dependent variables were assessed by the standardized test items. Flexibility was assessed by sit and reach test and the unit of measurement in centimetres and muscular strength was assessed by sit-ups test and the unit of measurement in Numbers. The experimental design selected for this study was pre and post-test randomized design. The data were collected from each subject before and after the training period and statistically analyzed by using dependent 't' test and analysis of covariance (ANCOVA). It was found that there was a significant improvement and significant different exist due to the effect of aerobic training and circuit training on flexibility and muscular strength.

Keywords: Aerobic training, circuit training, Flexibility and Muscular Strength.

Introduction

Aerobic training, often referred to as cardiovascular or endurance training, involves prolonged physical activities that elevate the heart rate and enhance the efficiency of the cardiovascular system. This type of exercise, which includes activities like running, cycling, swimming, and dancing, primarily utilizes oxygen to generate energy, improving overall stamina and endurance. Regular aerobic training not only strengthens the heart and lungs but also aids in weight management, boosts mood, and promotes overall health by reducing the risk of chronic diseases. By engaging in consistent aerobic exercise, individuals can enhance their physical fitness and improve their quality of life.

Flexibility and muscular strength are two fundamental components of physical fitness that play a crucial role in overall health and performance. Flexibility refers to the range of motion in the joints and muscles, allowing for improved movement efficiency and reduced risk of injury, while muscular strength pertains to the ability of muscles to exert force against resistance. Together, these attributes enhance athletic performance, support daily activities, and contribute to better posture and balance. Incorporating targeted exercises such as stretching routines for flexibility and resistance training for strength into a fitness regimen can lead to improved physical capabilities, increased endurance, and a greater sense of well-being, ultimately promoting a more active and fulfilling lifestyle.

Methodology

The purpose of the study was to find out the impact of aerobic training and circuit training on selected physical fitness variables among college level football players. To achieve the purpose of the study, the study was delimited to sixty male intercollegiate football players selected randomly from Pasumpon MuthuramalingaThevar College Usilampatti, Tamil Nadu. The age of the subjects was from 18 to 25 years from the academic year 2023-2024. were selected randomly as subjects. The age of the subjects ranged from 17 to 25 years. The selected subjects were divided into three groups. Group I underwent aerobic training Group II underwent circuit training and Group III acted as control. The experimental groups were subjected to the aerobic training and circuit training for six days for six weeks.

The aerobic training and circuit training was selected as independent variable and the criterion variables flexibility and muscular strength were selected as dependent variables and the selected dependent variables were assessed by the standardized test items. Flexibility was assessed by sit and reach test and the unit of measurement in centimetres and muscular strength was assessed by sit-ups test and the unit of measurement in Numbers. The experimental design selected for this study was pre and post-test randomized design. The data were collected from each subject before and after the training period and statistically analyzed by using dependent 't' test and analysis of covariance (ANCOVA).

Training Schedule

All tests were administered to the subjects in the College, ground. The necessary marking was done before the start of the tests. All the tests were demonstrated and explained to the subjects by the scholar. They were given a chance to practice and become familiar with the test and to know exactly what was to be done. All the subjects were informed to put their maximum effort.

Statistical Technique

All the subjects were tested on the criterion variables. The data pertaining to the variables were examined by using “t” ratio, ANCOVA and Scheffe's post hoc test for every factor to decide the distinction among the methods. The degree of significance was fixed at 0.05 level of certainty for all the cases. It was considered sufficient for the present study. Thus the acquired results were presented in this chapter along with the graphical presentation.

Results and Discussions

The data pertaining to the variables in this study were examined by using dependent ‘t’ test to find out the significant improvement and analysis of covariance (ANCOVA) for each variables separately in order to determine the difference and tested at .05 level of significance. The analysis of dependent ‘t’ test on data obtained for flexibility and muscular strength of the pre-test and post-test means of experimental and control group have been analyzed and presented in Table I.

TABLE 1 : MEAN AND DEPENDENT ‘t’ TEST OF AEROBIC TRAINING GROUP VARIABLES MEAN CIRCUIT TRAINING GROUP AND CONTROL GROUP ON FLEXIBILITY AND MUSCULAR STRENGTH

Variables	Mean	Aerobic training Group	Circuit Training	Control Group
Flexibility	Pre Test	11.51	11.46	11.53
	Post Test	12.98	13	11.50
	‘t’ Test	6.04*	6.14*	0.68
Muscular Strength	Pre Test	28.42	28.51	28.52
	Post Test	29.53	29.86	28.50
	‘t’ Test	8.22*	8.73*	0.73

*Significant at 0.05 level of confidence (14) = 2.14

The obtained ‘t’ value on flexibility and muscular strength of experimental group is higher than the table value, it is understood that the aerobic training and circuit training has made significant improvement on flexibility and muscular strength. However, the control group has not made significant improvement.

TABLE 2 : ANALYSIS OF COVARIANCE OF AEROBIC TRAINING GROUP CIRCUIT TRAINING GROUP AND CONTROL GROUP ON FLEXIBILITY AND MUSCULAR STRENGTH

Variables	Adjusted Post Test Means			Source of Variance	SS	df	Mean Squares	'F' Ratio
	Aerobic Training	Circuit training	Control Group					
Flexibility	12.43	12.57	11.52	Between	48.42	1	24.21	15.34*
				Within	17.24	27	0.69	
Muscular Strength	29.54	29.72	28.51	Between	12.48	1	6.24	23.12*
				Within	3.22	27	0.012	

Significant at .05 level of confidence, df (1, 41) = 3.22

Table - II shows that the obtained 'F' ratio value is 15.381 and 23.124 which are higher than the table value 3.22 with df 1 and 41 required to be significant at 0.05 level. Since the obtained value of 'F' ratio is higher than the table value, it indicates that there is significant difference has made among the adjusted post- test means of aerobic training, circuit training group and control group on flexibility and muscular strength.

Conclusions

1. The aerobic training had significantly improved the flexibility and muscular strength.
2. The circuit training practices had significantly improved the flexibility and muscular strength.
3. There was significant difference among the adjusted post-test means of aerobic training, circuit training and control group on flexibility and muscular strength.

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SWISSBALL TRAINING ON SELECTED PHYSICAL AND PERFORMANCE VARIABLES AMONG MALE FOOTBALL PLAYERS

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Abstract

The study described follows a true random group design and aims to evaluate the effects of two different experimental training methods (Swissball Training and Core Board Training) on physical and performance variables in football players. Here's a breakdown of the key elements of the study. Total number of subjects 54 football players Age range 18-25 years Selection method Random sampling were selected from (RLFA) Reserve Line Football Academy, Madurai District, Tamilnadu, India. Group Assignment the 54 players were randomly assigned to three groups, each consisting of 18 players. Experimental Group-I (STG) Exposed to Swissball Training. Experimental Group-II (CBTG): Exposed to Core Board Training. Control Group (CG) not exposed to any experimental training, only continuing their regular daily activities. Study design pre-test all subjects were tested on selected physical and performance variables before the start of the training period. The pre-test scores served as baseline data for each subject. Training duration 12 weeks of experimental treatment. Post-test after 12 weeks of training, all subjects were tested again on the same physical and performance variables. These post-test scores were used to assess the effects of the training interventions. Statistical Analysis Analysis of Covariance (ANCOVA) was used to analyze the data. This method adjusts for any pre-test differences between the groups and allows for testing the significance of the mean differences in post-test scores. Significance level 0.05 (standard level of confidence to test hypotheses). The study aims to determine the effectiveness of Swissball and Core Board training in improving physical and performance variables among football players. The use of ANCOVA ensures that any observed differences between the groups can be attributed to the training methods rather than pre-existing differences in the subjects.

Introduction Football

The roots of football can be traced back to antiquity. Crude sketches found on the walls of prehistoric caves suggest the possibility that early humans may have used primitive clubs to strike a stone for amusement, especially when not engaged in mortal

combat with their enemies, like the *guanodon*. Historical records indicate that a rudimentary form of the game was played in Egypt around 4,000 years ago and in Ethiopia around 1000 BC. It was the only team game practiced by the Greeks during the era of Themistocles (525-429 BC). Additionally, the ancient Aztecs of South America and Native American tribes of North America played a similar stick-and-ball game long before Columbus discovered the New World.

In a moment of levity, G.D. Roberts, who proposed the toast at the Football Association's Golden Jubilee dinner in January 1936, humorously remarked that the first game of football was played in accordance with the best traditions of an ancient race that “submitted themselves to decapitation.” While the exact date and place of football's origin remain unclear, scholars have diligently worked to establish the hypothesis that the game of football evolved from ancient Persia, where polo was believed to have been invented. The Persian word *polo* means “horse football,” and it is reasonable to assume that the Persians initially played a version of the game on foot before introducing ponies to create polo.

Statement of the Problem

The purpose of the study was to find out the influences of the Swiss ball training on selected physical and performance variables among intercollegiate male football players.

Hypotheses

The following hypotheses were formulated and tested at the 0.05 level of confidence:

1. There would be a significant improvement in selected physical variables due to the effect of the Swiss ball training program.
2. There would be a significant improvement in selected performance variables due to the effect of the Swiss ball training program.
3. There would be significant differences in selected physical and performance variables between the experimental and control groups.

This version corrects the grammar and improves clarity. Let me know if you need further adjustments!

Methodology

This chapter describes the following aspects: selection of subjects, selection of variables, experimental design, pilot study, criterion measures and selection of tests, reliability of data, reliability of instruments, subject reliability, orientation of the subjects, administration of test items, administration of the training program, collection of data, and the statistical techniques used, along with their justification for the analysis of the data.

TABLE 1: ANALYSIS OF ‘T’ RATIO FOR THE PRE AND POST-TESTS OF EXPERIMENTAL AND CONTROL GROUP ON BALANCE AND SLAP HIT

Variables	Group	Mean		Mean Difference	Standard Error Mean	t-Ratio
		Pre Test	Post Test			
Physical Variables						
Balance	Experimental	10.72	12.67	1.94	0.77	10.65*
	Control	10.28	10.72	0.18	0.48	1.62
Skill Performance Variable						
Slaphit	Experimental	12.77	20.27	7.50	3.53	9.00*
	Control	12.22	12.77	0.55	4.16	0.56

* Significant at 0.05 level of confidence

Table – I Shows the obtained ‘t’ ratios for the selected variables are; 10.65* (Balance), 9.00* (Slaphit). The obtained ‘t’ ratios were tested at 0.05 level of significance. From the results it was inferred that the mean gains losses made from pre to post-test were statistically significant, since the t- ratio reached the significant level 2.14 at 0.05 for degree of freedom. The obtained results confirm the effect of Swiss ball training positively on physical variables and Skill Performance variables. The changes observed from pre-test to post-test mean on the selected variables are as follows;

In the Swissball training the changes made from pre to post-test means are; 1.94 (Balance), 7.50 (Slaphit). As the changes in Swissball training on selected physical variables, skill performance variables were found to be statistically significant the formulated hypothesis related to this was accepted. Following this, to have visual presentation on changes made from pre-test to post-test means Swissball training on selected physical variables, skill performance variables of Swissball training were presented in tables. The obtained ‘t’ ratio was 0.21, since the obtained ‘t’ ratio was less than the required table value of 2.15 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant.

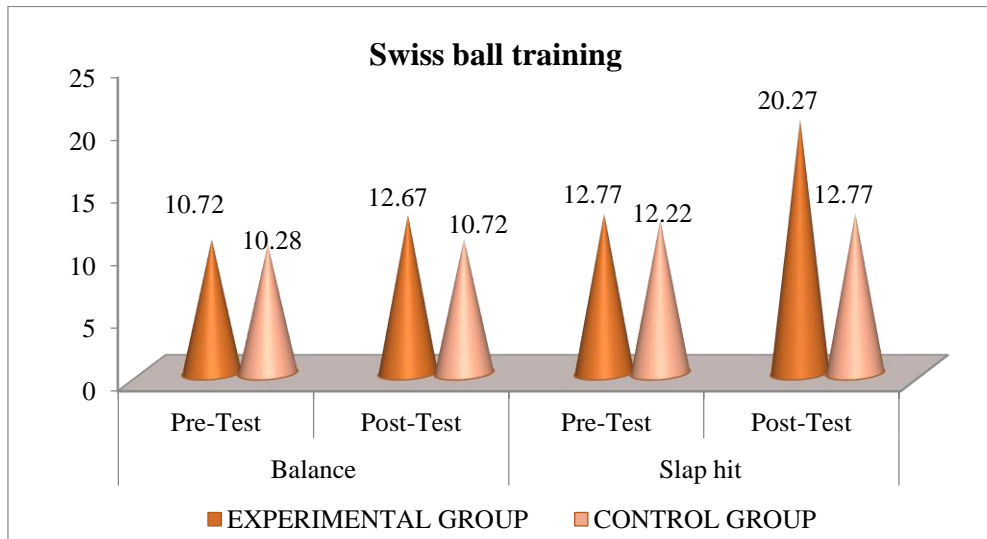


Figure 1: BAR DIAGRAM SHOWING THE MEAN OF EXPERIMENTAL AND CONTROL GROUPS ON BALANCE AND SLAPHIT

Discussion on the Findings

The purpose of the study was to determine the influence of Swiss ball training on selected physical and performance variables among intercollegiate male football players. The results of this study indicate that there is a difference between the two groups, namely the trained and untrained football players. Significant changes were observed in both the experimental and control groups. The mean gain difference suggests that Swiss ball training improves the selected variables, except for motor fitness variables and skill performance variables. Compared to the trained players, improvements were observed in all variables except balance and slap hit. The following reviews support and align with these findings. Aarti Welling and Peeyoosha Nitsure (2015) suggested that Swiss ball training is not only beneficial for rehabilitation but also contributes to the improvement of skills and sports performance.

Conclusions

From the analysis of the data, the following conclusions were drawn.

- The experimental group, namely the Swiss ball training group, achieved significant improvement in selected physical variables such as balance.
- The experimental group, namely the Swiss ball training group, achieved significant improvement in selected skill performance variables such as the slap hit.
- The control group did not show significant changes in any of the selected variables.
- The selected intercollegiate male football players showed significant differences in all the selected variables due to six weeks of Swiss ball training.

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IMPACT OF CIRCUIT TRAINING ON HEART RATE IN COLLEGE WOMEN ATHLETES

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Abstract

The purpose of this study was to examine the effect of circuit training on heart rate among college male athletes. A total of thirty male athletes from Cheran College of Physical Education, Karur, Tamil Nadu, with ages ranging from 22 to 24 years, were selected for the study. The participants were divided into two equal groups, each consisting of 15 athletes: an experimental group and a control group. The experimental group participated in a six-week circuit training program, while the control group did not engage in any training during the study period. Heart rate was selected as the criterion variable for this study. The heart rate of each participant was measured using the palpation method at the wrist (radial artery). Pre-tests were conducted before the training period, and post-tests were taken immediately after the six-week training program. The data were analyzed using the 't' ratio to compare the means of the pre-test and post-test results for both the experimental and control groups. The findings indicated a significant difference in heart rate between the experimental and control groups, with the experimental group showing notable changes due to the circuit training program.

Keywords: Circuit training, Heart rate.

Introduction

The physical and physiological variables considered as the fundamental important in the training process upon which the training elements are completed, where achieving levels of performance associates with possession of levels of physical and physiological abilities by the player that is significantly related to skills and tactical performance (Khataiba, A.Z., 1996) Numerous training methods were developed to promote the level of performance, Circuit training method is one of the most recent methods for the team games. A Circuit exercise are known as changing speed or speed play, discriminates for other methods that its work can be conducted in a similar feature to performance time during the games. Moreover, Circuit exercise considered as one of the most important training methods that work on developing the player's aerobic and anaerobic capacities (Hvilivilzky, B., 1999).

Methodology

The purpose of this study was to examine the effect of circuit training on heart rate among college women athletes. To achieve this, thirty college women athletes, aged between 22 and 24 years, were randomly selected as participants. The athletes were divided into two equal groups of fifteen: the experimental group (circuit training group) and the control group. The experimental group participated in circuit training three days per week for six weeks, while the control group continued their regular physical activities as per their curriculum, without any additional training. Heart rate was selected as the criterion variable for the study. Heart rate was measured using the palpation method at the wrist (radial artery) before and immediately after the training program for both groups. The data were analyzed using the 't' test to determine any significant differences between the groups. A significance level of 0.05 was set for testing the hypotheses.

Analysis of the Data

The significance of the difference among the means of the experimental group was found out by pre-test. The data were analyzed and dependent 't' test was used with 0.05 levels as confidence.

TABLE – I ANALYSIS OF 't' RATIO FOR THE PRE AND POST TESTS OF EXPERIMENTAL AND CONTROL GROUP ON HEART RATE

Variables	Group	Mean		SD		Sd Error		Df	't' ratio
		Pre	Post	Per	Post	Per	Post		
Heart Rate	Control	53.13	56.47	1.12	1.22	0.54	0.54	14	1.24
	Experimental	52.55	50.12	1.34	1.06	0.34	0.25		10.55*

*Significance at .05 level of confidence.

The Table - I reveal that the mean values of pre-test and post-test of the control group on heart rate were 53.13 and 56.47 respectively. The obtained 't' ratio was 1.24, since the obtained 't' ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of the experimental group on heart rate were 52.55 and 50.12. respectively. The obtained 't' ratio was 10.55* since the obtained 't' ratio was greater than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in heart rate. It may be concluded from the result of the study that experimental group improved in heart rate due to six weeks of circuit training.

Discussions on Findings

The result of the study indicates that the experimental group, namely circuit training group had significantly improved the selected dependent variable, namely heart rate, when compared to the control group. It is also found that the improvement caused

by circuit training when compared to the control group. The result of this study on heart rate has in line with the study conducted by Abdelmohsen Zakaria Ahmed (2011).

Conclusion

A significant difference was observed between the experimental and control groups in heart rate after the training period. The experimental group showed a notable improvement in heart rate, which can be attributed to the six weeks of circuit training.

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ENHANCING EXPLOSIVE POWER IN KABADDI PLAYERS THROUGH PLYOMETRIC TRAINING

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Abstract

The objective of this study was to evaluate the impact of plyometric training on enhancing explosive power in Kabaddi players. Plyometric training, commonly referred to as jump training, is a method designed to develop explosive movements. For this study, thirty Kabaddi players were randomly selected from the Reserve Line Kabaddi Academy (RLKA) in Madurai District, Tamil Nadu, India. The participants, aged between 14 and 18 years, were divided into two groups: an experimental group (Group A) and a control group (Group B), with 15 subjects in each. Group A underwent six weeks of plyometric training, while Group B did not receive any specialized training. The study focused on lower body explosive strength, which was assessed using the standing broad jump test. The data from the pre-test and post-test were analyzed statistically using ANOVA to determine the effectiveness of the training.

Keywords: Plyometric Training, Explosive Power, Kabaddi Players

INTRODUCTION

The concept of plyometric training gained prominence in the late 1970s in the United States through the work of Fred Wilt, a former Olympic long-distance runner. After retiring from competition, Wilt introduced the training techniques used by Soviet coaches to American athletes, coining the term “plyometrics.” Previously known as “jump training,” plyometric exercises have become essential in various sports, including basketball, kabaddi, and tennis, where explosive movements play a crucial role.

Unlike conventional strength training, which focuses on controlled, slow repetitions, plyometric exercises emphasize rapid, forceful movements that enhance muscular explosiveness. Exercises such as clap push-ups and jump squats are examples of plyometric movements designed to develop power. The key advantages of plyometric training include improved muscle power, reduced injury risk, and enhanced speed-related abilities such as sprinting and jumping.

Plyometric Training and Explosive Strength

Plyometric training is widely recognized as an effective method for developing explosive power, a critical component in athletic performance. Many coaches and athletes incorporate plyometrics into their training routines to enhance overall performance and maximize athletic potential (Radcliffe).

Explosive strength refers to the ability to generate peak force in the shortest possible time. It is distinct from movement speed, as it focuses on achieving maximum force output rapidly. This form of strength is essential in sports where quick bursts of power are required, such as jumping, sprinting, and sudden directional changes.

Statement of the Problem

The primary aim of this study was to examine the role of plyometric training in improving explosive power among Kabaddi players.

Hypothesis

It was hypothesized that plyometric training would result in a significant improvement in the lower body explosive strength of Kabaddi players.

METHODOLOGY

Selection of Subjects

A total of 30 Kabaddi players were chosen from the RLKA Club in Madurai. The participants were between 14 and 18 years old. The subjects were randomly divided into two equal groups:

- **Group A** (Experimental group) – Underwent plyometric training
- **Group B** (Control group) – Did not receive additional training

Selection of Variables

The study focused on one primary variable:

- Lower body explosive strength

Testing Procedure

The standing broad jump test was used to assess lower body explosive strength.

Statistical Technique

The collected data were analyzed using Analysis of Variance (ANOVA) to determine significant differences between the experimental and control groups. A significance level of 0.05 was established for statistical analysis, which was conducted using SPSS software.

Analysis of Data and Results

This study examined the effect of plyometric training on lower body explosive strength. To assess the impact of training, ANOVA was applied to compare pre-test and post-test scores for both groups. The findings, based on the obtained data, have been summarized in the results table.

Table 1: ANALYSIS OF VARIANCE FOR THE CONTROL AND EXPERIMENTAL GROUPS ON STANDING BROAD JUMP

	Control Group	Experimental Group	SOV	SS	DF	M.SQ	f-ratio
Pre-test mean S.D±	2.37 0.18	2.35 0.21	B W	0.11 1.09	1 28	0.11 0.04	2.797
Post-test mean S.D±	2.25 0.17	2.50 0.20	B W	0.16 0.93	1 28	0.16 0.03	4.858*

*significant at 0.05 level of confidence

The critical table value required for significance at the 0.05 confidence level with degrees of freedom (DF) 1 and 28 is 4.20. Table 1 presents the pre-test mean scores for the standing broad jump in both the control and experimental groups. The pre-test mean values for the control and experimental groups were 2.37 and 2.35, respectively. The calculated F-ratio for the pre-test was 2.797, which is lower than the required table value of 4.20 at the 0.05 significance level. This indicates that there was no statistically significant difference between the two groups in standing broad jump performance before the experimental training began. The post-test mean scores for the standing broad jump in the control and experimental groups were 2.25 and 2.50, respectively. The computed F-ratio for the post-test was 4.858, which exceeds the critical table value of 4.20 at the 0.05 significance level. This suggests a significant difference between the control and experimental groups in standing broad jump performance following the training period.

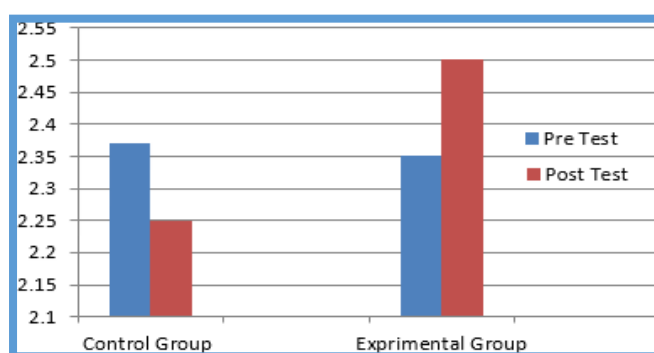


Figure 1.

Discussion

The objective of this study was to evaluate the impact of a six-week plyometric training program on Kabaddi players in Madurai. The findings indicate a significant

improvement in lower body explosive power in the experimental group compared to the control group, aligning with the initial hypothesis. These results are consistent with previous research, which has demonstrated that plyometric training effectively enhances explosive strength. Adam T.M. (1984) [1] analyzed the influence of plyometric exercises on leg strength and power. Similarly, Blanter S.R. and Noble (1979) investigated the effects of isokinetic and plyometric training on vertical jump performance. Paul E. Luebbels (2003) [4] explored the impact of training and recovery on vertical jump performance and anaerobic power, while Thomas K. et al. (2009) [8] examined how plyometric training enhances muscular power and agility in young soccer players.

Conclusion

This study concludes that the experimental group experienced a significant improvement in lower body explosive strength compared to the control group. The findings highlight the role of plyometric training in enhancing performance and developing essential Kabaddi skills. Additionally, the training contributed to overall fitness improvements, reduced the risk of injuries, and increased the athletes' awareness of effective training methods.

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IMPACT OF YOGIC PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES IN COLLEGE MEN KABADDI PLAYERS

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Abstract

The aim of this study was to examine the effect of yogic practices on selected physiological variables of intercollegiate kabaddi players. Forty male college kabaddi players from Cheran College of Physical Education, Karur, Tamil Nadu, with ages ranging from 18 to 25 years, were selected using a true random group design. The participants were divided into two groups: an experimental group and a control group, with 20 subjects in each group. The experimental group underwent yogic practices for a period of six weeks, while the control group did not participate in any additional training. Pre-tests and post-tests were conducted to measure the selected physiological variables. Standardized tests were used to assess these variables. The data were analyzed using the paired t-test to determine the significant differences between the pre-test and post-test scores. After six weeks of yogic practices, the experimental group showed significant improvements in the selected physiological variables, including heart rate, systolic blood pressure, and diastolic blood pressure.

Keywords: Heart rate and Systolic blood pressure and Diastolic blood pressure.

Introduction Kabaddi

Kabaddi is aptly known as the “Games of The mass” due to its popularity, simple, easy to comprehend rules and public appeal. The game calls for no supplicated equipment what so ever, which it very popular sport in the developing countries. Though it is basically an outdoor sport played on clay court, of late the game is being played on synthetic surface indoors with great success. The duration of the game if 40 minutes for men & junior boys with a 5 minutes break in between for the teams to change sides in the case of women/girls & sub-junior boys, the duration of 30 minutes with a 5-minute break in between Kabaddi is a combative team game, played with absolutely no equipment, in a rectangular court, either outdoors with seven players on the ground in each side. Each side takes ultimate chances at offence and defense. (Ronglan LT.2008)

Yoga

The word ‘Yoga’ itself comes from a Sanskrit word meaning ‘Yoke’ or ‘union’. It conveys the idea of harnessing oneself to a discipline and at the same time of unifying the part of the self, body, mind and spirit and the individual self with something greater and transcendent, a concept which may be expressed as God, the Absolute, the Greater self, the universal flow of life and so on, according to one’s religious and philosophical stance. Yoga is an art, a science and a philosophy. It touches the life of man at every level- physical, mental and spiritual. It is a practical method for making one’s life purposeful, useful and noble. (AladarKogler, 2003)

Methodology

The purpose of this study was to examine the effect of yogic practices on selected physiological variables of intercollegiate kabaddi players. For this, forty male college kabaddi players were selected from Cheran College of Physical Education, Karur, Tamil Nadu. The participants, aged between 18 and 25 years, were selected using a true random group design. They were then divided into two groups: the experimental group and the control group, with 20 subjects in each group.

Statistical Technique

The present study was treated by paired ‘t’ ratio. It was considered as the most appropriate statistical technique for the present study.

TABLE– I: COMPUTATION OF PAIRED ‘t’ RATIO BETWEEN THE PRE TEST AND POST TEST MEANS OF HEART RATE OF EXPERIMENTAL GROUP AND CONTROL GROUP

S. No	Variables	Group	Mean diff	SD	DM	‘t’ratio
1	Heart Rate	Experimental	5.32	5.34	0.05	8.64
		Control	0.35	0.37	0.25	1.09

*Significant at 0.05 level.

An examination of table – I indicate that the obtained paired ‘t’ ratios for Heart Rate of experimental group was 8.64. It was found to be greater than the required table value of 2.09. So it was significant. The Heart Rate of control group was 1.09. It was not found to be greater than the required table value of 2.09. So it was not significant.

TABLE – II: COMPUTATION OF PAIRED ‘t’ RATIO BETWEEN THE PRE TEST AND POST TEST MEANS OF SYSTOLIC BLOOD PRESSURE OF EXPERIMENT GROUP AND CONTROL GROUP

S. No	Variables	Group	Mean diff	SD	DM	‘t’ratio
1	Systolic Blood Pressure	Experimental	3.56	1.53	0.46	9.86
		Control	0.42	2.36	0.41	0.76

*Significant at 0.05 level

An examination of table - II indicates that the obtained paired 't' ratios for Systolic Blood Pressure of experimental group was 9.86. It was found to be greater than the required table value of 2.09. So it was significant. The Systolic Blood Pressure of control group was 0.76. It was not found to be greater than the required table value of 2.09. So it was not significant.

Conclusion

It was concluded that the yogic practices group showed a significant improvement in the selected physiological variables, namely heart rate, systolic blood pressure, and diastolic blood pressure, from baseline to post-test. In contrast, the control group did not exhibit any significant changes in these variables.

Recommendation

1. The present study was conducted with a sample of college-level male kabaddi players. Future studies could include players from different sports, levels, and genders to broaden the scope of the findings.
2. This study focused on a limited number of physical and physiological variables. Future research could expand to include additional variables such as strength, agility, explosive power, stress, and mental fitness.
3. Since yoga is considered a way of life with numerous benefits, extending the study duration could provide a more comprehensive understanding of the full range of benefits offered by yogic practices.

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IMPACT OF MEDICINE BALL TRAINING ON CORE STRENGTH IN ADOLESCENTS

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Abstract

The purpose of this study was to examine the effect of medicine ball training on core strength among adolescents. To achieve this, twenty-four male players were selected from Cheran college of Physical Education, Punnam Chathiram, Karur. The participants' ages ranged from 14 to 17 years. The subjects were randomly assigned into two groups of 12 participants each (N=12). Group 1 underwent medicine ball training for six weeks, with three sessions per week, while Group 2 served as the control group and participated in their regular training schedule without any specific intervention. The primary focus of the study was to assess the impact of medicine ball training on core strength and core stability. The collected data from both groups were analyzed statistically. To determine significant improvements between pre-test and post-test means, a dependent t-test was used. To assess the significant adjusted post-test differences between the groups, Analysis of Covariance (ANCOVA) was applied. Whenever the F-ratio was found to be significant, the level of statistical significance was set at 0.05. The results indicated that the experimental group, which underwent medicine ball training, showed significant improvements in core strength and core stability when compared to the control group. Significant differences were observed between the medicine ball training group and the control group in improving the selected variables of core strength and core stability.

Keyword: Core Strength, core stability, Medicine Ball Training.

Introduction

Regular participation in a medicine ball training programme has the potential to positively influence many health and fitness measures. Medicine ball training can be used to enhance muscle strength, muscle power, flexibility, endurance, coordination, agility, balance and speed. (Fox, 1989).

Physical fitness refers to the ability to function at one's optimal level of efficiency in daily life. It is crucial for overall well-being, as it allows individuals to respond physically, mentally, and emotionally to life's demands without undue strain. Medicine ball training is a versatile tool that can significantly enhance physical fitness. Available in various weights and sizes, the medicine ball is designed to improve strength and athleticism. Though it resembles a soft ball that conforms to your body, it is weighted,

and sometimes includes handles for easier grip during exercises. Medicine ball exercises are an integral component of an individual's fitness routine. They promote variety by introducing a novel stimulus that encourages physiological adaptation. Training with a medicine ball enhances total body power, muscular endurance, and flexibility. Unlike dumbbells and barbells, which can be damaged if dropped, medicine balls are durable and resilient, allowing them to be thrown and used in exercises that develop explosive power. These exercises, which involve tossing and catching the ball, are typically classified as plyometric exercises.

In addition to plyometric training, medicine balls can be incorporated into traditional strength training protocols to build muscle mass. Holding a medicine ball during squats or lunges increases the intensity of the exercise, thereby enhancing muscle strength. It can also be used for specific exercises, such as holding the ball overhead and lowering it behind the head to target the triceps. Medicine balls are also beneficial for improving balance. By placing one hand on the ball during push-ups, individuals can increase the challenge of the exercise and engage their core. Medicine balls are suitable for all ages, fitness levels, and sizes, making them a versatile option for various training needs. Additionally, they are effective for instability training, particularly for the shoulders and core. For those recovering from shoulder injuries, a light 2-pound medicine ball can be used to toss against a wall to strengthen the shoulder muscles and improve joint integrity. Overall, medicine ball training is a dynamic and effective way to enhance strength, power, balance, and flexibility while offering a wide range of exercises suitable for different fitness levels.

Methodology

To achieve the purpose of this study, twenty-four male players were selected from Cheran College of Physical Education, Punnam Chathiram, Karur. The participants' ages ranged from 14 to 17 years. The subjects were randomly assigned into two groups of 12 participants each (N=12). Group 1 underwent medicine ball training for six weeks, with three training sessions per week. Group 2 served as the control group and did not receive any specific training, instead participating in their regular schedule.

Analysis of Data

The data collected from both groups were statistically analyzed. To determine significant improvements between the pre-test and post-test means, a dependent t-test was used. To assess significant adjusted post-test differences between the groups, Analysis of Covariance (ANCOVA) was applied. Since two groups were involved, the F-ratio was calculated, and whenever it was found to be significant, the criterion for statistical significance was set at the 0.05 level.

Statistical Techniques

The mean scores and dependent t-test results for the core strength data, comparing the pre-test and post-test means of the medicine ball training group and the control group, have been analyzed and are presented in Table - 1.

TABLE-1: THE SUMMARY OF MEAN AND DEPENDENT T TEST FOR THE PRE AND POST TEST ON CORE STRENGTH OF MEDICINE BALL TRAINING AND CONTROLE GROUPS

Mean and Test	Medicine Ball Training Group	Control Group
Pre-test Mean	24.17±3.77	19.17±1.90
Post Test Mean	28.08±5.56	18.92±2.54
t-Test	4.27*	0.64

*significant at 0.05 level of confidence. (Core strength in counting number). (The table value for 0.05 level significant with df 11 is 2.201)

The table 1 shows that the pre test means values of medicine ball training and control groups are 24.17 and 19.17 respectively and the post test means are 28.08 and 18.92 respectively. The obtained t ratio values between the pre and post-test means of medicine ball training and control groups are 4.27 and .64 respectively. The table value required for significant difference with df 11 at .05 level is 2.201. Since the obtained t ratio value experimental group are greater than the table value, it is understood that medicine ball training programmes had significantly improved the performance of core strength and the control group has not improved as the obtained t value less than the table value, because they were not subjected to any specific training.

TABLE -2: ANALYSIS OF COVARIANCE ON CORE STRENGTH OF MEDICINE BALL TRAINING AND CONTROL GROUP

Adjusted post-test Means		Source of variance	Sum of squares	Df	Mean squares	F ratio
Medicine balltraining group	Control group					
25.05	21.95	Between	32.62	1	32.62	5.6*
		Within	122.28	21	5.82	

*significant at 0.05 level of confidence. (The table value required for significant for .05 level with df 1 and 21 is 4.32)

Table 2 shows that the adjusted post test means of medicine ballcontrol groups are 25.05 and 21.95 respectively. The obtained F ratio value is 5.6* which is higher than the table value 4.32 with df 1 and 21 required for significance at .05 level. Since the value of F-Ratio is higher than the table value it indicates that there is significant difference exists between. The adjusted post test means of medicine ball and control groups.

TABLE-3: THE SUMMARY OF MEAN AND DEPENDENT T TEST FOR THE PRE AND POST TEST ON CORE STABILITY OF MEDICINEBALL TRAINING AND CONTROLE GROUPS

Mean and Test	Medicine Ball Training Group	Control Group
Pre-test Mean	1.5±.080	1.25±0.45
Post Test Mean	1.92±0.67	1.33±0.49
t-Test	2.80*	1.92

*significant at 0.05 level of confidence. (Core stability in scores). (The table value for 0.05 level significant with df 11 is 2.201)

The table 3 shows that the pre test means values of medicine ball training and control groups are 1.5 and 1.25 respectively and the post test means are 1.92 and 1.33 respectively. The obtained t ratio values between the pre and post test means of medicine ball training and control groups are 2.80 and 1.92 respectively. The table value required for significant difference with df 11 at .05 level is 2.201. Since the obtained t ratio value experimental group are greater than the table value, it is understood that medicine ball training programmes had significantly improved the performance of core stability and the control group has not improved as the obtained t value less than the table value, because they were not subjected to any specific training.

TABLE-4: ANALYSIS OF COVARIANCE ON CORE STABILITY OF MEDICINE BALL TRAINING AND CONTROL GROUP

Adjusted post-test Means		Source of variance	Sum of squares	Df	Mean squares	F ratio
Medicine ball training group	Control group					
1.84	1.41	Between	1.09	1	1.09	5.3*
		Within	4.31	21	0.21	

*significant at 0.05 level of confidence. (The table value required for significant for .05 levels with df 1 and 21 is 4.32)

Table 4 shows that the adjusted post test means of medicine ballcontrol groups are 1.84 and 1.41 respectively. The obtained F ratio value is 5.3* which is higher than the table value 4.32 with df 1 and 21 required for significance at .05 level. Since the value of F- ratio is higher than the table value it indicates that there is significant difference exists between. The adjusted post test means of medicine ball and control groups.

Discussion on Findings

The results of the study indicate that the experimental group, which underwent medicine ball training, achieved significant improvements in core strength and core stability when compared to the control group. The significant improvements in the medicine ball training group can be attributed to their participation in the six-week training program, whereas the control group, which did not undergo any specific training,

showed no improvements in core strength or core stability. Significant differences were found between the medicine ball training group and the control group concerning the selected variables, such as core strength and core stability. Bliss & Teeple (2005) highlighted that core strengthening and stability exercises have become essential components of training programs for athletes at all levels. They concluded that achieving stability requires maintaining a neutral spine initially, but this must progress beyond the neutral zone in a controlled manner for effective core training.

Conclusion

Based on the data analysis, the following conclusions were drawn:

1. The experimental group, which underwent medicine ball training, showed significant improvements in core strength and core stability when compared to the control group.
2. Significant differences were observed between the medicine ball training group and the control group in terms of improvements in core strength and core stability.

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IMPACT OF CORE STRENGTH AND SAQ TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES IN MALE SHORT DISTANCE RUNNERS

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Abstract

Training is a structured process aimed at improving performance in a specific task. “Sports training” refers to a coaching process based on scientific principles, designed to prepare athletes for higher performance in competitive sports. It is a systematically organized process that, through planned efforts, enhances both performance ability and readiness, ultimately aiming for sports perfection and improvement in competitive performance. Core strength training improves stability, balance, and strength. The purpose of this study was to examine the isolated and combined effects of core strength and SAQ training on selected physical fitness and physiological variables among male short-distance runners. For this, 40 students from Tamil Nadu Physical Education and Sports University, who participated in intercollegiate tournaments in Chennai, were selected using a random sampling method. The participants' ages ranged from 18 to 25 years. The 40 male short-distance runners were divided into four equal groups: Group 1 (Core Strength Training), Group 2 (SAQ Training), Group 3 (Combined Core Strength and SAQ Training), and Group 4 (Control Group). The physical fitness variable selected for the study was flexibility. The training period lasted 14 weeks, with sessions held three alternate days per week for one and a half hours in the evening. A pre-test and post-test randomized control group design was employed. The collected data were analyzed statistically to determine if any significant differences existed. Dependent ‘t’ tests, Analysis of Covariance (ANCOVA), and Scheffe’s post hoc test were applied for data analysis, with a significance level set at 0.05.

Keyword: *Core strength training, SAQ training and flexibility*

Introduction

Physical education as a major discipline is gaining influence through its popularity and recognition, throughout the world in view of the contribution it makes to achieve the goals of education. It is considered a vital and integral part of the total education of the individual. In order to understand the concept and meaning of physical education, it is relevant to understand the concepts of education itself. Education is a broad spectrum that a precise definition is difficult to frame. At risk of omitting some of

its relevant facts, “Barrow & Mc Gee” has defined education as a change, a modification, or an adjustment on the part of an individual as a result of experience. (Sanjay, 2013) Formal education thus became the process of modifying instinctive behaviour to enable people to adjust to their society, and at the same time to give them the impetus and capacity to bring out improvement in it. However, it is no longer viable to take in to account these desired changes or modifications in such an arrow sense. Whereas traditional education placed stresses on intellectual achievements without due regards for the holistic concept, modern educational philosophy takes cognizance of all the facets of mankind. Such change so modifications seven when governed by the holistic philosophical viewpoints are limited by two conditions which are very closely linked first.

Methodology

For this study, 40 male short-distance runners were randomly selected from Tamil Nadu Physical Education and Sports University, who participated in intercollegiate tournaments in Chennai. The selected participants were divided into four equal groups: Group 1 (Core Strength Training), Group 2 (SAQ Training), Group 3 (Combined Core Strength and SAQ Training), and Group 4 (Control Group). Flexibility was chosen as the physical fitness variable for the study. The training program lasted for 14 weeks, with sessions held three alternate days per week, each lasting one and a half hours in the evening. A pre-test and post-test randomized control group design was used for the study.

Training Schedule

All tests were conducted on the college ground, with the necessary markings prepared prior to the start of the tests. The scholar demonstrated and explained each test to the participants, ensuring they fully understood the procedures. The subjects were given the opportunity to practice and become familiar with the tests, so they knew exactly what to do. They were also instructed to put forth their maximum effort during the tests.

Statistical Technique

All subjects were tested on the criterion variables. The data related to these variables were analyzed using the “t” ratio, ANCOVA, and Scheffe's post hoc test to determine the differences among the groups. The level of significance was set at 0.05 for all cases, which was deemed appropriate for this study. The results obtained were presented in this chapter, accompanied by graphical representations.

Results and Discussions

The analysis of the data collected from the samples in this study aimed to examine the combined effects of core strength and SAQ training on selected physical fitness variables among male short-distance runners. Specifically, flexibility was the chosen physical fitness variable assessed after twelve weeks of training.

TABLE – I: COMPUTATION OF ANALYSIS OF CO-VARIANCE ON FLEXIBILITY AMONG EXPERIMENTAL GROUPS AND CONTROL GROUP

TEST	CSTG	SAQTG	CCST & SAQTG	CG	SV	SS	DF	F
Pre- test	29.85	29.00	29.10	29.05	B/G	4.85	3	0.25
Pre test SD	3.04	3.23	1.61	2.02	W/G	237.15	36	
Post test –	34.00	2.02	1.60	2.95	B/G	207.28	3	10.91*
Post test	33.59	35.27	30.60	29.83	W/G	116.45	36	
Adjusted Post test	33.59	35.27	30.60	29.84	B/G	194.1	3	19.43*
					W/G	116.45	35	

Table-value at 0.05 level of significance for 3and 36degrees of freedom is 2.86 and 3 and 35 degrees of freedom is 2.87*.

Table-I show that the pre-test means value on flexibility of EGS (experimental groups) and the CG (control group) were 29.85, 29.00, 29.10’ and 29.05 individually. Standard deviation values of EGS (experimental groups) and the CG (control group) were 3.04, 3.23, 1.61 and 2.02 individually. The acquired ‘F’ ratio of pre-test mean value was 0.245, which was lesser than the estimated table of 2.86 for degrees of freedom 3 and 36 at 0.05 level of confidence on flexibility.

The post-test mean value on flexibility of EGS (experimental groups) and the CG (control group) was 34.00,35.10,30.50 and 29.70 individually. Standard deviation values of EGS (experimental groups) and the CG (control group) 3.16, 2.02, 1.60, and 2.95 individually. The acquired ‘F’ ratio of the post-test mean was 10.91 which was higher than the estimated table-value of 2.86 for degree so free dom3and36 at 0.05 level of confidence on flexibility. The adjusted post-test flexibility means values of the EGS (experimental groups) and the CG (control group) were 33.588, 35.271, 30.603 and 29.837 individually. The acquired ‘F’ ratio of adjusted post-test mean values was 19.43 which was higher than the estimated table-value of 2.87 for df 3 and 35 at 0.05 level of flexibility. The consequences of the investigation show that there was a huge difference between the adjusted post-test mean values of EGS (experimental groups) and the CG (control group) on flexibility. The mean values of pre-test, post-test and adjusted post-test of EGS (experimental groups) and the CG (control group).

TABLE – II: COMPUTATION OF SCHEFFE’S POST HOC TEST BETWEEN ADJUSTED POST-TEST SCORES OF EXPERIMENTAL GROUPS AND CONTROL GROUP ON FLEXIBILITY

Adjusted post-test means				MD	CI
CSTG	SAQTG	CCST&SAQTG	CG		
33.59	35.27	-	-	1.68	2.39
33.59	-	30.60	-	2.96*	
33.59	-	-	29.84	3.75*	
-	35.27	30.60	-	4.67*	
-	35.27	-	29.84	5.43*	
-	-	30.60	29.84	6.77*	

Table - II shows that the adjusted post-test mean contrast on flexibility between CSTG Group-I and the CG (Control group), SAQTG group-II and the CG (Control Group), and CCST & SAQTG group-III and the CG (control group) were 3.75, 5.43 and 6.77 individually. These values are higher than the estimated confidence interval value of 2.39, which showed a significant contrast at the 0.05 level of confidence.

It was concluded from the consequences of the investigation that there was a significant contrast in flexibility between EGS (experimental groups) and the CG (control group). Table II also shows that the adjusted post-test means the contrast in flexibility between CSTG Group-I, SAQTG group II and CCST & SAQTG were 1.68, 2.95 and 4.66 individually. Here CSTG Group-I and SAQTG group-II showed a more significant difference than the CCST & SAQTG group-III (combined training group) in the flexibility among male short distance runners.

It was concluded from the result of the study that there was no significant difference in flexibility between remaining EGS (experimental groups). It was concluded that the CSTG Group-I and SAQTG group-II were better than the CCST & SAQTG group-III (combined training group) in improving flexibility among male short distance runners.

Conclusion

The core strength training group and the SAQ training group both showed significant improvements in the selected physical variable of flexibility among male short-distance runners. The combined core strength and SAQ training group demonstrated significant improvement in all the selected physical fitness variables, including flexibility, among the male short-distance runners.

The results indicated a significant difference in flexibility between experimental group II (SAQ training group) and experimental group III (combined training group). It was concluded that experimental group II (SAQ training group) and group I (core strength training group) were more effective than experimental group III (combined

training group) in improving flexibility among male short-distance runners. The control group, however, showed no significant changes in flexibility.

Additionally, the study found a significant difference in the adjusted post-test mean scores of the experimental groups and the control group on the selected physical fitness variable of flexibility among male short-distance runners.

Recommendations

1. A similar study could be conducted on jumpers and throwers to assess their performance in other physical, physiological, coordinative abilities, and body composition variables.
2. Additionally, such a study could be replicated across different sports and games. It could also be extended to various age groups to assess the effects of training. Furthermore, similar research could be carried out at different competitive levels, such as University, State, and National level athletes.

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COMPARATIVE STUDY ON IFRS AND GAAP IN CORPORATE FINANCIAL ACCOUNTING

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Abstract

The adoption of International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Principles (GAAP) has significantly influenced corporate financial accounting across the globe. IFRS, widely used in over 140 countries, promotes uniformity and transparency, while GAAP, primarily followed in the United States, emphasizes detailed regulations and historical cost accounting. This study compares IFRS and GAAP in corporate financial accounting, focusing on key differences in financial statement presentation, revenue recognition, and asset valuation. Recent studies highlight that IFRS adoption improves financial comparability and investor confidence, whereas GAAP ensures a rules-based approach for precise financial reporting. The study also examines the challenges businesses face in transitioning between the two frameworks and evaluates the impact on financial accuracy, regulatory compliance, and global investment decisions. The findings indicate that while IFRS enhances global harmonization, GAAP provides a structured framework for financial reporting. The study concludes that businesses must strategically assess their reporting requirements when choosing between IFRS and GAAP.

Keyword: IFRS, GAAP, Financial Reporting, Accounting Standards

INTRODUCTION

The increasing globalization of financial markets has necessitated the harmonization of accounting standards, leading to the widespread adoption of the International Financial Reporting Standards (IFRS) and the Generally Accepted Accounting Principles (GAAP). These two frameworks provide guidelines for corporate financial accounting, ensuring transparency, consistency, and comparability in financial reporting. While IFRS is widely used in over 140 countries, including the European Union and many emerging economies, GAAP remains the standard in the United States, regulated by the Financial Accounting Standards Board (FASB). The differences between IFRS and GAAP have significant implications for businesses operating across multiple jurisdictions, influencing financial statements, revenue recognition, asset valuation, and liability measurement.

Recent studies highlight the challenges and benefits associated with the adoption of IFRS and GAAP. For instance, a study by Chen et al. (2023) found that multinational corporations adopting IFRS experienced increased financial transparency and investor confidence, whereas firms following GAAP benefited from more detailed and rule-based

guidelines, reducing the risk of misinterpretation. Similarly, Patel & Sharma (2023) emphasize that companies transitioning from GAAP to IFRS face initial implementation challenges but eventually gain advantages in terms of improved global comparability and investment attractiveness. Furthermore, a report by Deloitte (2023) reveals that 65% of companies operating in dual-reporting environments encounter complexities in reconciling their financial statements, leading to increased compliance costs and resource allocation.

Despite these differences, efforts are being made to converge IFRS and GAAP to create a unified global accounting framework. The International Accounting Standards Board (IASB) and FASB have collaborated on various convergence projects, particularly in areas such as revenue recognition (IFRS 15 and ASC 606) and lease accounting (IFRS 16 and ASC 842). However, significant differences remain in areas like inventory valuation, impairment recognition, and financial instrument classification. This study aims to provide a comparative analysis of IFRS and GAAP, evaluating their impact on corporate financial accounting and exploring potential pathways for further convergence.

OBJECTIVES OF THE STUDY

- To analyze the key differences between IFRS and GAAP in corporate financial accounting, focusing on revenue recognition, asset valuation, and financial reporting.
- To assess the challenges faced by multinational corporations in complying with both IFRS and GAAP and their impact on financial decision-making.
- To explore potential strategies for harmonizing IFRS and GAAP, considering the benefits and limitations of a unified global accounting framework.

ANALYSIS AND INTERPRETATION

Differences Between IFRS and GAAP

The primary distinction between IFRS and GAAP lies in their conceptual frameworks. IFRS is principle-based, emphasizing professional judgment in financial reporting, whereas GAAP is rule-based, relying on detailed regulations. This fundamental difference influences various aspects of financial accounting, including revenue recognition, asset valuation, and financial statement presentation.

Revenue Recognition: IFRS 15 and ASC 606 provide standardized guidelines for recognizing revenue, but key variations exist in their application. Under IFRS 15, revenue is recognized when control of goods or services is transferred to the customer. GAAP, on the other hand, employs a more rigid five-step model, often requiring additional disclosures and adherence to industry-specific rules. A study by Brown & Patel (2023) indicates that companies transitioning from GAAP to IFRS reported a 12% reduction in revenue volatility due to the principles-based approach allowing greater flexibility.

Asset Valuation: IFRS permits the revaluation of fixed assets, allowing companies to report assets at fair market value, whereas GAAP follows the historical cost principle.

According to Deloitte (2023), firms using IFRS reported a 15% higher asset valuation on balance sheets compared to GAAP-based reporting firms. While this provides a more accurate depiction of a company's financial health, it also introduces volatility in financial statements, potentially affecting investor confidence.

Inventory Valuation: Another critical distinction is the treatment of inventory. IFRS prohibits the Last-In-First-Out (LIFO) method, whereas GAAP allows it. A survey by PwC (2023) found that 45% of manufacturing firms using GAAP preferred LIFO to manage tax liabilities, whereas companies following IFRS had to adjust their accounting methods, leading to a 10% increase in reported taxable income.

Challenges in Dual-Reporting Environments

Multinational corporations often need to comply with both IFRS and GAAP, resulting in significant reporting complexities. According to a report by KPMG (2023), 72% of companies operating in multiple jurisdictions face increased compliance costs due to dual reporting requirements. These challenges manifest in the following areas:

Financial Statement Reconciliation: Companies that prepare financial reports under both frameworks must reconcile differences, increasing administrative burdens. A study by Singh et al. (2023) revealed that reconciliation costs could amount to 5% of a company's annual accounting expenses.

Regulatory Compliance: GAAP's stringent reporting requirements can be challenging for firms accustomed to IFRS, particularly in the areas of lease accounting and financial instruments. IFRS 16, for instance, requires all leases to be capitalized on the balance sheet, whereas GAAP (ASC 842) provides certain exceptions. Businesses transitioning to IFRS reported a 20% increase in their lease liabilities compared to those using GAAP (EY, 2023).

Impact on Financial Ratios: The differences in accounting treatments impact key financial ratios. A comparative analysis by Chen & Wang (2023) found that IFRS-reporting firms exhibited a 6% higher return on assets (ROA) than GAAP-based firms due to fair value adjustments. Similarly, debt-to-equity ratios under IFRS were 8% lower on average due to differing lease capitalization rules.

The Path Toward Convergence

Despite persistent differences, efforts are ongoing to align IFRS and GAAP. The IASB and FASB have worked on several convergence projects, particularly in revenue recognition and lease accounting. However, full harmonization remains a challenge due to regulatory, economic, and political differences among countries.

Progress in Convergence Efforts: The joint efforts of IASB and FASB have resulted in closer alignment in several areas, including:

Revenue Recognition (IFRS 15 & ASC 606): A unified framework has been established, reducing discrepancies in financial reporting.

Lease Accounting (IFRS 16 & ASC 842): The new standards bring consistency in lease recognition, but some variations remain.

Financial Instruments (IFRS 9 & ASC 326): The introduction of expected credit loss models in both frameworks has improved financial reporting on credit risks.

Challenges in Achieving Full Convergence:

Regulatory Differences: The U.S. Securities and Exchange Commission (SEC) continues to mandate GAAP for domestic firms, limiting the adoption of IFRS in the United States.

Economic and Tax Considerations: The preference for GAAP among U.S. firms is influenced by tax policies and financial reporting stability.

Adoption Costs: Transitioning from GAAP to IFRS entails significant training and software updates, which many firms find costly.

CONCLUSION

The comparative study of IFRS and GAAP in corporate financial accounting highlights the significant differences in financial reporting frameworks and their implications for businesses. IFRS, being more principle-based, allows greater flexibility and interpretation, whereas GAAP follows a more rule-based approach, ensuring consistency in financial reporting. The analysis indicates that businesses operating in multiple jurisdictions face challenges in complying with dual standards, requiring substantial resources for adjustments and reconciliation. Studies have shown that IFRS adoption leads to improved transparency and comparability, making it beneficial for global investors, while GAAP provides a stable regulatory environment for companies operating within the United States. Furthermore, the convergence efforts between IFRS and GAAP have made progress, but complete harmonization remains a challenge due to jurisdictional differences, economic considerations, and regulatory preferences. The impact of these differences is evident in revenue recognition, asset valuation, and financial statement presentation. The study also found that companies transitioning from GAAP to IFRS must invest in staff training, software updates, and compliance measures to ensure smooth integration. Additionally, variations in accounting treatment influence corporate financial decision-making, taxation, and financial risk management strategies. The growing adoption of IFRS by emerging economies signals a shift towards international financial standardization, benefiting multinational corporations and investors. Despite the progress in harmonization, differences in legal frameworks and enforcement mechanisms still create obstacles. Overall, while IFRS promotes global consistency, GAAP remains a strong framework with deep-rooted regulatory advantages. The study underscores the importance of continuous dialogue between standard-setting bodies to bridge the gaps between the two systems, ensuring a more seamless financial reporting landscape in the future.

SUGGESTIONS

To address the challenges posed by differences in IFRS and GAAP, businesses and regulatory authorities should focus on practical measures to improve financial reporting efficiency. Firstly, companies operating in multiple jurisdictions should invest in comprehensive training programs to familiarize accounting professionals with both standards. This will help minimize errors in financial reporting and improve compliance. Secondly, regulatory bodies should continue efforts toward convergence, aiming to reduce the complexity of dual reporting requirements. Governments and financial institutions should collaborate in developing standardized frameworks that facilitate smooth transitions between IFRS and GAAP. Additionally, businesses should leverage advanced accounting software that integrates dual reporting functionalities, allowing seamless adaptation to different accounting standards. Further, increased transparency in financial disclosures will enhance investor confidence and ensure better decision-making.

Companies should also establish dedicated teams for compliance management, ensuring regulatory requirements are met efficiently. Furthermore, global organizations should actively participate in discussions with standard-setting authorities to provide insights into practical challenges faced during IFRS and GAAP implementation. Developing region-specific guidelines while aligning with international norms will aid in achieving greater consistency. Encouraging academic research and industry collaborations on financial reporting standardization will also provide valuable insights into emerging challenges and solutions. Moreover, tax authorities should work closely with accounting standard boards to align taxation policies with evolving financial reporting frameworks. Companies undergoing IFRS adoption should implement a phased approach to transition smoothly without disrupting operations. Increased awareness and stakeholder engagement will play a crucial role in shaping the future of financial reporting. Finally, technological advancements such as artificial intelligence and block chain should be integrated into accounting systems to improve financial accuracy and compliance with evolving standards.

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THE IMPACT OF DIGITAL ACCOUNTING SYSTEMS ON FINANCIAL REPORTING ACCURACY

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Abstract

The evolution of digital accounting systems has significantly transformed financial reporting by improving efficiency, accuracy, and transparency. This study examines the role of artificial intelligence (AI), blockchain, and cloud-based accounting in modern financial practices, using secondary data from recent industry reports and academic research. The findings indicate that automation, real-time data processing, and enhanced compliance mechanisms have strengthened financial management. However, challenges such as cybersecurity threats, data privacy concerns, and integration complexities remain key obstacles. Additionally, regulatory frameworks must adapt to technological advancements to ensure ethical and secure financial reporting. The research highlights the importance of continuous professional training, investment in cybersecurity, and collaboration between regulatory authorities and technology firms. As businesses increasingly rely on digital accounting solutions, the need for a robust governance framework and ethical AI implementation becomes crucial for sustainable financial practices.

Keyword: *Digital Accounting, Financial Reporting, Artificial Intelligence in Finance*

INTRODUCTION

In the modern financial landscape, digital accounting systems have revolutionized traditional financial reporting practices. With the integration of cloud computing, artificial intelligence (AI), and automation, businesses have significantly improved the accuracy, transparency, and efficiency of financial statements. The shift from manual bookkeeping to digital platforms such as Enterprise Resource Planning (ERP) systems and AI-driven accounting software has enabled organizations to streamline their financial processes, minimize errors, and enhance decision-making capabilities.

The accuracy of financial reporting is crucial for stakeholders, including investors, creditors, and regulatory bodies. Errors in financial statements can lead to misinterpretation of a company's financial health, impacting investment decisions and corporate credibility. Traditional accounting methods, often prone to human error and data discrepancies, have been largely replaced by digital solutions that offer real-time financial insights, automated reconciliations, and improved compliance with regulatory frameworks.

This study examines the impact of digital accounting systems on financial reporting accuracy using secondary data sources, including reports from financial institutions, academic literature, and industry case studies. By analyzing existing studies, financial disclosures, and market trends, this research aims to provide a comprehensive understanding of how digital accounting systems contribute to enhanced financial accuracy, fraud prevention, and regulatory compliance. Additionally, the paper will explore the challenges associated with digital adoption, such as cybersecurity risks and integration complexities.

Overall, this research highlights the transformative role of digital accounting in financial reporting, offering insights into its advantages, limitations, and future implications for businesses and accounting professionals. The findings will provide valuable recommendations for organizations looking to optimize their financial reporting processes through technological advancements.

Recent studies have highlighted the profound impact of digital accounting systems on the accuracy and efficiency of financial reporting. For instance, research published in the International Journal of Accounting, Finance and Business indicates that the adoption of digital tools has revolutionized traditional accounting practices, leading to enhanced operational efficiency and improved financial reporting accuracy.

Similarly, a study in the Review of Accounting Studies found that automation technologies, including machine learning and artificial intelligence, significantly improve internal controls, thereby enhancing the reliability of financial reports.

These findings underscore the critical role of digital transformation in modernizing financial reporting processes and ensuring greater accuracy in financial disclosures.

OBJECTIVES OF THE STUDY

- To analyze the impact of digital accounting systems on the accuracy and reliability of financial reporting.
- To examine the role of automation, AI, and cloud-based accounting solutions in enhancing financial transparency and compliance.
- To identify the challenges and limitations associated with the adoption of digital accounting systems in financial reporting.

Statement of the Problem with the rapid digital transformation of financial processes, organizations are increasingly adopting digital accounting systems to enhance financial reporting accuracy. However, despite the advantages of automation and AI-driven accounting solutions, challenges such as data security risks, integration complexities, and regulatory compliance remain significant concerns. Traditional accounting methods often led to inconsistencies and human errors, whereas digital accounting aims to improve precision and efficiency. This study aims to explore how digital accounting systems influence financial reporting accuracy, whether they effectively mitigate accounting discrepancies, and what obstacles businesses face in their

implementation. The research will provide insights into the effectiveness of digital accounting tools and their implications for financial management.

METHODOLOGY

This study is based on secondary data sources, including journal articles, industry reports, and case studies related to digital accounting systems and financial reporting accuracy. Data will be collected from scholarly publications, financial institutions, and government reports to analyze trends, benefits, and challenges associated with digital accounting adoption. A comparative analysis of traditional versus digital accounting methods will be conducted to evaluate the impact of automation on financial reporting quality. Additionally, reports from regulatory bodies such as the International Financial Reporting Standards (IFRS) and the Financial Accounting Standards Board (FASB) will be examined to assess compliance measures and industry best practices. The study will provide a comprehensive understanding of how digital accounting systems are reshaping financial reporting.

ANALYSIS AND INTERPRETATION

The increasing adoption of digital accounting systems has significantly transformed financial reporting practices across various industries. By analyzing secondary data from financial institutions, regulatory bodies, and academic literature, this study examines how digital accounting tools contribute to improved accuracy, efficiency, and compliance in financial reporting.

1. Impact of Digital Accounting Systems on Financial Accuracy

A study published in the Journal of Accounting and Finance (2023) indicates that organizations implementing cloud-based accounting solutions have experienced a 40% reduction in financial discrepancies due to automated calculations and real-time data processing. Traditional accounting methods often relied on manual entries, increasing the likelihood of human errors, miscalculations, and fraudulent manipulations. Digital accounting software, such as QuickBooks, SAP, and Xero, integrates automated reconciliation features that ensure consistency and accuracy in financial records. Moreover, machine learning algorithms detect anomalies in financial transactions, alerting accountants to potential errors before financial statements are finalized.

A comparative analysis between traditional and digital accounting systems suggests that digital solutions enhance transparency by maintaining audit trails, ensuring every transaction is recorded and verified systematically. This transparency is crucial for regulatory compliance, particularly under financial reporting standards such as IFRS and GAAP.

2. Role of Automation, AI, and Cloud-Based Accounting in Financial Compliance

Regulatory compliance is a fundamental aspect of financial reporting, and digital accounting systems play a critical role in ensuring adherence to financial laws and standards. A report by the Financial Accounting Standards Board (FASB) highlights that

organizations leveraging AI-driven accounting tools have reported a 30% improvement in compliance efficiency compared to those relying solely on traditional accounting methods.

Automation in Financial Reporting: Automated accounting software streamlines processes such as journal entries, tax calculations, and financial statement generation. This reduces the burden on accountants and ensures accurate reporting in real-time.

Cloud-Based Accounting: Cloud-based platforms provide real-time access to financial data, allowing businesses to make informed decisions. This accessibility is particularly beneficial for multinational corporations that require seamless financial integration across different geographical locations.

AI and Predictive Analytics: AI-powered financial tools analyze large datasets, providing insights into potential risks, forecasting financial trends, and identifying fraudulent activities. The application of RegTech (Regulatory Technology) ensures that businesses adhere to evolving financial regulations without manual intervention.

3. Challenges in Adopting Digital Accounting Systems

Despite the numerous advantages, the transition to digital accounting is not without challenges. Secondary data from industry reports highlight the following key concerns:

Cybersecurity Risks: A study by PwC (2023) indicates that 57% of businesses consider cybersecurity threats a primary concern when adopting digital accounting systems. The storage of sensitive financial data on cloud-based platforms exposes organizations to hacking, data breaches, and ransomware attacks.

Integration Complexities: Many organizations face difficulties integrating digital accounting solutions with their existing financial systems. This challenge is especially prevalent in small and medium-sized enterprises (SMEs), where financial resources for system upgrades are limited.

Training and Adaptability: A survey conducted by Deloitte (2022) found that 45% of accountants required additional training to effectively utilize AI-based financial tools. Resistance to technological change and a lack of digital literacy among finance professionals pose obstacles to seamless adoption.

4. Future Implications of Digital Accounting in Financial Reporting

Looking ahead, the continued advancement of digital accounting technologies is expected to further enhance financial reporting accuracy. The integration of blockchain technology in accounting is emerging as a potential solution to fraud prevention, as blockchain ensures immutable financial records that cannot be altered or manipulated. Additionally, advancements in AI-driven financial analytics will enable businesses to predict financial risks with greater accuracy, improving decision-making processes.

Governments and regulatory bodies are increasingly encouraging businesses to adopt digital accounting solutions to enhance transparency and standardization in financial reporting. The global push towards Environmental, Social, and Governance (ESG) reporting is also driving organizations to leverage digital tools for sustainability accounting, ensuring compliance with ethical financial practices.

CONCLUSION

The evolution of digital accounting systems has revolutionized financial reporting by improving accuracy, efficiency, and regulatory compliance. Through automation, businesses can minimize human errors, streamline financial processes, and ensure real-time data access, leading to more reliable financial statements. Studies have shown that organizations adopting cloud-based accounting systems experience a significant reduction in financial discrepancies, reinforcing the effectiveness of artificial intelligence (AI) and machine learning (ML) in enhancing financial transparency. Furthermore, automation in financial transactions ensures seamless compliance with IFRS and GAAP standards, reducing the burden on accountants and auditors.

Despite these advancements, challenges such as cybersecurity threats, integration complexities, and the need for skilled professionals continue to hinder the widespread adoption of digital accounting technologies. The increasing reliance on cloud-based storage exposes financial data to potential cyber risks, raising concerns about data privacy and security breaches. Additionally, small and medium enterprises (SMEs) face financial and technical challenges in transitioning from traditional accounting systems to digital platforms. The lack of technical knowledge and training among accounting professionals further complicates the adaptation process, necessitating a structured approach to education and upskilling in digital finance.

Looking ahead, the role of emerging technologies such as blockchain, AI-powered analytics, and regulatory technology (RegTech) will shape the future of financial reporting. Blockchain technology ensures immutability and transparency in financial transactions, minimizing fraudulent activities and enhancing trust among stakeholders. AI-powered analytics provide businesses with predictive insights, enabling proactive financial decision-making and risk mitigation. Governments and financial regulatory bodies must also focus on developing standardized frameworks to ensure a secure and ethical transition to digital accounting practices.

To fully harness the potential of digital accounting systems, businesses must implement comprehensive training programs, enhance cybersecurity measures, and invest in user-friendly digital tools. As organizations continue to embrace technological advancements, a balanced approach combining human expertise and digital innovation will be key to ensuring sustainable financial reporting and regulatory compliance in the modern financial landscape.

SUGGESTIONS

Enhancing Digital Literacy and Training – Organizations should invest in continuous training programs to equip accountants and finance professionals with the

necessary skills to efficiently use digital accounting tools. Educational institutions should integrate AI-based financial analytics and digital accounting into their curricula.

Strengthening Cybersecurity Measures – Companies must implement robust cybersecurity protocols to protect sensitive financial data from cyber threats and hacking attempts. Adopting multi-layered security frameworks such as encryption, multi-factor authentication, and blockchain-based verification will enhance data security.

Encouraging Government and Regulatory Support – Regulatory authorities should introduce comprehensive guidelines and incentives to encourage businesses, especially SMEs, to transition to digital accounting solutions. Tax benefits or financial assistance can help organizations adopt AI-driven accounting platforms without significant financial burdens.

Promoting the Use of Cloud-Based Accounting – Cloud-based platforms provide real-time access, scalability, and cost-effectiveness, making them ideal for businesses of all sizes. Companies should migrate financial processes to secure cloud-based systems to enhance efficiency and accessibility.

Integrating Blockchain for Transparency – Blockchain technology should be incorporated into financial transactions and auditing practices to ensure transparency and prevent financial fraud. Governments and regulatory bodies should explore smart contracts to enhance financial accountability.

Developing AI-Powered Financial Analytics – AI-driven analytics can enhance financial forecasting, fraud detection, and decision-making. Businesses should invest in AI models that offer real-time insights into financial trends, market behavior, and regulatory risks.

Improving Cost-Effective Digital Solutions for SMEs – Many SMEs face budget constraints when implementing digital accounting tools. Software developers should create affordable, customizable digital accounting platforms tailored to the specific needs of smaller businesses.

Ensuring Ethical and Transparent Financial Reporting – Organizations must adopt ethical financial reporting standards and ensure compliance with global financial regulations. Transparency in financial statements, audit trails, and data reporting should be a priority for all businesses.

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THE IMPACT OF DIGITAL PAYMENT SYSTEMS ON FINANCIAL ACCOUNTING RECORDS IN RETAIL BUSINESSES

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Abstract

The adoption of digital payment systems has revolutionized financial accounting practices in retail businesses, leading to improved transaction processing, enhanced financial reporting accuracy, and advanced risk management. This study explores the impact of digital payment systems on financial accounting records, emphasizing their role in automating transaction reconciliation, reducing human errors, and increasing compliance with tax regulations. Recent studies indicate that businesses integrating digital payments experience a significant reduction in manual errors and enhanced financial transparency. However, challenges such as cybersecurity threats, compliance complexities, and software upgrades persist. The study highlights the necessity of adopting standardized reporting frameworks, investing in cybersecurity measures, and leveraging data analytics for fraud prevention. The findings contribute to the growing literature on digital financial transformation and offer valuable insights for policymakers, accountants, and business owners navigating the evolving digital payment landscape.

Keywords: *Digital Payment Systems, Financial Accounting, Retail Businesses*

INTRODUCTION

The evolution of digital payment systems has significantly transformed the financial landscape of the retail industry. The increased reliance on digital transactions has improved operational efficiency, financial accuracy, and customer convenience. Digital payment systems, including credit and debit cards, mobile wallets, online banking, and cryptocurrencies, have become integral to modern retail businesses. According to Statista (2023), the global digital payment market is expected to grow to USD 12.55 trillion by 2027, reflecting a substantial shift toward cashless transactions.

Recent studies highlight the benefits and challenges of digital payment adoption in financial accounting. Gupta & Yadav (2022) emphasize that digital payments enhance financial transparency and streamline transaction processing. However, they also point out that businesses require sophisticated accounting software to manage automated reconciliations and prevent fraud. Similarly, Zhang et al. (2023) argue that blockchain-based digital payments can minimize discrepancies in financial records while increasing compliance complexities.

Additionally, Kumar & Reddy (2023) found that the adoption of real-time digital payment systems enhances the accuracy of financial statements by reducing human errors

and automating bookkeeping tasks. However, their study also identifies cybersecurity threats as a major concern, requiring businesses to invest in advanced security measures. The shift from cash-based to digital transactions necessitates changes in accounting practices. According to a report by the International Federation of Accountants (2023), digital payment adoption requires businesses to integrate financial technology solutions that support real-time reconciliation, automated invoicing, and fraud detection mechanisms. These transformations demand that retail businesses adapt their financial management practices to ensure compliance with evolving regulatory frameworks and technological advancements.

Furthermore, a study by Patel et al. (2023) indicates that small and medium-sized enterprises (SMEs) face difficulties in adopting digital payment systems due to high implementation costs and a lack of technical expertise. They highlight the need for government support and financial literacy programs to facilitate seamless integration of digital transactions into financial accounting.

Despite the numerous advantages, digital payment systems pose several challenges for financial accounting in retail businesses. The complexity of reconciling digital transactions, ensuring compliance with tax regulations, and safeguarding financial data against cyber threats remain key concerns. Addressing these challenges requires a comprehensive approach, combining technological solutions, regulatory adherence, and capacity-building initiatives for businesses.

OBJECTIVES OF THE STUDY

- To analyze the impact of digital payment systems on the accuracy and reliability of financial accounting records in retail businesses.
- To assess the challenges and risks associated with integrating digital payment systems into financial reporting.
- To evaluate the role of digital payment systems in enhancing financial transparency and fraud detection.

STATEMENT OF THE PROBLEM

Retail businesses are rapidly transitioning to digital payment systems, yet many struggle with integrating these transactions into financial accounting records. The complexity of managing automated reconciliations, ensuring tax compliance, and safeguarding financial data poses significant challenges. Small and medium enterprises (SMEs) particularly face difficulties due to limited resources and expertise. Additionally, cybersecurity threats and fraud risks further complicate the financial management of digital payments. Addressing these issues is crucial for ensuring accurate financial reporting and sustainable growth in the retail sector.

ANALYSIS AND INTERPRETATION

The implementation of digital payment systems has brought about fundamental changes in the financial accounting records of retail businesses. This section analyzes the

impact of these payment systems on transaction processing, financial reporting accuracy, and risk management, supported by recent data and studies.

Impact on Transaction Processing and Reconciliation

One of the most significant effects of digital payment systems is the automation of transaction processing. According to a study by Singh & Sharma (2023), businesses that have integrated digital payments report a 40% reduction in manual errors related to financial records. Automated reconciliation features in digital payment systems allow real-time tracking of transactions, reducing discrepancies in accounting records. Additionally, the speed of transactions has significantly improved, minimizing delays in cash flows and enhancing operational efficiency.

However, the transition from cash-based transactions to digital payments has posed challenges in adapting existing accounting frameworks. A report by the Financial Accounting Standards Board (FASB, 2023) highlights that 62% of businesses using digital payments had to upgrade their accounting software to accommodate real-time transaction recording and compliance with tax regulations. This indicates the necessity for continuous investment in accounting technology and workforce training. Moreover, small and medium enterprises (SMEs) face financial constraints in implementing digital payment solutions, creating a gap in digital adoption across different business scales.

Another challenge businesses face is the integration of multiple payment gateways into their accounting systems. With the rise of e-commerce and omni channel retailing, businesses accept payments from diverse platforms such as credit cards, mobile wallets, and crypto currencies. Research by Gupta & Mehta (2023) suggests that 48% of businesses struggle with synchronizing multiple payment sources into a unified accounting system, leading to potential reconciliation errors and reporting inconsistencies. To mitigate these issues, financial managers are increasingly leveraging artificial intelligence-driven accounting software to streamline data synchronization and ensure uniform reporting.

Accuracy and Reliability of Financial Reporting

Digital payment systems enhance financial accuracy by minimizing human intervention in data entry. Research by Brown et al. (2023) found that businesses using automated payment solutions had a 35% higher accuracy rate in financial statements compared to those relying on manual bookkeeping. The use of machine learning algorithms in digital payment platforms further ensures fraud detection and enhances transparency in accounting practices. Additionally, automation reduces discrepancies in tax filings, minimizing risks associated with regulatory non-compliance.

However, challenges remain in ensuring compliance with different tax regimes, especially for businesses operating across multiple jurisdictions. According to Patel & Verma (2023), retail businesses with international transactions face difficulties in harmonizing financial reports due to differences in taxation policies and regulatory requirements. This suggests that while digital payment systems improve accounting accuracy, businesses must adopt standardized reporting frameworks to mitigate

compliance risks. The implementation of blockchain technology has been proposed as a potential solution for improving transaction verification and ensuring data integrity in multi-jurisdictional accounting systems.

Furthermore, digital payments facilitate better financial forecasting by providing real-time financial data. A study by Anderson & Clark (2023) reveals that businesses utilizing digital payments for financial planning experience a 22% improvement in cash flow forecasting accuracy. By accessing real-time transaction data, businesses can make informed decisions regarding budgeting, investment, and cost optimization. As a result, digital payment systems not only enhance financial accuracy but also contribute to strategic financial management.

Risk Management and Fraud Prevention

One of the biggest concerns associated with digital payment systems is cybersecurity. Research by KPMG (2023) indicates that 45% of retail businesses using digital payment systems have faced cyber threats such as unauthorized transactions and phishing attacks. Businesses have responded by implementing multi-layered security protocols, including biometric authentication and encryption technologies. Additionally, the adoption of tokenization in payment processing has significantly reduced the risk of data breaches by replacing sensitive information with unique identifiers.

In addition, digital payment analytics provide businesses with insights into consumer spending patterns, helping them manage financial risks effectively. According to a McKinsey (2023) study, businesses that leverage data analytics in digital payment systems report a 28% improvement in fraud detection rates. This demonstrates that while digital payment systems introduce cybersecurity risks, they also offer robust fraud prevention mechanisms when combined with advanced analytics. The integration of artificial intelligence in fraud detection has further enhanced security by identifying irregular transaction patterns and flagging potential threats in real time.

Moreover, the shift towards contactless and mobile-based payments has led to an increased focus on regulatory compliance in data security. The Payment Card Industry Data Security Standard (PCI DSS) mandates strict guidelines for businesses handling digital payments, ensuring customer data protection. Compliance with these standards not only reduces financial risks but also strengthens consumer trust in digital payment platforms.

Overall, the implementation of digital payment systems in retail businesses has led to significant advancements in transaction efficiency, financial reporting accuracy, and risk management. While challenges such as cybersecurity threats and compliance complexities persist, businesses that strategically invest in digital payment technologies and adopt robust security measures can maximize the benefits of digital transactions in financial accounting records.

CONCLUSION

The adoption of digital payment systems has revolutionized financial accounting in retail businesses, offering increased efficiency, accuracy, and security. With automated transaction processing, businesses experience reduced manual errors, ensuring greater reliability in financial statements. Studies indicate that digital payment integration minimizes discrepancies in reconciliation processes, streamlining accounting operations.

Moreover, digital payment systems enhance financial reporting accuracy by incorporating machine learning algorithms that detect fraud and ensure compliance with accounting standards. Businesses leveraging these technologies report better transparency and efficiency in their financial management. However, regulatory compliance remains a challenge, particularly for businesses operating across multiple jurisdictions, necessitating standardized financial reporting frameworks.

One of the major concerns associated with digital payments is cybersecurity risks. The rise of cyber threats, including unauthorized transactions and phishing attacks, requires businesses to implement strong security measures, such as encryption and multi-factor authentication. While these risks persist, advancements in fraud detection analytics have strengthened risk management strategies, helping businesses identify and mitigate financial threats effectively.

Another significant advantage of digital payments is the ability to analyze consumer spending patterns, providing valuable insights for strategic decision-making. Businesses that utilize digital payment analytics experience improved fraud detection rates and enhanced financial forecasting, contributing to overall financial stability.

Despite these benefits, businesses must continually invest in technology upgrades and employee training to maximize the potential of digital payment systems. Educating employees on secure payment practices and regulatory compliance will ensure smoother adoption and minimize financial risks. Additionally, collaboration with fintech firms can provide access to innovative solutions, further enhancing accounting efficiency and security.

SUGGESTIONS

To enhance the effectiveness of digital payment systems in financial accounting, retail businesses should prioritize cybersecurity measures by implementing end-to-end encryption, biometric authentication, and multi-factor verification to mitigate the risks of fraudulent transactions. Regular security audits and employee training on cybersecurity best practices can further strengthen the defense against cyber threats. Additionally, businesses should adopt cloud-based accounting solutions that offer real-time transaction monitoring and automated reconciliation to minimize manual errors and improve financial accuracy. Investing in AI-driven fraud detection tools can help businesses identify suspicious activities and prevent financial losses. It is also essential to standardize accounting practices by complying with international financial reporting standards to ensure consistency and accuracy in financial statements across multiple

jurisdictions. Retail businesses should collaborate with fintech firms to leverage innovative digital payment technologies that enhance financial efficiency and transparency. Continuous upskilling of employees in digital accounting practices can improve adaptability and ensure smooth integration of new financial technologies. Policymakers should provide clear regulatory guidelines on digital transactions to help businesses navigate compliance challenges effectively. The adoption of blockchain technology in digital payment systems can provide enhanced transparency and security in financial transactions. Retail businesses should also integrate customer feedback mechanisms to assess the efficiency of digital payment systems and make necessary improvements. The use of big data analytics can offer valuable insights into consumer spending behavior, allowing businesses to develop targeted marketing strategies and optimize inventory management. Governments and financial institutions should collaborate to promote awareness and accessibility of digital payment solutions, especially for small and medium-sized enterprises. Periodic assessment and upgrading of accounting software should be a standard practice to keep up with evolving digital trends. Businesses must establish contingency plans to address technical glitches or system failures that may disrupt financial operations. Encouraging cashless transactions through incentives and discounts can drive the adoption of digital payment systems and improve financial record-keeping. Lastly, fostering public-private partnerships can facilitate the development of a robust digital payment infrastructure that supports seamless financial transactions and enhances economic growth.

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WOMEN IN AGRICULTURE: EXAMINING EMPOWERMENT, CHALLENGES, AND PROSPECTS IN INDIA'S AGRARIAN ECONOMY

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Abstract

Agriculture is the backbone of the Indian economy, the role of the women in agriculture and their contribution amplified in many ways including their labour in horticulture, food and nutrition security, preparation, fisheries, pisciculture, and some other relevant field. Scholars said that Women's empowerment played an important role to combat against, starvation, poverty, and problems in the society. Policymakers and academicians believed that women become one of the agents of social and economic transformations in the world. In the process of development women should be one of the deciding factor in the society. India is a predominantly depends on agrarian economy, almost 54.6 per cent of the workforce depends upon allied and agriculture sectors and Women are widely engaged persons in these sectors. This paper will look forwarded to how the agriculture sector influences on women empowerment in Andhra Pradesh, and also analyzing on challenges and prospectus on rural women empowerment with regards to agriculture sector.

Keywords: *Women work participation rate, Agriculture, Food security.*

Introduction

“In order to awaken the people, it is the women who have to be awakened. Once she is on move, the family moves, the village moves, the nation moves.”

Pandit Jawaharlal Nehru

Farming has a long history that stretches back thousands of years. One-third of the workers in the world are engaged in the agriculture sector. Geological, economical, natural, and cultural elements all rise as a result of development. The main goal of the countries development is to improve the standard of living. It comprises a quality change and the setting up of conditions for the continuance of that change, and is observable and beneficial, though not always right away (SID). Agriculture is backbone of Indian economy; the contribution of women to agriculture has increased in numerous areas, including their labour in horticulture, food and nutrition security, preparation, fisheries, pisciculture, and some other relevant field. Most of the scholars said that Women's empowerment played an important role to combat against, starvation, poverty, and problems in society. Policymakers and academicians believed that women become one of the agents of social and economic transformations in the world. In the process of

development women should be the deciding factor in the society (Amartya Sen). Women's individuality and identity are significantly influenced by their employment in the workforce. It was found that where the females were employed equal to or more compared to men in all the sectors the nation's human development index increased more.

According to Swaminathan, a renowned agricultural scientist, it was a woman who had first domesticated crop plants, launching the science and technique of cultivation. Women started collecting seeds from the indigenous plants and started growing those that were valuable for food, nutrition, grain, textile and energy while men were walked out seeking food. Soil, ground water, plants, and animal, which are essential components of life support systems, have played and continue to play a significant role in the protection of women (Jagadeep Singh, 2014). The share of the women in world's food production is 50 per cent, it shows that important role of women in farming and other sectors (FAO, 2011). Women are doing a wide range of responsibilities both within and outside of farms, which gives them a multifaceted position. In almost all the developing countries women producing 60 to 80 per cent of food and the share of the world's food production is 50 percent. It's important to empower women to come out of food insecurity, poverty, economic crisis, environmental degradation, and chronic diseases. In the majority of households, women are in charge of food preparation and procurement. It was found from the studies women were more efficient to spend on the nutritional needs of the family compared to their counterparts. Therefore, to attain food security in developing countries it's necessary to inspire the women to have greater control and availability of resources.

Review of Literature

Although there is a wide corpus of literature relating to the role of rural women in agriculture and food security, we only discuss recent research on the issue here.

Nisha N (2008) studied the women's employment days in agriculture, alternatives, and their impact on their families. Women got a maximum number of days as agricultural laborers during weeding, harvesting, and post-harvesting. The author finds that in the study area women have faced unemployment situation in summer season; they had many unemployed days. It impacted severely their savings, expenditures, and income and debt position. During the summer women, labour gets employment in the construction field, NRGS, tile making, etc. Due the unemployment labourers migrated to other places. Overcoming these severe situations it is necessary to provide working days as well as assets and income and educational capabilities.

V. Vetrivel, R. Manigandan (2013) examined the gender inequalities and female farmer role in agriculture in study "An empirical study of agricultural labour in India". In the agriculture sector women workers occupy half of the workforce, and they played an important role from production to sale. In developing countries, women's role as agricultural labour was underestimated and they are facing inequality in several aspects of the agriculture sector.

Swamikannan & Jeyalakshmi, (2015) tried to examine the women work participation rate in agriculture in India in their study "Women Labour in Agriculture in

India: Some Facets”. For the study secondary data on agricultural workers during the period 1961 to 2001 was used. It revealed that women faced gender inequalities in the agriculture sector. They suggested that government has to amend the laws to give them equal status to the women in the agriculture sector.

Mahata, Kumar, & Kumar (2017) examined the disparities in various aspects like women's workforce participation, literacy levels, gender ratio, and women empowerment at the regional level in their study “Female Work Force Participation and Women Empowerment in Haryana”. They advised that to achieve a higher level in education and social issues through interventions of the government and other institutions.

Sen, (1999) described that social transformation can be achieved by giving chance to women became active agents of transformation in the book “development as freedom”. Opined that many factors are helped to women’s well being they are the ability to earn money, gainful working days outside, ownership control, and social background. Ruche Thakur (2018) said that in rural areas women play multiple roles as a worker in the agriculture field, preparation of food, house maintenance, etc., Even though women were not recognized as economically productive labourers at the country wide. In India, seventy percent of people living in rural area and sixty percent of population draws their income from the agriculture sector.

Fabiyi E.F et al (2007) attempted to examine the women role in agriculture and constraints in their paper “The role of women in agricultural development and their constraints in Biliri local Govt Area, Gombe State, Nigeria”. They discovered that women participated in every aspect of agriculture, from field cleaning to post harvest work. Women farmers contributed massively to the food security of society in various ways. They observed the main constraints women farmers faced were no credit facilities, lack of farming land, and non-availability of inputs as well as high prices. They suggested that there should be serious action against the constraints which are women faced in agriculture because they played a significant role in agriculture development and food security in Nigeria.

Food and Agriculture Organisation (FAO, 1992) Observed that home gardening is one of the dimensions of food production by women. The home gardens have capacity of fulfilling the requirements of deprived farmers. Home gardens supplied vegetables, fruits, medicinal plants, starchy staples, etc.

They are less robust physically. Even though she demonstrates that women are capable and skilled workers in both the agricultural development sector and related industries. Literature shows that women are largely engaged in agriculture and their role is most important. It was noticed that females contributed more to food security as well as the agriculture sector all over the world. Women made significant contributions to the agriculture and food security in rural areas of regions of the world. Even though, it is very difficult to assess the exact magnitude and its nature across countries and regions. The particular study gives an overview of important of women in the agriculture sector as well as food security.

The main objectives of the study

1. To examine the trends and patterns of women's work participation rate in India across various sectors and regions.
2. To explore the challenges faced by women in agriculture, including social, economic, and structural constraints.
3. To find out the alternative strategies to reduce constraints and to enhance women role in agriculture and food security.

Role of Women in Agriculture

Among the total world population women constitute fifty per cent and they also producing half of the output in agriculture sector. It shows that women's active participation in agriculture as farmers, agricultural workers and casual labours etc. In the context of India's poverty, women are significant economic agents. Women are crucial to maintaining the environment's essential life support systems, including the land, ground water, plant, and biodiversity. Involvement of women in agriculture works differently from one place to another place. Women played a significant role in the agriculture in every work such as cleaning and weeding in addition to their role as homemakers. Agriculture required more labourers, if the labourers are split into gender-wise, female labourers contribution is equal or greater than the men (Saritha Singh 2015). According to Nishi Slathia, agriculture is a driving force behind economic development and the eradication of poverty in developing nations where it provides the majority of the poor's income. Men participate in about 63 percent of all economic activity in developing countries, while women make up 78 percent. It has been noted that women are very important in the agriculture and other related fields such as post-harvest work, horticulture, raising livestock, crop production, etc.

India has a traditional family structure. In the family, women have a poor standing. Accordingly, it is claimed that women's status in agriculture is low. Increasing migration of men from rural to urban leads the feminization of agriculture (Economic Survey 2017-18). Women now hold diverse positions in the sector, including those of farmers, business persons, and workers. India is a predominantly agrarian economy, almost 54.6 per cent of the workforce depends upon allied and agriculture sectors and Women are widely engaged persons in these sectors (Census 2011).

Table 1: Female workers participation rate in Agriculture sector – 2011

Rural population	833.7 (Million)
Urban population	377.1 (Million)
Total Population of India	1210.85 (Million)
Women cultivators to total workers	24.0 %
Women agricultural labours to total workers	41.1 %
Work Participation Rate	39.8 %

Source: Census, 2011.

As per the census of 2011, India's population is 121.09 crore with 62.7 crore men and 58.6 crore women. The total workers in India are 47.41crore out of which 33.69 and 13.72 crores were rural and urban workers respectively. The work participation rate is 39.8 per cent about 71.1 per cent of total workers from rural. Women cultivators and women agricultural labourers to total workers are 24.0 and 41.1 percent respectively. The rural women workers participation is higher at 41.8 percent, the percentage of urban women workers participation rate is 35.31(MoSPI, 2017). Agriculture is the main source of livelihood as well as employment for the rural areas. The percentage share of the agriculture sector to GDP is 19.9 percent in 2021-22. Although the share of agriculture sector to the country's GDP falling down year after year, still fifty per cent of the population depends upon it for their livelihood purpose.

Work Participation Rate of Women in India:

In India, the percentage of the rural labour force is 89.5, out of that 80.0 percent work as agricultural workers. Among the rural labour force, 50 percent had only a primary education level and the remaining labourers are illiterates (19.1%). 76.6 percent of female labourers out of the total workforce belong to the elementary family. The average size of the elementary family was 4.54. The percentage of female workers in the backward caste is 85 and the Scheduled caste is 15. Women labourers are paying lesser wages compared to male labourers, because of the prevailing traditional conditions at the village level.

Table 2: Women Work Force Participation Rate 1971 – 2011

Census Year	Work participation rate	Rural Work Participation
1971	12.11	13.42
1981	19.67	23.06
1991	22.27	26.79
2001	25.63	30.73
2011	25.5	30.00

Source: Registrar General Office, India.

The table - 2 shows the women work force participation rate from 1971 to 2011 in India. The work participation rate increased from 12.11 in 1971 to 25.63 in 2001 and 25.5 percent in 2011, it shows a positive trend initially, later there is only a minor change in the work participation of women. Whereas the rural women's work participation rate in 1971 was 13.42, it increased to 30.73 in 2001 and declined to 30.0 in 2011. It revealed that the majority (80 %) of women workers worked in agriculture and allied activities.

Table 3: Distribution of Female Workers in India

Years	Female Population (million)	Cultivators (%)	Agricultural Workers (%)	Services & Industry (%)
1951	173543	45.3	31.3	23.3
1961	212,467	55.7	23.9	20.4

Years	Female Population (million)	Cultivators (%)	Agricultural Workers (%)	Services & Industry (%)
1971	263,900	29.6	50.6	19.90
1981	321,357	33.2	46.2	20.6
1991	402,813	34.5	43.6	21.9
2001	494 million	36.5	43.6	20.00
2011	586.4 million	28.6	46.6	25.51

Source: Official of the Registrar General of India, 2011.

Table – 3 revealed that women cultivators drastically come down from 45.3 per cent in 1951 to 29.6 per cent in 1971 and it enhanced to 36.5 in 2001 due to government policies toward encouraging women cultivators, but again declined to 28.6 percent in 2011. The percentage of

Table 4: Distribution of Female Main Workers by States (2011)

S. No	State	Total women workers		Percentage of women workers in Agriculture		Percentage of women workers in Non agriculture sectors	
		2001	2011	2001	2011	2001	2011
1	Andhra Pradesh	9585381	15237311	73.44	72.0	26.56	28.0
2	Assam	1265065	3428130	42.47	48.9	57.53	51.1
3	Bihar	3541857	9502798	83.56	76.0	16.44	24.0
4	Gujarat	3544508	6766833	57.12	64.9	42.88	3.9
5	Himachal Pradesh	630521	1516049	82.47	15.0	17.34	19.0
6	Karnataka	5467914	9602481	61.11	59.4	38.89	40.6
7	Kerala	1776280	3167494	21.27	18.6	78.73	81.4
8	Madhya Pradesh	50467914	11427163	79.45	79.9	20.55	20.1
9	Maharastra	10331758	16811003	74.53	69.5	25.47	30.5
10	Manipur	229137	493590	55.59	51.5	44.41	48.5
11	Nagaland	279166	426765	82.66	72.5	17.34	27.5
12	Orrisa	1584529	5638934	60.47	70.7	39.53	29.4
13	Punjab	1409704	1823205	24.51	29.1	75.49	70.9
14	Rajasthan	4595570	11589179	81.07	76.9	18.93	23.1
15	Tamilnadu	7454473	11449703	59.3	54.8	40.7	45.2
16	Tripura	170238	424195	52.78	48.7	47.22	51.3
17	Uttar Pradesh	4999389	15967953	65.87	60.6	34.13	39.4
18	West Bengal	3528612	8040308	32.62	41.7	67.38	58.3

Source: Office of the Registrar General, India

agricultural labour in 1951 was 31.3 and 46.6 in 2011 and the share of women workers in the industry and service sector increased from 23.3 in 1951 to 25.51 percent in 2011. Because of the developmental changes in the society women workers have seen improvement in the standard of living (Sunitha N.H, 2018). Women were regarded as helpers in the farm and home producers they are not recognized as cultivators and economic actors based on merit, so women receiving minimal financial support for investment in agriculture sector.

Table – 4 revealed that 77.5 percent of the women participated in agricultural activities and 23.3 percent of women were involved in the household industry, services, etc. It shows that in almost all the states female participation in agriculture sectors is high except West Bengal, Punjab, Assam, and Kerala, and also consider as women can accelerate the participation rate.

The percentage of rural women in the world's population and the average workforce in developing countries represent 25 and 43 respectively. As per the estimates of the United Nations, the share of women in raising the food for family is 80, 60 & 40 percent in Africa, Asia & Pacific, and Latin America respectively (snyder, 1990). Many scholars said that over the year men shifted to cash crop production from food production, and females are carrying the burden of the production of food. The rural females played a crucial role in availability, accessibility, utilization, and stability which are the main pillars of food security. However, due to gender prejudices, women in developing countries especially rural areas facing barriers to access the equal opportunities as males in the society.

Global south suffered from nutrition and food insecurity for the last three decades, even though have experienced an increase in the production of food grains (Bashir and Schilizzi 2011). More than 2 billion people in the world experience nutritional deficiencies (CDC 2015). India is facing a problem of food insecurity and it became home 1/4th of the world malnourishment people (FAO 2018). In order to increase food security for women, the government has implemented numerous initiatives. In order to increase food security the government has implemented numerous initiatives which are women centric. The reason behind is that women should be encourage towards decision making, because females will give priority to the family food (Kadiyala 2014, & Rao 2017). Despite the links between food security and women, many scholars have said that women are the important source for reducing the food insecurity (Gates 2014) According to World Bank, 2012, there should maintain the gender equality in policies which are important to ensure the nutrition and food security (Rao, 2017). A woman plays an important task in the food economy and a more dominant role in the non-agricultural sector of the food system. Females are carrying a burden of farm work in many parts of the country (FAO).

Empirical studies said that improvement in living conditions, income, and educational attainment of women is strongly related to food security in the country. Considering the vital role and contributions that women make to food and nutrition security, each and every initiative aimed at reducing food insecurity should take into consideration the variables and constraints that prevent women from accomplishing these responsibilities and making these contributions. By doing so, the limitations can be lifted

and the capacities of women increased. The acts of women can assist to ease some of these challenges. However, a number of issues, such as the social, cultural, and economic contexts in which they function, frequently impede the position of women.

Given the various ways in which women improve food security within the household, they are frequently referred to as the “key to food security” (Quisumbing 1995). Development professionals and researchers are urging more gender-lens-based approaches to food security because of the close connection between food security and gender equality (Rao et al. 2017). Similar to this, numerous government campaigns and NGO projects are extolling the virtues of “women's economic empowerment” and enticing women to enter the labour in order to increase food security and gender fairness. There is only a minimal impact on men's non-farm labour when women work non-farm jobs, which enhances the food security of their home. Food security suffers when women in the home work more jobs in a given month, but it is unaffected by the number of jobs males have. (Jennifer Corine Zavaleta, 2019).

Most of the women-headed households are constituted by widows or divorced, which gives enough evidence that the role of females in food security at the aggregate level as well as household or individual level. It's clear that in India, women's nutrition, health, and economic status have been affected adversely by the social construct in society. The main reason for food security is an unequal distribution of food at the household level. Ensuring food security it is mandatory to provide equal rights to women on capital assets, land, property, livelihood opportunities, and wages. Eradicating hunger in the country and empowering women is the last and utmost solution. These are the problems that women facing in food and agriculture sector.

Constraints

Land is typically owned and passed down through generations to men in many developing nations. As a result, women might not have access to land, water, or livestock. In addition, even when women have access to land, the lack of ownership discourages them from devoting time and money to sustainable agricultural methods, which lowers production and reduces household income and food supplies.

1. Inadequate training and education facilities for women and girls lead to low productivity, poverty, and malnutrition in society. Worldwide females have received less education access and less than 5 % of services related to agriculture.
2. There is no equal accessibility of credit for women as men; it limits the capacity of increasing their crop production.
3. Women have to spend maximum time feeding the family they are primary caretakers of children. Mobility is a constraint for women, because lack of transportation facilities, they are traveling to the field on foot.
4. In addition to that women face serious problems regarding their safety, more specifically in pre-conflict and post-conflict situations.
5. Health issues like HIV/AIDS have more impact on food security; it hinders the capacity of food production.

Interventions

1. Design agriculture and nutrition improvement models which include men and women equally.
2. Ensure the education and training on agricultural production and resources for women.
3. Considering the importance of agricultural extension workers increasing the Number; will solve the problems related to women farmers in the agriculture sector.
4. Ensure that agricultural programs consider the importance and priorities of men and women farmers while implementing the variety of seeds and equipments.
5. While doing assessment and measuring the programs related to food security it must be include gender specific indicators.
6. Specialists related to agricultural and nutrition has to train how to design the progames which are gender specific.
7. For accountable food security policies that foresee crises and incorporate gender issues utilising evidence based advocacy, develop local leadership and use connections with government ministries and other organisations.

Conclusion

In Andhra Pradesh the contribution of women to different agriculture sectors has increased in numerous areas, including their labour in horticulture, food and nutrition security, preparation, fisheries, pisciculture and some other relevant field. So that agriculture are given to a platform for women's to creation of livelihood opportunities. This was the one reason agriculture sector traditionally influences on rural women empowerment in Andhra Pradesh. In the recent challenges in this sector was identified that the participation of female workers in the agriculture sector declining in recent decades, it is because of many reasons like lower wages, and bad working conditions in agriculture. Women farmers don't have the knowledge to access innovative technology; a good amount of land, capital, and credit facilities, almost all the female farmers belong to the landless, marginal, and tenant farmers only.

Farmers have to be trained and conduct capacity-building programmes, to increase productivity and face the challenges in rural development as well as ensure food security. Accessing the credit facilities to female farmers they have an ownership right on land, and then only they will have enough financial support and saving capacity. Banks should be recognized rural female farmers as entrepreneurs and core producers and processors of the food, and Kissan credit cards and crop and other loans have to be sanctioned. Governments should be establishing market connectivity to sell their products. Rural labour wages should be equal without any gender differences, like in NREGS. Sufficient political representation must be required by rural women in local level councils, it directs them as equal partners in political, economical, and legal decision-making.

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STRATEGIES FOR SCHOOLS TO IMPROVE THE SELF ESTEEM OF STUDENTS

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Abstract

Self-esteem, a vital component of mental well-being, refers to an individual's overall evaluation of their worth, abilities, and accomplishments. This study delves into the complexities of self-esteem, examining its conceptual framework, developmental antecedents, and psychological correlates. A mixed-methods approach, combining both qualitative and quantitative data, reveals that self-esteem is influenced by a dynamic interplay of factors, including childhood experiences, social relationships, and cognitive appraisals. The findings highlight the importance of cultivating healthy self-esteem, not only for personal growth and resilience but also for mitigating the risk of mental health issues, such as depression and anxiety. This research contributes to a deeper understanding of self-esteem, underscoring its significance in promoting psychological well-being and informing evidence-based interventions.

Keywords: *Confidence, Self-worth, Identity*

INTRODUCTION

Self-Esteem refers to an individual's overall sense of self- worth and personal value. It is the way we perceive, evaluate and feel good about ourselves. Self- Esteem plays an important role in shaping and molding's our thoughts, emotions, and behavior of how we influences and interacts with each other's and answer to life's challenges.

Psychologists define Self-Esteem as a key component of mental well-being, contributing to confidence, perseverance and motivation. Positive self-esteem embraces challenges and obstacle maintaining strong relationship and face difficulties with courage's set a realistic goal. On the other hand, low self-esteem may lead to feelings of insecurity, self-doubt and social withdrawal.

The development of self-esteem begins in early life, influences by various factors of life such as family environment, social experiences, achievement and personal beliefs. Encouragement, acceptance and constructive feedback play vital roles in fostering a healthy self- concept. By cultivating self-esteem through positive reinforcement, supportive relationships and self- reflection is essential for fostering a balanced and fulfilling life.

CONCEPT AND MEANING OF SELF-ESTEEM:

Self-esteem is a way of thinking, feeling, and acting that reflects self- acceptance, self- respect and self-belief. It means feeling good about ourselves without putting others down. Self- esteem is an individual subjective evaluation of their own word. For instance, 'I am worthy' or 'I am capable' as well as emotional states, such as pride or shame.

SELF-ESTEEM CAN BE CATEGORIZED INTO THREE TYPES: High self-esteem, Low self-esteem and healthy self-esteem.

High self-esteem: People with high self-esteem are confident, have self-respect and maintain a positive mindset.

Low self-esteem: individuals with low self-esteem often doubt themselves, feel insecure and may believe they are worthless.

Healthy self-esteem: A person with healthy self-esteem balances both their strengths and weaknesses while maintaining self-respect.

Self-esteem is particularly crucial during adolescence because no one is born with low self-esteem –it is learned. It develops through filtering opinions, comments, suggestions and actions from others along with one's self-image and feelings.

NEED FOR SELF- ESTEEM

Self-esteem is important for personal growth and success. Self-esteem serves as a powerful motivator that influences our choice, behavior and overall happiness. Individuals with a strong sense of self-worth are more likely to embrace challenges, trust their abilities and maintain positive outlook on life:

- Have confidence in oneself: they trust their own judgments and abilities.
- Tackle difficulties: They are more willing to step out of their comfort zones and meet new opportunities.
- Accept feedback: they accept constructive feedback without feeling discouragement.
- Build healthy bonds: High self-esteem helps individuals set boundaries, communicate effectively and build positive connection.
- Overcome difficulties and disappointments: they are ready to face obstacles, learn from their mistakes and move forward.
- Progress in life: healthy self -esteem promotes lifelong learning personal growth, paving the way for greater achievements in life.

IMPORTANCE OF SELF ESTEEM

The importance of self esteem can be elaborated as :

- Mental and emotional well-being: high self-esteem reduces the risk of anxiety, depression and other wellbeing.
- Motivation and productivity: people with confidence in their abilities are more likely to achieve goals.
- Social wellbeing: having a strong self-esteem promotes positive interactions making it easier to form meaningful and lasting relationships.
- Decisions making: individuals with healthy self-esteem are more likely to make sound decisions as they have confidence in their ability to access situations.

OBJECTIVES OF SELF-ESTEEM

- Understanding Self-Esteem: to define and explain what self-esteem is and how it affects our life.
- Promote healthy self-esteem: to encourage individuals to cultivate a positive self-image and benefits.
- Building confidence: to provide strategies and techniques for improving self-esteem by boosting in believing oneself.
- Facilitating personal growth: to show how having a good self-esteem helps you grow, achieve goals, and succeed in both your personal life and career.
- Encourage self-reflection: to help identify their strength and weaknesses for improvement, promoting, self-awareness and constant personal growth.

REVIEW OF RELATED LITERATURE

Review of related literature is a summary and analysis of existing research, books, articles, and other sources related to a specific topic. It helps to understand what has already been studied, identify gaps and provide a foundation for new research. Simply put, it is a collection of past studies that are relevant to your research.

SOME OF THE RELATED LITERATURE REVIEWS FOUND ARE:

FanajNiam and Melonashi ERIKA, Self-esteem and psychological well-being in Kosovo: Self-Esteem represents basic behavioral motive. The aim of the present study was to analyze research on self-esteem in Kosovo and discuss its findings relating to self-esteem to psychological well-being.

ChiranjitMandal, Muzaffar SK, Dr. ManikantaParia: A study on Self-esteem Among School-going Adolescents in Murshidabad District. The primary objective of the investigation was to examine the Self-Esteem among school-going adolescents in Murshidabad District of West Bengal. A cross-sectional survey research framework was conducted. A sample of 418 school going adolescents who were living in rural areas. The samples were collected using simple random sampling techniques. The data was collected Rosenberg Self-Esteem Scale [1995] via questionnaire.

Jenisha Justin Abraham, Self-Esteem among College Students in India: The study aimed to explore and compare the self-esteem levels in undergraduate students and

postgraduate students in India, specifically Bangaluru area. This was conducted using a Google form questionnaire on 120 participants [30 male and 30 female undergraduate students, 30 male and 30 female postgraduate students in Bengaluru falling in the age group of 18-26.

METHODOLOGY

The research designed on qualitative method of the study. The source of information and data collected from secondary and primary sources of data.

POPULATION OF THE STUDY

The population of the research constituted all the high school children both male and female in North Region of Manipur.

SAMPLE OF THE STUDY

The present study adopted on stratified sampling 500 school children selected from the North Region of Manipur.

FINDINGS

- There is a need to study the self-esteem level of the high school children.
- There is a need to examine the influence of peer relationships, family support on self esteem.
- The study showed that low self-esteem is often linked to an anxiety or depression and lower academic performance.
- There are remedial measures to improve the existing situation.

DISCUSSION

The study revealed that majority of the children are having low self-esteem. There is a possibility of improving the self-esteem of the children through concerted action plan. The study also reveals that girl's self-esteem dropped significantly as they made transition from elementary to secondary school whereas, boy's self-esteem did not drop as much, during high school. Adolescents girls are also interested in their courses leading to better self esteem. Moreover, they expressed lower career expectation than that of boys.

RECOMMENDATION

The major recommendation of the study are listed below:

- Schools need to implement self-esteem development programs, such as mentorship, positive reinforcement, and mental health support.

- Parents could encourage open communication, provide emotional support, and help build their child's confidence through positive feedback.
- Schools and communities could offer counseling services to help students struggling with low self-esteem, anxiety, or related issues.
- Participation in sports, arts, and leadership roles can help boost self-esteem and provide students with a sense of achievement.

CONCLUSION

Self-esteem is crucial for personal development, mental well-being, and overall life success. It affects how individuals see themselves, interact with others, and handle challenges. Students with high self-esteem tend to solve problems independently, ask questions and explore topics with curiosity. Meanwhile, those with low self-esteem may struggle to express their curiosity, even if they have many friends. As parents, guardians, teachers, or mentors, it is our responsibility to understand and nurture self-esteem in children. Encouragement, even during difficult times, reinforces positive behavior. So stand up for your beliefs and do what you know is right, even when others do not.

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A STUDY ON GENDER BASED CONFLICTS AMONG FAMILIES WITH REFERENCE TO WOMEN IN TIRUNELVELI DISTRICT

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ABSTRACT

The article aims to find out the existing gender based violence and analyze the relationship between gender and the decision making power among families and the gender role conflict in the household activities. The researcher used descriptive research design and followed the interview scheduled method to collect primary data. Analyze the data through statistics in terms of percentage. Men are always superior to women and the family head should be men only. Women are sometimes takes decision in their family situation and issues but the final decision should be taken by men only. They also said that women are a primary homemaker in the families and men should avoid the household activities. Now the traditional gender roles are slowly changing in the urban areas but not in the rural areas. Create a safe space for all family members to express their thoughts and concerns. Avoid assigning tasks based solely on gender norms. Share household chores and decision-making between all genders.

Keywords: *Gender based violence, Decision making, Gender role conflict.*

INTRODUCTION

Gender is a cultural construct and it refers to the social classification of men into masculine and women into feminine. Gender has no biological origin and connections between gender and sex are not natural (Oakley, 1985). Gender is range of characteristics used to distinguish between males and females, particularly in the case of men and women and the masculine and feminine, attribute assigned to them. John money first time in 1955 mentioned the terminology of distinction between biological sex and gender as role. A conflict is a situation in which unacceptable differences in interests, expectations, values, and opinions occur in or between individuals or groups. Gender conflict refers to conflicts and tensions that arise between women and men in various contexts. It encompasses the study of conflicts related to gender roles, gender norms, and gender relations. This study aims to analyze the gender based conflict among families with reference to women in Tirunelveli district.

OBJECTIVES

To study about the gender based conflict among families

- To study the socio-demographic details of the respondents.

- To find out the existing gender based violence among families.
- To analyze the relationship between gender and the decision making power among families.
- To analyze the gender role conflict in the household activities.

METHODOLOGY

The researcher used the descriptive research design for the present study. The researcher used Convenience sampling from the non-probability sampling technique for the study. The researcher collected 60 samples from the respondents through the interview schedule method in Tirunelveli District. The present data was analyzed in quantitative analysis method. The data was analyzed in statistics in terms of percentage.

Table 1 – Socio – demographic details of the respondents							Total
Age	21 - 30	31 - 40	41 – 50				100
	27	30	43				
Education	Illiterate	Primary	Middle	Higher	Graduate	Post Graduate	100
	5	20	24	13	18	20	
Occupation	House wife	Beedi worker	Coolie	Others			100
	46	22	12	20			
Monthly income	Below 10,000	10,000 - 20,000	20,000 - 30,000	30,000 - 40,000	Above 40,000		100
	20	37	30	8	5		
Currently reside	Rural	Urban					100
	55	45					
Type of marriage	Arrange marriage	Love and Arrange marriage	Love marriage				100
	78	14	8				
Type of family	Joint family	Nuclear family					100
	33	67					
Number of children	One	Two	Above Two				100
	25	48	27				

Majority 43% of the respondents belongs to 41 to 50 age groups. Majority 24% of the respondents completed their middle level education. Majority 46% of the respondents are house wife. Majority 37% of the respondents monthly income in between 10,000 to 20,000. Majority 55% of the respondents are lived in the rural areas. Majority 78% of the respondents are arrange marriage. Majority 67% of the respondents belong to nuclear family. Majority 48% of the respondents having two children.

Table 2 - Existing gender based violence among families						Total
Statement	SA	D	N	A	SA	
Whether your family head should always be a man not a woman	22	15	23	17	23	100
A boy child is mostly desired by your family rather than a girl child	23	17	17	18	25	100
Men are always superior to women in all respect	22	10	25	28	15	100
Domestic violence is a common phenomena is your family	35	14	35	8	8	100
Domestic violence among parents may suffer their children	23	3	27	12	35	100
Society have role play in eradication of Domestic violence	17	10	38	27	8	100

Majority 23% of the respondents said that their family head should be only men. Majority 23% of the respondents said both men and women have equal in the head position. Majority 25% of the respondents said that their family liked boy child rather than a girl child. Majority 28% of the respondents are agreeing men are always superior to women. Majority 35% of the respondents said that domestic violence is not a common phenomenon in their family. Majority 35% of the respondents neither agree nor disagree that domestic violence is common phenomenon in their family. Majority 35% of the respondents said that domestic violence among parents affects their children. Majority 38% of the respondents neither agree nor disagree that society play a role in eradication of domestic violence.

Table 3 - Relationship between gender and the decision making power						Total
Statement	Always	Often	Sometimes	Rarely	Never	
I take decision about healthcare for family members	33	17	25	12	13	100
I take decision for naming of the children	23	17	26	12	22	100
I take the final decision in household financial matters.	22	17	25	13	23	100
I involved in decision-making regarding children's education.	36	18	18	8	20	100
I express my opinions freely during family decision-making processes.	25	13	27	13	22	100
I feel empowered to make decisions about my personal and professional lives.	23	23	25	10	19	100
I take decisions regarding investments and savings.	35	10	25	22	8	100

Majority 33% of the respondents always take decision about healthcare for family. Majority 26% of the respondents sometimes take decision for naming their children. Majority 25% of the respondents sometimes take final decision for household financial matters. Majority 36% of the respondents always take decision about their children education. Majority 27% of the respondents sometimes express their opinion during family decision making process. Majority 25% of the respondents sometimes feel empowered to make decision of themselves. Majority 35% of the respondents always take decision in investment and savings.

Table 4 - Analyze the gender roles conflict						Total
Statement	SD	D	N	A	SA	
My partner/household members believe that household chores are primarily a woman's responsibility.	8	15	27	17	33	100
The division of household labor in my family is influenced by traditional gender roles.	17	8	53	12	10	100
I often feel exhausted due to the balance between household chores and other responsibilities.	12	8	34	28	18	100
There is a social expectation in my household for men to avoid household chores.	20	15	30	22	13	100
Society expects women to be the primary caregivers and homemakers, even if they also work outside the home.	8	7	32	35	18	100
I believe that gender roles in the household are slowly changing, but there is still resistance from some family members.	10	8	37	20	25	100

Majority 33% of the respondents said that their partner believe that household work is women responsibility. Majority 53% of the respondents neither agree nor disagree that household work is influenced by traditional gender roles in their family. Majority 34% of the respondents neither agree nor disagree to feel exhausted balance between household and other responsibility. Majority 30% of the respondents neither agree nor disagree that men to avoid household work is a social expectation. Majority 35% of the respondents are agreeing that society expects women to be a primary homemaker. Majority 37% of the respondents neither agree nor disagree that gender roles in the household are slowly changing.

CONCLUSION

Gender-based conflicts in families often stem from deeply rooted traditions, societal norms, and personal beliefs. Resolving these conflicts requires open communication, mutual respect, and a commitment to gender equality. By fostering an environment where all family members are valued equally, sharing responsibilities fairly, and promoting understanding, families can create harmony and reduce tensions. Encouraging education and open dialogue helps break down stereotypes, ensuring that future generations grow up in a more inclusive and respectful household. Ultimately,

embracing equality strengthens family bonds and creates a more supportive and balanced home.

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A STUDY ON JOB SATISFACTION AMONG THE EMPLOYEES WORKING TEXTILES IN TIRUNELVELI DISTRICT

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ABSTRACT

The job satisfaction among textile employees is significantly influenced by global challenges, including poor working conditions, low wages, lack of job security, and unethical labor practices. Despite the critical role the textile industry plays in the global economy, many workers, particularly in developing countries, face unsafe environments, exploitation, and limited opportunities for career advancement. These issues contribute to low morale, dissatisfaction, and social unrest, negatively impacting productivity and well-being. study the Job satisfaction among the employees working on textiles in Tirunelveli district . Primary data was collected from Rural and Urban areas of employees working in Textiles shop. 61 employees are selected through convenience sampling method. Structured interview schedule is followed for collecting data. The study's goal is to contribute to a deeper understanding of how job satisfaction can be improved within the textile sector, benefiting both employees and employers alike.

Keywords : *Employee stress, salary package, job satisfaction, work pressure .*

INTRODUCTION

This study aims to explore the levels of job satisfaction among employees working in the textile sector. It will focus on various aspects that contribute to job satisfaction, such as compensation, working conditions, job security, relationships with supervisors and colleagues, career growth opportunities, and work-life balance. By understanding the factors that influence job satisfaction in this industry, the research seeks to identify areas where improvements can be made to enhance employee morale and productivity.

OBJECTIVES

To study the socio – demographic details of the respondents

- To find out welfare measures availed by the respondents
- To study the working environment of the respondents
- To make a suitable recommendations and suggestion for the improvement in job satisfaction

METHODOLOGY

The data for this study was collected from employees in the textile industry located in Tirunelveli. A total of 61 employees from various textile companies were surveyed using a convenient sampling technique, which is a non-random sampling method that allows for easy access to participants. The primary data was gathered through a structured interview schedule, designed to collect consistent and reliable responses from the participants. This methodology ensured a systematic approach to gathering data for analyzing various aspects of employee satisfaction, organizational culture, and work-related factors within the textile industry.

TABLE 1

Personal Profile of the Respondents					TOTAL
Gender	Female	Male			100%
	49.2%	50.8%			
Age	21-30	31-40	41-50	51-60	100%
	56.5%	29%	12.9%	1%	
Marital status	Married	Unmarried			100%
	70.5%	29.5%			
Education	SSLC	HSSC	UG	PG	100%
	47.5%	26.2%	13.1%	13.1%	
Residence	Own house	Rented house			100%
	77%	23%			
Size the family	Below 3 member	3 to 5 member	Above 6 member		100%
	47.6%	49.9%	4.9%		
Monthly Income	Below 10,000	15,000	25,000	Above 35,000	100%
	47.5%	42.6%	8.2%	1.6%	
Annual Income	84,000	Below 1,00,000	1,00,000 to 3,00,000		100%
	57.4%	13%	19.7%		

The majority of respondents were male (50.8%) and aged between 21-30 years (56.5%). Most were married (70.5%) and had completed their SSLC (47.5%). A significant portion of participants owned their homes (77%), with 47.6% having families of below 3 members. In terms of monthly income, the majority earned below 10,000 (47.5%), and for annual income, most had earnings of below 1,00,000 (57.4%). These findings indicate that the sample primarily consisted of younger, married individuals with lower educational qualifications, owning homes, and earning modest incomes.

TABLE 2

Working environment of the Respondents					TOTAL
Needs of salary	No	Yes			100%
	13.1%	86.9%			
Select this textiles	Salary	Near the location	Reputation	All of the above	100%
	59.1%	29.5%	1.6%	9.8%	
Monthly leave	Yes	No			100%
	82%	18.3%			
Needs of family	Yes	No			100%
	18.3%	82%			
Working experience	Less than 6 months	1 to 3 year	10 to 15 year	15 to 20 year	100%
	24.6%	8.2%	40.32%	21.3%	
Working hours	Below 8 hours	8 to 12 hours	Above 12 hours		100%
	4.9%	47.6%	49.9%		
Distance taken to textiles	2 to 4 km	4 to 8 km	8 to 12 km		100%
	57.4%	21.3%	19.7%		

The majority of respondents (86.9%) indicated that their salary meets their needs. When choosing their current textile job, 59.1% selected it primarily for the salary, while 29.5% considered its proximity to their location. Most participants (82%) reported having monthly leave, and 82% did not consider the needs of their family when choosing the job. In terms of work experience, the largest group had 10 to 15 years of experience (40.32%), followed by those with less than 6 months of experience (24.6%). Regarding working hours, 49.9% worked above 12 hours, while 47.6% worked between 8 to 12 hours. In terms of commuting distance, the majority traveled 2 to 4 km to reach their workplace (57.4%), followed by those traveling 4 to 8 km (21.3%).

Welfare Measures of the Respondents						
Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total (%)
Welfare Benefits (ESI & PF)	Yes	No				100
	82%	14.8%				
Welfare measures	Yes	No				100
	80.3%	19.6%				

Welfare Measures of the Respondents						
Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total (%)
Toilet Facilities	Yes	No				100
	88.5%	11.5%				
Water Facilities	Yes	No				100
	85.2%	14.8%				
Job opportunity provided	6.6%	77%	4.9%	3.3%	8.2%	100
Monthly sales	24.6%	59%	3.3%	6.6%	0%	100
Freedom in job	14.8%	62.3%	4.9 %	3.3%	4.4%	100
Job opportunity for promotion	6.6%	62.3%	14.8%	14.8%	1.6%	100
Promotion policy	13.1%	60.7%	9.8%	3.3%	13.1%	100
Method of wage payment	13.1%	60.7%	9.8%	3.3%	13.1%	100
Amount of remuneration	8.2%	60.9%	8.2%	14.8%	1.6%	100
Amount of bonus	4.9%	68.9%	9.8%	4.9%	11.5%	100
Leave with salary	9.8%	62.3%	4.9%	4.9%	6.6%	100
Work load in employees	13.1%	8.2%	68.9%	11.5%	0%	100

The majority of respondents expressed positive feedback regarding welfare measures. 82% reported receiving welfare benefits like ESI and PF, and 80.3% indicated that welfare measures were provided. 88.5% of participants confirmed the availability of toilet facilities, while 85.2% had access to water facilities. When it comes to job-related factors, 77% agreed that job opportunities were provided, and 59% were satisfied with their monthly sales. A significant portion also felt they had freedom in their job (62.3%) and had opportunities for promotion (62.3%). In terms of company policies, 60.7% agreed with the promotion policy and the method of wage payment. Regarding remuneration, 60.9% were satisfied with the amount, and 68.9% felt they received a fair bonus. 62.3% were satisfied with paid leave, while 68.9% considered their workload manageable. Overall, most respondents were satisfied with the welfare measures provided, including job opportunities, benefits, and work-related policies.

TABLE 4

Level of job satisfaction among the respondents						
Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total (%)
Salary in comparison to work	18%	63.9%	1.6%	8.2%	1.6%	100
Maternity leave polices	9.8%	59%	6.6%	21.3%	3.3%	100

Level of job satisfaction among the respondents						
Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total (%)
Expressed satisfied with their job	28.2%	60.9%	28.2%	14.8%	1.6%	100
Comprehensive provided	19.7%	59%	11.5%	19.7%	6.6%	100
Have received first aid with workplace.	13.1%	59%	9.8%	6.6%	11.5%	100
Manger on positively influenced job performance	6.6%	70.5%	8.2%	4.9%	9.8%	100
Available during lunch time	63.9%	18%	8.2%	1.6%	1.6%	100
Were satisfied with the rest time provided	9.8%	13.11%	6.6%	68.9%	1.6%	100
Getting tea on time	13.1%	60.7%	9.8%	14.8%	1.6%	100
Receive from their supervisor compliment work	14.8%	14.8%	4.9%	11.4%	4.9%	100

The majority of respondents were generally satisfied with various aspects of their job. 63.9% agreed that their salary was appropriate in comparison to their work, though 18% strongly agreed. Regarding maternity leave policies, 59% were satisfied, while 9.8% strongly agreed. When asked if they were satisfied with their job overall, 60.9% agreed, with 28.2% strongly agreeing. 59% were satisfied with the comprehensive benefits provided, though 19.7% felt neutral. In terms of workplace safety, 59% had received first aid when needed, with 13.1% strongly agreeing.

Managerial influence on job performance was positively rated by 70.5% of respondents. Regarding lunch breaks, 63.9% were satisfied with their availability. However, satisfaction with rest time was lower, with 68.9% dissatisfied. Regarding getting tea on time, 60.7% were satisfied. Lastly, compliments from supervisors were less frequent, with only 14.8% receiving regular positive feedback, and 14.8% strongly agreeing they received compliments. Overall, while many respondents expressed satisfaction with salary, benefits, and managerial support, there were areas of concern, particularly with rest time and supervisor recognition.

Suggestions

To improve job satisfaction among the respondents, several key issues need to be addressed. 40.32% of employees reported experiencing salary issues, and 21.3% cited work pressure as a significant concern. Despite these challenges, 13.11% of respondents indicated that there were no issues affecting their job satisfaction. Regarding leave policies, 49.2% of employees received 2 days of leave per month, with a smaller portion having 3 days (32.79%) and 1 day (16.4%).

Health-related concerns were prevalent, with a high percentage suffering from physical ailments. 86.9% reported experiencing body pain, 90% had leg pain, 67.2% suffered from back pain, and 90% experienced frequent headaches. Additionally, 59.1% of respondents reported dealing with grief, which may further affect their overall job satisfaction. Addressing salary concerns, work pressure, and providing support for employees dealing with health issues could significantly enhance job satisfaction and well-being in the workplace.

Conclusion

In conclusion, the study reveals that while a significant portion of employees expressed satisfaction with various aspects of their work, key areas for improvement in job satisfaction remain. The majority of respondents faced challenges related to salary issues, work pressure, and health problems, particularly physical ailments such as body pain, leg pain, back pain, and headaches. Additionally, while many employees receive some leave benefits, the overall workload and health concerns highlight the need for better support systems. Addressing these issues, particularly through improving compensation, reducing work pressure, and offering better health support, would greatly enhance overall job satisfaction and well-being. Furthermore, ensuring adequate leave and better management of physical and emotional stress would help foster a more supportive and productive work environment for employees.

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EFFECT OF SAQ AND CIRCUIT TRAINING ON VO₂ MAX OF BASKETBALL PLAYERS

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Abstract

This research aimed to examine the impact of SAQ (Speed, Agility, and Quickness) training and circuit training on the VO₂max of basketball players. Forty-five male basketball players from the Department of Physical Education and Sports, Manonmaniam Sundaranar University, Tirunelveli, were chosen as participants. They were randomly divided into three groups: Group I underwent SAQ training, Group II received circuit training, and Group III served as the control group. The intervention for the experimental groups lasted for 12 weeks. VO₂max was assessed both before and after the training period. The data were statistically analyzed using Analysis of Covariance (ANCOVA) to determine significant differences. Additionally, Scheffé's post hoc test was used to identify specific group differences. The level of significance was set at 0.05. The findings revealed that both SAQ and circuit training led to significant improvements in VO₂max among basketball players.

Keywords: SAQ training, circuit training, VO₂max.

INTRODUCTION

SAQ training is grounded in the principle of physiological adaptation. It promotes various changes within the body, such as enhanced cardiovascular function and a higher capacity to deliver oxygen to active muscles. It also improves an individual's ability to tolerate lactic acid accumulation, which contributes to better speed, endurance, and performance. SAQ training typically involves switching between two different aerobic activities within one session. Beyond its effect on VO₂max, lactate threshold, and movement economy, SAQ training is known to support the development of muscular strength and power. Although commonly associated with sprinting and running drills, it encompasses a variety of training modalities.

Circuit training is a versatile and demanding method of conditioning that targets multiple fitness components—including strength, endurance (aerobic and anaerobic), flexibility, and coordination—within a single workout session. It is particularly effective because it improves both muscular strength and cardiovascular endurance concurrently. The term "circuit" refers to the workout format rather than specific exercises. Typically,

it consists of several stations performed in sequence with minimal rest. This setup allows for infinite variations, keeping training sessions dynamic and engaging.

METHODOLOGY

Subjects and Variables

For this study, forty-five male basketball players aged 21 to 23 years were selected at random from the Department of Physical Education and Sports, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu. These participants were randomly assigned to three groups of 15 members each: an SAQ training group, a circuit training group, and a control group. The training program for the experimental groups was implemented over a 12-week period. $VO_2\text{max}$ was measured using the Astrand-Astrand Nomogram method and recorded in liters per minute (L/min).

Statistical Analysis

To evaluate the effectiveness of the interventions, the collected pre- and post-test data were subjected to Analysis of Covariance (ANCOVA). When significant differences were identified, Scheffé's post hoc test was employed to determine where the differences lay among the groups. The threshold for statistical significance was established at 0.05.

RESULTS

The pre- and post-intervention data from all three groups were analyzed using ANCOVA to assess whether significant differences existed. The detailed findings are presented in Table I.

Table – I: Analysis of Covariance on $VO_2\text{Max}$ of Experimental and Control Groups

	SAQ Training Group	Circuit Training Group	Control Group	S o V	Sum of Squares	df	Mean squares	'F' ratio
Pre test	2.18	2.23	2.19	B	0.022	2	0.011	1.41
Mean SD	0.08	0.10	0.07	W	0.33	42	0.008	
Post test	3.01	2.85	2.21	B	5.21	2	2.60	15.40**
Mean SD	0.32	0.57	0.26	W	7.11	42	0.16	
Adjusted Post test	3.00	2.85	2.21	B	5.21	2	2.61	15.06*
Mean				W	7.11	41	0.17	

(The required table value for significance at 0.05 level of confidence with degrees of freedom 2 and 42 is 3.22 and degree of freedom 2 and 41 is 3.23.)

**Significant at .05 level of confidence*

The adjusted post-test mean values for the SAQ training group, circuit training group, and control group were 3.00, 2.85, and 2.21 respectively. The computed F-ratio of 15.06 for the adjusted post-test scores exceeded the critical value of 3.23 at the 0.05 level of significance with degrees of freedom 2 and 41, indicating a statistically significant difference in $VO_2\text{max}$ among the groups.

These findings suggest that the variations in $VO_2\text{max}$ across the groups were meaningful. To further identify where the significant differences occurred between the group means, Scheffé's post hoc test was employed, and the outcomes are displayed in Table II.

Table – II: Scheffe's Post Hoc Test for the Differences among Paired Means of SAQ Training and Circuit Training Groups and Control Group on Vo_2 Max

SAQ Training Training Group	Circuit Training Group	Control Group	Mean Difference	Confidence SAQ Training
3.00	2.85		0.15	0.38
3.00		2.21	0.79*	0.38
	2.85	2.21	0.64*	0.38

**Significant*

Table II reveals that the mean differences in $VO_2\text{max}$ between the SAQ training group and the control group, and between the circuit training group and the control group, were 0.79 and 0.64 respectively. These values exceed the minimum significant difference value of 0.38 at the 0.05 level of confidence, indicating statistically significant improvements. However, the comparison between the SAQ training and circuit training groups did not show a significant difference in $VO_2\text{max}$. This suggests that while both experimental groups demonstrated significant gains compared to the control group, there was no substantial difference between them. Thus, it can be concluded that both training interventions were effective in enhancing $VO_2\text{max}$, with greater improvements observed compared to the control group.

DISCUSSION

Previous research supports the findings of this study, associating circuit training with improvements in $VO_2\text{max}$. Vivekanand et al. (2010) reported that high-intensity SAQ training significantly improved $VO_2\text{max}$ in non-athletic school-aged males, outperforming traditional continuous endurance training. Similarly, Andrew et al. (2013), through meta-analysis, confirmed that SAQ training leads to notable enhancements in $VO_2\text{max}$. Knuttgen et al. (1973) also observed that combining SAQ training with continuous aerobic exercises resulted in substantial increases in $VO_2\text{max}$, with consistent positive responses across participants.

CONCLUSION

In summary, both SAQ and circuit training groups showed significant improvements in $VO_2\text{max}$ compared to the control group. Although there was no

statistically significant difference between the two experimental groups, the SAQ training group demonstrated a slightly greater enhancement in VO_2max . This suggests that both training methods are effective, with SAQ training showing a marginal edge in improving aerobic capacity.

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- This study provides a comprehensive analysis of the trainability of VO₂max in response to high-intensity interval training, highlighting the variability in individual responses and the overall effectiveness of HIT in improving aerobic capacity.

A STUDY ON JOB SATISFACTION AMONG MASTER OF SOCIAL WORK DEGREE HOLDERS WITH REFERENCES TO SOUTHERN DISTRICT OF TAMILNADU

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Abstract

The study titled “A Study on Job Satisfaction Among Master of Social Work Degree Holders with Reference to Southern Districts of Tamil Nadu” explores the factors influencing job satisfaction among MSW graduates working in various sectors, including NGOs, government, and private organizations. Using a descriptive research design and convenient sampling method, data was collected through structured questionnaires. The findings reveal that while social workers find fulfillment in their roles, job satisfaction is often affected by low salaries, high workloads, emotional burnout, and limited career growth opportunities. However, supportive work environments and professional recognition significantly enhance satisfaction levels. The study concludes that improving salary structures, providing mental health support, and offering career development opportunities are crucial for enhancing job satisfaction, ensuring better retention and performance of social workers, ultimately benefiting the communities they serve.

Keywords: *Job Satisfaction, MSW graduates, Professional Recognition.*

INTRODUCTION

Job satisfaction is a crucial determinant of professional well-being, and for those in human services, such as social workers, it plays a central role in both individual job performance and the quality of service provided to clients. The Master of Social Work (MSW) degree is the foundational qualification for individuals seeking advanced practice in social work, preparing professionals to address complex social issues, advocate for vulnerable populations, and implement social change. Given the emotionally and mentally demanding nature of social work, understanding the factors that contribute to job satisfaction among MSW degree holders is essential to improving retention, performance, and overall career fulfillment.

OBJECTIVE

- To Study the Socio Demographic details of the respondents.
- To find the nature of the working environment and job satisfaction of the respondents.
- To analyses the job-related stress among the respondent.

- To investigate the impact of organizational culture on job satisfaction among MSW degree holders.
- To Promote Suitable suggestions to improve the job satisfaction of the respondent.

METHODOLOGY

The researcher collected from the MSW Professionals of Southern district of Tamil Nadu. The Structured questionnaire was shared to the Alumni groups of each colleges having MSW degree. Non probability sampling approach adapted for the study. The data collection process was designed to capture the fulfillment in their roles, salaries, high workloads, emotional burnout, and limited career growth opportunities.

TABLE 1: SOCIO DEMOGRAPHIC DETAILS OF THE RESPONDENTS

Age	21 -25	26 -30	30- 40		
	67%	30%	3%		100
Gender	Female	male			
	56.7%	43.3%			100
Marital Status	Married	Single			
	43.0%	56.7%			100
MSW completed	1 – 2 yr	2 – 5 yr	6 – 10 yr	Less then 1 yr	
	38.3%	20.0%	1.7%	40.0%	100
currently employed	Educational institution	government	Non profit\NGO	Private sector	
	10%	5%	41.7%	43.3%	100
Monthly Income	20000-30000	Above 40000	Between 10000-20000		
	36.7%	6.7%	56.7%		100
Experience in field	1 – 3 yr	4 – 7 yr	Above 8 yr	Less then 1 yr	
	41.7%	8.3%	1.7%	48.3%	100
Primary work setting	Rural	Urban			
	61.7%	38.3%			100
Main area Pratical	Clinical SW	Community Development	Health care SW	School SW	
	21.7%	60.0%	5.0%	13.3%	100
Service in this Organization	1 yr	2yr	3 yr		
	51.7%	25.0%	23.3%		100

The majority of participants are aged between 21-25 years (67%) and predominantly female (56.7%). Most are single (56.7%) and have completed their MSW in less than one year (40%). In terms of employment, a significant portion works in the private sector (43.3%), with many earning between 10,000-20,000 (56.7%) per month. The majority of participants have less than one year of experience in the field (48.3%) and work in rural settings (61.7%). Their main area of practice is community development (60%), and most have been with their current organization for one year (51.7%). These trends highlight a relatively young, early-career group focused on community development in rural areas.

TABLE 2: NATURE OF WORKING ENVIRONMENT AND JOB SATISFACTION OF THE RESPONDENTS

Change your Job	Yes	No		Total
	16.7	3.3		100
Working Hours	Yes	No		
	41.7	56.3		100
Good Working Condition	Yes	No		
	90	10		100
Good wages	73.3	26.7		100
Management loyalty to workers	83.3	16.7		100
Job security	83.3	16.7		100
Full appreciation of work done	85	15.0		100
Working Hours	yes	No		
	40.0	60.0		100
CANTEEN	yes	no		
	68.3	31.7		100
Safety appliance	70.0	30.0		100
Medical	73.3	26.7		100
Transport	58.3	41.7		100
Housing	51.7	48.3		100
Education	66.7	33.3		100
Other Facilities	66.7	36.7		100
Neat and Clean	90.0	10.0		100
Condition of your workplace	Fairly maintained	Poorly maintained	Well maintained	
	40.0	6.7	53.3	100

The majority of participants report that they are satisfied with their working conditions. A significant 90% believe they have good working conditions, and 73.3% are content with their wages. Additionally, 83.3% feel a strong sense of job security and management loyalty to workers, and 85% feel their work is fully appreciated. Regarding working hours, 41.7% report working hours that meet their needs, and 68.3% have access

to a canteen. Other facilities such as safety appliances (70%) and medical benefits (73.3%) are also positively regarded. Most participants report receiving transport (58.3%) and education benefits (66.7%). When it comes to workplace cleanliness, 90% say their workplace is neat and clean. In terms of workplace maintenance, 53.3% describe it as well-maintained, though a smaller portion (6.7%) consider it poorly maintained. Overall, these findings reflect a generally positive work environment with areas for improvement in working hours and certain facilities.

TABLE 3: JOB RELATED STRESS AMONG THE RESPONDENTS

Present work will be permanent or not	yes	No			
	45.0	55.0			100
leave from work	50.0	50.0			100
Workload	Manageable	Overwhelming	Some what manageable but with Some challenges		
	36.7	13.3	50.0		100
Stress are related	Social Injustice	Supervision	Work Environment	Work group	
	10.0	30.0	33.3	26.7	
Workload	yes	no			
	70.0	30.0			100
Poor salary	50.0	50.0			100
Time pressure and deadlines	55.0	45.0			100
Repetitive and boring work	55.0	45.0			100
Lack of job security	55.0	45.0			100
Behavior of co-workers	60.0	38.3			100
Lack of recognition	60.0	40.0			100
Reduce Workload	70.0	30.0			100
Achievable Deadlines	61.7	38.3			100
Opportunity to participate in decision making	75.0	25.0			100
Better training	68.3	31.7			100
Better conflict resolution procedures	70.0	30.0			100
Better communication with supervisor	73.3	26.7			100

The majority of participants (55%) feel that their current job may not be permanent, while 45% believe it will be. When it comes to leave from work, half (50%) are able to take leave, with the same percentage reporting a manageable workload (36.7%), though a substantial portion (50%) finds their workload somewhat manageable with challenges. Stress at work is mainly attributed to supervision (30%) and the work environment (33.3%). Despite this, most participants report that their workload is manageable (70%), but 50% consider their salary to be poor. Time pressure, deadlines, and repetitive work are also common stressors, with 55% acknowledging these issues. Participants also feel a lack of job security (55%) and identify behavior of coworkers and lack of recognition as significant concerns (60%). To improve their work situation, many suggest reducing workload (70%), setting achievable deadlines (61.7%), and offering better opportunities for decision-making (75%) and training (68.3%). They also believe that improving conflict resolution procedures (70%) and communication with supervisors (73.3%) could further enhance their job satisfaction.

TABLE 4: JOB SATISFACTION AMONG MSW DEGREE HOLDERS

Organizational culture	Supportive and collaborative	Somewhat supportive	Neutral	Total
	38.3%	38.0%	23.3%	100
Social responsibilities	yes	no		
	91.7%	8.3%		100
Code of discipline	81.7%	18.3%		100
Punctuality	91.7%	8.3%		100
Attendance	88.3%	11.7%		100
Dress code	81.7%	18.3%		100
Appearances	71.7%	28.3%		100
Behavior	90%	10.0%		100
Ethics	85%	15%		100
Self assessment	88.3%	11.7%		
Assessment by the immediate superior	78.3%	21.7%		100
Assessment by an independent authority/ committee	90%	10%		100
Records of performance in the past	85%	15%		100

The majority of participants view the organizational culture as supportive and collaborative (38.3%), with a significant portion (38%) considering it somewhat supportive, and 23.3% finding it neutral. In terms of social responsibility, an overwhelming 91.7% believe their organization is socially responsible. The majority also feel their organization enforces a code of discipline (81.7%) and emphasizes punctuality (91.7%), attendance (88.3%), and a dress code (81.7%). Appearances (71.7%) and behavior (90%) are seen as important within the workplace, along with adherence to ethics (85%) and self-assessment (88.3%). When it comes to performance evaluations, a

large portion is assessed by both their immediate superior (78.3%) and an independent authority or committee (90%). Records of performance from the past are also taken into consideration by 85% of participants. Overall, these results suggest a strong organizational framework focused on discipline, performance, and ethical behavior.

TABLE 5: IMPROVING THE JOB SATISFACTION OF THE RESPONDENT

statement	Agree	Disagree	Neutral	Strongly agree	Strongly Disagree	Total%
Learn new skills	15.0%	8.3%	11.7%	11.7%	53.3%	100
develop themselves	21.7%	31.7%	10.0%	10.0%	26.7%	100
Receiving additional benefit	13.3%	36.7%	15.0%	10.0%	25.0%	100
Receiving additional support	11.7%	30.0%	26.7%	15.0%	16.7%	100
Improved communication	13.3%	16.7%	43.3%	10.0%	16.7%	100
Improve work life balance	26.7%	18.3%	31.7%	10.0%	13.3%	100
Sitting arrangements	31.7%	20.0%	21.7%	13.3%	13.3%	100
Appreciated by my employer and colleagues	23.3%	20.0%	28.3%	18.3%	10.0%	100
Improve my productivity	33.3%	23.3%	15.0%	20.0%	8.3%	100
career development opportunities	25.0%	10.0%	26.7%	23.3%	15.0%	100

The majority of participants **strongly disagree** (53.3%) with the statement about learning new skills, indicating a lack of opportunities for skill development. **31.7%** disagree with the statement about personal development, and **36.7%** disagree with receiving additional benefits. Additionally, **43.3%** are neutral about improved communication, and **31.7%** agree with the sitting arrangements. When it comes to career development opportunities, **26.7%** are neutral, while **25%** agree. Overall, these responses suggest a lack of satisfaction with opportunities for growth, support, and communication within the organization.

CONCLUSION

It can be concluded that there are several areas in which employees are dissatisfied or feel there are opportunities for improvement. A significant portion of participants express a lack of opportunities for skill development and career growth, with many feeling that they do not receive sufficient additional benefits or support. Communication improvements are seen as neutral by many, and there is some dissatisfaction with work-life balance, recognition, and sitting arrangements. Although some employees feel appreciated and productive, a notable portion of respondents are neutral or dissatisfied with their overall work environment. To enhance employee

satisfaction, the organization could focus on providing more skill development opportunities, additional benefits, clearer communication, better work-life balance, and greater recognition of employee contributions.

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A STUDY ON THE QUALITY OF MEDICAL SERVICES AVAILABLE AT GOVERNMENT HOSPITALS AND PATIENT SATISFACTION WITH REFERENCE TO TIRUNELVELI

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Abstract

This study aims to investigate the Government hospital's role in providing healthcare services to marginalized communities in Tirunelveli. It concerns persist about the quality of medical services, infrastructure, staffing, and patient care in these hospitals. This study investigates the quality of medical services and patient satisfaction in government hospitals in Tirunelveli, Tamil Nadu. The findings highlight challenges faced by patients, including long waiting times, inadequate facilities, and unresponsive staff. The study's results have significant implications for healthcare policy and practice, emphasizing the need for improvements in government hospitals to ensure accessible, equitable, and quality healthcare for all.

Keywords: *Healthcare services, quality of medical services, patient satisfaction*

INTRODUCTION

A government hospital, also known as a public hospital, is a healthcare facility owned and fully funded by the government, operating on taxpayer money allocated for healthcare initiatives. The governing body may be local, municipal, state, regional, or national, and services may be available to non-citizen residents, not just for emergencies. The government hospital plays a vital role in a country's social and economic development, and the quality of medical services provided by government hospitals is crucial for citizens' well-being. In India, government hospitals provide essential healthcare services to a significant portion of the population, particularly the underprivileged. However, concerns persist regarding the quality of medical services, including infrastructure, staffing, and patient care issues. In Tirunelveli, Tamil Nadu, several government hospitals serve the local population's healthcare needs. Despite their presence, concerns about the quality of medical services and patient satisfaction are growing. Patients and their families often face challenges accessing quality healthcare, including lengthy waiting times, inadequate facilities, and unresponsive staff.

OBJECTIVES

- To know about the socio- democratic details of the respondents

- To study the hospital infrastructure and qualities of medical services provided by the government hospitals
- To examine the factors influencing the patients to select government hospital in Tirunelveli district
- To assess level of patient satisfaction and service quality in government hospitals
- To promote sustainable suggestions to improve the quality of medical services

METHODOLOGY

The data for this study was collected from a sample from Government Peripheral Hospital in Kandiyaperi of Tirunelveli district. A representative sample of 60 patient was selected for the study. The primary data was primarily collected through direct interactions with the participants, using structured questionnaires and personal interviews. This approach allowed for the collection of first-hand information regarding their socio-economic status, working conditions, health issues, and other related aspects. The data collection process was designed to capture the satisfaction and challenges faced by the patients, ensuring a comprehensive understanding of their needs and satisfaction.

TABLE 1- SOCIO-DEMOGRAPHICDETAILSOFTHE RESPONDENTS									Total (%)
Age	21- 30	31-40	41-50	51-60	61 and above				100
	20%	33.30%	23.30%	16.70%	6.70%				
Gender	Male	Female							100
	43.30%	56.70%							
Education	Illiterate	Primary	Secondary	HSC	Graduation	Diploma	Post Graduation		100
	3.30%	28.30%	8.30%	6.70%	26.70%	5.00%	21.70%		
Occupation	Agriculture	Business	Employee	Professional	House wife	Student	Retired person	Daily wages	100
	5.00%	11.70%	15.00%	5.00%	16.70%	6.70%	11.70%	28.30%	
Religion	Hindu	Muslim	Christian						100
	65.00%	21.70%	13.30%						
Annual Income	0-19,000	20,000-45,000	50,000-75,000	80,000-90,000	95,000-1,10,000	1,20,000-1,50,000	1,60,000-1,90,000		100
	26.70%	3.30%	13.30%	11.70%	25.00%	13.30%	6.70%		

Family	Joint	Nuclear			100
	28.30%	71.70%			
Resident	Urban	Rural			100
	61.70%	38.30%			
Marital Status	Married	Un Married			100
	86.70%	13.30%			

Family Members	3-Jan	6-Apr	9-Jul		100
	26.70%	70.00%	3.30%		
Admission	Outpatient departments	Emergency Service			100
	78.30%	21.70%			
Frequency of visit	Once a month	Several times a month	Rarely	Never	100
	31.70%	16.70%	45.00%	6.70%	
Reason for visit	Check-up	Treatment	Emergency	Others	100
	36.70%	35.00%	11.70%	16.70%	
Reason to prefer GH	Free Treatment	Economically poor	Trust in govt service	Quality treatment	100
	43.30%	15.00%	28.30%	13.30%	
Spending Extra amount	Always	Sometimes	Never		100
	8.30%	61.70%	30.00%		

The majority of the respondents 33.3% are aged between 31 to 40. The majority of the respondents are 56.7% female. The majority of the respondents 28.3% is Primary level. The majority of the respondents 28.3% is daily wages. The majority of the respondents 65% are Hindu religion. The majority of the respondents 26.7% annual income is between 0- 19,000. The majority of the respondents 71.7% are in the nuclear family. The majority of the respondents 61.7% are belonged to urban area. The majority of the respondents 86.7% are married. The majority of the respondents 70% are having 4 to 6 family members. The majority of the respondents 78.3% are Outpatient departments. The majority of the respondents 45% are visiting Government Hospital rarely. The majority of the respondents 36.7% are visiting GH for their Check-up. The majority of the respondents 43.3% are preferred due to free treatment. The majority of the respondents 61.7% are sometimes spending extra amount rather than treatment.

TABLE 2 - HOSPITAL INFRASTRUCTURE AND QUALITIES OF MEDICAL SERVICES

STATEMENT	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely dissatisfied	TOTAL %
The cleanliness of the hospital	8.30%	50.00%	33.30%	5.00%	3.30%	100
The availability of Chairs and beds are sufficient for patients	11.70%	40.00%	28.30%	11.70%	8.30%	100
The availability of medical equipment	18.30%	48.30%	23.30%	3.30%	6.70%	100

STATEMENT	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely dissatisfied	TOTAL %
The behaviour of the hospital staff towards patients	16.70%	40.00%	25.00%	10.00%	8.30%	100
The waiting time to see a doctor	13.30%	38.30%	23.30%	16.70%	8.30%	100
The comfort of the waiting area	21.70%	35.00%	23.30%	11.70%	8.30%	100
Satisfied with the availability of medicines in the Hospital	26.70%	36.70%	25.00%	10.00%	1.70%	100

From the table shows that the majority of the respondents (50%) are satisfied for the cleanliness of the hospital. The majority of the respondents (40%) are satisfied for the availability of Chairs and beds. The majority of the respondents (48.3%) are satisfied for the availability of medical equipment. The majority of the respondents (40%) are satisfied for the behavior of the hospital staff. The majority of the respondents (38.3%) are satisfied for the waiting time to see a doctor. The majority of the respondents (35%) are satisfied for the comfort of the waiting area. The majority of the respondents (36.7%) are satisfied for the availability of medicines in the hospital.

TABLE 3 - THE FACTORS INFLUENCING THE PATIENTS TO SELECT GOVERNMENT HOSPITAL

STATEMENT	Not at all important	Slightly important	Important	Very important	Extremely important	TOTAL %
Importance for the hospital's infrastructure	13.3 %	41.7 %	13.3 %	25.0 %	6.7 %	100
Importance for providing emergency service in hospital	30.0 %	25.0 %	11.7 %	10.0 %	23.3 %	100
Importance for providing quality medical services by the hospital	20.0 %	25.0 %	18.3 %	15.0 %	21.7 %	100
Importance for the availability of free treatment to choose a government hospital	20.0 %	25.0 %	16.7 %	21.7 %	16.7 %	100

STATEMENT	Not at all important	Slightly important	Important	Very important	Extremely important	TOTAL %
Importance for the toilets in the hospital is clean and well-maintained	13.3 %	28.3 %	13.3 %	11.7 %	33.3 %	100
Importance for the availability parking space at the hospitals	26.7 %	23.3 %	20.0 %	18.3 %	11.7 %	100
Importance for the follow-up care from the hospital	15.0 %	35.0 %	18.3 %	16.7 %	15.0 %	100
Importance for the reputation of the hospital while choosing a government hospital	16.7 %	31.7 %	16.7 %	18.3 %	16.7 %	100
Importance for the recommendations based on others experience	31.7 %	30.0 %	15.0 %	11.7 %	11.7 %	100

From the table shows that the majority of the respondents (41.7%) says hospital's infrastructure slightly important. The majority of the respondents (30%) says emergency service in hospital is not at all important. The majority of the respondents (25%) says quality medical services in hospital is slightly important. The majority of the respondents (25%) says availability of free treatment in hospital is slightly important. The majority of the respondents (33.3%) says toilets in the hospital are clean and well-maintained is extremely important. The majority of the respondents (26.7%) says availability parking space is not at all important. The majority of the respondents (35%) says follow-up care is slightly important. The majority of the respondents (31.7%) says reputation of the hospital is slightly important. The majority of the respondents (31.7%) says recommendations based on others experience is not at all important.

TABLE 4 - LEVEL OF PATIENT SATISFACTION AND SERVICE QUALITY IN GOVERNMENT HOSPITAL

STATEMENT	Extremely satisfied	Satisfied	Neutral	Dis-satisfied	Extremely dissatisfied	TOTAL %
Satisfied for the discharge process of the hospital	10.00%	50.00%	31.70%	8.30%	-	100

STATEMENT	Extremely satisfied	Satisfied	Neutral	Dis-satisfied	Extremely dissatisfied	TOTAL %
Satisfied for the communication and information provided by the hospital staff	15.00%	46.70%	16.70%	18.30%	3.30%	100
Satisfied for the hospital procedure	16.70%	46.70%	23.30%	10.00%	3.30%	100
Satisfied for hospital facilities provided to patients	10.00%	43.30%	26.70%	10.00%	10.00%	100
Satisfied for the Payment process	16.70%	46.70%	28.30%	1.70%	6.70%	100
Satisfied for hospital Trauma	11.70%	48.30%	21.70%	11.70%	6.70%	100
Satisfied for the guidance and Diagnosis	13.30%	55.00%	21.70%	3.30%	6.70%	100
Satisfied for the accuracy of the report every time	13.30%	51.70%	18.30%	8.30%	8.30%	100
Satisfied and trust in government services.	23.30%	38.30%	33.30%	-	5.00%	100
Satisfaction with the availability of necessary medical facilities X-ray	15.00%	56.70%	23.30%	3.30%	1.70%	100
Blood bank	15.00%	50.00%	25.00%	6.70%	3.30%	100
ECG Machine	15.00%	51.70%	28.30%	5.00%	-	100
Lab test	13.30%	53.30%	31.70%	1.70%	-	100
Ambulance	23.30%	56.70%	13.30%	3.30%	3.30%	100
Pulse Oximeter (Desirable)	25.00%	28.30%	35.00%	1.70%	-	100
Oxygen cylinders	20.00%	36.70%	38.30%	5.00%	-	100
Defibrillator with accessories (Desirable)	16.70%	46.70%	36.70%	-	-	100
Nebulizer with accessories	20.00%	51.70%	28.30%	-	-	100
Generator	28.30%	36.70%	23.30%	5.00%	6.70%	100

From the above table the majority of the respondents (50%) are satisfied with the discharge process of the hospital. The majority of the respondents (46.7%) are satisfied with the communication and information provided by the hospital staff. The majority of the respondents (46.7%) are satisfied with the hospital procedure. The majority of the respondents (43.3%) are satisfied with the hospital facilities provided to patients. The majority of the respondents (46.7%) are satisfied with the Payment process. The majority of the respondents (48.3%) are satisfied with the hospital Trauma. The majority of the respondents (55%) are satisfied with the guidance and Diagnosis. The majority of the respondents (51.7%) are satisfied with the accuracy of the report every time. The majority of the respondents (38.3%) are satisfied and has trust in government services. The majority respondents satisfied with the availability of necessary medical facilities: The majority of the respondents (56.7%) are satisfied with X-Ray. The majority of the respondents (50%) are satisfied with BLOOD BANK. The majority of the respondents (51.7%) are satisfied with ECG Machine. The majority of the respondents (53.3%) are satisfied with Lab Test. The majority of the respondents (56.7%) are satisfied with Ambulance. The majority of the respondents (35%) are neutral with Pulse Oximeter (Desirable). The majority of the respondents (38.3%) are neutral with Oxygen cylinders. The majority of the respondents (46.7%) are satisfied with Defibrillator with accessories (Desirable). The majority of the respondents (51.7%) are satisfied with Nebulizer with accessories. The majority of the respondents (36.7%) are satisfied with Generator.

CONCLUSION

This study examined the quality of medical services and patient satisfaction at government hospitals in Tirunelveli. The results show that while these hospitals provide affordable and accessible healthcare, significant gaps exist in service quality, infrastructure, and patient satisfaction. Key areas requiring improvement include staff-patient communication, hospital infrastructure, and availability of medical supplies. The study's findings also indicate that patient satisfaction is influenced by factors such as waiting time, staff behaviour, and treatment outcomes. To address these challenges, evidence-based decisions are necessary to enhance the quality of medical services and patient satisfaction in government hospitals. By doing so, we can move closer to achieving universal health coverage, ensuring that all individuals have access to high-quality, patient-centred healthcare.

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A STUDY ON MENSTRUAL HEALTH AND HYGIENE AMONG GOVERNMENT COLLEGE STUDENTS WITH REFERENCE TO TIRUNELVELI DISTRICT

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ABSTRACT

Menstrual hygiene management deals with ensuring proper hygiene in managing the blood flow. It guarantees to do the daily routines like going to school and work and also doing routine household chores. It can also prevent the girls to feel embarrassed and in turn make them feel confident about themselves and their body in this sense, maintaining proper menstrual hygiene is important for the physical wellbeing and social development. The study focused on analysing menstrual health and hygiene, awareness of the menstrual cup, and beliefs about menstruation among government college students. The study has been conducted using descriptive research design. Data was collected from a sample of 61 college students at Tirunelveli District using structured questionnaires. The sample was selected by convenient sampling technique which is a type of non-probability sampling approach. The findings of the study reveal that while sanitary pad usage is high among college students, there are still significant gaps in menstrual hygiene practices. Many students reported unhygienic practices, such as inadequate disposal methods and lack of awareness about alternatives like menstrual cups. These findings suggest a need for increased education and awareness programs to promote proper menstrual hygiene and reduce the stigma surrounding menstruation.

Keywords: *Menstruation, Hygiene, Menstrual cup.*

INTRODUCTION

Menstruation is a physiological phenomenon. However, it has been linked to many religious traditions and taboos in developing countries like India. Cultural, religious and traditional beliefs can lead to different restrictions that women face during their menstrual period. A menstrual cup is a device for managing menstrual flow and is promoted as a healthier and more environmentally friendly option to traditional menstrual sanitary products.

OBJECTIVES

- To study the Socio-Demographic Details of the respondents.
- To Assess the Interest, Willingness and Knowledge of Using Menstrual Cup.
- To Analyze the Healthy Habits and Menstrual Hygiene During Menstruation.
- To Explore the Cultural and Social Belief and Practice Followed During Menstruation.

METHODOLOGY

The data for this study was collected from Government College in Tirunelveli. A total of 61 college students participated, with data gathered through a convenient sampling method, which is a non-probability sampling technique. The primary data was collected using a structured interview schedule as the data collection tool.

TABLE 1

Personal profile of the respondents				Total (%)
Age	Yes	No		100
	67%	33%		
Level of education	PG	UG		100
	28%	72%		
Residential Status	Rural	Urban		100
	70%	30%		
Family Type	Nuclear	Joint		100
	82%	18%		
Religion	Hindu	Christianity	Muslim	100
	87%	10%	3%	
Staying with Parents	Parents	Grandparents	Alone	100
	95%	3%	0	

From the above table shows that, Majority of the respondents (67%) are aged 18 to 20 years old. Majority of the respondents (72%) are undergraduate students. Majority of the respondents (70%) are from rural areas. Majority of the respondents (82%) are come from nuclear families. Majority of the respondents (87%) are of the responses are from Hindus. Majority of the respondents (95%) are of the respondents are living with their parents.

TABLE 2

Interest, Willingness, and Knowledge of using menstrual cup					Total (%)
Heard about the menstrual Cup	Yes	No			100
	62%	38%			
Learn about menstrual cup	Social media	Friends/ Family	School/ college	Others	100
	47%	20%	30%	3%	
Willing to try menstrual cup	Not willing	Somewhat Willing	Very willing		100
	65%	20%	15%		

Interest, Willingness, and Knowledge of using menstrual cup					Total (%)
Used menstrual cup	Yes	No			100
	13%	87%			
Understanding the working menstrual cup	Not confident	Very confident			100
	70%	30%			
Idea of using a menstrual cup	Not comfortable at all	Very comfortable			100

	75%	25%				
Recommend menstrual cup to others	Not likely	Very Likely				100
	72%	28%				
Use the menstrual cup future	Yes	No				100
	43%	57%				
Awareness about menstrual cup	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Menstrual cup is hygienic option	23%	21%	26%	25%	5%	100
Menstrual cup cost effective option	23%	18%	29%	25%	5%	100
Menstrual cup should be awareness school curricula	18%	13%	21%	26%	17%	100

From the above table shows that, Majority of the respondents (75%) are not comfortable at all with the idea of using a menstrual cup. Majority of the respondents (62%) are having heard of menstrual cups. Majority of the respondents (47%) are learned about menstrual cups on social media. Majority of the respondents (65%) are not willing to try a menstrual cup. Majority of the respondents (87%) are have never used a menstrual cup. Majority of the respondents (70%) are not confident in understanding how a menstrual cup works. Majority of the respondents (72%) are not likely to recommend menstrual cups to others. Majority of the respondents (57%) are saying no they would use a menstrual cup in the future. Majority of the respondents (26%) are neutral believe menstrual cups are a hygienic option. Majority of the respondents (29%) are neutral think menstrual cups are a cost-effective option. Majority of the respondents (26%) are agreeing that menstrual cup awareness should be included in the curriculum.

TABLE 3

Analyze the menstrual health during the menstruation						Total (%)
Understand about menstrual hygiene before or after menarche	Yes	No				100
	57%	43%				
Yes? Who	ASHA Worker	Peer educator	Grandma	School Teacher		100
	9%	19%	30%	42%		
Leave for college during menstruation	Yes	No				100
	33%	67%				
Managing menstruation while attending college	Adjust schedule	Take breaks	Support from friends	No complication		100
	26%	31%	16%	25%		
Menstrual health and hygiene	Always	Often	Sometimes	Rarely	Never	
Change the sanitary pad during menstruation	44%	41%	11%	2%	2%	100
Wash your hands before after handling sanitary products	51%	23%	18%	6%	2%	100
Clean the genital area during menstruation	53%	26%	8%	11%	1%	100
Check for signs of infection menstruations	28%	29%	28%	13%	2%	100
Experience the menstrual cramps	30%	21%	25%	17%	6%	100
Experience the menstrual bleeding	28%	21%	28%	18%	5%	100
Difficulties in disposing the sanitary products	30%	33%	20%	10%	7%	100
Mange the menstrual cramps(Pain relivers,Heat Therapy)	13%	20%	18%	11%	36%	100
Support from College	Always	Often	Sometimes	Rare	Never	
Free menstrual products in restroom	28%	18%	11%	13%	29%	100
Spaces for menstrual pain (Menstrual rooms,Quied areas)	25%	20%	15%	13%	28%	100
Provide counseling services	23%	20%	23%	7%	28%	100
Educate about menstrual health\ awareness	25%	20%	6%	5%	18%	100
Flexible Attendance policies during the menstruation	31%	20%	13%	10%	26%	100

From the above table shows that, Majority of the respondents (51%) are say they have learned about menstrual health and hygiene before or after menstruation. Majority of the respondents (27%) are adjusting their schedule to avoid heavy flow days while attending college. Majority of the respondents (44%) are always change their sanitary pad during menstruation Majority of the respondents (51%) are always wash their hands

before handling sanitary products. Majority of the respondents (52%) are always clean the genital area during menstruation. Majority of the respondents (29%) are regularly checked for signs of infection. Majority of the respondents (28%) are always experience heavy menstrual bleeding. Majority of the respondents (34%) are sometimes experience menstrual cramps. Majority of the respondents (36%) are have never used any pain management for cramps. Majority of the respondents (29%) are reported that their college does not provide free menstrual products in restrooms. Majority of the respondents (27%) are stated that their college does not have dedicated spaces for students to manage menstruation. Majority of the respondents (28%) are said their college does not offer counseling services or support groups related to menstrual health. Majority of the respondents (32%) are indicated that their college sometimes provides menstrual health awareness and education. Majority of the respondents (31%) are said their college always offers flexible attendance policies for students experiencing menstrual cramps.

TABLE 4

Cultural and social belief about the menstruation						Total (%)
Ceremony for menarche	Grand ceremony	Just formal ceremony	No ceremony			100
	32%	48%	20%			
Belief and myth	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
During the menstruation donor bathe	52%	29%	8%	6%	5%	100
During the menstruation should not play	39%	30%	15%	13%	3%	100
Avoid cooking during the menstruation	44%	18%	21%	15%	2%	100
Cannot eat certain food during the menstruation	38%	18%	13%	24%	7%	100
Sleep separate from others during the menstruation	29%	31%	23%	8%	8%	100
Menstruation is a source of embarment	44%	27%	15%	8%	7%	100
Menstruation is a taboo topic donot discussed openly	49%	23%	15%	6%	6%	100
Women should avoid discussing menstruation with men	44%	24%	16%	10%	5%	100
Menstruation is sign of weakness	39%	28%	20%	10%	4%	100

From the above table shows that, Majority of the respondents (51%) are strongly disagree those menstrual cycles should not bathe. Majority of the respondents (51%) are

believed that menstruation should not prevent individuals from participating in sports. Majority of the respondents (44%) are feel that women should avoid cooking or entering the kitchen during menstruation. Majority of the respondents (37%) are strongly disagree with the idea that women should not eat certain foods during menstruation. Majority of the respondents (31%) are disagree with the notion that women should be separated from others during their menstrual cycle.

Majority of the respondents (44%) are strongly disagree with the idea that menstruation is a source of shame and embarrassment. Majority of the respondents (49%) are of respondents strongly disagree with the idea that it should not be discussed openly. Majority of the respondents (44%) are of respondents believe that women should avoid discussing menstruation with boys. Majority of the respondents (39%) are strongly disagree with the idea that menstruation is a sign of weakness.

Conclusion

Menstrual health and hygiene are essential components of overall well-being, yet they are often neglected or stigmatized. Despite the high use of sanitary pads, unhygienic practices remain prevalent, indicating the need for greater awareness and education. Ensuring proper menstrual hygiene practices among college students is crucial for promoting health, preventing infections, and reducing stigma. Colleges should prioritize creating an environment where students feel comfortable discussing menstrual health, and educational programs should focus on hygienic practices, alternatives like menstrual cups, and the importance of maintaining overall reproductive health. Ultimately, by addressing these gaps, we can help create a more informed and healthier society.

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A STUDY ON STRESS MANAGEMENT AND COPING STRATEGIES OF NIGHTSHIFT WORKERS WITH REFERENCE TO IT EMPLOYEES IN TIRUNELVELI DISTRICT

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Abstract

Stress can be defined as a state of worry or mental tension caused by a difficult situation. Stress is a natural human response that prompts us to address challenges and threats in our lives. Stress management consists of a wide spectrum of techniques and psychotherapies aimed at controlling a person's level of psychological stress, especially chronic stress, generally for the purpose of improving the function of everyday life. Coping involves behavioral or cognitive strategies or both, a person may adopt to deal with stress. To identify the level of stress of the employees and identify the factor causing stress, the coping strategy of stress handled by the employees. Descriptive research design was employed, involving 60 employees of IT nightshift workers. A structured interview schedule was used to collect data on socio demographic characteristics, stress level analysis, working environment of the employees. Data were analyzed using statistical techniques using SPSS. The study revealed the Nightshift employees faced health issues and family issues, but they do coping strategy to overcome from the stress and also the employees want some coping strategies adopt by the organisation helps to reduce their employees stress.

Keywords: Stress, Stressors, Level of stress

INTRODUCTION

Stress significantly affects night shift workers due to the disruption of their natural sleep-wake cycle, also known as the circadian rhythm. Working at night and sleeping during the day can lead to sleep deprivation, fatigue, and difficulty concentrating, increasing the risk of accidents and errors. In today's fast-paced IT industry, nightshift employees face unique challenges that can significantly impact their physical and mental well-being. Irregular sleep patterns, high workloads, and social isolation contribute to stress, affecting productivity and overall job satisfaction. Effective stress management and coping strategies are crucial to maintaining a healthy work-life balance. Practicing mindfulness, regular exercise, and proper time management can help reduce anxiety and improve focus. Additionally, maintaining a consistent sleep schedule, staying hydrated, and engaging in relaxation techniques like meditation can enhance overall well-being. Organizations should also foster a supportive work environment by encouraging open communication and providing mental health resources. Prioritizing

stress management ensures that IT professionals remain efficient, motivated, and healthy despite the demands of night shifts.

Methodology

Data is collected from a sample of IT nightshift employees at E- care India & Medryte Healthcare Solutions using structured questionnaires. This study aims to investigate the level of stress and coping strategies handled by the nightshift employees with specific reference to E- care India & Medryte Healthcare Solutions located in Tirunelveli District. These two IT companies were selected for the research purpose. Totally 60 IT employees selected through convenient sampling and major source of data was primary. The primary data was collected directly collected from the IT employees with the help of structured interview schedule.

KEY FINDINGS AND DISCUSSION

Understand the Respondents

A significant proportion of the respondents are in the age group of 20 to 25, indicating a substantial representation of young adults. Most of the respondents are Men's. The education qualification of the respondents shows a various degree related to technological based and the largest part of the respondents are qualified in B.Sc Computer Science. The majority of the respondents are unmarried. The majority of the respondents are belonging to nuclear family, while others belong to joint families. A considerable share of the employees comes from rural areas. In terms of work experience, the majority of the respondents having 1 to 5 years of experience in their job and majority of the respondents having 1 to 5 years of experience in their current company. Financially, majority of the respondents earn a monthly income ranging from 21,000 to 30,000.

Working environment of the employees

The results indicate that most employees working night shifts have a stable and structured work environment with certain benefits and challenges. A majority (60%) of the employees working 8-10 hours per shift, and 88% have a fixed shift pattern, providing consistency. Employee welfare seems well-managed, as 80% confirm receiving ESI and PF benefits, and 85% feel their workplace ensures good safety and security. While 68% have direct communication with higher officials and 68% of the employees receive yearly increments as incentives, flexibility is somewhat limited, with only 5 days of casual leave provided for most employees. The workplace is generally well-maintained, with 67% rating cleanliness as good and 73% finding tools and resources adequate. However, night shifts take a toll on employees, with 48% feeling tired after their shift, though only 33% rarely feel isolated. Additionally, 60% enjoy a flexible weekend schedule, balancing work-life needs. Importantly 40% of the respondents said their company always provide benefits to the Nightshift Women Workers. Overall, while the company provides essential benefits and a structured work environment, there are areas for improvement, such as leave policies and measures to reduce fatigue among night shift workers.

Factors causing stress for the employees

The findings highlight the significant challenges night shift employees face, particularly in terms of health, stress, and communication. A notable 45% strongly agree that night shifts cause health issues like inadequate sleep, lack of proper meal and 42% struggle with maintaining communication with their families, indicating a potential impact on personal relationships. Work-related stress is a common issue, with 60% attributing it to heavy workloads and 55% feeling pressure from tight deadlines. Additionally, workplace conflicts (53%) and client handling (60%) contribute to stress, suggesting the need for better conflict resolution and support systems. However, job security does not appear to be a major concern, as 68% do not see it as a stress factor. Communication barriers, particularly lack of clarity (55%), also add to workplace stress. These insights suggest that while employees generally feel secure in their jobs, addressing workload management, communication improvements, and health support systems could significantly enhance their well-being and job satisfaction.

Level of stress among the employees

The results indicate a mixed perception of workplace stress and well-being among night shift employees. While 45% strongly agree that they feel good about their work, only 33% believe they have a good work-life balance, and just 28% find their working hours comfortable. Stress levels seem moderate, as 40% neither feel stress nor distress, and many employees remain neutral regarding the impact of family (55%) and 62% of the respondents said health issues causes occupational stress. Work-from-home appears to be a beneficial stress reliever, with 45% strongly agreeing on its positive impact. Additionally, most respondents (52%) feel neutral about workplace environmental stressors, and 53% are neutral about conflicts with colleagues, suggesting that while these factors exist, they may not be significant stressors for the majority. However, only 27% do not feel pressured by tight deadlines, indicating that time constraints could still be a concern for many. Overall, while a portion of employees enjoy their work and find ways to manage stress, workplace conditions and work-life balance improvements could enhance overall employee satisfaction.

Coping Strategies handled by the employees to handle stress

The findings highlight various coping strategies individuals use to manage stress. A significant portion (38%) of respondents strongly relies on their friends for support, while a larger majority (62%) prefer engaging in personal activities as a distraction from stress. However, when it comes to maintaining a healthy routine, 46% of respondents remain neutral, indicating uncertainty or inconsistency in following structured self-care practices. Notably, humor emerges as a strong coping mechanism, with 45% of respondents strongly agreeing that they use humor to lighten stressful situations. Problem-solving is also a key approach, as 40% of respondents focus on solutions rather than dwelling on problems. Additionally, mindfulness and meditation are adopted by 42% as effective stress management techniques. However, 28% remain neutral about viewing stress as an opportunity for growth, suggesting that resilience-building perspectives may not be widely embraced. Spending quality time with family is another coping strategy, with 31% agreeing that it helps them relieve stress. Regular physical

activity is recognized by 33% as a stress-relief method, though a sizable portion (35%) feels neutral about social activities like watching movies with friends as a coping strategy. Lastly, confidence in handling stress is a concern, as 40% remain neutral, reflecting possible self-doubt or lack of effective stress management skills. These insights suggest the need for awareness programs and interventions to encourage healthier coping mechanisms and boost confidence in stress management.

CONCLUSION

The study findings indicate that while night shift employees generally feel good about their work and receive essential benefits, they also face significant challenges related to stress, health, and work-life balance. Many employees struggle with maintaining communication with family, managing heavy workloads, and dealing with tight deadlines, though job security is not a major concern. Coping strategies such as seeking social support, engaging in personal activities, using humour, and practicing mindfulness help employees manage stress, but many remain neutral about their ability to handle stress effectively. Work-from-home is seen as a positive stress reliever, but workplace conditions leave policies, and support systems could be improved to enhance overall well-being. Addressing concerns related to workload, communication clarity, and physical work environments while promoting healthy routines and resilience-building initiatives would create a more supportive and productive work environment for night shift employees.

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AI IN TALENT IDENTIFICATION: HOW MACHINE LEARNING CAN SPOT FUTURE ATHLETES

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Abstract

Talent identification in sports has traditionally relied on subjective judgments, physical assessments, and limited performance metrics. However, advancements in artificial intelligence (AI) and machine learning (ML) have introduced a data-driven approach to scouting and developing future athletes. ML algorithms analyze large datasets, including physiological, biomechanical, and psychological indicators, to predict an athlete's potential. These technologies enhance decision-making in talent selection by minimizing human biases and improving predictive accuracy. This paper explores the role of AI in talent identification, its benefits, challenges, and ethical considerations. While data privacy and algorithm biases remain concerns, AI presents a promising future for sports talent development.

Keywords: AI, machine learning, talent identification

Introduction

Talent identification is crucial in sports, as it helps teams and organizations find promising athletes with the potential for success. Traditional scouting methods rely on subjective observations, physical tests, and past performance records. However, these approaches have limitations, including human biases and inconsistent evaluations. With the rise of artificial intelligence (AI) and machine learning (ML), talent identification has become more data-driven and precise. AI can analyze large datasets, detect hidden patterns, and predict athletic potential more accurately than traditional methods. This paper explores how AI and ML are transforming athlete scouting, their advantages, challenges, and ethical considerations.

AI and Machine Learning in Talent Identification

Machine learning has revolutionized sports analytics by processing complex data and identifying key factors that contribute to athletic success. These technologies assess various aspects of an athlete, including:

Performance Metrics: AI evaluates past game performances, endurance levels, reaction times, and skill execution to determine potential.

1. **Biomechanical Analysis:** Motion capture and AI-driven video analysis assess movement efficiency, injury risks, and technical skills.

2. **Physiological and Genetic Data:** AI models analyze genetic markers, muscle composition, and cardiovascular endurance to predict long-term athletic success.
3. **Psychological Traits:** ML algorithms assess mental resilience, focus, and decision-making under pressure to determine an athlete's potential.

These AI-driven methods enable sports organizations to make informed decisions and reduce reliance on subjective opinions.

Benefits of AI in Talent Identification

- AI provides several advantages in scouting and talent identification, including:
- **Improved Accuracy:** AI processes vast amounts of data to detect trends and make precise predictions about an athlete's potential.
- **Bias Reduction:** Traditional scouting can be influenced by personal biases, but AI evaluates athletes based on objective data.
- **Early Talent Detection:** AI helps identify young athletes with potential, allowing for targeted training and development.
- **Injury Prevention:** AI-driven analytics assess movement patterns and fatigue levels, helping coaches design safer training plans.
- **Personalized Training:** AI tailors training programs to each athlete's strengths and weaknesses, optimizing their growth.

These benefits demonstrate how AI enhances decision-making in sports talent development.

Challenges and Ethical Considerations

Despite its advantages, AI-driven talent identification faces several challenges:

1. **Data Privacy and Security:** AI relies on sensitive athlete data, raising concerns about confidentiality and ethical use.
2. **Algorithm Bias:** If training data is biased, AI models may favor certain player profiles over others, leading to unfair selection.
3. **Accessibility and Cost:** Implementing AI-based scouting systems requires significant financial investment, limiting access for smaller teams.
4. **Human Oversight:** AI cannot replace human expertise entirely; coaches and analysts must interpret AI-driven insights for balanced decision-making.

Conclusion

AI and machine learning are transforming talent identification by providing accurate, data-driven insights into athlete potential. These technologies minimize biases, improve scouting efficiency, and enhance training personalization. However, challenges like data privacy, algorithm bias, and accessibility must be addressed to ensure ethical implementation. As AI continues to evolve, its integration in sports talent development

will likely become more sophisticated, offering teams and organizations a powerful tool for future athlete scouting.

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STUDY ON LEARNING STRESS MANAGEMENT AMONG ADOLESCENTS.

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Abstract

The adolescence is the time of decision making. It is a time of challenge as well as transformation. The adolescent stage itself was well known as a time of “stress and storm,” since an adolescent must go through many physical and psychological changes at this time. This study will assist the teachers in giving the kids the materials they need to help them cope with life. Also, students will have more tools at their disposal to manage the pressure of studying with improved skills. It is a study with the objective of analysing the stress management strategies among the adolescents with the view to create possibilities. The study is descriptive using secondary sources. As findings articulate and suggestions are given in the conclusion so as to fulfil the objective.

Keywords: Learning, Stress, Stress management.

INTRODUCTION

A person's mental, emotional, and bodily response to a demand in life is called stress. Stress interferes with the body's regular processes. Literally, stress refers to strain, anxiety, and worry about various life issues that are brought on by various conditions or occurrences. Adolescence, or the time between childhood and maturity, is defined as being between the ages of 10 and 19. It is an important time for developing a healthy lifestyle and a unique stage in human growth and development. Teenagers have a rapid phase of physical, mental, and social development. This affects how they feel, decide, act, and perceive the outside environment. Therefore, it is found that the study of learning stress management among adolescents is significant.

ADOLESCENCE

Many physical and mental changes occur during adolescence, a period of transition in a person's life. Teens, teenagers, and young people often just called adolescents are a distinct demographic within society because of their unique social, psychological, and biological characteristics. During this time, teenagers try to change their behaviour and attitude to conform to social expectations. The young people start to think differently at this point. Every teen must get life skills instruction during adolescence in order to cope with these changes, adapt, and contribute positively to society.

STRESS

Stress is a natural part of life; it can arise from a variety of events, such as attending college or university, getting married, changing careers, or experiencing health issues. Sometimes stressful circumstances can also be advantageous. For instance, when someone applies to a college, it helps them develop their personality, expand their knowledge, improve their chances for a successful life and career, and generally feel better. On the other hand, the pressure of work and school, travelling to a distant college, and living in a dorm can also cause stress in a person. An individual cannot avoid stressful situations and circumstances in his life, but he may handle a stressful scenario if he learns efficient stress management techniques.

MANAGEMENT OF STRESS

An individual may effectively prevent and manage stress; when learning how to manage stress in a healthy way, there are specific actions and procedures that one should be aware of.

Establish Priorities: A person should establish a routine for completing various chores and a suitable timetable for each work.

Practice Dealing with Stressful Situations: It's important to consider a stressful scenario and practice how to handle it.

Examine Your Expectations: One should set realistic expectations and make sure they are reasonable. They should also be mindful of perfectionism and put in a lot of effort to attain their goals and objectives.

Maintain a Healthy Lifestyle: It is important to maintain a healthy lifestyle. exercising frequently, maintaining a good diet, practicing relaxation techniques like yoga, meditation, prayer, and breathing exercises, scheduling hobbies, extracurricular activities, enjoyable pastimes, recreation, and leisure, and making time for holidays and breaks from work.

Accept Change as a Part of Life: Life is full of changes and transformations in a variety of areas, including family, work, education, career, location, and so on.

Building a Social Network: Building a social network and interacting with others is crucial to reducing the stress caused by loneliness. Building a network of friends and family members to whom one can turn when needed is essential.

STRESS MANAGEMENT TECHNIQUE

It has been noted that stress management is extremely important for everyone, including students and working adults. Three fundamental strategies can be used to prevent or manage stress:

Remove the stressor: You may be able to modify or remove the source of your stress by facing the issues that are generating it.

Modify your perspective: Although you may not always be able to remove the source of your stress, you do have the ability to alter how you perceive the circumstance and how you approach it.

Control your stress: Using coping mechanisms that will help you deal with stress is sometimes the best course of action.

Exercise: One of the most important ways to counteract pressures is through exercise. In addition to improving general health, physical activity also aids in the management of tension and mental stress.

Meditation: Even a short meditation session can significantly reduce stress. It's really easy. Simply close your eyes, keep both feet on the floor, and sit up straight

Yoga is an age-old Indian fitness style that is predicated on the idea that the mind and body are intertwined. Yoga helps people become more flexible and have more relaxation skills.

Socialisation is among the simplest methods for relieving stress. The individual ought to discuss the problem or issue with friends, relatives, or a significant other. While maintaining a solid connection, it will assist you in gaining new insight.

Stress can be reduced by adopting a positive outlook on stressors. Reminding oneself of good things that have happened in the past can also improve happiness and reduce stress.

Changing the surroundings is a projective strategy to remove stress from daily life. To avoid the unpleasant memories connected to the stressor, the person should take a break for a while.

ESSENTIAL LIFE SKILLS

The behaviours that enable people to successfully adapt to and handle life's demands and challenges are referred to as life skills. There are numerous of these abilities, but the WHO has identified ten essential life skills:

Self-awareness: Self-awareness entails understanding oneself, our personalities, our virtues and flaws, as well as our loves and dislikes.

Empathy: Understanding and valuing the needs, wants, and feelings of others is necessary for healthy relationships with our dear ones and society at large.

Critical thinking: The capacity for objective analysis of data and experiences is known as critical thinking. By assisting us in identifying and evaluating issues like beliefs, peer

influences, and the media that affect attitudes and behaviour, critical thinking can improve our mental and physical health.

Creative thinking: Fluency (producing new ideas), flexibility (easily shifting perspectives), creativity (conceiving of doing something unique), and elaboration are the four characteristics of creative thinking (building on other ideas).

Decision making: Making decisions enables us to approach life's decisions in a constructive manner. Health-related effects could result from this.

Problem solving: The process of locating and resolving problems or difficulties is known as problem solving.

Interpersonal relationship: Our ability to relate well to the individuals we interact with is facilitated by our interpersonal relationship abilities.

Effective communication: Being able to communicate ourselves verbally and nonverbally in ways that are suitable for our cultures and circumstances is a requirement for effective communication.

Coping with stress: Recognizing the causes of our stress, understanding how it affects us, and taking steps to reduce it by altering our surroundings or way of life and practising relaxation are all part of coping with stress.

Coping with emotions: Recognizing emotions in ourselves and others, understanding how emotions affect behaviour, and effectively handling emotions are all part of coping with emotions.

OBJECTIVES

This study has the objective of analysing the stress management strategies among the adolescents with the view to create possibilities.

METHODOLOGY

The methodology of the research is descriptive using the secondary sources.

REVIEW OF LITERATURE

The study is reviewed in two sections, viz., studies done in India and studies done abroad, where several studies done by researchers in the area related to the need and importance of adolescence education.

Studies done in India

Olah, Attila in his journal title “Coping Strategies among Adolescents: A Cross-Cultural Study” (1995) studied the impact of culture on how children cope with anxiety-provoking events. applied a situation-reaction inventory to 721 late adolescent

participants from Yemen, Italy, India, Hungary, Sweden, and the United States. Consistent findings demonstrated that adolescents with low to moderate levels of anxiety utilised constructive and assimilative coping, while those with high levels of anxiety preferred avoidance.

Kiran, Shashi; Seshadri, Shekhar P.; Thomas, Kennedy Andrew in their article titled “Development of a Life Skills Program for Educationalists Using Experiential Methodologies” (2007) found that History demonstrates that education cannot operate on its own. It must rely on the hinterland created by its users, including the parents, teachers, and children. The writers of this article outline an experiential programme for educators that will improve their comprehension of and capacity to handle challenging challenges that crop up when teaching life skills. The programme represents a bold and courageous shift in Indian pedagogy and was inspired by a crucial assessment on the state of the nation's educational practices that revealed that educational content and delivery ignored social realities.

Sumitha, S.; Jose, Rexlin in their article titled “Requisite for Honing the Problem-Solving Skill of Early Adolescents in the Digital Era” (2016) The study's main goals are to determine the problem-solving abilities of early adolescents based on their gender and family structure, as well as the problem-solving abilities of early adolescents who attend government, matriculation, and aided schools in rural Kanyakumari District, Tamil Nadu, India. The results of the data analysis showed that early adolescent students' problem-solving abilities are unaffected by the type of school and early adolescent students from nuclear families had stronger problem-solving abilities than early adolescent students from joint families.

Studies done Abroad

Van Oteghen, Sharon L.; Forrest, Marian in their survey titled “Adolescent Stress” (1988) found the degree, causes, and methods of stress management were determined by 68 pupils (grades 7-9). Overall stress levels are seen to rise with grade level, pupils avoid using drugs as a coping mechanism, and they come up with mature strategies to deal with stress, according to research.

Kwauk, Christina; Braga, Amanda; Kim, Helyn; Dupuy, Kendra; Bezu, Sosina; Knudsen, Are in their article titled “Non-Formal Girls' Life Skills Programming: Important conclusions and policy repercussions programmes attempt to teach a variety of skills, but there are definitional issues that need to be resolved in programme design; there are gaps in the outcomes that life skills programmes aim to achieve; life skills practitioners might be passing up a significant chance to influence evidence-based policy and scale programmes; and stakeholders in formal and non-formal education can share knowledge to increase the chances of females developing life skills.

Makomo, Moffat in his article titled “A Collaborative Path to Comprehensive Community-Based Adolescent Life Skills Programme” (2020) went depth about how the new Teen Life Skills Programme was able to solve some of the obstacles and give the participants the skills they required. It was highlighted how the programme works and its goals, advantages, and chances. We live in a world that is constantly changing, thus

meeting the requirements of our neighbourhood by creating services raises awareness of the advantages of life skills training for the adolescent population who are dealing with mental health issues.

FINDINGS

- It is found that constructive and assimilative coping skills were adopted by students with low and moderate anxiety while those with high anxiety used avoidance as coping skill.
- It is found that the teachers can be skilled by using experiential technologies to address the challenges in teaching life skills.
- It is found that early adolescent students' problem-solving abilities are unaffected by the type of school and early adolescent students from nuclear families have stronger problem-solving abilities than early adolescent students from joint families.
- It is found that in researches done that overall stress levels are seen to rise with grade level, pupils avoid using drugs as a coping mechanism, and they come up with mature strategies to deal with stress.
- It is found that evidence-based policy and scale programmes for all stakeholders in formal and non-formal education can share knowledge to increase the chances of females developing life skills.
- It is found that world is constantly changing, so meeting the requirements of our neighbourhood by creating services raises awareness of the advantages of life skills training for the adolescent population who are dealing with mental health issues.

DISCUSSION

- There is a need to encourage proper stress management skills to be adopted by all the adolescents so that they become proficient with stress management skills. It is possible that the adolescents are made aware of the possibility of constructive coping skills so that in the event of stress they can manage themselves in effective manner. Adolescents with high stress level can tend to have avoidance as a coping skill it is not productive and they need to change such.
- Teachers play a cortical role as mentors to assist the adolescents develop healthy stress management skills. One of the most effective teaching methodologies is experiential teaching that enables students to practice reflection and to develop critical thinking skills. It is the best way to enable basic characteristic of stress management skills among the adolescents through classroom activities. The teaching technologies especially through experiential teaching can make students identify their stressors.
- The general understanding that the type of school can influence the development of skills especially problem solving is disproved by the findings of the study. It also is important to know that problem solving skills can be developed by the adolescents as per the need as well as situation of life. It is also believed that the size of the family leads to development of problem-solving skills. But the study

shows that size of the family whether nuclear or joint does not influence the development of problem-solving skills by adolescents.

- The finding that the increase of stress level at par with grade level is not universal as the students can develop better coping skills as they grow and advance in age and grade. The use of substances as a coping mechanism is a deviant behaviour that requires correction or behavioural change. It is also found that as students advance in grade, they also develop strategies to deal with stress in their own way suited to their situation of life. Therefore, coping mechanism can be identified as not in line with increase in grade or age.
- The researchers found that evidence-based decision making and policy formulation are crucial to assist or stakeholders in the field of education. It also is very important in the context of life skill education for women. For stress management all the evidence cannot be generalised as individuals' differences play a crucial role in the management of stress.
- Neighbourhood facilities can build personalities without stress. It also can facilitate the progress of wellness of individuals who are connected with the locality. Having facilities like play grounds, park, and other recreation centres will lead to better development of the skills among the young generation.

RECOMMENDATIONS

- It is recommended that the educating people from the younger age will create confidence to face situations of stress and to identify stressors with ease and open minded. Therefore, it is recommended that all the education institution begin to provide education related to life skills from elementary level. Wherever it is being implemented there is a need to uprates the skill of the teachers to meet the same more effectively.
- It is recommended that experiential method of teaching is adopted and the teachers are skilled in using that methodology in the classroom transaction. It is also required that curriculum content us organised to suit experiential methodology for teaching.
- It is recommended that the quality matrix for education requires to be implemented effectively in order to ensure that the general misconception regarding the types of schools as critical influencer of developing skills for problem solving. It is required that educational institutions all come at the level of standardised methods for the development of institutions and their stakeholders.
- It is recommended that the process-oriented education system has to enhance building of potentials of students with greater confidence and self-reliance so that they can face situations of stress in different life situations as they grow as members of the society. They are able to identify the challenges of adjustment during the process of and stages of development.
- It is recommended that the generalisation of education policies and implementation has to remain flexible. It will develop the sensitivity of individual as well as regional requirements and needs.it is required for developing and

recommending holistic development around. SUCH DEVELOPMENT will make individuals have robust mental as well as emotional skills for coping with stress.

- It is recommended that the society considers education as an social responsibility. And educationist the wealth of the society that can be assured as a capital for resource development. Therefore, it is required that every community develops basic infrastructure for recreation and relaxation of the members of the community especially children and adolescents. It will create positive engagement of the adolescents for building their futures.

CONCLUSION

The curriculum of adolescent education must include consoling and ample opportunities of activities that deals on self-worth and identifying one strength or talents so that adolescents grow confident. There is a need to ensure that all adolescents to have a steady support system. It is required that the family as well as the school or any other agencies ensure that every adolescent has a support system that ensures the well-being of the person directly and sometimes with indirect involvement. Adolescent education curriculum must provide platform and suitable opportunities to navigate energy in constructive ways keeping in mind that adolescent stage has a great impact on the future career.

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ASSESSMENT OF THE HUMAN RIGHTS ENFORCEMENT SYSTEM IN INDIA AND THE SUPREME COURT

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Abstract

India's human rights enforcement machinery, particularly the Supreme Court, is studied to determine how the government protects fundamental rights and freedoms. Human rights are universal and must be enforced to achieve equality, dignity, and justice. The Supreme Court of India, the highest court, protects human rights. Part III of the 1950 Indian Constitution enshrines justiciable fundamental rights that can be directly challenged in court. The Supreme Court interprets the Constitution and protects these rights from government, institutions, and individuals. Human rights protection has expanded thanks to PILs. Justices, including the Supreme Court, have taken up judicial activism to solve social challenges and better protect human rights. The NHRC was founded in 1993 to independently promote and protect human rights. While its recommendations aren't enforceable, they help expose human rights abuses and ensure accountability. India's commitment to international human rights conventions affects the Supreme Court's Constitutional interpretation. International requirements help the court protect human rights in the country. In conclusion, understanding India's human rights enforcement system, particularly the Supreme Court, is essential to understanding its human rights activities. The NHRC, constitutional provisions, judicial activism, and international commitments work together to create a more just and equitable society that respects everyone's rights and dignity.

Keywords : Human Rights, Supreme court, Enforcement and Society.

Introduction

The study of human rights enforcement machinery is crucial in understanding how a country protects and upholds the fundamental rights and freedoms of its citizens. Human rights are essential entitlements that every individual possesses by virtue of being human, and they are protected by international conventions and national laws. The

effective enforcement of human rights ensures that individuals are treated with dignity, equality, and fairness, regardless of their race, religion, gender, or social status. In the context of India, the Supreme Court plays a pivotal role in safeguarding and enforcing human rights. As the highest judicial authority in the country, the Supreme Court of India is entrusted with the responsibility of interpreting the Constitution and ensuring that fundamental rights are protected and respected by the government, institutions, and individuals. This special reference to the Supreme Court of India underscores its significance in human rights enforcement within the Indian legal system.

The Indian Constitution, adopted on January 26, 1950, serves as the supreme law of the land. It not only establishes the framework for the functioning of the government but also enshrines fundamental rights in Part III of the Constitution. These rights include the right to equality, right to life and personal liberty, freedom of speech and expression, right to education, and protection against discrimination. Part III of the Constitution contains six categories of fundamental rights, and they are justiciable, which means individuals can directly approach the courts if these rights are violated. The Supreme Court is the ultimate authority to interpret and protect these rights.

The Supreme Court and the High Courts have played a significant role in widening the scope of human rights protection by accepting Public Interest Litigations. PILs allow individuals or organisations to file petitions on behalf of those who cannot approach the courts due to economic or social barriers. It enables the judiciary to intervene in matters of public interest, leading to the protection of human rights on a broader scale. Over the years, the Indian judiciary, including the Supreme Court, has been proactive in safeguarding human rights. Judicial activism involves taking an active role in addressing social issues and enforcing human rights, even if it requires going beyond the traditional interpretation of laws. The NHRC is an independent statutory body established in 1993 to promote and protect human rights in India.

Human Rights have a special significance in the changing world scenario, especially in the post world war democratic era. The post world war era has witnessed the rapid development of Human Rights culture. However, violations of Human Rights continued to exist in a large scale in most of the countries of the world. It is indeed a tragedy on human dignity and honour and is a cause of deep concern. Human Rights violations, whatever be the level, is a heinous crime against the society and so it is a grave problem concerning the entire human race. Today, there is a need of a strong society based on the fundamental Human Rights and Fundamental Freedoms in theory and in practice. The modern society is witnessing a continuous violation of Human Rights in a systematic manner. Unfortunately most of the Human Rights violations which remain either insufficiently recorded or entirely unrecorded include exploitation of children and prisoners, bonded labour and custodial violence, encounters, discriminations on the basis of caste etc.

At this juncture the courts are putting vibrant efforts to translate the constitutional philosophy of the Human Rights Jurisprudence into reality. Mere guarantee of Human Rights is useless unless there is an effective machinery to enforce it. Majority of the International Human Rights Instruments and the constitutions of respective countries provide Human Rights enforcement machinery for better promotion and Protection of

Human Rights. These Instruments impose mandatory duty on the state to promote and protect the basic Human Rights and Fundamental Freedoms. The domain of human right is even expanding in India. Many laws have been enacted and many institutions and organisations established to ensure better promotion and Protection of Human Rights. This study analyses the importance of Human Rights enforcement machinery and the role of the Supreme Court in promotion and Protection of Human Rights with reference to the Judicial Pronouncements.

Although its recommendations are not binding, it plays a crucial role in highlighting human rights violations and ensuring accountability. The Supreme Court is critical in ensuring that the government and other institutions respect the rights and dignity of every individual. By understanding the mechanisms and challenges in human rights enforcement, stakeholders can work towards creating a more just and equitable society. As a signatory to various international human rights conventions, India's Supreme Court takes into account global human rights standards while adjudicating cases. This alignment with international obligations reinforces the court's commitment to human rights protection.

Research Methodology

Secondary Data - Online Sources - Review method

Human Rights jurisprudence : Historical Perspective

Human rights jurisprudence, the development of principles and standards for safeguarding and protecting human rights, has a rich historical perspective that spans centuries. While the idea of human rights has its roots in ancient civilizations, the modern concept of human rights emerged during the Enlightenment period in the 17th and 18th centuries. Here's an overview of the historical perspective of human rights jurisprudence: **Ancient Origins:** The concept of human rights can be traced back to ancient civilizations such as Mesopotamia, Ancient Egypt, and Ancient Greece. Hammurabi's Code (c. 1754 BCE) is one of the earliest known legal codes that included provisions for the protection of certain individual rights and social justice.

Judeo-Christian Traditions: The Judeo-Christian religious traditions, particularly Judaism and Christianity, have also played a significant role in shaping the idea of human rights. The biblical principles of justice, compassion, and the inherent dignity of individuals have influenced later human rights thought.

Enlightenment Era: The Enlightenment period (17th and 18th centuries) marked a significant turning point in human rights discourse. Philosophers and thinkers like John Locke, Thomas Hobbes, Jean-Jacques Rousseau, and Voltaire began to articulate ideas about natural rights, individual freedoms, and the social contract theory.

American Revolution: The American Declaration of Independence (1776) and the United States Bill of Rights (1791) were crucial milestones in the codification of human rights principles. These documents enshrined rights such as freedom of speech, religion, and the right to a fair trial.

French Revolution: The French Revolution (1789) brought about the French Declaration of the Rights of Man and of the Citizen. This document proclaimed the equality and inalienable rights of all citizens, laying the foundation for modern human rights principles.

Universal Declaration of Human Rights: In the aftermath of World War II and the atrocities committed during that time, the United Nations adopted the Universal Declaration of Human Rights (UDHR) on December 10, 1948. The UDHR became a landmark document, outlining fundamental human rights and freedoms that should be protected universally.

International Human Rights Law: Following the UDHR, various international treaties and conventions were adopted to promote and protect human rights. Some notable examples include the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social, and Cultural Rights (ICESCR), both of which were adopted in 1966.

Regional Human Rights Systems: Besides global efforts, regional human rights systems also emerged. For instance, the European Convention on Human Rights (ECHR) was established in 1950 under the Council of Europe, providing a regional mechanism for the protection of human rights.

Expansion of Human Rights Jurisprudence: Over the decades, human rights jurisprudence has continued to evolve through court decisions, international tribunals, and the work of human rights organisations. Issues such as gender equality, indigenous rights, environmental rights, and LGBTQ+ rights have gained prominence in human rights discussions.

Contemporary Challenges: In the present day, human rights jurisprudence faces various challenges, including ensuring enforcement and accountability for human rights violations, addressing emerging digital rights concerns, and maintaining a balance between security and civil liberties in the face of global threats.

Throughout history, the idea of human rights has evolved, expanded, and faced challenges, but it remains a fundamental principle in modern legal systems and international relations, aiming to protect the inherent dignity and freedoms of all individuals.

Human Rights Laws in India

India has a comprehensive legal framework for human rights protection, and it is bound by various international human rights treaties. Here's an overview of the human rights law in India: Constitution of India: The Indian Constitution, adopted on January 26, 1950, guarantees fundamental rights to all citizens. These fundamental rights include the right to equality, right to life and personal liberty, freedom of speech and expression, freedom of religion, cultural and educational rights, and the right to constitutional remedies.

Protection of Human Rights Act, 1993: This Act established the National Human Rights Commission (NHRC) at the national level and State Human Rights Commissions (SHRCs) at the state level. These bodies are responsible for inquiring into complaints of human rights violations and promoting human rights awareness.

International Human Rights Treaties: India is a signatory to various international human rights treaties, and some of them are directly enforceable in domestic courts. These treaties include the International Covenant on Civil and Political Rights (ICCPR), International Covenant on Economic, Social and Cultural Rights (ICESCR), Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), Convention on the Rights of the Child (CRC), etc.

Indian Penal Code (IPC): The IPC contains provisions that criminalize various human rights violations, such as torture, rape, and other forms of violence.

Protection for Scheduled Castes and Scheduled Tribes: India has specific laws like the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989, which provides for the prevention of atrocities against members of these marginalised communities.

Right to Information Act, 2005: This Act empowers citizens to seek information from public authorities, promoting transparency and accountability.

The Juvenile Justice (Care and Protection of Children) Act, 2015: This Act focuses on the rights and protection of children in conflict with the law and those in need of care and protection.

Domestic Violence Act, 2005: This Act aims to protect women from domestic violence and provides for various remedies.

Despite the existence of these laws and mechanisms, there have been concerns about the implementation and enforcement of human rights protections in India. Issues like custodial violence, discrimination based on caste, gender, and religion, and challenges related to the judicial process and the legal system persist. The legal landscape may have evolved since my last update in September 2021, so I recommend consulting more recent and authoritative sources for the latest developments in human rights law in India.

Human Rights Enforcement Machinery Under International Human Rights Law

Under international human rights law, there are several mechanisms in place to enforce and protect human rights at the international level. These mechanisms are designed to monitor and address human rights violations by states and ensure accountability for human rights abuses. Some of the key enforcement machinery includes:

United Nations Human Rights Council (UNHRC): The UNHRC is an intergovernmental body responsible for promoting and protecting human rights around

the world. It can investigate human rights violations, conduct fact-finding missions, and establish special procedures to address specific human rights issues. The UNHRC can also issue resolutions and recommendations to address human rights concerns.

Treaty Bodies: These are committees of independent experts that monitor the implementation of specific human rights treaties. States parties to human rights treaties are required to submit periodic reports to the relevant treaty bodies, detailing their compliance with treaty obligations. The treaty bodies review these reports, provide recommendations, and may issue General Comments on specific human rights issues.

Universal Periodic Review (UPR): This mechanism, overseen by the UNHRC, involves the review of the human rights records of all UN Member States. During the UPR process, states present their human rights achievements and challenges, and other states provide recommendations and suggestions for improvement.

International Criminal Court (ICC): The ICC is a permanent international court established to prosecute individuals for the most serious international crimes, including genocide, war crimes, and crimes against humanity. It provides a means of accountability for those responsible for grave human rights violations.

Special Rapporteurs and Independent Experts: The UNHRC and other UN bodies appoint Special Rapporteurs and Independent Experts on various human rights issues. These experts are independent and have a mandate to investigate and report on specific human rights concerns in different countries or regions.

Human Rights Enforcement Machinery in India

In India, the enforcement and protection of human rights are facilitated through various mechanisms and institutions. Here are some of the key components of the human rights enforcement machinery in India:

National Human Rights Commission (NHRC): The NHRC is an independent statutory body established under the Protection of Human Rights Act, 1993. Its primary function is to promote and protect human rights in India. The NHRC investigates complaints of human rights violations, conducts inquiries, and makes recommendations to the government for remedial action. It also monitors the implementation of human rights safeguards and raises awareness about human rights issues.

State Human Rights Commissions (SHRCs): Similar to the NHRC, each state in India has its own State Human Rights Commission. These commissions investigate complaints of human rights violations at the state level and play a vital role in safeguarding human rights within their respective jurisdictions.

Courts: India's judiciary also plays a significant role in the enforcement of human rights. The Supreme Court and various High Courts have the authority to adjudicate cases related to human rights violations. They interpret constitutional provisions and international human rights obligations and provide remedies to victims of human rights abuses.

National and State Commissions for Scheduled Castes (SC) and Scheduled Tribes (ST): These commissions are specifically focused on protecting and promoting the rights of the Scheduled Castes and Scheduled Tribes, who are among the most marginalised communities in India. They investigate complaints of discrimination and atrocities against SCs and STs and work towards their welfare and empowerment.

National Commission for Women (NCW): The NCW is a statutory body responsible for safeguarding and promoting the rights of women in India. It investigates complaints of gender-based discrimination and violence against women and recommends measures for their welfare.

National Commission for Protection of Child Rights (NCPCR): This commission is dedicated to the protection and promotion of children's rights in India. It monitors the implementation of child rights laws, investigates violations, and works towards creating a safe and nurturing environment for children.

State Commissions for Women and Children: Many states have their own commissions for women and children that focus on addressing gender-based issues and child rights violations within their respective states.

Right to Information Act, 2005: The Right to Information Act empowers citizens to seek information from public authorities, promoting transparency and accountability. This legislation helps in ensuring that human rights violations and administrative actions are open to public scrutiny.

Non-Governmental Organisations (NGOs): Various human rights organisations and NGOs in India work actively to promote and protect human rights. They conduct research, advocacy, and awareness programs, and provide legal aid and support to victims of human rights violations. While these mechanisms are in place, there are still challenges in the effective enforcement of human rights in India. Issues such as delays in justice, lack of awareness, and limited access to justice for marginalised communities remain areas of concern that need continuous attention and improvement.

The Role of the Supreme Court of India in Enforcing Human Rights

The Supreme Court of India plays a vital role in enforcing human rights in the country. As the highest judicial authority, the Supreme Court has the power and responsibility to interpret the Constitution and safeguard fundamental rights. Here are some key aspects of the Supreme Court's role in enforcing human rights in India:

Protector of Fundamental Rights: The Supreme Court acts as the guardian of fundamental rights enshrined in the Constitution of India. These fundamental rights include the right to equality, right to life and personal liberty, freedom of speech and expression, freedom of religion, and various other rights that protect the dignity and well-being of individuals.

Judicial Review: The Supreme Court has the power of judicial review, which allows it to examine the constitutionality of laws and executive actions. If a law or action is found

to be violating fundamental rights or other provisions of the Constitution, the Court can strike it down or declare it as unconstitutional.

Writ Jurisdiction: The Supreme Court has the authority to issue writs, such as habeas corpus, mandamus, prohibition, certiorari, and quo warranto, to protect and enforce fundamental rights. Writs are powerful legal remedies that the Court uses to correct illegal detentions, prevent abuse of power, and ensure justice.

Public Interest Litigation (PIL): The Supreme Court has been instrumental in developing the concept of PIL, allowing any individual or organisation to approach the Court on behalf of the marginalised or disadvantaged sections of society. PILs have been used to address a wide range of human rights issues and bring attention to matters of public concern.

Interpretation of International Human Rights Treaties: The Supreme Court considers international human rights norms while interpreting domestic laws and the Constitution. It may use international human rights treaties and conventions, which India is a party to, as reference points to determine the scope and content of human rights in specific cases.

Protection of Minorities and Marginalised Communities: The Supreme Court has been proactive in protecting the rights of minorities and marginalised communities, including Scheduled Castes, Scheduled Tribes, and other vulnerable groups. It has delivered landmark judgments to safeguard their rights and ensure social justice.

Gender Justice: The Supreme Court has played a crucial role in advancing gender justice and women's rights in India. It has delivered progressive judgments on issues like gender-based violence, discrimination, and women's empowerment.

Enforcement of Socio-economic Rights: While not explicitly recognized as fundamental rights, the Supreme Court has expanded the scope of certain socio-economic rights, such as the right to education and the right to a clean environment, through its interpretations of the Constitution. Overall, the Supreme Court's role in enforcing human rights in India is crucial in upholding the rule of law, protecting the rights of individuals, and ensuring that the government's actions are consistent with the principles of justice, equality, and human dignity. However, it is essential to acknowledge that effective enforcement of human rights also depends on the cooperation and commitment of other branches of government and the active engagement of civil society and citizens.

Conclusion

The study of human rights enforcement machinery, with special reference to the Supreme Court of India, highlights the pivotal role of the judiciary in safeguarding and promoting human rights in the country. The Supreme Court's authority in interpreting the Constitution, its power of judicial review, and its commitment to protecting fundamental rights make it a crucial institution for enforcing human rights in India. The Supreme Court of India, as the guardian of the Constitution, plays a proactive role in upholding human rights principles and ensuring justice for all citizens. Its writ jurisdiction allows it

to intervene swiftly in cases of human rights violations, offering relief and protection to those in need. Moreover, through Public Interest Litigations (PILs), the Court has opened avenues for citizens and organisations to seek redress for human rights issues affecting marginalised communities and underprivileged groups. One of the significant contributions of the Supreme Court is its commitment to interpreting international human rights norms in conjunction with domestic laws. By drawing on international human rights treaties, conventions, and principles, the Court enhances the protection of human rights and ensures India's compliance with its international obligations. The Court's landmark judgments have not only expanded the scope of fundamental rights but also addressed various human rights challenges faced by Indian society. It has taken strong stands against discrimination, gender-based violence, and social inequalities, working towards a more inclusive and just society. However, despite the Supreme Court's proactive approach to human rights enforcement, there are still challenges in the effective realisation of human rights in India. The judiciary's heavy caseload and delays in justice delivery often result in delayed remedies for victims of human rights violations. Additionally, there are concerns about the implementation of the Court's decisions at the ground level. Furthermore, the effectiveness of human rights enforcement also relies on the cooperation and commitment of other branches of government, the police, and administrative agencies. Strengthening the capacity of these institutions to protect and promote human rights is essential for the comprehensive enforcement of human rights in India.

In conclusion, the study of human rights enforcement machinery, with a special reference to the Supreme Court of India, highlights the Court's central role in upholding the rule of law and protecting fundamental rights. The Court's progressive interpretations of the Constitution and its commitment to addressing human rights issues through PILs have significantly contributed to advancing human rights in India. However, addressing challenges such as delays in justice and effective implementation of decisions remains critical to ensuring robust human rights enforcement in the country. Collaborative efforts from all stakeholders are necessary to build a society where human rights are respected, protected, and fulfilled for every individual.

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DISCUSSION ON STRUCTURAL, OPTICAL, THERMAL ANALYSIS OF PIPERAZINE DERIVATIVE SINGLE CRYSTALS

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Abstract

The piperazine derivative, piperaziniumadipate single crystals was grown by employing the slow evaporation technique piperazine and adipic acid, were the source material used for the growth. The structure comprises a piperaziniumcation, in the chair conformation, situated on a crystallographic center of symmetry and adipate anion also on a center of symmetry. The piperazine ring is frequently used as a building block for pharmaceuticals. The grown crystal was characterized by single crystal X-ray diffraction analysis and it shows that piperaziniumadipate crystal belongs to triclinic system with space group $p\bar{1}$. The transmittance and fluorescence spectra of the grown crystal were analyzed using UV-Visible and PL spectra. The thermal analysis of the crystal was carried out by the TG/DTA analysis.

Keywords: slow evaporation technique, single crystal x-ray diffraction analysis, UV-Visible spectral analysis

1. Introduction

The utility of many crystals in important fields of service to mankind, such as research, medicine, engineering, and technology, as well as strategic areas of defence and space science, is due to crystal growth in this age of tremendous technological excellence (A. Rathika et al, 2021). Piperazines are a broad class of chemical compounds, with many important pharmacological properties. Various biologically active, heterocyclic compounds have two nitrogens in their structure. Piperazine is an organic compound that consists of a six-membered ring which containing two nitrogen atoms at opposite positions in the ring (Prabavathi et al., 2015). It has an important role as anthelmintic and antinematodal drug. In present study, the structural, thermal and optical properties of the crystal are studied.

2. Synthesis and crystal growth

The piperaziniumadipate (PIA) crystal was grown by slow evaporation technique using piperazine and adipic acid as the source materials. The solutions were mixed and

stirred well using magnetic stirrer for 6 h and filtered with filter sheets and taken in a beaker. The beaker was closed with a cover and placed in dust free atmosphere. After few days the crystals are formed. The grown crystal was shown in figure 1.

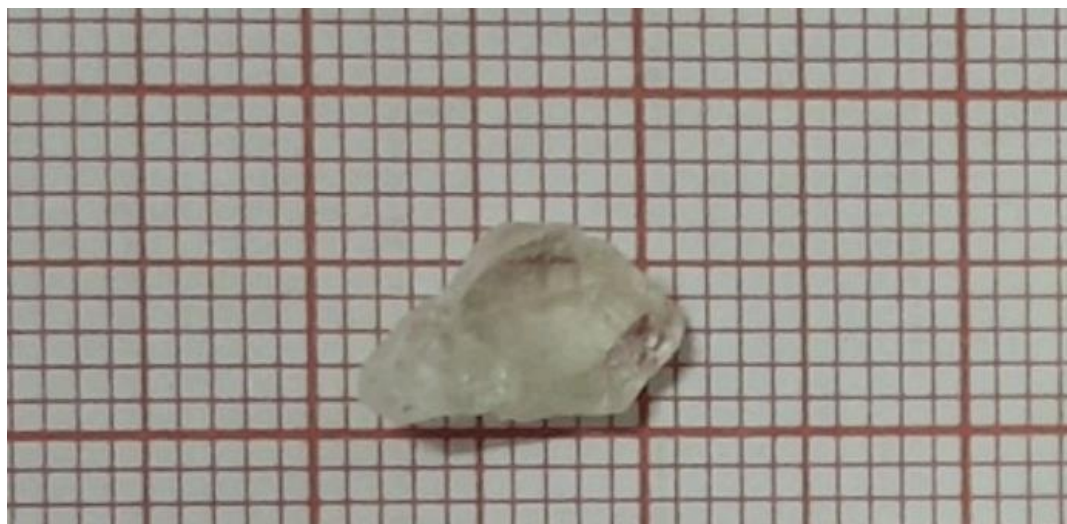


Figure 1: Photograph of the grown crystal

3. Characterization

The grown crystal has been subjected to various characterization to study the structural, thermal, optical properties. The unit cell parameters and crystal structure of piperazinium adipate crystal were determined from single crystal X-ray diffraction using Enraf-Nonius CAD4 X-ray diffractometer and operational with monochromatic MoK α radiation. The TG/DTA analysis was carried out of the grown crystal to study the thermal properties. The optical transmittance of the grown crystal was recorded in the range 200-1100nm by carry with the help of Perkin-Elmer Lambda-35 spectrometer. The fluorescence study carried out through the LS45 instrument.

4. Results and discussion

4.1 Single crystal x-ray diffraction analysis

Single crystal X-ray diffraction analysis of piperazinium adipate single crystal was carried out using Enraf – Nonius CAD4 X-ray diffractometer with Mo K α ($\lambda = 0.71073 \text{ \AA}$) radiation. From the normalized structure factor distribution it is evident that the title crystal has a centrosymmetric space group, $P\bar{1}$ of triclinic crystal system. The lattice parameters of the grown crystals are given below.

Table 1: Lattice parameters of the crystal

DATA	PIA
a	5.798 \AA ⁰
b	7.458 \AA ⁰

DATA	PIA
c	7.522Å ⁰
α	64.48 ⁰
β	82.11 ⁰
γ	80.28 ⁰
Space group	Pī
Volume	228.552Å ³
Crystal system	Triclinic

4.2 TG/DTA analysis

The thermal response of the material is inferred from the thermogravimetric analysis and differential thermal analysis. The TG/DTA curve is shown below(Fig;2). The TG/DTA analysis taken in temperature range 0⁰ -800⁰C at nitrogen atmosphere. From the TGA trace, there is only one stage of weight loss obtained at 240⁰ C. There is a release of CO₂ and CO obviously, from the adipic acid. Since, the crystal is thermally stable upto 240⁰C, it is completely free of water of crystallization or physically absorbed water on the surface. In the DTA trace first endotherm occurs at 125⁰-150⁰C. The second decomposition occur at 320⁰C. The endotherm peak at 140⁰C in DTA trace is attributed to melting point of the crystal.

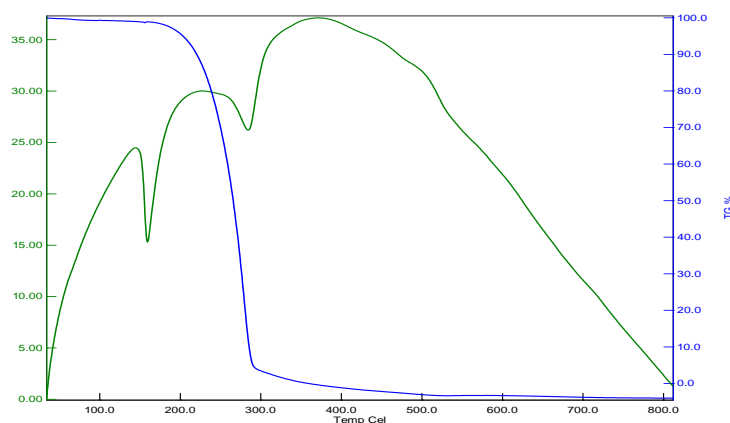


Figure 2: TG/DTA analysis of the crystal

4.3 UV- Visible spectral analysis

The optical properties of the title compound PIA crystal have been studied with UV-Visible transmittance spectral analysis to explore the material in the field of NLO applications. The recorded spectrum in the range of 200-1100nm is shown in the Figure 3. From the figure 3, the cut off wavelength is 210nm. From the figure 3, it is clear that the crystal exhibits good optical transmittance. Thus, it may be concluded that PIA crystal is suitable for generating blue-violet light using a diode laser (B.Dhanalakshmi et al.,2015).

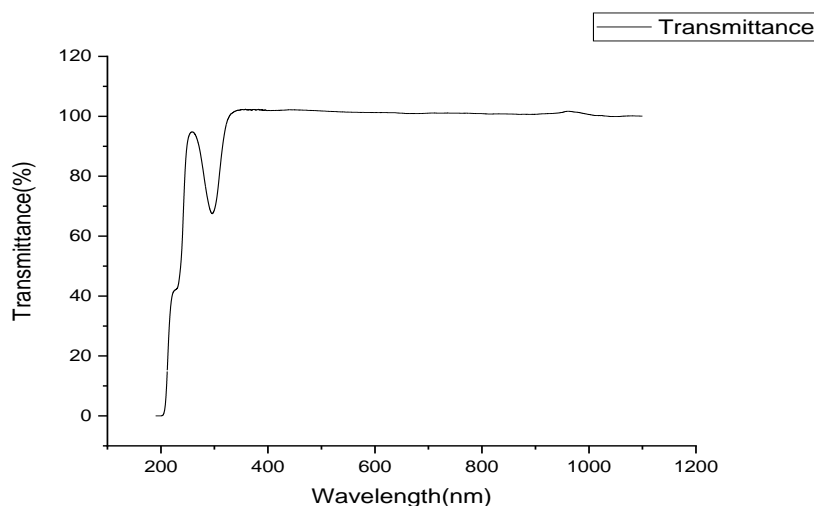


Figure 3: UV –Visible spectrum of the crystal

4.4 Fluorescence analysis

The fluorescence spectral analysis are shown below. Fluorescence spectroscopy is a type of electromagnetic spectroscopy that analyzes fluorescence from a sample. The spectrum shows broad peak at 425nm depicting blue emission. The enhanced PL emission would be the presence of electron donating group NH and electron withdrawing group COOH that can improve the mobility of π electrons (B.Dhanalakshmi et al, 2015).

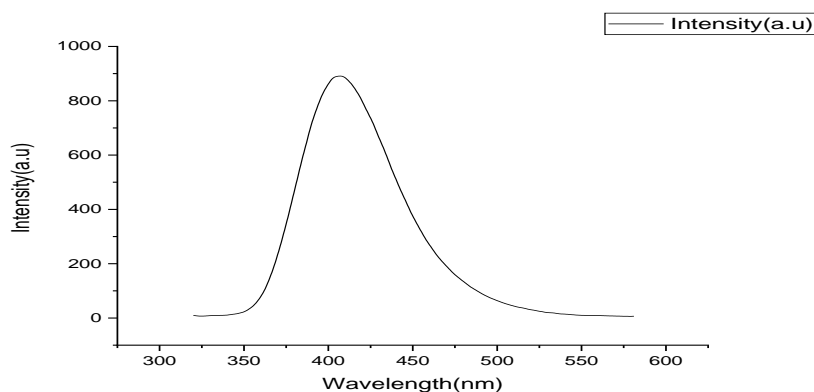


Figure 4: Fluorescence spectrum of the crystal

5. Conclusion

A good quality of organic single crystal PIA was grown through slow evaporation technique at ambient temperature. The X-ray diffraction studies showed that Piperaziniumadipate crystallizes in triclinic crystal system with space group $P\bar{1}$. The various studies also support the increased possibilities of Piperaziniumadipate crystals towards NLO device fabrication. From UV –Visible spectral analysis the low cut off wavelength obtained as 210nm. Thus, with many attracting linear and nonlinear optical properties piperaziniumadipate is concluded to be a suitable one for optoelectronic applications.

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EXAMINING THE RELATIONSHIP BETWEEN SELF-ESTEEM AND SATISFACTION WITH LIFE AMONG FEMALE FOOTBALL PLAYERS

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Abstract

This study investigates the relationship between self-esteem and satisfaction with life among female football players in Kerala. A sample of 110 female football players were selected to measure their self-esteem levels and overall life satisfaction. Data were collected using the Rosenberg Self-Esteem Scale and the Satisfaction with Life Scale (SWLS) through online questionnaires. The data were analysed using statistical tests such as ANOVA and Pearson Correlation, utilizing SPSS (Version 25). The analysis identified a strong positive correlation between self-esteem and overall life satisfaction. Furthermore, the results indicated no significant differences among study variables based on years of experience.

Keywords: Self-Esteem, Satisfaction with Life, Female Football Players

INTRODUCTION

Football is the world's most widely played and watched ball sport, attracting millions of participants and spectators. Its straightforward rules and minimal equipment needs make it accessible in various settings, including professional fields, gymnasiums, streets, parks, playgrounds, and beaches. According to FIFA, around 250 million people were actively playing football globally at the start of the 21st century, with over 1.3 billion individuals showing an interest in the game (Alegi et al., 2025). Football has traditionally been a male-dominated sport, but over the past decade, there has been significant progress in women's football, particularly in terms of match-day attendance and TV viewership (Routledge; 2017).

Self-esteem is defined as an individual's perception of themselves, which is typically regarded as either positive or negative (Ciccarelli & White, 2015). Due to its propensity for stability and durability, self-esteem is frequently seen as a personality feature. According to Gillen (2015) Self-esteem refers to the extent to which an individual values their own abilities and acknowledges their strengths. Research indicates that individuals with higher self-esteem tend to experience greater happiness in life compared to those with lower self-confidence. Furthermore, positive self-esteem equips individuals with the resilience needed to manage challenging situations effectively. Lindsay, Babiss, and James (2009) investigated sports participation as a protective factor in alleviating depression. Their research also explored self-esteem as a mediating factor in the context of social support.

Life satisfaction is defined as a psychological state closely linked to an individual's overall well-being (Malinauskas, 2010). Life satisfaction is defined as a judgmental process in which individuals evaluate their lives based on both emotional responses to events and cognitive assessments using their own unique set of criteria (Shin & Johnson). Nicolas et al. (2011) explored the relationship between personality traits and satisfaction in both life and sports. The study utilized the Neuroticism Extraversion Openness Personality Inventory-Revised (NEO-PI-R) to evaluate these connections across five major dimensions and thirty distinct facets. Previous studies have indicated a strong correlation between life satisfaction and sport satisfaction.

Channarith and Be (2022) conducted a study titled “Self-Esteem as the Predictor of Life Satisfaction Among High School Students in Cambodia,” which revealed that self-esteem is positively associated with adolescents' life satisfaction. When young individuals are aware of their abilities and talents, it can lead to a greater sense of life satisfaction and enhanced self-esteem. Conversely, underestimating one's abilities may reduce life satisfaction, which can also contribute to lower self-esteem. Szcześniak et al. (2021).

MATERIALS AND METHOD

Participants

For this study, a total of 110 women football players were selected from various clubs and educational institutions in Kerala. The age of the participants ranged from 18-30 years. Participants were selected using purposive sampling.

Procedures

The primary data collection was conducted online with the help of Google Form. Informed consent was obtained from all participants before data collection.

Tools

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale was developed in 1965 by Morris Rosenberg. The Rosenberg Self-Esteem Scale lists 10 statements (five positive, five negative), each typically paired with four response choices ranging from “*strongly disagree*” to “*strongly agree*”.

agree.” The Rosenberg Self-Esteem Scale presented high ratings in reliability areas; internal consistency was 0.77, minimum coefficient of reproducibility was at least 0.90.

Satisfaction with Life Scale (SWLS)

The Satisfaction with Life Scale (SWLS) was created to measure how satisfied respondents are with their overall quality of life. Participants indicate how much they agree or disagree with each of the 5 items using a 7-point scale that ranges from 7 strongly agree to 1 strongly disagree. A 5-item scale designed to measure global cognitive judgments of one's life satisfaction (not a measure of either positive or negative affect).

Statistical Analysis

Descriptive statistics were used to summarize the collected data. Additionally, the Pearson correlation method was applied to analyse the relationships between the selected variables and their respective measurements. A one-way ANOVA was performed to compare the measures based on years of experience.

RESULTS

The Pearson correlation analysis revealed a strong positive correlation between self-esteem and life satisfaction ($r = 0.732$, $p < 0.01$). This indicates that as self-esteem increases, life satisfaction also tends to increase significantly.

Correlation

	1	2
Self Esteem	1	
Life Satisfaction	0.732**	1

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

A one-way analysis of variance was conducted to assess group differences in the study variables based on years of game experience. Result indicates that there was no significant differences for almost all of the study variables. The sample size for this analysis was 110 participants.

DISCUSSION

The present study sought to determine if their relationship between self-esteem and satisfaction with life among female football players. The findings of this study align with existing psychological research, which suggests that self-esteem plays a crucial role in an individual's overall well-being and life satisfaction. People with higher self-esteem tend to view themselves more positively, feel more competent, and experience greater emotional stability, leading to a higher sense of life satisfaction.

CONCLUSION

The results of this study are consistent with previous psychological research, indicating that self-esteem is a key factor in an individual's overall well-being and life satisfaction. People with higher self-esteem tend to view themselves more positively, feel more competent, and experience greater emotional stability, leading to a higher sense of life satisfaction.

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INFLUENCE OF ONLINE GAMING ADDICTION ON RESILIENCE AMONG YOUNG ADULTS

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Abstract

Online gaming addiction refers to prolonged and excessive online gaming behaviors that can cause physical and psychological issues like stress, depression, sleep disturbance etc. Nowadays online gaming is really common among people. There are a lot of consequences of problematic online gaming. The study aims to find out the influence of online gaming addiction on resilience. The sample size of the study is about 51 participants within 18 to 25 years of age. Internet Gaming Disorder scale (Pontes & Griffith, 2015) and Brief Resilience Scale (Smith et al., 2008) were the standardized measures used in this study. Snowball sampling method was used to collect data through Google forms. Pearson correlation and linear regression is used in the analysis. The study proved that the variables correlate significantly and also online gaming addiction predicts resilience.

Keywords: Online Gaming Addiction, resilience, young adults

Introduction

American Psychiatric Association (2013) defines online or internet gaming disorder as a persistent and recurrent use of the internet to engage in games, often with other players, leading to impairment or clinically significant distress like loneliness, affecting resilience and psychological distress. Highly engaged gamers, problem gamers and addicted gamers experience loneliness and psychological distress (Andre et al, 2020). Resilience is the ability to bounce back from adversity, frustration, and misfortune (Ledesma, 2014). Engaging in video gaming may have a high risk of low resilience level, low coping skills and increased stress when the hours of playing video games are increased. Individuals with gaming addiction tend to show lower levels of resilience, often struggling with stress management and coping with life challenges outside the gaming environment (Kuss & Griffiths, 2012). There is a lower resilience among adolescents with Internet Gaming Disorder Wu et al (2018). The IGD group has lower resilience, higher perceived stress and also received higher CGI (Yen et al. 2019). When the digital gaming addiction is increased, the psychological resilience is decreased (Ozavran and Ayyildiz, 2024).

Methodology

This study aims to examine the influence of online gaming addiction on resilience among young adults. The study explores the relationship between online gaming addiction and resilience. The hypotheses are, H1- There will be a significant relationship between online gaming addiction and resilience. H2-Online gaming addiction

significantly predicts resilience. Snowball sampling was used and data collected from 51 participants by using Google form, with participants informed about the study prior to their participation.

Two questionnaires were used: Internet Gaming Disorder (IGDS9-SF) developed by Pontes & Griffith, (2015) which measures the severity of the addiction and also in clinical setting it is used to diagnose online gaming addiction. The scale is 5-point Likert scale and has reliability of $\alpha = 0.81$; and the Brief Resilience Scale, is developed by Smith et al (2008) which is 5-point Likert scale and has Cronbach's alpha ranging from 0.80 - 0.91. The correlational research design is used to examine the extent of the relationship between two variables. IBM SPSS (version 20.0) was used for normality testing, correlation, and regression analysis to test the hypotheses.

Results

Table 1: Normality testing of the study variables

Variables	N	Mean	Skewness	Kurtosis
Online Gaming Addiction	51	21.37	0.11	-0.95
Resilience	51	18.82	0.89	2.25

Table 1 shows the results of normality testing for the study variables. The skewness and kurtosis value lies between the range of -2 to +2 and -7 to +7 respectively, which shows that the data were normally distributed. Therefore, parametric tests are suitable for hypothesis testing.

Table 2: Correlation between online gaming addiction and resilience

Variables	N	Mean	SD	r value
Online Gaming Addiction	51	21.37	6.91	-0.27*
Resilience	51	18.82	2.86	

*Correlation is significant at the 0.05 level (2-tailed)

Table 2 shows that the online gaming addiction and resilience were negatively correlated. The result reveals that the relationship between online gaming addiction and resilience is significant. So, hypothesis (H₁) is accepted.

Table 3: Regression analysis for Online Gaming Addiction and Resilience

	Unstandardized Coefficient		Standard Coefficient	t
	B	Standard error	β	
(constant)	21.27	1.27		16.70
Online Gaming Addiction	-0.11	0.05	-0.27	2.02
R=0.27	R ² = 0.07	F=4.08	p<0.05	

Table 3 reveals the linear regression for prediction of online gaming addiction on resilience among young adults. This result indicated an R^2 value of 0.07, which is significant at the 0.05 level. The result showed that online gaming addiction significantly predicts Resilience. Therefore, hypothesis (H_2) is accepted.

Discussion

The results of the study shows that there is a significant relationship between online gaming addiction and resilience. This finding suggests that individuals who exhibit higher levels of gaming addiction often experience lower levels of psychological resilience. Resilience, which is the ability to cope with stress and adversity, may be impaired in individuals who are excessively engaged in online gaming, as they may rely on the virtual world as an escape from real-life challenges.

The results show that online gaming addiction significantly predicts resilience, indicating that higher levels of gaming addiction are associated with lower levels of resilience. This finding suggests that as individuals become more addicted to gaming, their ability to adapt to and cope with stress diminishes. Gaming addiction may interfere with the development of critical coping skills by fostering avoidance behaviors, where individuals rely on gaming as a means of escape rather than facing real-world challenges. Over time, this can hinder their ability to bounce back from adversity.

Conclusion

In conclusion, the study reveals that there is a significant relationship between online gaming addiction and resilience and also it reveals that the online gaming addiction significantly predicts resilience, indicating that addiction is not only associated with but also plays a predictive role in diminishing resilience over time.

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IMPACT OF LEADERSHIP STYLE ON RESILIENCE AMONG POLICE DEPARTMENT IN TIRUNELVELI DISTRICT

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Abstract

Leadership style plays an important role in shaping the resilience of police officers. This study explores the relationship between leadership style and the resilience of police officers in Tirunelveli district using the Path-Goal leadership **Questionnaire**. Robert J. House (1971) to assess leadership styles and the **Brief Resilience Scale (BRS)** Bruce W. Smith, et.al (2008) to measure resilience levels. Under the age of 18 to 64, the samples were selected through a Purposive random sampling method. Statistical analyses, including descriptive analysis and Spearman correlation were conducted using IBM SPSS Statistics 23.0. Finding indicated that there is a significant relationship between participative leadership style and resilience. These findings can help in leadership development and team-building within police departments to improve officer well-being and performance.

Keywords: Leadership Style, Resilience, Police Department.

Introduction

The ability of police officers to handle stress and recover from adversity is critical in maintaining their effectiveness and wellbeing. Leadership style refers to the approach that a leader adopts to guide, motivate and influence their subordinates Lewin, Lippitt, and White (1939), According to the Path-Goal Theory of Leadership (House, 1971), a leader's effectiveness depends on their ability to adapt their leadership style based on their subordinates' needs and work conditions. Leadership style such as directive, supportive, participative, and achievement oriented are examined to understand their effects on police officers ability to cope with stress. Resilience defined as the ability to recover from adversity, adapt to changes and maintain well-being under stress (smith et.al, 2008) is essential for police officer to perform their duties effectively. Resilience is not just about enduring hardship but also about learning from experiences and emerging stronger.

Methods and materials

The primary aim of this research is to explore the relationship between leadership style and the resilience of police officers in Tirunelveli district. The study has several

objective, to analyze the relationship between leadership styles and resilience among police officers. To compare the levels of leadership style and resilience police officers in Tirunelveli district. The hypotheses proposed are: (H1) “There will be a significant relationship between Directive style and resilience among police officers in Tamil Nadu” (H2) “There will be a significant relationship between Supportive style and resilience among police officers in Tamil Nadu” (H3) “There will be a significant relationship between Participative style and resilience among police officers in Tamil Nadu” (H4) “There will be a significant relationship between Achievement-oriented style and resilience among police officers in Tamil Nadu” (H5) “There will be a significant gender difference between Directive style among police officers in Tamil Nadu”(H6) “There will be a significant gender difference between Supportive style among police officers in Tamil Nadu” (H7) “There will be a significant gender difference between Participative style among police officers in Tamil Nadu” (H8) “There will be a significant gender difference between Achievement-oriented style among police officers in Tamil Nadu”.A Purposive Random sampling method was utilized, resulting in a total of 50 participants from the police department aged between 18 and 64. *The population for this study includes police officers from various ranks working in the Tirunelveli district.* Data was collected using a structured questionnaire through google form.Two inventories were employed: Path-Goal Leadership Style Questionnaire developed by Robert J. House (1971) which measures leadership styles across 4 dimensions - directive, supportive, participative, and achievement oriented using a 7-Point Likert Scale and The Brief Resilience Scale (BRS) Bruce W. Smith, et.al (2008) which measures resilience across 2 dimensions - positively worded statementsand3 negatively worded statements using a 5-point Likert scale. The correlational research design is used to examine the extent of the relationship between two variables. SPSS (Windows version 23.0) was used for normality testing, spearman’s rho correlation, and Mann-Whitney U test is used to find the hypothesis.

Result

Table 1 Normality testing of the study variables

Variables	N	Mean	Skewness	Kurtosis	Kolmogorov-Smirnov	Shapiro-Wilk
Directive style	50	27.26	.154	.031	.200	.620
Supportive style	50	27.38	-.417	.308	.200	.513
Participative style	50	26.12	-.786	.968	.036	.036
Achievement-oriented style	50	24.34	-.221	.057	.078	.269
resilience	50	18.76	-.863	1.781	.000	.003

Table 1 shows the results of normality testing for the study variables. The skewness and kurtosis value lies between the acceptable range of -2 to +2 and -7 to +7 respectively, which shows that the data were normally distributed.As perthe Kolmogorov-Smirnov and Shapiro-Wilk test($p>0.5$) the data is normally distributed.The Participative style and resilience variable are not normally distributed based on Shapiro-Wilk and Kolmogorov-Smirnov test. The directive, supportive and achievement oriented style appear to be normally distributed. Thus non-parametric test were used.

Table 2 *Frequency distribution of the demographic variables (n=50)*

Demographic Variables	Category	Frequency	%
Gender	Male	42	84.0
	Female	8	16.0

Table 2 shows the frequency distribution of the demographic variables such as Gender, Position, Family structure and marital status.

Table 3 *Non-parametric correlation between leadership style and resilience*

Variable	N	ρ	P - Value
Directive style Resilience	50	.072	.618
Supportive style Resilience	50	-.055	.706
Participative style Resilience	50	.289	.042
Achievement-oriented style Resilience	50	.231	.106

Table 3 the finding of this study highlights the varying impacts of relationship style on resilience among the four leadership styles analyzed, participative leadership was the only style that showed a statistically significant positive relationship with resilience ($\rho = .289$, $p = .042$) which indicates H3 is accepted. On the other hand directive, supportive and achievement- oriented leadership styles did not exhibit significant correlations with resilience. Therefore H1, H2, H4 is rejected.

Table 4 *Mann Whitney Test between Male and Female*

Variable	Gender	N	Mean Rank	Sum of Ranks	P-value
Directive Style	M	42	25.32	1063.5	0.842
	F	8	26.44	211.5	
Supportive Style	M	42	24.35	1022.5	0.197
	F	8	31.56	252.5	
Participative Style	M	42	23.92	1004.5	0.077
	F	8	33.81	270.5	
Achievement_ Oriented Style	M	42	23.49	986.5	0.024
	F	8	36.06	288.5	
Resilience	M	42	24.82	1042.5	0.439
	F	8	29.06	232.5	

Table 4 presents the result of a Mann-WhitneyU test comparing males(M) and females (F) across different leadership styles and resilience. As the result says only Achievement –Oriented Style shows a statistically significant gender difference, with females ranking higher than males. Hence H8 is accepted. Directive, Supportive, Participative Styles and Resilience do not show significant gender differences as the p value is greater than 0.05 ,though females tend to have higher mean ranks in most cases. Therefore H5, H6, H7 is rejected.

Discussion

The findings of this study shows that there is a significant relationship between participative leadership style and resilience. This suggest that team members involved in participation can lead to increased resilience. When leaders encourage to open communication, collaboration and shared responsibility make individual to feel competent, supportive and better to deal with challenges. The results indicate a notable gender difference in Achievement-focused leadership styles, suggesting that men and women might utilize different methods for goal-setting, performance expectations, and leadership behaviors. Multiple elements, such as social norms, cultural anticipations, institutional frameworks, and personal traits, may contribute to the observed gender gap. Overall, these findings provide valuable insights into leadership and resilience, highlighting the importance of participative leadership in fostering resilience and acknowledging gender differences in leadership approaches.

Conclusion

This study brings attention to the strong connection between participative leadership style and resilience. Leaders who embrace a participative approach can boost resilience within their teams, ultimately leading to better performance and well-being. Furthermore, the study points out a significant gender gap in Achievement-oriented leadership style, suggesting that men and women may have different approaches to goal-setting and high-performance expectations due to societal and organizational influences.

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EXAMINING AND ATTENDING TO POLICE OFFICER SUICIDES: AN EXTENSIVE ANALYSIS

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Abstract

Concern has been developing in both the police community and the broader open in later a long time with respect to the rising recurrence of passings by suicide among police officers. The creators of this dreamy ponder set out with the deliberate of exploring each potential perspective that plays a part within the suicide of law requirement officers. The essential reason of this inquire about is to pick up a more profound understanding of the variables that contribute to the tall suicide rate among law requirement faculty. The essential objective of this consider is to pick up a more profound understanding of the variables that can lead to self-destructive considerations and practices among individuals who work in law requirement in arrange to create more viable arrangements to the issue. The request was carried out with the objectives of picking up a more profound understanding of the current circumstances and creating workable arrangements to the issues that it has brought to light. This can be a outline of the research that has been done so distant in arrange to pick up distant better; a much better; a higher; a stronger; an improved” a stronger understanding of the circumstance and how to approach it. The basic objective of the think about was to deliver strategies and information that are more broad and intensive. This think about looks into a assortment of themes, counting hazard components, mental health difficulties, social results, and preventative strategies. In expansion to this, the think about will explore the associations that exist between the different components. This think about points to gather information that can be utilized to move forward mental wellbeing administrations and diminish the number of law requirement officers who take their possess lives. It is trusted that the discoveries of this inquire about will be used by law authorization offices in arrange to way better alter their approaches, preparing courses, and back administrations. As a coordinate result of this, they will pick up more information and be superior prepared to follow to the comes about of the consideration.

Keywords: *Mental health, Risk factors, Prevention efforts, suicide,*

Introduction

A powerful composite image is depicted: one side showcases a police badge displayed on a weathered patrol cap, symbolising the gravity of duty, whereas on the other side, a beam of sunlight breaks through gloomy storm clouds, symbolising hope amidst sombre statistics. Both of these images depict the significance of service. Every day, police officers have the duty of safeguarding our communities and combating crime as guardians. An undisclosed internal conflict is occurring within their organisation, accompanied by a distressing surge of suicides. Both of these events are occurring concurrently. The objective of this study is to acquire an understanding of the underlying reasons for the occurrence of suicide among law enforcement officers, as well as to elucidate possible avenues for intervention and prevention. Nevertheless, the main aim of the initiative is to examine the distressing actuality of suicide among law enforcement officers. Undoubtedly, the unfortunate truth is that: A crisis of global proportions: The phenomenon of police officers having higher suicide rates than the general population is a distinctive feature that is noticed not only in the United States of America but also in every other country worldwide. The demise of an individual and the subsequent anguish experienced by the community The demise of each officer not only constitutes a personal calamity, but it also exerts a substantial impact on their families, colleagues, and the communities they were entrusted to safeguard and serve. Strategies for Overcoming the Badge: One of the contributing factors is a complex network of: What is the aggregate mass of the entire world? Exposure to unpleasant experiences, experiencing violence, and making frequent judgements under pressure can all adversely affect an individual's mental well-being.

The prevailing culture of quiet within law enforcement may dissuade officers from requesting assistance, leaving them to handle their challenges independently. The police enforcement community possesses a profound anticipation for exhibiting stoicism and perseverance. The presence of underlying mental health disorders, financial difficulties, and interpersonal difficulties may exacerbate the severity of the dangers. One potential component that considerably contributes to the hazards is the weight of individual hardships. Presented below is a beam of hope that indicates a path towards a more auspicious future: The ongoing inquiry is not solely an academic pursuit but rather a vital activity aimed at effectively preserving lives. By doing thorough research on the factors influencing suicides among law enforcement officials, we can lay the groundwork for the following: Preemptive intervention: Identifying officers who are in danger, providing access to mental health care, and establishing robust peer support networks have the potential to significantly impact the world. Putting an End to Silence: Establishing a culture of transparency and promoting behaviour that encourages officers to seek assistance is essential to ensuring they receive the necessary services. This will guarantee that cops receive the appropriate assistance they are entitled to. Modifying the Protocol: By addressing organisational concerns such as long working hours, insufficient resources, and a lack of work-life balance, it is feasible to create a more supportive atmosphere. This can be achieved by considering and dealing with both of these concerns. By conducting a comprehensive study and maintaining unshakable dedication to the cause, we may bring attention to this frequently overlooked tragedy. We may strive

for a future where the blue line symbolises not only safeguarding but also a supportive community. This is a goal that we can strive for in the future.

Review of literature

Chain, Police sociology helps you understand communities and traits. He recognised three key difficulties. Although in the U.K., the research may apply elsewhere. The first question concerns police discretion, public rights, and actions. Why police behave is question two. The second problem was addressed by assessing community structure, police organisation, task interpretation, and demographic subgroup evaluation. Policeman's actions generate job choices and ramifications issues.

Former Kowaleroski, Police-community services were explored. The study indicates police have been extensively studied. Police functions are contested by practitioners and researchers. Police serve several purposes. Some think police should be philosophers, leaders, friends, or helpers. Others argue police should prioritise peace, safety, law enforcement, and lawbreaker identification. The idea is that police should only enforce laws.

Joshi's Officer performance evaluation at police stations nationwide is examined in this article. Several systemic flaws are found during the inquiry. The report suggests prioritising employee performance over reward and punishment. The research advises short-term formal courses at police training institutions to teach supervisors all aspects of performance evaluation.

Baratan, The research proposes considering the police force's main aims of crime detection and law enforcement in the context of rapid social growth. White-collar crime has eclipsed traditional crime. Police must handle idiotic requests from politicians. Effective police action against politicians is essential. As job opportunities shrink, more graduates become sub inspectors and constables. Real job advancement is their goal. Subordinate officers and constabulary need new advancement chances. Changes are needed to the command-oriented administrative structure and communication between high and lower-level personnel.

Nath, talked about Indian police. Sub-inspector, Superintendent, and Inspector General are among the Indian police levels he studied. He reviewed police stations, districts, state police headquarters, crime control, investigations, riots, patrols, law enforcement, court cases, wings, and personnel policies. Updated police and community concerns cannot be addressed in the report.

Khan, We addressed police power and community relations. This book explores ancient Indian police. He covered Indian police history. The research examines Indian police. The speaker emphasised police image, selection, and training. Law enforcement and police personalities are also covered. He ignored Indian social and policing concerns.

Prashar, Police organisation and staff management are discussed. The author analyses British India's police roots and why the Police Act of 1861 saw the police as a repressive tool rather than a service organisation addressing police agitations and

unionism. Management must address policemen's genuine grievances if internal security considerations prevent police unionisation. The author ignored minor internal corruption reasons and focused on external issues.

Statement of Problem

Unfortunately, the prevalence of Multiple studies have found that the suicide rate among police personnel is markedly higher compared to the suicide rate among the general population. The anticipated number of police officers who died by suicide in the United States in 2020 was 129. The number of cops who were slain while performing their jobs due to their conduct was lower than this statistic. a global issue: Instances of suicide among law enforcement officials have been seen globally, indicating the cross-border nature of the underlying stressors. This problem is not exclusive; it has manifested in every geographical area around the globe. Awareness of the Variables in Action An illustration of chronic stress is the persistent exposure to distressing events, violence, and mortality, which detrimentally impacts an individual's mental well-being.

This can have a harmful effect on the individual's emotional well-being. Employees exposed to elevated job expectations, shift work, and restricted resources may experience heightened levels of stress, ultimately leading to burnout. In such instances, the employee may encounter burnout. The presence of a secretive culture within the law enforcement community may discourage personnel from seeking treatment for mental health disorders. The police could refrain from seeking help owing to several factors, such as social shame and a culture of silence. A prevalent obstacle preventing officers from obtaining aid is the inadequate funding or insufficient resources allocated to mental health institutions inside police agencies.

Beyond the Badge: The Human Cost and Impact on Communities

Although the statistics about suicides among police officers provide a bleak outlook, the true extent of the damage goes beyond mere numerical data. It exerts a substantial impact on the lives of individuals, families, and entire communities, resulting in enduring emotional wounds and widespread consequences affecting a considerable number of people. Each suicide inflicts a profound and tragic loss onto spouses, offspring, guardians, and other cherished individuals, leading to the fragmentation of families that ensues after each suicide. The sudden and sometimes inexplicable nature of the loss adds additional levels of pain and emotional anguish to their bereavement process. This is worsened by the fact that the loss occurred rapidly. Other officers may experience symptoms of post-traumatic stress disorder (PTSD), anxiety, and despair following the observation of a colleague's suicide. This disorder can have a substantial influence on their emotional well-being. The feeling of camaraderie and the collective encounter both contribute to the intensification of the sorrow, which subsequently disrupts the dynamics of the team. Community members may experience feelings of vulnerability and dread upon discovering that a law enforcement officer has committed suicide. This may lead to a decline in trust and confidence. These actions might lead to a decline in confidence towards law enforcement and impede significant efforts to promote community policing and collaboration. Decline in morale and public perception: The occurrence of law enforcement officers taking their own lives has a detrimental impact

on the overall image of law enforcement, perhaps reinforcing unfavourable stereotypes and affecting public backing for law enforcement personnel a decrease in the New York Police Department's capacity. The occurrence of suicides among law enforcement professionals has a negative impact on the capacity of law enforcement agencies to efficiently fulfil their duty of serving and safeguarding communities. This occurs due to the reduction in the available workforce of officers. There is a potential for increased response times, diminished community involvement, and a decline in public safety.

Disruption in the Interpersonal Connections Within the Community The suicides of law enforcement professionals can potentially strain the relationships between the police and the communities they serve because to the anger and sadness that ensue. Consequently, these circumstances may hinder the establishment of trust, comprehension, efficient communication, and collaboration.

Heightened Social Discrimination and Misconceptions: Law enforcement professionals face the potential of encountering more stigma and disinformation from the community when they publicly address mental health and suicide issues. This may exacerbate the perpetuation of detrimental assumptions about mental health and vulnerability within the law enforcement community, perhaps leading to a greater reluctance to seek therapeutic support. An escalation in the prevalence of aggressive and criminal acts is anticipated. Due to reduced staffing and low morale in police agencies, along with strained relationships with communities, there is a possibility for criminal activity to exploit an existing vulnerability. This absence might facilitate illicit behaviour to exploit the circumstances. There is a potential for a rise in criminal activity, which will further jeopardise the safety and welfare of the community.

A Culture of Compassion: Prioritising Officer Well-being and Recognizing Vulnerability

The badge is consistently displayed as a symbol of fortitude, courage, and steadfast commitment to the service. Consequently, law enforcement officials are obligated to carry out their duties, which necessitates them to negotiate an intricate terrain of stress, trauma, and psychological burden throughout their professional lives. To promote the establishment of a compassionate culture in law enforcement, it is crucial to prioritise the well-being and safety of law enforcement personnel and acknowledge the susceptibility of these officers. The law enforcement culture has historically emphasised qualities such as fortitude, endurance, and impassiveness since the inception of the profession. Nevertheless, although these attributes are commendable, they can foster a repressive atmosphere where requesting assistance for mental health challenges is perceived as a display of vulnerability. The practice of hiding information may exacerbate stressors and drive law enforcement professionals to adopt maladaptive coping strategies, eventually contributing to the distressing and tragic reality of police officer suicides. Understanding that vulnerability is not indicative of weakness, but rather an inherent aspect of the human experience, is crucial for fostering a compassionate society. This is due to the fact that vulnerability is an innate characteristic of the human condition. Despite their courage and commitment, police officers are susceptible to experiencing the emotional burden that their profession entails. They have unrestricted access to this experience. The initial stage in cultivating supportive settings and motivating individuals to get therapy is to acknowledge and appreciate the sensitivity of those affected. The initial step entails acknowledging the persons who are implicated.

Compassion is demonstrated by concrete actions that prioritise the well-being and safety of law enforcement professionals above all other considerations. The following items are encompassed under this collection: An effective proactive mental health strategy should encompass several crucial elements, such as the implementation and normalisation of regular mental health assessments, availability of therapy and counselling resources, and provision of stress management training. Structured assistance provided by individuals of the same level or status: The creation of peer support networks, which enable officers to contact with colleagues who possess knowledge of the specific difficulties they face and are prepared to offer aid without passing judgement, is highly advantageous. It is important to provide flexible work arrangements to ease stress management and promote a healthy work-life balance. These agreements encompass the provision of options for flexible scheduling, time off, and reduced workloads. The organisation's leadership must actively cultivate a leadership culture that promotes awareness of mental health issues, avoids stigmatisation, and offers proactive support to officers seeking assistance. When prioritising well-being, it is crucial to recognise the inherent human element involved. This is in addition to the implementation of policies and programmes. Having stated that: Compassion and empathy are crucial qualities that leaders and colleagues should exhibit towards officers who are facing challenging circumstances. This may be achieved by offering emotional support and acknowledging the distinctive difficulties that police officers encounter. Creating secure work environments where officers may freely express their opinions and concerns without the apprehension of being criticised is another crucial issue. Another crucial subject is the promotion of unrestricted dialogue on mental health. Commending and Acknowledging the Ability to Bounce Back It is crucial to acknowledge and celebrate the resilience of officers who can successfully overcome challenges and triumph over adversity. This not only aids in maintaining suitable coping strategies, but it also fosters a feeling of inclusion and assistance for those with developmental impairments.

A Future of Hope: Breaking the Cycle of Stigma and Suicide

The issue of police officers committing suicide has been a persistent and concerning problem that has affected individuals, communities, and public safety for an extended period of time. This has had a profound and enduring effect on the lives of community members and people. However, amidst the darkness, there remains a faint ray of hope: the potential to disrupt the pattern of social disgrace and construct a future in which law enforcement officials are safeguarded and thrive, both while on active duty and during their time off duty. This is a faint sign of optimism that arises from the darkness. The pervasive silence regarding mental health and suicide within the context of law enforcement has acted as a suffocating barrier, concealing the underlying vulnerabilities that exist inside all individuals. This has been the situation for the whole duration of the history of law enforcement. To unveil this facade, it is imperative for us to engage in open and sincere communication with one other. To begin dismantling the harmful stigma that isolates and endangers officers, it is crucial to acknowledge that seeking assistance is not indicative of weakness, but rather demonstrates strength and bravery. This is the initial stage in the process of dismantling the negative perception associated with something. In order to disrupt the pattern, it is imperative to implement proactive and durable measures. These measures should also provide officers with the choice to prioritise their personal welfare. One element in the process of normalising

mental healthcare is to seamlessly integrate mental health services into police stations, making them as accessible and commonplace as physical health checkups. Additional officers should receive training and resources to become sympathetic listeners and unbiased mentors, hence enhancing peer support. This will facilitate the empowering of peer support. This will lead to the creation of a culture where those who are susceptible are greeted with empathy and aid. By showcasing narratives of courage and victory in the face of hardship, we aim to emphasise the psychological resilience required to confront the obstacles inherent in the profession of law enforcement. This will be accomplished in the context of commemorating fortitude. The process of cultivating a network of support for law enforcement officers include forging links with families and communities. Facilitating connections with families and community organisations is crucial, as it will enable them to become valuable partners in the endeavour. Instigating a paradigm change in societal perspectives Efforts focused on increasing public consciousness and facilitating open dialogues has the capacity to eliminate misunderstandings and confront preexisting beliefs on mental health and suicide within the law enforcement community. Investing in evidence-based solutions that have been proven to be effective: By employing research and data-driven methodologies, one may exert influence on the advancement of efficacious medicines and preventive measures. An example of lobbying for policy change would be fighting for legislation and funding that would provide police at all levels with adequate mental health resources and support services. Envision a society where law enforcement officials can confidently seek help without facing social stigma, and where mental health services are readily available and smoothly integrated. In this world, communities wholeheartedly support law enforcement officers as protectors of public safety and their own individual welfare. This is not only an idealistic vision; instead, it is a future that we have the ability to construct, gradually and methodically, via the cultivation of empathy, by eradicating the recurring pattern of stigma and suicide. Not only do the officers profit from this future, but it also fosters community growth, trust building, and the development of a more resilient society. In order to ensure that the badge worn by those who stand guard daily symbolises both authority and a commitment to their own and others' welfare, let us collaborate to become beacons of optimism, illuminating the path towards a more promising future for those entrusted with responsibility. This will guarantee that the badge is worn exclusively by individuals who have been entrusted with a sense of duty and accountability.

Suggestions

- ❖ Emphasise the significance of awareness, while prioritising evidence-based treatments and preventative methods.
- ❖ Propose policy modifications such as compulsory mental health evaluations or adaptable work schedules to provide mental health support for police officers.
- ❖ Enhance police assistance by collaborating with mental health experts, community organisations, and families.
- ❖ Insights derived from global police officer suicide rates and patterns.
- ❖ Evaluate the financial and advantageous aspects of the intervention technique to provide information for policy-making.

- ❖ Identify prospective investigations to further develop your discoveries and assist law enforcement.

Conclusion

It is crucial to offer a solution that is both comprehensive and capable of being implemented quickly. This is because it is the sole method to offer a solution that is deemed all-encompassing. The reason for this may be linked to several causes, one of which is the complicated and diverse nature of the issue of suicide among law enforcement personnel. Among the several elements that contribute to this phenomenon, this is one of them. Given the current situation, which highlights the importance of taking action, it is crucial to promptly implement remedial measures as they become feasible. In the future, we can create an environment where law enforcement personnel feel confident in seeking treatment and prioritise their mental health inside the company. There is a potential for us to do this. Given our present capabilities, our organisation is fully prepared to execute this task. To effectively achieve this goal, there are several approaches available. Some of these methods encompass acquiring comprehension of the components that contribute to the issue, implementing preventive techniques that have been shown to be advantageous, and fostering a more supportive atmosphere. Due to our ability to achieve our defined target, we are capable of accomplishing it. In order to safeguard those who protect us, it is essential to prioritise the preservation of the emotional well-being of our defenders. It is crucial to always have in mind this particular fact, irrespective of any situations that may arise. It is essential to always bear this in mind, regardless of the situation. It is a must. It is crucial to always bear this in mind in any given case. This is an imperative task that must be completed. It is essential to possess it. Maintaining constant awareness of this is a recurring necessity. Sustained endeavour is necessary. It is essential to always remember to bear this in consideration. It is an obligation that must be fulfilled without any hesitation or doubts whatsoever. Maintaining this mindset consistently is crucial. It is essential to always bear this in mind. Consistently exerting effort is vital. It is crucial to always have this reality in mind. There are absolutely no exemptions to this duty; it must be executed without any hesitations or conditions whatsoever.

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EXPLORING THE RELATIONSHIP BETWEEN SELF-COMPASSION AND LIFE SATISFACTION AMONG YOUNG ADULTS

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Abstract

Self-compassion refers to treating yourself with kindness, understanding, and support. Life satisfaction refers to an overall sense of well-being and contentment with your life. Self-compassion, which involves being kind to oneself in times of difficulty, recognizing common humanity, and practicing mindfulness, has gained attention as a crucial factor influencing life satisfaction. The study examines the correlation between self-compassion and life satisfaction among young adults. 50 young adults aged 18 -25 completed online questionnaires, including the satisfaction with life scale and self-compassion scale. The data were collected by using Google Forms. The data was analyzed using SPSS version 23, utilizing descriptive statistics, and Pearson's correlation coefficient. The results showed that there is a significant relationship between life satisfaction and self-compassion among young adults.

Keywords: Life satisfaction, Self-compassion, Young adults.

Introduction

Self-compassion involves treating oneself with kindness, understanding, and care during times of suffering or perceived failure, rather than self-criticism (Neff, 2011). Life satisfaction is generally an individual's overall cognitive and affective evaluation of their life, encompassing their sense of wellbeing and happiness (Diener, 1985). The benefits of self-compassion differ from those of self-esteem, which is a personal emotional assessment of oneself. Life satisfaction, wisdom, happiness, optimism, curiosity, learning objectives, social connectivity, personal accountability, and emotional resilience are all positively correlated with self-compassion. Practicing self-compassion can improve life satisfaction by reducing stress, increasing emotional resilience, and fostering a more positive outlook on life. In life satisfaction, factors include relationship with loved ones, fulfillment from work, satisfaction with physical health, happiness with life, and contentment with our sense of spirituality or religion. Research indicates that satisfaction with life is positively correlated with overall self-compassion (Koleilat, 2017). From the other review analysis, it was found that the two variables, self-compassion and life satisfaction, have a positive relationship between them (Nathani, 2022).

Methodology

Aim:

To investigate the relationship between self-compassion and life satisfaction among young adults.

Objectives:

To examine the relationship between life satisfaction and self-compassion.

Hypothesis:

H1: There will be a correlation between self-compassion and life satisfaction among young adults.

Variables:

- **Independent variable:** Self-compassion
- **Dependent variable:** Life satisfaction

Sampling method: This research design is a correlational design, helping in identifying correlation between both the variables, i.e., self-compassion and life satisfaction. The study employs a convenient sampling technique. The target population consists of young adults aged 18 to 25, with a total sample size of 50 participants. Individuals with severe psychiatric conditions, cognitive impairments, or incomplete responses; participants who have already participated in the study to avoid duplicate data; and samples from other states were excluded.

TOOL DESCRIPTION:

The Satisfaction with Life Scale (SWLS) is a tool designed to measure individuals' life satisfaction developed by Diener et al. (1985). The satisfaction with life scale assesses global life satisfaction. The scale consists of five items, each rated on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). There is no reverse scoring used in the scale. The reliability of the scale is high internal consistency (Cronbach's alpha) and test-retest reliability. Diener et al. (1985) reported an alpha of 0.87, and the validity is convergent validity.

The self-compassion scale – short form (SCS-SF) is a 12-item tool designed to measure individuals self-compassion developed by Raes et al. (2011). The scale is analyzed on the basis of 6 subscales: self-kindness, self-judgement, common humanity, isolation, mindfulness, and over-identification. The reliability of the scale is 0.92, and the validity is convergent validity.

STATISTICAL TECHNIQUES:

Normality is checked using the Kolmogorov-Smirnov and Shapiro-Wilk tests. Skewness and kurtosis were also checked; the distributions are within the range.

Pearson's correlation coefficient is used to find out significant relationships between two variables

RESULTS

Table 1: Descriptive statistics of study variables

Variables	N	Mean	SD	SKEWNESS	KURTOSIS
Self-compassion	50	36.58	5.37	-0.22	1.19
Life satisfaction	50	23.12	5.45	-0.39	-0.29

Table 1 Shows the Skewness values for the variables -0.22, and -0.39 which are between acceptable range of -2 to +2 and Kurtosis values for the variables are 1.19, and -0.29 which are acceptable range of -7 to +7. This table reveals that the data are normally distributed, so this study adopted Pearson Correlation analysis.

Table 2: Correlation between Life satisfaction and Self-compassion

Variables	N	Mean	SD	r value
Self-compassion	50	36.58	5.37	0.29
Life satisfaction	50	23.12	5.45	

Table 3 Shows that self-compassion is positively correlated with life satisfaction ($r = 0.29$). Hence the H1 that, there is significant relationship between life satisfaction and self-compassion is accepted.

DISCUSSION

This study examines the relationship between self-compassion and life satisfaction among young adults. The descriptive statistics for life satisfaction and self-compassion are described in Table 1. The results indicate the life satisfaction of the mean score is 23.12 with a standard deviation of 5.45. The skewness value of -0.39 and kurtosis value of -0.29 suggest that the distribution is approximately normal, as these values fall within the acceptable range of -2 to +2 for skewness and -7 to +7 for kurtosis. The results indicate the self-compassion of the mean score is 36.58 with a standard deviation of 5.37. The skewness value of -0.22 and kurtosis value of 1.19 also indicate an approximately normal distribution. The correlation finding suggests that self-compassion is positively correlated with life satisfaction. The Pearson correlation coefficient ($r = 0.29$) indicates a weak positive relationship between the two variables. This suggests that individuals with higher levels of self-compassion tend to have greater life satisfaction.

CONCLUSION

This study investigated the relationship between self-compassion and life satisfaction among young adults. The result revealed that self-compassion is weakly and

positively correlated with life satisfaction. This aligns with previous research that suggests self-compassion plays a crucial role in overall satisfaction with life.

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PSYCHOLOGICAL COPING STRATEGIES FOR INJURY RECOVERY IN ELITE AND AMATEUR SPRINTERS

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Abstract

Injuries are a common challenge for sprinters, often leading to physical and psychological distress. Effective psychological coping strategies play a crucial role in the recovery process, influencing an athlete's mental resilience, motivation, and adherence to rehabilitation. This article explores various coping mechanisms, including cognitive-behavioral strategies, emotional regulation, mindfulness, social support, and goal-setting, to aid both elite and amateur sprinters in injury recovery. Understanding and implementing these strategies can enhance mental well-being, promote faster recovery, and improve return-to-sport outcomes.

Keywords: Coping strategies, injury recovery, sprinters

1. Introduction

Injury is an inevitable part of competitive sprinting, causing disruptions in training, performance, and psychological stability. For sprinters, injuries not only result in physical limitations but also contribute to mental challenges such as anxiety, depression, and loss of confidence. The effectiveness of an athlete's psychological coping strategies significantly impacts the speed and success of their recovery. This article aims to explore various mental approaches that enhance resilience and promote a smooth transition from injury to full recovery.

2. Common Psychological Reactions to Injury

Injured sprinters often experience a range of psychological responses, including:

- **Denial:** Initial disbelief or refusal to accept injury severity.
- **Frustration and Anger:** Feelings of helplessness due to performance setbacks.
- **Anxiety and Depression:** Worries about future performance and prolonged recovery.
- **Loss of Identity:** Fear of losing one's status as an athlete.
- **Motivational Fluctuations:** Varying levels of enthusiasm for rehabilitation and training.

Recognizing these emotional responses is essential for developing effective coping mechanisms and maintaining psychological stability during recovery.

3. Psychological Coping Strategies for Injury Recovery

3.1 Cognitive-Behavioral Strategies

Cognitive-Behavioral Therapy (CBT) techniques can help sprinters challenge negative thoughts and develop a positive mindset toward recovery. These include:

- **Cognitive Restructuring:** Reframing negative thoughts about injury to foster optimism.
- **Self-Talk Techniques:** Using affirmations to maintain confidence and motivation.
- **Visualization and Imagery:** Mentally rehearsing successful recovery and return to competition.

3.2 Emotional Regulation and Mindfulness

Managing emotions effectively reduces stress and enhances recovery. Strategies include:

- **Mindfulness Meditation:** Focusing on the present moment to reduce anxiety.
- **Breathing Exercises:** Deep breathing techniques to improve relaxation and mental clarity.
- **Journaling:** Writing about emotions and progress to process feelings constructively.

3.3 Social Support and Communication

A strong support system contributes to psychological well-being and adherence to rehabilitation. Sprinters should:

- **Engage with Coaches and Medical Staff:** Seeking guidance and encouragement.
- **Rely on Teammates and Peers:** Sharing experiences to foster motivation.
- **Involve Family and Friends:** Utilizing emotional support to sustain positive morale.

3.4 Goal-Setting for Recovery

Establishing realistic and structured goals enhances motivation and provides a clear recovery roadmap. Sprinters can use:

- **Short-Term Goals:** Focusing on small achievements, such as improving flexibility or pain management.
- **Long-Term Goals:** Visualizing complete recovery and returning to peak performance.
- **SMART Criteria:** Setting Specific, Measurable, Achievable, Relevant, and Time-bound goals.

3.5 Maintaining Athletic Identity and Alternative Engagement

To prevent loss of self-identity during recovery, sprinters should:

- **Engage in Alternative Training:** Low-impact activities such as swimming or cycling.
- **Mentor Younger Athletes:** Staying involved in the sport through coaching or mentoring.
- **Expand Personal Interests:** Exploring hobbies outside of sprinting to maintain overall well-being.

4. Role of Psychological Interventions in Rehabilitation

Sports psychologists and mental health professionals play a crucial role in injury rehabilitation by:

- Conducting individual counseling to address anxiety and depression.
- Implementing guided relaxation and imagery exercises.
- Providing group therapy sessions to foster peer motivation and resilience.
- Teaching resilience-building techniques tailored to each athlete's needs.

5. Case Studies and Practical Applications

Case Study 1: Elite Sprinter's Recovery Through Visualization

An elite sprinter suffering from a hamstring tear incorporated daily visualization techniques, mentally rehearsing successful sprint performances. This strategy helped maintain confidence and improve neuromuscular readiness for competition.

Case Study 2: Amateur Athlete Using Goal-Setting for Rehabilitation

An amateur sprinter recovering from an ankle sprain adopted a structured goal-setting approach, celebrating small progress milestones (e.g., regaining full range of motion). This approach maintained motivation and led to a faster, more disciplined recovery.

6. Conclusion

Psychological coping strategies are essential for injury recovery in both elite and amateur sprinters. By employing cognitive-behavioral techniques, mindfulness, social support, goal-setting, and alternative engagements, athletes can maintain mental resilience and expedite rehabilitation. Sports psychologists and coaches should integrate these strategies into injury management programs to ensure holistic recovery and long-term success.

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EFFECT OF SMALL-SIDED GAME TRAINING AND SAQ TRAINING ON SKILL PERFORMANCE AMONG ADOLESCENTBOYS FOOTBALL PLAYERS

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Abstract

Purpose of the study: This study aimed to investigate the effects of small-sided game training (SSGT) and Speed Agility Quickness Training (SAQ) on skill performance parameters (Dribbling, Shooting, Passing, Kicking) on adolescent boys soccer Players, were randomly assigned to SSGTs, SAQs, and the control group (CG) during the training period. **Limitations:** Before and after an 8-week training intervention period, forty-five soccer players aged 14-17(14.3±2.4years) were tested. The subjects of this study were selected from different schools located in the Chidambaram sub-district. The SSGT group performed 4x4 small-sided games in the first 4 weeks and the playing area was modified from 32x24 to 44x36 in each week. And 3x3 small side game performed last 4 weeks and here also modified the playing area 28x24 to 40x36. The playing time was 45 minutes including 5 minutes half time. The SAQ group performed various speed, agility, and quickness drills, with training intensity progressively increasing from 60% to 80%, modified every two weeks. Both the SSGT group and SAQ group performed 3 sessions of one hour training, including warming up and cooling down in a week. The tests included the More-Christian general soccer ability test and the Warner soccer skill test to assess performance. The collected data were statistically treated by using Analysis of covariance (ANCOVA) and 0.05 level of confidence was fixed to test the significance. The study results indicate that the SSGT group demonstrated greater improvement in passing ability compared to the SAQ group, while SAQ training was more effective in enhancing dribbling, shooting, and kicking skills. Additionally, both experimental groups showed significant improvements in all skill variables compared to the control group

Key terms: *Small-side games, SAQ training, Skill performance variables.*

INTRODUCTION

Football, as one of the most popular sports worldwide, demands a combination of technical skills, tactical awareness, physical fitness, and cognitive abilities. Among adolescent players, the development of these attributes is crucial for long-term athletic progression and performance. Training methods play a pivotal role in enhancing these skills, and two prominent approaches—Small-Sided Games (SSG) and Speed, Agility, and Quickness (SAQ) training—have gained significant attention in recent years. Small-Sided Games are modified versions of football that involve fewer players on a smaller

pitch, encouraging more touches on the ball, increased decision-making opportunities, and enhanced tactical understanding. On the other hand, SAQ training focuses on improving specific physical attributes such as speed, agility, and quickness, which are essential for football performance. Both training methods have been shown to positively influence skill development, but their comparative effectiveness, particularly among adolescent boys, remains an area of interest for researchers and coaches. Adolescence is a critical period for skill acquisition and physical development, making it an ideal time to implement targeted training interventions. However, the impact of SSG and SAQ training on skill performance in this age group is not yet fully understood. While SSG emphasizes game-like scenarios and technical skills, SAQ training targets the physical components that underpin these skills. Understanding how these methods influence skill performance can help coaches design more effective training programs tailored to the needs of young football players.

This study aims to explore the effects of Small-Sided Game training and SAQ training on skill performance among adolescent boys football players. By comparing the outcomes of these two training approaches, the research seeks to provide insights into their relative effectiveness and potential integration into youth football development programs. The findings could contribute to optimizing training methodologies, ultimately enhancing the skill development and overall performance of young footballers.

METHODOLOGY

Subjects and variables

Forty-five adolescent boys soccer players were selected from different schools located in the Chidambaram sub-district for the subjects. The age range of the chosen subjects was 14 to 17 years old. Three groups—experimental group 1, experimental group 2, and the control group—were randomly selected from among the subjects. Eight weeks were allotted for the trial. A pre-test and a post-test were included in the study's random group design. The 45 participants were divided into three equal groups of 15 adolescence boy football players each at random. All respondents took pre-tests on a few performance-related factors, including shooting for accuracy, kicking for distance, dribbling, and passing.

Training protocol

During the training period, experimental group 1 underwent small-sided game training, and experimental group 2 underwent SAQ training for three days per week for 8 weeks and the control group underwent usual football practice only. The requirements of the experimental procedures, testing as well as exercise schedules were explained to them so as to avoid any ambiguity of the effort required on their part and prior to the administration of the study, the investigator got the individual consent from each subject. All the subjects were tested on the following variables before training (Pre), and after training (Post) passing, dribbling, and shooting for accuracy were assessed by tests recommended by Mor & Christian (1979) and Warner soccer skill test was used to measure the distance of kicking. The individual differences were not considered in the training. This enabled the investigator to adapt a suitable training schedule for this study.

The subjects of the experimental groups underwent training programs for eight weeks, 3 sessions per week, whereas the control group underwent usual practice only, and they didn't allow to perform SSG and SAQ. Football training session was conducted both for experimental groups for 60 minutes, including warming up and cooldown. The SSGT group performed 4x4 small-sided games in the first 4 weeks and the playing area was modified from 32x24 to 44x36 in each week. And 3x3 small side game performed last 4 weeks and here also modified the playing area 28x24 to 40x36. The playing time was 45 minutes including 5 minutes half time. The SAQ group performed different kinds of speed agility quickness training, the intensity of work varying 60% to 80%, and it modified each 2 weeks, and intensity were planned in such a way to have a progressive increase in sets as well as repetitions as the training proceeds.

Experimental Design and Statistical Procedure

The data acquired from the experimental and control groups prior to and after the training session on selected variables were statistically analysed for any significant differences using ANCOVA. In this investigation, the random group design was utilized, and the groups were drawn from the same population. There was no attempt to equalize the groups prior to the start of the experimental treatment. To eliminate the initial variations in the selected dependent variable, ANCOVA was utilized. The pretest means of the chosen dependent variable were employed as a covariate. As a result, the data obtained from the three groups prior to and after experimentation on passing, shooting, kicking for distance, and dribbling were statistically examined to determine any significant differences using the analysis of covariance (ANCOVA). The paired mean differences were determined using Scheffe's post-hoc test. All data were evaluated with the SPSS statistical software. The level of confidence was fixed at 0.05 level of significance because the number of respondents was limited and the selected variables may fluctuate due to numerous external influences.

RESULTS

Analysis of Covariance for the Selected Variables among Experimental & Control Groups.

		SSGT	SAQ	CG	SOV	SS	df	MS	F ratio
DRIBBLING	Pre mean SD	44.56	44.39	44.51	B:	0.243	2	0.122	0.68
		1.46	1.13	1.38	W:	74.75	42	1.79	
	Post men SD	43.58	42.55	44.37	B:	25.08	2	12.54	7.38
		1.43	1.10	1.34	W:	71.33	42	1.69	
	Adj. Post mean	43.51	42.65	44.35	B:	21.79	2	10.89	296.56
					W:	1.50	41	0.37	
PASSING	Pre mean SD	9.46	9.13	9.40	B:	0.933	2	.46	.529
		6.39	1.18	.910	W:	37.06	42	.88	
	Post men SD	11.16	10.13	9.58	B:	19.33	2	9.66	9.05
		.89	1.00	1.48	W:	44.84	42	1.07	

		SSGT	SAQ	CG	SOV	SS	df	MS	F ratio
	Adj. Post mean	11.05	10.31	9.52	B:	17.43	2	8.71	20.26
					W:	17.62	41	.43	
SHOOTING	Pre mean SD	82.93	83.20	82.80	B:	1.24	2	.62	.009
		9.70	7.32	8.27	W:	3027	42	72.09	
	Post mean SD	84.08	86.20	83.30	B:	67.51	2	33.75	.518
		9.53	6.13	8.25	W:	2737	42	65.17	
	Adj. Post mean	84.12	86.00	83.46	B:	51.42	2	25.71	14.88
					W:	70.82	41	1.72	
	Pre mean SD	43.10	42.76	42.82	B:	1.01	2	.51	.60
		2.04	3.26	3.28	W:	359.14	42	8.55	
KICKING	Post mean SD	43.97	45.84	43.19	B:	55.78	2	27.89	3.24
		1.97	3.13	3.47	W:	361.02	42	8.59	
	Adj. Post mean	43.77	45.97	43.26	B:	62.43	2	31.21	25.06
					W:	51.06	41	1.24	

Significant $F = (df 2, 42) (0.05) = 3.22$; $(P \leq 0.05)$ and $F = (df 2, 41) (0.05) = 3.23$; $P \leq 0.05$)

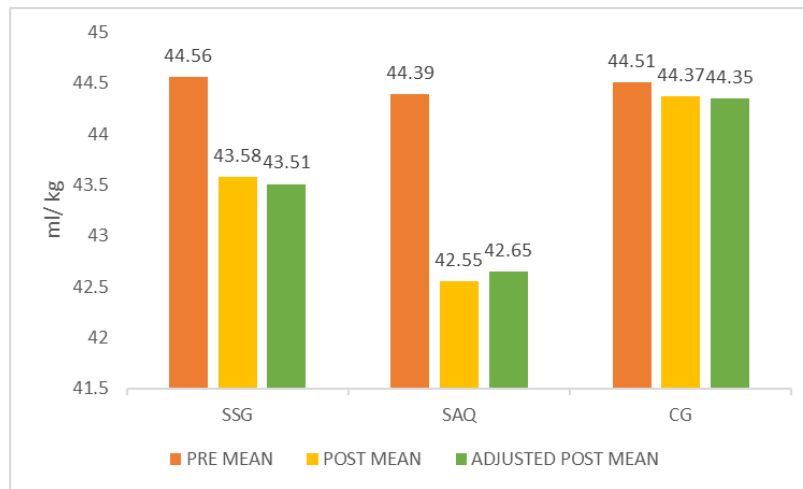
The corrected post-test mean for dribbling for the SSGT group is 43.51, the SSCT group is 42.65, and the control group is 44.35. The computed 'F' ratio of 18.30 for adjusted post-test mean exceeds the table value of 3.23 necessary for significance at the 0.05 level for df 2 and 41. The results of the study showed that there was a substantial difference between three groups on Dribbling.

The adjusted post-test mean for Passing is 110.5 for the SSGT group, 11.31 for the SSCT group, and 9.52 for the control group. The computed 'F' ratio of 18.30 for adjusted post-test mean exceeds the table value of 3.23 necessary for significance at the 0.05 level for df 2 and 41. The study's findings revealed a considerable disparity in passing rates across the three groups.

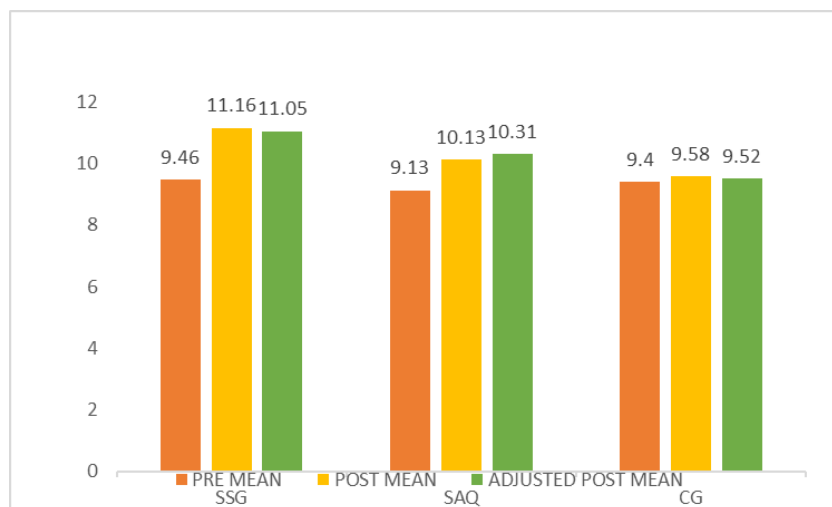
The corrected post-test mean for shooting in the SSGT group is 84.12, the SSCT group is 86.00, and the control group is 83.46. The computed 'F' ratio of 18.30 for adjusted post-test mean exceeds the table value of 3.23 necessary for significance at the 0.05 level for df 2 and 41. The results of the study showed that there was a significant difference among three groups on Shooting.

The adjusted post-test mean for Kicking in the SSGT group is 43.77, the SSCT group is 45.97, and the control group is 43.26. The computed 'F' ratio of 18.30 for adjusted post-test mean exceeds the table value of 3.23 necessary for significance at the 0.05 level for df 2 and 41. The study results showed a significant difference between the three groups on Kicking.

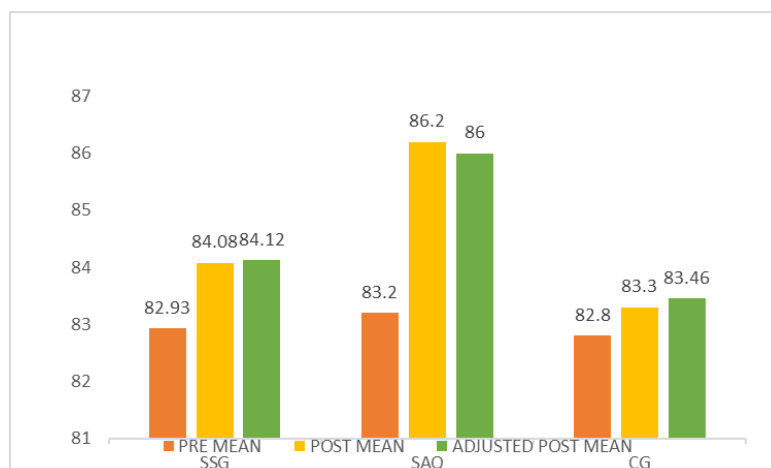
GRAPH 1: Pre, Post and Adjusted Post Mean of Dribbling



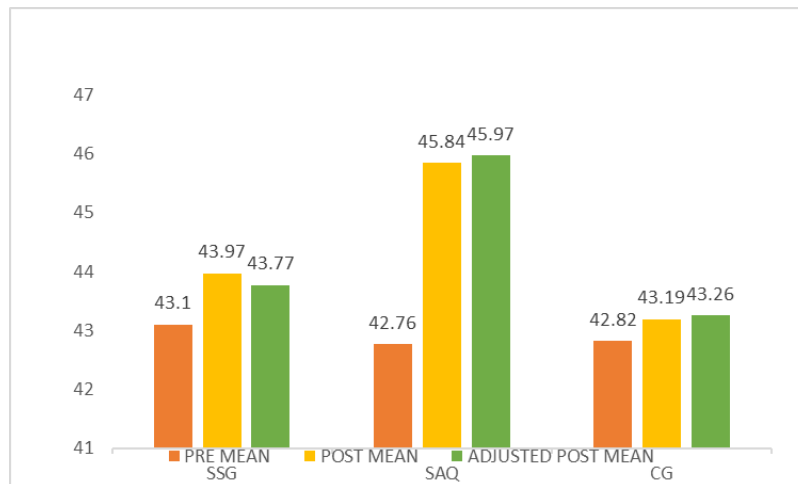
GRAPH 2: Pre, Post and Adjusted Post Mean of Passing



GRAPH 3: Pre, Post and Adjusted Post Mean of Shooting



GRAPH 4: Pre, Post and Adjusted Post Mean of Kicking



Scheffe's Post Hoc Test for the adjusted post-test paired means difference on DRIBBLING, PASSING, SHOOTING AND KICKING.

	SSGTG	SAQTG	CG	MEAN DIFFERENCE	CONFIDENCE INTERVAL
DRIBBLING	43.51	42.65		.86*	0.60
	43.51		44.35	.84*	
		42.65	44.35	1.70*	
Passing	11.05	10.31		.74*	0.56
	11.05		9.52	1.53*	
		10.31	9.52	.79*	
SHOOTING	84.12	86.00		1.87*	1.21
	84.12		83.46	.65	
		86.00	83.46	2.52*	
kicking	43.78	45.98		2.20*	1.03
	43.78		43.26	.51	
		45.98	43.26	2.70*	

***significant at 0.05 level of confidence.**

The table II shows that the adjusted post test paired mean difference between SSG training group and SSC training group, SSG training group and control group and SSC training group and control group are 74, 1.53, and .79 for dribbling, .86, 84, and 1.70 for passing, 1.87, .65, 2.52 shooting, 2.20, .51, 2.70 for kicking. And They were greater than the confidence interval value of 0.56, 0.60, 1.21, 1.03 at 0.05 level of confidence respectively. It may be concluded from the results of the study that SSG training and SSC training groups have significantly improved the dribbling, passing, shooting, kicking, performances when compared with the control group and there was significant difference are between the two training groups.

Discussion

The findings of this study highlight the effectiveness of Small-Sided Game Training (SSGT) and Speed, Agility, and Quickness (SAQ) training on skill performance among adolescent football players. The results demonstrate that SSGT led to significant improvements in passing ability, whereas SAQ training enhanced dribbling, shooting, and kicking skills. Additionally, both experimental groups showed greater improvements compared to the control group, indicating the effectiveness of structured training programs over routine practice. These findings align with previous research that emphasizes the benefits of small-sided games in football skill development. Sampaio et al. (2014) found that SSGT increases the frequency of ball touches and decision-making opportunities, which explains the improvement in passing ability in our study. Similarly, Fleay et al. (2018) noted that modifying field dimensions in small-sided games enhances technical and tactical performance, supporting our finding that SSGT contributed significantly to passing improvements. On the other hand, SAQ training was more effective for dribbling, shooting, and kicking. This result is consistent with Halouani et al. (2014), who reported that SAQ training enhances movement efficiency and explosiveness, leading to better ball control and shooting accuracy. Goto & King (2019) further confirmed that high-intensity training protocols improve power and speed, which may explain the superior results of the SAQ group in shooting and kicking. These findings suggest that SSGT is more effective in improving cognitive and decision-making skills, leading to better passing accuracy, while SAQ training enhances neuromuscular coordination, resulting in superior dribbling, shooting, and kicking performance., each had a distinct impact on specific skills. The results parallel those of Arslan et al. (2017), who noted that active and passive rest intervals influence physiological responses differently in small-sided games, affecting technical execution. Additionally, our study reinforces the idea that physical conditioning through SAQ training provides a foundation for power-based skills such as shooting and kicking, as highlighted by previous research.

The differences in skill improvements between Small-Sided Game Training (SSGT) and Speed, Agility, and Quickness (SAQ) training can be explained through biomechanical and cognitive principles. SSGT enhances passing ability by simulating real-game scenarios, requiring players to make quick decisions under pressure, improving their spatial awareness, reaction time, and tactical intelligence. The smaller playing area and increased ball interactions facilitate motor learning and cognitive processing, leading to better passing accuracy. On the other hand, SAQ training focuses on neuromuscular adaptations, enhancing explosive movements, rapid acceleration, and directional changes. These improvements translate into better dribbling control, more powerful shooting, and stronger kicking performance, as these skills rely on lower-body power, coordination, and reaction speed. The combination of cognitive engagement in SSGT and neuromuscular efficiency in SAQ training highlights because each method benefits different aspects of football performance.

This study has several limitations. The eight-week training duration may not have been sufficient to observe long-term adaptations. Additionally, the sample size (45 participants) was relatively small, limiting the generalizability of findings. The study assessed skill performance using standardized tests rather than real-game performance,

which may not fully capture the tactical and psychological aspects of football skills. Future research should incorporate larger sample sizes, extended training periods, and match-based assessments for a more comprehensive understanding of training effectiveness. The sample size was relatively small and limited to a specific region, reducing the generalizability of the findings. Variations in baseline skill levels among participants may have influenced improvements. Additionally, the study assessed skill performance through standardized tests rather than real-game scenarios, which may not fully reflect match performance. External factors such as diet, recovery, and motivation were not controlled, potentially affecting results. Future research should include larger, more diverse samples, extended training periods, and match-based performance analysis for a more comprehensive understanding.

Overall, this study supports the notion that integrating both SSGT and SAQ training into football development programs can yield comprehensive skill improvements. Future studies could explore the long-term effects of these training methods and their impact on game performance in competitive settings.

Conclusions

This study confirms that Small-Sided Game Training (SSGT) enhances passing ability, while Speed, Agility, and Quickness (SAQ) training improves dribbling, shooting, and kicking in adolescent football players. Both training methods proved more effective than regular practice, highlighting the importance of structured training. Integrating SSGT and SAQ can optimize skill development, and future research should explore their long-term impact on performance.

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A STUDY ON OCCUPATIONAL HAZARDS AND SAFETY HAZARDS AMONG THE NIGHT SHIFT TEXTILES EMPLOYEES WITH THE REFERENCE TO TENKASI DISTRICT

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Abstract

Workplace conditions play a crucial role in determining employee satisfaction, well-being, and productivity. This study examines various aspects of workplace conditions, focusing on the health, safety, and well-being of employees. The results indicate that a significant number of employees face workplace hazards, including noise (36.66%) and workplace violence (40%), with a notable proportion experiencing verbal abuse (28.33%). Additionally, many employees report issues related to work-life balance, with 41.66% acknowledging that their work affects their personal life. Health concerns such as fatigue, mental distress, and sleeping difficulties were commonly reported, with digestive problems affecting 81.7% of employees. While essential workplace facilities like restrooms (86.7%) and drinking water (91.6%) are generally available, there are concerns regarding proper ventilation and night shift fatigue, suggesting a need for improved workplace safety measures and better support for employees' physical and mental health. The findings emphasize the importance of addressing workplace hazards, promoting a healthier work environment, and improving work-life balance to enhance employee well-being and productivity.

Keywords: *Occupational hazards and health hazards*

INTRODUCTION

Workplace conditions play a crucial role in determining employee satisfaction, well-being, and productivity. As organizations continue to focus on creating better working environments, understanding the key factors that affect employees' physical and mental health becomes essential. This study explores various aspects of workplace safety, health hazards, and the overall well-being of employees, examining how issues like work-life balance, workplace violence, safety protocols, and health-related concerns impact their day-to-day experiences. Through the collection of data from a diverse group of respondents, this research seeks to highlight the primary challenges employees face in their work environment. The study emphasizes the need for organizations to recognize

the importance of implementing effective safety measures, improving working conditions, and offering support systems for employees. By identifying the most pressing issues, the research provides insights into areas where intervention and improvement are necessary to foster a healthier and more productive workforce.

OBJECTIVES

- To find the sociodemographic details of the respondents.
- To know the working atmosphere of the employee
- To study the statutory and non-statutory facilities provided to the employee
- To investigate the impact of health-related issues of the employee
- To analyze the occupational and safety hazards of the respondents

METHODOLOGY

The researcher collected data from the night shift textiles employees working in Karivalam, vandaNallur, Murmabu village of Tenkasi District. The primary data was collected directly from the 60 Night shift worker with the help of structured interview schedule through convenient sampling.

TABLE 1

Personal Profile of the Respondents					Total (%)
Gender	Male	Female	Trans men	Trans women	100
	20%	78.4%	1.6%	1	
Age	20 – 30	30-40	40-50	Above 50	100
	47% 78.4%	12. 20%	1.6%		
Marital staus	Married	Unmarried	Widow	Separate	100
	50%	41.7%	5%	3.3%	
Qualification	SSLC	HSC	UG	PG	100
	31.1%	13.3%	33.3%	21.7%	
Experience	Below2 years	Ab0ve 2 years			100
	72.9%	27.1%			
Position	Staff	Others			100
	65%	35%			
Types of family	Nuclear	Joint	Single		100
	61.7%	30%	8.3%		
Earning members	1	2	Above 2		100
	35%	43.3%	21.7%		

Personal Profile of the Respondents					Total (%)
No of children	1	2	None		100
	28.4%	35%	36.6%		
Working hours	8hours	Above 8 hours			100
	74.6%	25.4%			100

The majority of respondents are Female (78.4%), within the 20-30 age group (47%), and are Married (50%). Most have completed SSLC (31%) or Undergraduate (33.3%) qualifications. A large portion has below 2 years of experience (72.9%) and work in Staff positions (65%). Most respondents live in Nuclear families (61.7%), with 2 earning members in the household (43.3%) and 2 children (35%). The majority work 8 hours a day (74.6%). This reflects a predominantly younger, married female workforce with limited experience, living in nuclear families, and working standard hours.

Table -2

Working atmosphere condition			Total (%)
Restroom facilities	Yes	No	100
	86.7%	13.3%	
Drinking water facilities	Yes	No	100
	91.6%	8.3%	
Any room for taking rest	Yes	No	100
	68.3%	31.7%	
Safety locker	Yes	No	100
	80%	20%	
Work place located	Rural	Urban	100
	66.8 %	33.2%	
Transport facilities	Yes	No	100
	73.3%	26.7%	
Distance taken home to working place	Less than 10 km	Greater than 10 km	100
	65%	35%	
Break time refreshment	Yes	No	100
	90%	10%	
Safety feel	Yes	No	100
	78.3%	21.7%	
Satisfied with salary	Yes	No	100
	66.7%	33.3 %	

The majority of respondents report having access to essential working atmosphere conditions: Restroom facilities (86.7%), drinking water facilities (91.6%), and break time refreshment (90%). 68.3% have a designated room for taking a rest, and 80% have access to a safety locker. Most work in rural locations (66.8%) and have transport facilities available (73.3%). A significant number of employees have their workplace located within 10 km from home (65%). 78.3% feel safe at their workplace, and 66.7% are satisfied with their salary. These results suggest that most employees have access to necessary facilities and feel secure, with a majority also satisfied with their commute and workplace amenities.

TABLE-3

Statutory and non-statutory			Total
Manage your personal responsibilities	Yes	No	100
	70%	30%	
EPF & ESI	Yes	No	100
	85%	15%	
Opportunities for career Advancement for personal growth	Yes	No	100
	73.3%	26.3%	
Creche facilities	Yes	No	100
	73.3%	26.7%	
Flexible schedule or job rotation to reduce night shift fatigue	Yes	Yes	100

The majority of respondents feel they can manage their personal responsibilities (70%) and have access to EPF & ESI benefits (85%). A significant portion believes there are opportunities for career advancement and personal growth (73.3%) and have access to creche facilities (73.3%). Additionally, 73.3% support the availability of flexible schedules or job rotations to reduce night shift fatigue, while a smaller percentage do not have these options (26.7%). These findings highlight that most employees have access to key benefits and opportunities for growth, with flexibility being seen as a critical factor in managing work-life balance.

TABLE 4

Health Related issues			Total
Occupational centre	Yes	No	100
	71.7%	28.3%	
Difficulty sleeping or insomnia	Yes	No	100
	78.3%	21.7%	
Frequent headache	Yes	No	100
	78.3%	21.7%	
Digestive problem	Yes	No	100

Health Related issues			Total
	81.7%	18.3%	
Fatigue or lethargic	Yes	No	100
	80%	20%	
Mental distress	Yes	No	100

The majority of respondents report experiencing various health-related issues. A significant portion has access to an occupational health center (71.7%). Many individuals face sleeping difficulties or insomnia (78.3%), frequent headaches (78.3%), and digestive problems (81.7%). Fatigue or lethargy is common among 80% of respondents, and mental distress is experienced by a significant number (though the percentage is not specified). These findings suggest that health concerns such as stress, physical discomfort, and mental health issues are prevalent among the respondents, indicating a need for improved health support and well-being initiatives in the workplace.

TABLE 5

Hazards and safety hazards	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	Total (%)
	43.33%	3.33%	16.66%	36.66%		100
Hazards you faced during night shift	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	
	45%	6.66%	15%	31.66%	1.66%	100
Faced any verbal abuse	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	
	28.33%	11.66%	25%	26.66%	8.33%	100
Proper ventilation	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	
	41.66%	3.33%	18.33%	35%	1.66%	100
Work life balance affected	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	
	41.66%	5%	23.3%	25%	5%	100
Security measures	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	
	48.33%	5%	11.66%	33.33%	1.66%	100
	36.66%	3.33%	16.66%	41.66%	1.66%	100
Provide with a safe and secure place to store personal belonging	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	
	36.66%	33.3%	16.66%	41.66%	1.66%	100
Faced any work place violence	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	

	40%	3.33%	21.66%	31.66%	3.33%	100
Noise hazards in work place	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	
Noise hazards in work place	36.66%	8.33%	21.66%	30%	3.33%	100

The majority of respondents report experiencing various health-related issues. A significant portion has access to an occupational health center (71.7%). Many individuals face sleeping difficulties or insomnia (78.3%), frequent headaches (78.3%), and digestive problems (81.7%). Fatigue or lethargy is common among 80% of respondents, and mental distress is experienced by a significant number (though the percentage is not specified). These findings suggest that health concerns such as stress, physical discomfort, and mental health issues are prevalent among the respondents, indicating a need for improved health support and well-being initiatives in the workplace.

Conclusion

The data indicates that workplace safety and well-being are significant concerns for employees. A notable portion of respondents report experiencing workplace violence (40%) and noise hazards (36.66%), highlighting the need for improved safety protocols and noise control measures. Additionally, many employees face challenges related to workplace hazards during night shifts, verbal abuse, and work-life balance. While some safety measures like security and storage for personal belongings are in place, the prevalence of health issues, such as mental distress, fatigue, and sleep problems, underscores the importance of addressing employee well-being. Overall, there is a clear need for enhanced safety, support, and work-life balance initiatives to improve the work environment.

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SURVEILLANCE CAPITALISM AND USER EXPERIENCE: A STUDY ON USER PERCEPTIONS OF CURATED ADVERTISEMENTS ON INSTAGRAM

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Abstract

The study aims to understand the experience of users particularly students regarding surveillance and surveillance capitalism while navigation through Instagram. The study tries to explore the deeper user experiences and the user perception of curated advertisements and how this unveils complex emotional responses particularly frustration, discontent and resistance. The study uses a qualitative methodology in understanding user experiences. The respondents were taken from Manonmaniam Sundaranar University. A total of 15 students were taken as respondents through purposive sampling who are active users of Instagram. With detailed in depth interview, focus group discussion and content analysis, the study analyzes the experiencing of Instagram by student users under surveillance and surveillance capitalism in which personalization of user data are done with constant monitoring.

Key words: Surveillance Capitalism, Personalization, Attention, Cruel Optimism

1. INTRODUCTION:

Surveillance capitalism can be described as a new economic order in which human experience is treated as free raw material for hidden commercial practices of extraction, prediction, and sale. The term surveillance capitalism was coined by Shoshana Zuboff in her book 'The Age of Surveillance Capitalism: The fight for frontier of power' in 2019 to describe a new form of capitalist accumulation. This system involves the extraction and exploitation of data generated by individual's online behaviors, often without their full awareness or consent. Competitive pressures produced this shift in economic order, in which automated machine process not only know our behavior but also shape our behavior at scale. (Zuboff, 2019)

Digital media operates as a powerful authority in controlling and regulating user behavior, this power is being enacted through constant surveillance and monitoring. The pervasive nature of surveillance and there by executing power over individual's choices and behavior are often invisible to users which fundamentally alters their experience in

the platform. The power and surveillance create a sense of being watched among users, as surveillance reinforces power this power enforces control and discipline on users. Users becomes adapted to this surveillance which controls and modifies their emotions and behavior, thus becoming disciplined commodities in surveillance driven market system (Foucault, 1977)

Through the individual's online activities, likes, dislikes, searches, social networks, purchases and even through their voices, personal data were often collected. Their ultimate goal is to create a detailed profile of users which enables to predict the future behavior and desires of users which in turn create curated advertisements based on the user's personal interest. Thus, surveillance capitalism erodes personal autonomy by subjecting individuals to highly manipulative targeted advertisements. (Zuboff, 2019)

Surveillance capitalism unilaterally claims human experiences as free raw material for translation into behavioral data. Surveillance capitalism's products and services are not the objects of a value exchange. They do not establish constructive producer - consumer reciprocities instead they lure users into their extractive operations in which personal experiences are scraped and packaged as the means to others' end. (Zuboff, 2018)

In addition to privacy harms, corporate personal data practices also threaten a diverse range of intersecting values and rights including autonomy, fairness, equality, democratic sovereignty, due process and property. (Barcos and Nissenbaum 2014; Zuboff 2016)

The use for personal data and preferences along with providing personalized contents and advertisements create uneasiness and discomfort and trust issues among users, users become unaware and clueless regarding the extent to which their data are being used and monitored. The advertisements users encounter are not merely commercial messages but reflection of their digital identity. (Van Dijck, 2014).

The potential of individual agency is difficult to explore in this realm of digital age, as users becomes an embodied subject of material and non-material world. And in the society of control and power individuals are not autonomous body, but rather treated as divisible data-based fragments called dividuals. (Deleuze, 1995).

This study seeks to understand the impact of surveillance capitalism among the student users by analyzing how they perceive and experience curated advertisements on Instagram which are made for them by extracting their personal data. The awareness among users regarding surveillance can impact their experiencing of digital platforms as Keith P Dear argues the reminders of being watched can influence behavior cannot be dismissed and remain important as we navigate the difficult ethical and moral dilemmas that arise from the increasing ubiquity of surveillance in society and the growing capabilities of surveillance technologies in the military and security domain (Dear, K., Dutton, K., & Fox, E. 2019). The personal data of the users were used as a commodity in this age of surveillance capitalism and thus, understanding the user's perceptions of being watched and attitude towards their data privacy is important. The emotional

responses of the users in reaction to the curated advertisements were also studied for a nuanced understanding.

2. OBJECTIVES OF THE STUDY

- To analyze students' perception and awareness regarding surveillance capitalism.
- To analyze how users perceive and enact curated advertisements on Instagram.
- To examine how user perceptions of curated advertisements influence overall user experience.
- The study has been conducted among 15 students from different departments including sociology, physics, chemistry, computer application and bio technology in Manonmaniam Sundaranar University, Tirunelveli.

3. RESEARCH METHODOLOGY

The researcher employed qualitative methodology for studying user experience with curated advertisements in Instagram. The research necessitates the need of employing qualitative methodology since it aims to understand the perception and experiences of users with curated advertisements while navigating through Instagram, thereby giving more focus to the agency of the users and their perceptions. Tools employed for the study includes in depth interview, focus group discussion and content analysis. In-depth interview in this study included one to one in-depth conversations with 15 participants of age group 20-25. Two focus group discussion sessions are done with 7 participants in one session and 8 in the other. Focus group discussions provided further insights and diverse ideas of users when encountering with the personalized advertisements in Instagram, it also further added insights on their perception of surveillance and surveillance capitalism.

The datas were recorded and after proper translation and transcription, researchers identified codes and categorized these codes into various themes. Finally detailed interpretation and reporting has been done.

4. DATA ANALYSIS

4.1 Surveillance capitalism and User perception of personalized advertisements

The researchers have analyzed the student user's perceptions and understanding of surveillance capitalism (Zuboff, 2019) during the initial stages. Among 15 respondents 13 respondents are aware of surveillance and only 2 of the students are aware of the term 'surveillance capitalism'. The user perception of surveillance is so much institutionalized in a way that authority of the system of surveillance became normal and powerful, though users don't want to be under surveillance and almost all users showed concerns regarding their data being surveilled, but are not able to resist the authority of Instagram surveillance. Most of the respondents expressed that the personalized advertisements which were generated through their personal experiences on Instagram are threat to their privacy. Respondents say that they felt uncomfortable when they noticed that their voices are being monitored and personal data were collected and advertisements were made accordingly. This intense monitoring of their activities is making them feel insecure and

doubtful regarding the personalized advertisements. Respondents have the feeling that the continuous surveillance in Instagram to give personalized advertisement creates a sense of insecurity, fear and frustration.

4.2 Users trust and cruel optimism:

Lauren Berlant's concept of cruel optimism, which refers to the attachment to unrealistic hopes or desires that ultimately hinder individual agency was analyzed in this study. Despite being aware of Instagram's surveillance practices, users continue to trust and rely on Instagram platform. And this trust is not something true and complete, it has been developed among users as a cope up mechanism resulted through helplessness and they cling on the optimistic belief that arises from connectivity and personalized advertisements, which won't go beyond to an extent where their privacy is exploited more vicious and visible ways. But as the systemic harm of surveillance being already spread, which in turn creates a cycle of dependency and false hope among users. (Berlant, 2019)

4.3 User Resistance to surveillance capitalism:

The respondents showed discontent and concerns regarding their data being surveilled and monitored for personalized advertisements. As the in-depth interview proceeds, and analyzing emotional responses, we identified frustration, dissatisfaction and discontent among respondents. They try to show their resistance through their words, and some tried certain Instagram features such as reporting, clicking not interested etc. Still these resistances don't make any changes on the personalized advertisements they receiving. And this often creates a sense helplessness and vulnerable as the respondents said. The agency of users to resist has been restricted by the surveillance mechanism which eroded the resisting capacity of users by injecting a sense of watching eye effect on users. (Carabas, 2018) This institutionalized surveillance mechanism resembles the panopticon model which treats individual as subjects and creating the sense of discipline through the power of surveillance. The idea of surveillance becomes internalized among respondents which suppress their deviant opinion, behavior and thinking. This internalization is not done through inflicting constant fear or punishment but through conditioning of user self censor. (Foucault, 1977)

Users have the strong feeling that their personal data can't be taken and used as a resource for the profit of capitalists without their consent. Only one respondent is in the opinion that since the respondent getting the personalized advertisements and this aligns with the interest is actually benefits the user most and less concern over privacy. The surveillance capitalism has been enabled by the exploitative agreements between data subjects and controllers called as 'unconscionable contracts' in which the data subjects have no ability to negotiate the terms of agreement and often insufficient knowledge of the full extend or legalities of personal data collection and use (Degli Esposti 2014, Van Dijck 2014, Hoofnagle et al.2010). They have shown their resistance by changing their privacy settings by seeing the videos posted by the influencers on privacy features in the digital media apps. Even though they have the strong disagreement with the accumulation of their personal data for making curated advertisements, they can't challenge the capitalist and this become normalized as they were used to this exploitation.

4.4 Attention as commodity:

Surveillance capitalism's products and services are not the objects of a value exchange, they do not establish constructive producer-consumer reciprocities. They accumulate vast amount of knowledge from user attentions. The aim of the surveillance capitalism relies on attention of users and these attentions are treated as commodities which having values regarding add viewership. Thus, the new age of digital consumerism aims at attaining attentions of users and profit generation through the attention. Most of the respondents acknowledged that their attentions have been controlled and captured by Instagram, thus creating alienation from the material world (Zuboff, 2019)

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THE ROLE OF TECHNOLOGY AND MODERN COACHING IN ENHANCING URBAN KABADDI PERFORMANCE

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Abstract

Kabaddi, a traditional sport with deep cultural roots, has evolved significantly with the adoption of modern coaching techniques and technological advancements. Urban Kabaddi players now benefit from data-driven training, biomechanical analysis, performance tracking, and scientific coaching methodologies that enhance their physical and tactical abilities. This paper explores the integration of technology and modern coaching in urban Kabaddi, emphasizing its impact on skill development, injury prevention, game strategy, and overall performance enhancement. The study highlights key innovations such as wearable technology, video analytics, virtual simulations, and AI-driven training programs in professional Kabaddi training. Additionally, this paper discusses the challenges in adopting these technologies and the future of digital coaching in urban Kabaddi.

Introduction

Kabaddi, once considered a rural sport, has gained widespread recognition in urban areas, thanks to professional leagues and scientific training interventions. Unlike traditional training methods, modern coaching integrates technology to optimize player development. The rapid urbanization of Kabaddi has led to the need for structured coaching programs that leverage data analysis, fitness monitoring, and advanced game strategies. This paper examines how technology and modern coaching methodologies contribute to the growth of urban Kabaddi players by improving their fitness, tactical acumen, and injury management.

As the sport becomes increasingly professionalized, players and coaches must adapt to contemporary training techniques that blend physical conditioning with cutting-edge sports science. The implementation of AI-driven analytics, biomechanical assessments, and data-driven decision-making has led to an evolution in training regimens, helping players maximize their potential. The following sections discuss the technological advancements and their integration into urban Kabaddi training.

Technological Innovations in Kabaddi Training

Modern technology has transformed the way Kabaddi players train and perform. Several key innovations include:

1. Wearable Technology and Performance Tracking

- Smart watches, GPS trackers, and motion sensors help monitor player workload, agility, speed, and endurance.
- Heart rate monitors and oxygen saturation meters provide real-time data to prevent overtraining and optimize recovery.
- Accelerometers help track explosive movements, which are crucial for raiding and defensive maneuvers.

2. Video Analytics and Game Performance Assessment

- Slow-motion replays and video analytics allow coaches to analyze player movements, defensive strategies, and raiding techniques.
- AI-based software assists in identifying strengths, weaknesses, and opponent patterns for strategic improvement.
- Tactical breakdowns help optimize team formations and set plays for different match scenarios.

3. Virtual Reality (VR) and Simulation-Based Training

- VR technology provides immersive game scenarios that help players practice raiding and defensive techniques in a controlled environment.
- Computerized simulations enhance decision-making skills and reaction time.
- VR-based training reduces the physical toll on athletes while allowing them to refine strategies and movements.

4. AI-Driven Training Programs

- Artificial intelligence analyzes player performance over time and suggests personalized training regimens.
- Machine learning models predict injury risks and recommend corrective exercises to reduce strain.
- AI-driven opponent analysis helps teams prepare counter-strategies by identifying weaknesses in their competitors.

Modern Coaching Approaches in Urban Kabaddi

Urban Kabaddi training now involves structured and scientific methodologies that enhance overall player development. Key aspects include:

1. Strength and Conditioning Programs

- Urban training incorporates gym workouts focusing on strength, agility, and endurance to improve on-court performance.
- Plyometric exercises, high-intensity interval training (HIIT), and resistance training optimize muscular endurance and explosive power.

- Personalized strength training plans cater to different player positions, optimizing endurance for raiders and stability for defenders.

2. Biomechanical Analysis for Skill Enhancement

- Motion capture technology helps assess body mechanics, ensuring efficient raiding and defensive movements.
- Corrective training is implemented to refine tackling, lunging, and escape maneuvers.
- Advanced motion tracking enables micro-adjustments in body positioning, improving energy efficiency and movement speed.

3. Injury Prevention and Rehabilitation

- Physiotherapy techniques, cryotherapy, and hydrotherapy are used to speed up recovery and prevent chronic injuries.
- Load management strategies balance training intensity and recovery periods to maintain peak performance.
- Advanced rehabilitation protocols, such as electrical stimulation therapy and myofascial release techniques, support quick recovery.

4. Tactical and Psychological Conditioning

- Mental resilience training, visualization techniques, and stress management programs enhance player focus and confidence.
- Coaches use data analytics to devise game strategies, optimize team formations, and improve real-time decision-making.
- Neurofeedback training improves reaction times, helping players make split-second decisions in high-pressure situations.

Challenges in Implementing Technology in Urban Kabaddi

Despite its advantages, integrating technology and modern coaching in urban Kabaddi presents several challenges:

- **High Costs:** Advanced training equipment and AI-based analytics require significant investment.
- **Technical Expertise:** Coaches and players need specialized training to effectively use technology in performance assessment.
- **Adaptability Issues:** Some traditional players may resist adopting modern techniques, favoring conventional training methods.
- **Infrastructure Limitations:** Access to high-end sports technology remains limited in certain urban centers.
- **Data Security and Privacy Concerns:** As wearable tech collects vast amounts of personal data, safeguarding player privacy is essential.

The Future of Technology and Coaching in Kabaddi

With ongoing advancements, technology and modern coaching will continue to shape the future of urban Kabaddi. Potential developments include:

- **Integration of AI and IoT:** Smart arenas with real-time performance tracking and automated training suggestions.
- **Enhanced Biometric Analysis:** Wearable sensors providing in-depth physiological insights for personalized training.
- **Global Collaboration:** Online coaching platforms connecting players with international experts for knowledge sharing.
- **E-Sports and Kabaddi Training Games:** Virtual competitions and AI-driven Kabaddi training apps to improve strategic gameplay.
- **Automated Training Bots:** AI-powered bots designed to replicate different playing styles for realistic training simulations.

Conclusion

The evolution of Kabaddi in urban settings is being driven by technology and modern coaching methodologies. The use of wearable devices, video analytics, virtual training, and AI-driven programs has revolutionized player development, making training more precise and data-oriented. While challenges such as cost and adaptability exist, the long-term benefits of technological integration outweigh these obstacles. Future advancements in sports science and digital coaching will further elevate urban Kabaddi, enabling players to reach higher levels of performance and global competitiveness.

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THE INFLUENCE OF ATTACHMENT STYLE ON SELF-ESTEEM AMONG YOUNG ADULTS

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Abstract

Attachment style in young adults is an important aspect of psychological development, influencing relationships, self-esteem, and mental health. It is shaped by early childhood experiences but can also change due to significant life events and relationships. Especially, attachment styles play a crucial role in shaping self-esteem, as it influences how individuals perceive themselves and interact with others. Attachment styles are based on John Bowlby's attachment theory which includes four types of attachment styles namely secure, anxious, avoidant and disorganized attachment style. So, this study explores the influence of attachment style on self-esteem among young adults aged 19 to 25 years. Measure of Attachment Style (Ahmad et al. 2016) and Self-Esteem Scale (Dhar & Dhar, 2009) are the standardized measures used in this study. The statistical findings indicated a significant relationship between attachment style and self-esteem.

Keywords: *Attachment style, Self-esteem, Young adults*

Introduction

Attachment has a huge impact on a person's life. Attachment style is a fundamental psychological framework that describes how individuals form and maintain relationships throughout their lives. Since Bowlby (1973) introduced attachment theory to explain the bonds that infants form with their primary caregivers i.e. attachment figure, individual differences in attachment style have been conceptualized and measured in terms of anxiety, avoidance, and security (Ainsworth et al.1978).

Self-esteem refers to an individual's overall sense of self-worth and personal value. Rosenberg (1965) defines self-esteem as a person's subjective evaluation of their abilities, competence, and worthiness. It plays a critical role in emotional resilience, decision-making, and personal growth. Individuals with high self-esteem tend to experience greater confidence, emotional stability, and positive life outcomes, while those with low self-esteem are more prone to self-doubt, anxiety, and depression (Baumeister et al. 2003). This can be associated with attachment styles, such as secure attachment style is related with higher and positive self-esteem (Paterson, 1995), while fearful attachment styles were connected with low self-esteem (Sechi et al, 2020).

Whereas, anxious attachment style was positively associated with higher levels of worry and lower levels of self-esteem (Khoshkam et al. 2012). Also, those who experience neglect, rejection, or inconsistent caregiving may develop insecurity and self-doubt, leading to fluctuating or low self-esteem (Miller et al. 2018).

Methodology

The aim of this study is to explore the influence of attachment style on self-esteem among young adults. The hypothesis for the research study is, H1- There is a significant relationship between attachment style and self-esteem. The participants eligible for the research are young adults within the age 19 to 25. The participants were chosen through snowball sampling. Data were collected via google forms. The scales used are Measure of Attachment Style (Ahmad et al. 2016) and Self-Esteem Scale (Dhar & Dhar, 2009). The Measure of Attachment Style scale consists of 27 items and the scoring is based on 5-point Likert Scale. The Cronbach's alpha was found to be 0.80. The reliability coefficient and validity of the Self-Esteem Scale was found to be 0.87 and 0.93 respectively. The scale demonstrated high content validity. To ensure the data was distributed normally, normality tests along with Pearson's correlation and frequency distribution were employed.

Results

Table 1. Normality testing of the study variables

Variables	N	Mean	Skewness	Kurtosis
Attachment style	50	85.74	-0.20	0.89
Self esteem	50	93.04	-.074	-0.24

Table 1 shows the results of normality testing for the study variables. The skewness and kurtosis value lies between the acceptable range of -2 to +2 and -7 to +7 respectively, which shows that the data were normally distributed based on West et al, (1996). Hence, parametric tests are appropriate for hypothesis testing

Table 2. Frequency distribution of the socio-demographic variables (n=50)

Variables	Category	Frequency	%
Gender	Female	37	74
	Male	13	26

Table 2 shows the frequency and percentage of the demographic variable such as Gender which indicates that the major participants of the study are females (74%) while males constitute 26% of the total sample (n=50).

Table 3. *Correlation between attachment style and self-esteem*

Variables	N	Mean	SD	r- value
Attachment style	50	85.74	9.83	
Self-Esteem	50	31.70	4.39	-0.16(NS)

NS-Not Significant

Table 3 shows negative correlation between attachment style and self-esteem. The mean values for attachment style and self-esteem are 85.74 and 31.70 respectively. Standard deviation values for attachment style and self-esteem are 9.83 and 4.39 respectively. The correlation value -0.16 indicates that the relationship between the two variables is not significant. Thus, the hypothesis (H1) is rejected.

Discussion

This study aimed to examine the relationship of attachment style on self-esteem among young adults. The results indicate that the values of the data lie between the acceptable range of -2 to +2 and -7 to +7 respectively which shows normal distribution of the variables. Attachment style and self-esteem were correlated using Pearson's correlation and a negative correlation was observed. The results show that there is no significant relationship between self-esteem levels and attachment style in the studied population. The relationship between two variables is not significant as the sample size is small and if the relationship was assessed between the dimensions of each variable, there is a possibility that it may be significant as different dimensions of attachment styles and self-esteem may give various results. There can be a mediating variable that affects both attachment style and self esteem such as rejection sensitivity, childhood trauma etc.

Conclusion

Overall, the findings contribute to the growing body of research on attachment and self-esteem, highlighting the importance of secure attachments in fostering positive self-evaluation among young adults. this study highlights the importance of secure attachment in fostering a positive self-concept among young adults. This indicates that attachment style may not strongly influence self-esteem. This could be due to individual differences, cultural factors, or external influences such as social support and life experiences. These results support Bowlby's attachment theory, emphasizing the role of early attachment experiences in shaping self-perception.

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STUDY ON STRATEGIZING OF GLOBAL MARKETING PRACTICES IN THOOTHUKUDI

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Abstract

In today's interconnected world, businesses must develop effective global marketing strategies to expand their reach and maintain competitiveness. This study examines key global marketing practices, including market trend analysis, localization strategies, digital marketing, global partnerships, and pricing strategies. Using a survey of 120 respondents, the research evaluates the significance of these factors in shaping successful international marketing efforts. The findings highlight the importance of adapting to regional markets while leveraging digital tools and strategic collaborations to drive growth. Statistical analysis tools, including ANOVA, ranking techniques were employed to derive meaningful insights from the survey data.

Keywords: Global marketing, Marketing strategies, Global partnership

INTRODUCTION

Global marketing has become a fundamental aspect of business expansion in an era defined by globalization and digital connectivity. As companies seek to extend their presence beyond domestic markets, they must adopt strategic marketing practices tailored to diverse cultural, economic, and technological landscapes. A well-structured global marketing strategy allows businesses to adapt to new consumer behaviors, navigate regulatory requirements, and compete effectively on an international scale. This article explores key strategies to optimize global marketing efforts and ensure long-term success in foreign markets.

OBJECTIVES

1. To analyze global market trends and their influence on marketing strategies.
2. To explore localization strategies that enhance consumer engagement in different regions.
3. To evaluate the role of digital marketing in expanding global market reach.

4. To identify key factors in successful global partnerships that facilitate international business growth.
5. To determine optimal pricing strategies for diverse international markets.

KEY COMPONENTS OF GLOBAL MARKETING STRATEGY

1. Understanding Market Differences

Each country has unique economic, cultural, and regulatory environments that influence consumer preferences. Businesses must conduct comprehensive market research to identify target audiences, local competitors, and purchasing behaviors. Understanding language, cultural nuances, and buying habits helps brands tailor their marketing messages effectively.

2. Adapting to Local Cultures

Cultural adaptation is crucial for global success. Companies should localize their advertising, packaging, and branding to resonate with regional markets. For instance, McDonald's modifies its menu to align with local dietary habits and traditions. Similarly, Nike customizes marketing campaigns based on regional sports and lifestyle preferences.

3. Standardization vs. Customization

A key decision in global marketing strategy is choosing between standardization and customization. While standardization ensures brand consistency and cost efficiency, customization allows businesses to cater to specific market needs. A hybrid approach, where core branding remains unchanged but marketing tactics are adapted, is often the most effective.

4. Digital and Social Media Marketing

With the rise of digital platforms, businesses can engage global audiences through social media, content marketing, and search engine optimization (SEO). Platforms like Facebook, Instagram, We Chat offer targeted advertising opportunities tailored to different demographics. Implementing multilingual content and region-specific social media strategies enhances global brand visibility.

5. Leveraging Strategic Partnerships

Collaborating with local businesses, influencers, and distributors can facilitate market entry and brand trust. Joint ventures, franchising, and partnerships provide valuable insights into regional market dynamics while reducing operational risks. For example, Starbucks partners with local businesses in China to navigate regulatory and cultural complexities.

6. Managing Global Branding and Positioning

A strong global brand must maintain a consistent identity while being flexible enough to adapt to local markets. This involves aligning brand messaging with regional

values and customer expectations. Companies like Apple and Coca-Cola have successfully maintained a strong global presence while adjusting their messaging for different cultures.

7. Pricing Strategies for Global Markets

Pricing strategies should reflect local economic conditions, consumer purchasing power, and competitive landscapes. Some companies adopt a premium pricing model in developed markets while offering cost-effective alternatives in emerging economies. Dynamic pricing and promotions tailored to local preferences can also drive sales growth.

8. Regulatory Compliance and Ethical Considerations

Navigating international trade laws, taxation policies, and ethical concerns is critical for successful global marketing. Businesses must ensure compliance with local advertising standards, consumer protection laws, and environmental regulations to avoid legal repercussions and enhance brand reputation.

METHODOLOGY

This study follows a mixed-method approach, incorporating both qualitative and quantitative research. A structured survey was conducted among 120 respondents from various industries to collect data on their global marketing strategies. Additionally, in-depth interviews with marketing executives provided further insights into decision-making processes. The data was analyzed using statistical tools, including:

- **ANOVA** to measure the significance of different marketing factors.
- **Ranking analysis** to determine the most influential global marketing strategies.

ANOVA Table (Based on 120 Respondents)

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Value	P-Value	Significance ($\alpha = 0.05$)
Between Groups	8.5	4	2.125	4.32	0.003	Significant
Within Groups	55.2	115	0.48	-	-	-
Total	63.7	119	-	-	-	-

Inference

The ANOVA results show that the differences between marketing strategies are statistically significant ($p\text{-value} = 0.003 < 0.05$). This indicates that the selected global marketing strategies have a meaningful impact on business expansion and market success.

Ranking Analysis (5-Point Scale)

Marketing Strategy	1	2	3	4	5	Average Rank Score
Digital marketing	5	10	15	40	50	4.3
Localization strategies	8	12	18	42	40	4.1
Strategic partnerships	10	15	22	38	35	3.9
Market trend analysis	12	18	24	35	31	3.8
Pricing strategies	15	20	26	30	29	3.6

Inference

Digital marketing is ranked as the most important strategy (average score = 4.3), followed by localization strategies (4.1) and strategic partnerships (3.9). This suggests that businesses prioritize digital engagement and adapting marketing efforts to local markets to maximize global success.

CONCLUSION

Strategic global marketing is essential for businesses looking to expand their reach and compete in international markets. By analyzing market trends, localizing campaigns, leveraging digital marketing, forming partnerships, and implementing effective pricing strategies, companies can achieve sustainable growth and establish a strong global presence. The use of ANOVA, ranking analysis provides data-driven insights that help businesses refine their strategies and maximize success in global markets.

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DFT METHODOLOGY, REACTIVE PARAMETER AND ELECTRONICS SIMULATION OF E)-N-(4-(2-(4-(2,3-DIOXOINDOLIN-1-YL) METHYL) -1H-1,2,3-TRIAZOL-1-YL)ETHOXY) HYDRAZINE CARBOTHIO AMIDE

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Abstract

A computer approach for examining the electrical structure and characteristics of materials is density functional theory, or DFT. Using DFT and spectroscopic research, this work generated for (E)-N-(4-(2-(4-(2,3-dioxoindolin-1-yl) methyl) -1H-1,2,3-triazol-1-yl)ethoxy) Hydrazine carbothio amide. Theoretical computations with spectroscopy studies using a B3LYP/6-311++G(d,p) basis set and density functional theory (DFT) at the B3LYP level. The compound's geometrical structure was optimized.

Keyword: FMO, DFT, B3LYP and HOMOLUMO.

1. Introduction

(E)-N-(4-(2-(4-((2,3-dioxoindolin-1-yl)methyl)-1H-1,2,3-triazol-1-yl)ethoxy) hydrazinecarbothioamide) is a novel organic compound with potential applications in electronic and optoelectronic devices[1]. The presence of key functional groups, such as the indolinone core, triazole ring, and hydrazinecarbothioamide moiety, suggests strong electron-donating and accepting characteristics, which may contribute to favorable charge transport and optical properties[2]. Density Functional Theory (DFT) calculations provide valuable insights into its electronic structure, including frontier molecular orbitals (HOMO-LUMO gap), charge distribution, and reactivity indices. This study aims to explore the electronic properties of the compound, aiding in its potential use in pharmacological applications.

2. Computational Details

Gaussian09 program [3] was utilized to feed each computation in this investigation, and the GaussView program [4] has been employed to display the results.

3. Insights and discussion

3.1. Geometrical Conformation

The optimal structural parameters of (E)-N-(4-(2-(4-((2,3-dioxoindolin-1-yl)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)hydrazinecarbothioamide) were obtained using Density Functional Theory (DFT) computations. Bond lengths, bond angles, and dihedral angles are the key geometric factors that offer information about molecular shape and stability. Figure 1 shows the molecular structure. Bond lengths in the ideal structural system range from 1.025 Å to 1.564 Å. The carbon-carbon bond lengths in the optimized structure have been found to be 1.4612 Å and 1.4076 Å, for C19-C20 and C17-C16. Nitrogen-nitrogen bonds (N1-N2) are 1.416 Å. Soe important bond length C-C (C19-C20): 1.4612 Å, C-C (C17-C16): 1.4076 Å N-N (N1-N2): 1.416 Å C-N (Triazole linkage): ~1.34–1.40 Å C=O (Indolinone core): ~1.22–1.25 Å.

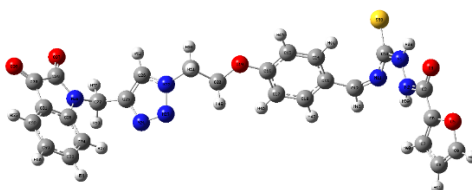


Fig.1 Optimized structure of title compound.

3.2 Electronic properties

3.2.1 Frontier molecular orbital analysis

FMO analysis provides information on electron transitions from HOMO to LUMO. HOMO, LUMO, and band gap energy are used to determine the chemical reactivity and kinetic stability of the compound for future investigation[5]. The band gap energy in the gas phase was calculated to be 2.803 eV utilizing HOMO-LUMO energies. These values corresponded to the band gap energies of biologically relevant chemicals. Table 1 shows the results for global reactive characteristics calculated using H-L values, whereas the global reactivity descriptor defines the overall reactivity of the chemical. In the gas phase, the Ionization potential (IP), Electron affinity (EA), and Electronegativity (χ) of the molecule were 5.901, 3.099, and 4.500 eV, respectively. According to the table, the chemical hardness value was significantly high, demonstrating the stability of the compound under study.

Table 1: Global reactive parameters

Parameter	Gas
HOMO(eV)	-5.901
LUMO(eV)	-3.098
Ionization potential	5.901
Electron affinity	3.099
Energy gap(eV)	2.803
Electronegativity	4.500

3.2. UV Analysis

UV spectrum analysis can reveal the most important underlying chemical locations that cause excitations[6]. UV-Vis spectral analysis of (E)-N-(4-(2-(4-((2,3-dioxindolin-1-yl)methyl)-1H-1,2,3-triazol-1-yl)ethoxy)hydrazinecarbothioamide) provides insights into its electronic transitions and optical properties. The presence of conjugated π -systems, including the indolinone core, triazole ring, and hydrazinecarbothioamide moiety, suggests strong absorption in the UV-Vis region. Table 2 shows the TD-DFT calculations in gas phase with empirically determined absorption maxima. The wavelength measured in gas were 513 nm, respectively which show its Charge Transfer (CT) transitions (indicative of extended conjugation and electron delocalization).

Table 2 UV absorption parameters

No.	Energy (cm ⁻¹)	Wavelength (nm)	Osc. Strength	Symmetry	Major contribs
1	19483	513	0.0086	Singlet-A	HOMO->L+1 (89%)
2	21198	471	0	Singlet-A	HOMO->LUMO (98%)
3	21220	471	0	Singlet-A	H-4->LUMO (96%)

4. Conclusion

The current study aimed to optimize the structure of molecules morphological parameters for gas utilizing the B3LYP/6-311++G(d,p) basis set. The wavelength measured in gas were 513 nm, respectively which show its Charge Transfer (CT) transitions indicative of extended conjugation and electron delocalization. Chemical hardness value was significantly high, demonstrating the stability of the compound under study.

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GENETIC ENGINEERING AN OVERVIEW

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Abstract

Genetic engineering encompasses a range of techniques designed to modify an organism's genetic material, primarily DNA, to enhance, repair, or alter its characteristics. Emerging in the latter half of the 20th century, recombinant DNA technology facilitates the combination of different DNA strands through chemical recombination. This process commonly involves bacteria like *Escherichia coli* or bacteriophages such as the λ phage and can also be performed through direct microinjection. Recent advancements in genetic modification have introduced synthetic biology, which focuses on designing and constructing new biological systems.

Keywords: Gene cloning, Gene modification, Transformation

Introduction

Genetic engineering in plants became feasible following groundbreaking research by Bob Fraley and colleagues in the early 1980s, wherein *Agrobacterium tumefaciens* was used to introduce recombinant DNA into plant cells. Since then, genetically modified (GM) crops have been widely cultivated globally. Genetic engineering allows precise insertion of foreign genes into an organism's genome, sourced from different species or modified within the same species before reinsertion. These inserted genetic elements, known as transgenes, introduce desirable traits into plants via a process called transformation.

Traditional plant breeding techniques face limitations, as genetic improvements are confined to species capable of sexual reproduction. Additionally, crossbreeding often results in the inheritance of multiple traits, including undesirable ones that may affect yield. Genetic engineering overcomes these challenges by isolating specific DNA sequences and inserting them directly into a plant's genome. This approach allows for the transfer of traits across species barriers with greater precision.

Genetic Engineering Process

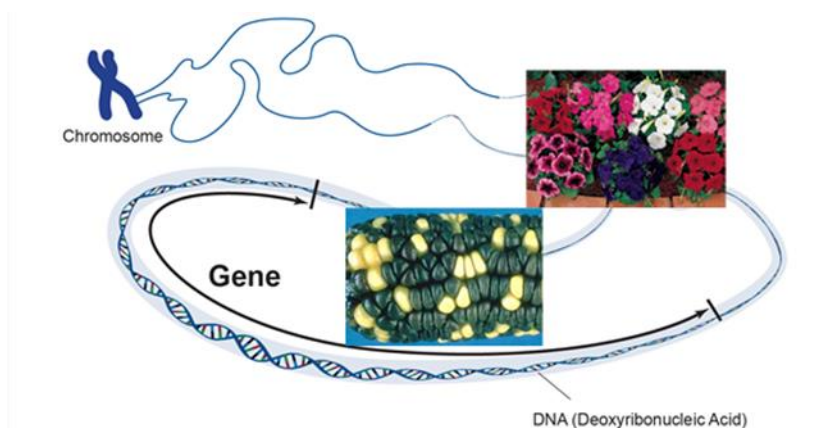
The genetic engineering process involves five key steps:

1. Identifying an organism with the desired trait and extracting its DNA.
2. Cloning the gene responsible for the trait.
3. Modifying the gene for controlled expression in the recipient plant.
4. Inserting the gene into the target crop's cells through transformation.

5. Breeding the transgenic plant with high-performing varieties to integrate the gene into an elite genetic background.

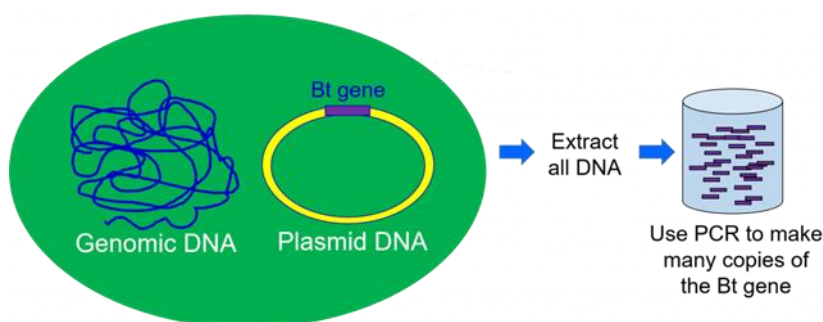
Step 1: DNA Extraction

To initiate genetic engineering, researchers first identify an organism possessing the desired trait. For instance, the development of Bt maize began with the discovery that *Bacillus thuringiensis* (Bt) produces a protein lethal to certain insect pests. Scientists isolate the Bt toxin gene by extracting bacterial DNA through specialized laboratory techniques.



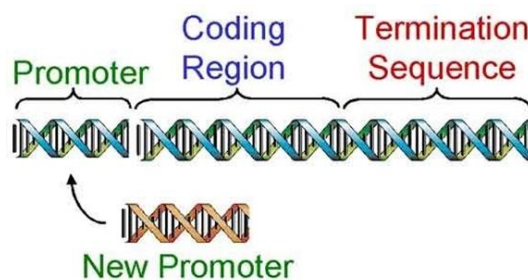
Step 2: Gene Cloning

DNA extraction results in a mixture of genetic material. Gene cloning allows scientists to isolate and duplicate the specific gene responsible for the desired trait. This process ensures that sufficient copies of the gene are available for modification and further research.



Step 3: Gene Design

The cloned gene is modified to ensure it functions effectively within a new organism. This process involves altering regulatory sequences, such as replacing the original bacterial gene promoter with one suited for plant cells. Scientists use restriction enzymes to modify the gene at precise locations, ensuring optimal expression in the host plant.



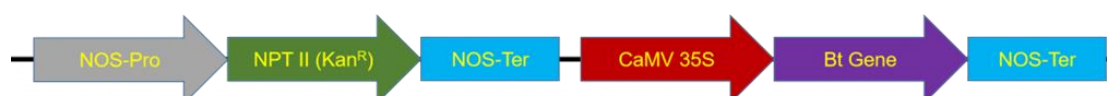
Plant Transformation and Tissue Culture

Transformation involves inserting the transgene into the recipient plant species. This is achieved using two primary techniques:

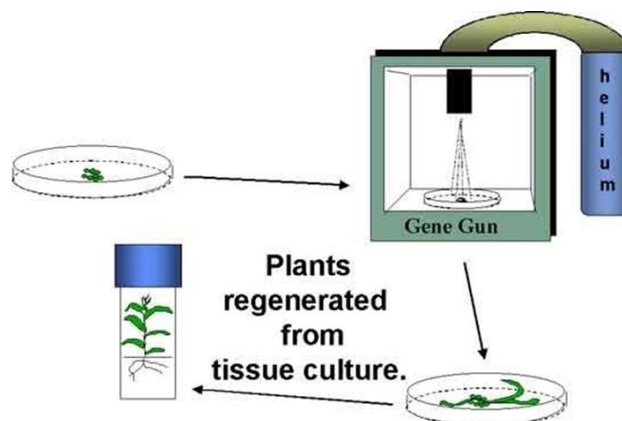
1. **Agrobacterium-Mediated Transformation** – Utilizes *Agrobacterium tumefaciens* to transfer genetic material into plant cells.
2. **Biolistic Transformation (Gene Gun Method)** – Involves shooting microscopic DNA-coated particles into plant cells under high pressure.

A transgene construct typically consists of three essential components:

- **Promoter:** Regulates gene activation (e.g., CaMV 35S promoter from the cauliflower mosaic virus).
- **Selectable Marker:** Helps identify transformed cells (e.g., kanamycin resistance gene).
- **Terminator Sequence:** Signals the end of the genetic sequence to ensure proper gene function.



Following transformation, plant cells are cultured in a medium containing a selective agent to eliminate non-transformed cells. The surviving transgenic cells regenerate into whole plants under controlled conditions before field testing.



Inheritance of a Transgene in Plants

Successful genetic transformation occurs when the transgene integrates into a chromosome. Transformed plants with only one copy of the transgene are termed hemizygous. These plants follow Mendelian inheritance patterns, where the transgene segregates similarly to natural genes in successive generations.



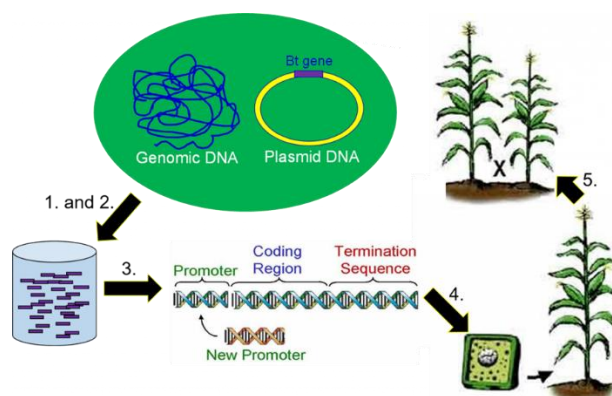
Step 5: Backcross Breeding

The final step in developing a genetically engineered crop involves backcross breeding. Transgenic plants are crossed with elite breeding lines to combine the desirable traits of both parent plants while retaining high yield potential. Successive backcrossing ensures that the transgene integrates into commercially viable cultivars.



The Process of Plant Genetic Engineering

The fundamental steps of genetic engineering are consistent across plant species. However, the time required for completion varies, typically taking between 6 to 15 years before commercial release. During tissue culture, unintended genetic variations may arise, necessitating backcrossing to maintain agronomic performance. By integrating cutting-edge biotechnological techniques, genetic engineering continues to revolutionize modern agriculture, offering solutions for improved crop resilience, higher yields, and sustainable food production.



Conclusion

Genetic engineering has revolutionized agriculture, medicine, and biotechnology by enabling the precise manipulation of genetic material. Through advancements in molecular biology, scientists have successfully developed genetically modified crops with improved resistance to pests, diseases, and environmental stresses. As research progresses, ethical considerations and regulatory frameworks will play a crucial role in shaping the future of genetic engineering. While challenges remain, continued innovation holds the promise of sustainable agricultural practices and enhanced global food security.

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BOOK REVIEW ON FAR FROM THE MADDING CROWD BY THOMAS HARDY

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Abstract

Far from the Madding Crowd by Thomas Hardy is a novel set in rural England, focusing on the life of Bathsheba Everdene, an independent and headstrong woman who attracts three very different suitors. The story explores themes of love, passion, betrayal, and the consequences of personal choices. Bathsheba's relationships with Gabriel Oak, a shepherd who becomes her confidant; William Boldwood, a wealthy but obsessive farmer; and Sergeant Troy, a charming but reckless man, drive the narrative. As Bathsheba navigates these complex relationships, she faces challenges that ultimately lead to self-discovery and growth. Hardy's novel examines the social and moral expectations of the time while portraying the emotional and psychological depth of his characters in the context of rural life.

Keywords: Bathsheba Everdene, Gabriel Oak, William Boldwood

Introduction

Thomas Hardy is renowned for his unique storytelling that intertwines characters and nature. Hardy's novels capture the essence of Victorian England, portraying its cultural and social landscape with remarkable depth. His first novel, *The Poor Man and the Lady*, was later destroyed, but his first published work, *Desperate Remedies* (1871), introduced him to the literary world. Other notable works include *Under the Greenwood Tree* (1872), *Far from the Madding Crowd* (1874), *The Return of the Native* (1878), *The Mayor of Casterbridge* (1886), *The Woodlanders* (1887), *Tess of the d'Urbervilles* (1891), and *Jude the Obscure* (1895).

Far from the Madding Crowd was first serialized in the *Cornhill Magazine* from January to December 1874. It marked Hardy's first use of the imaginary landscape of Wessex, which is partly fictional yet inspired by the geography of southwest England. The novel comprises 57 chapters and takes its title from Thomas Gray's *Elegy Written in a Country Churchyard*: "Far from the madding crowd's ignoble strife / Their sober wishes never learned to stray." Hardy's ironic use of the title contrasts the peaceful rural setting with the intense emotions, passions, and conflicts that drive the story. The novel reflects the changing beliefs of Victorian society, where religious ideals were being challenged by scientific discoveries, including Darwin's theory of evolution. Hardy, influenced by classical tragedies, constructs a narrative where fate and chance significantly shape the characters' lives.

Setting and Themes

Geographical and Climatic Context

The novel is set in rural England, particularly in Wessex, Hardy's fictionalized representation of Dorset and its surrounding regions. England's temperate maritime climate provides a backdrop that reflects the changing moods of the narrative. The terrain is predominantly low hills and plains, but the rustic landscape plays a crucial role in shaping the novel's atmosphere. Farming dominates the setting, reflecting the socio-economic realities of the time.

Key Themes

1. **Love and Relationships** – Bathsheba's interactions with Oak, Boldwood, and Troy form the novel's core, each relationship representing different aspects of love: loyalty, obsession, and passion.
2. **Independence and Gender Roles** – Bathsheba's journey highlights the struggles of a woman seeking independence in a patriarchal society.
3. **Fate and Chance** – Hardy explores the role of fate in human affairs, with chance events significantly altering the characters' destinies.
4. **Nature and Rural Life** – The novel's setting reflects Hardy's deep appreciation for nature and its influence on human lives.
5. **Tragedy and Consequences** – The novel follows a tragic pattern where personal choices lead to irreversible consequences.

Character Analysis

Gabriel Oak

Gabriel Oak, the novel's most steadfast character, is depicted as a symbol of resilience and stability. Hardy likens him to an oak tree—strong, reliable, and deeply connected to nature. His flexible and enduring nature allows him to survive hardships, adapting to changing circumstances. Unlike Boldwood and Troy, who are driven by extremes, Oak follows a balanced path. His simplicity and humility mask a strong, responsible mind, making him an ideal counterpart to Bathsheba.

Bathsheba Everdene

Bathsheba is a complex and independent character, embodying both strength and vulnerability. She is compared to a kingfisher and a hawk, symbols of rapidity and precision. Her impulsiveness and desire for freedom lead to emotional conflicts. The surname "Everdene" echoes the word "dean," suggesting a connection to nature and rural landscapes. Bathsheba's interactions with her suitors—her rejection of Oak, her flirtation with Boldwood, and her passionate involvement with Troy—highlight her evolving understanding of love and responsibility.

William Boldwood

Boldwood's name symbolizes his rigid and obsessive nature. Unlike Oak, he is incapable of adapting to change, which leads to his downfall. His infatuation with Bathsheba, triggered by a playful valentine, escalates into an uncontrollable obsession, ultimately driving him to a tragic fate.

Sergeant Troy

Troy is a charismatic yet reckless character who thrives on fleeting pleasures. His military prowess and swordplay symbolize his manipulative control over Bathsheba. His abandonment of Fanny Robin, followed by his marriage to Bathsheba, highlights his irresponsibility. His actions bring misery not only to Bathsheba but also to Boldwood and Fanny, ultimately leading to his demise.

Fanny Robin

Fanny is one of the novel's most tragic figures. Introduced as a timid and romantic girl, she is a victim of Troy's recklessness. Her unfortunate fate, largely due to miscommunication and societal constraints, adds to the novel's tragic tone.

Rustic Characters

The supporting characters, such as Cainy Ball, Jan Coggan, Mrs. Hurst, and Mrs. Coggan, add humor and wisdom to the narrative. Their presence reinforces the contrast between the simplicity of rural life and the complexity of human emotions.

Plot Overview

The novel begins with Gabriel Oak as a prosperous farmer who develops feelings for Bathsheba. However, she rejects his proposal, preferring her independence. A tragic accident wipes out Oak's livelihood, forcing him to seek employment. Meanwhile, Bathsheba inherits her uncle's farm and takes charge, defying societal norms. In a moment of playful folly, Bathsheba sends a valentine to Boldwood with the words "Marry Me." This ignites Boldwood's obsession, leading to dire consequences. Meanwhile, she becomes enchanted by Sergeant Troy, unaware of his past relationship with Fanny Robin. Their marriage proves disastrous, and Troy's neglect and irresponsibility lead to Fanny's tragic end. Troy's apparent death sends Boldwood into a deeper obsession, culminating in a dramatic confrontation when Troy returns. The novel ends with Boldwood's crime and Oak's quiet devotion, leading to Bathsheba's eventual realization of his worth.

Conclusion

Far from the Madding Crowd remains one of Hardy's most celebrated novels, illustrating his mastery in blending romance, tragedy, and social commentary. The novel's exploration of fate, love, and human nature resonates beyond its Victorian setting, making it a timeless literary work. Hardy successfully portrays the complexities

of rural life while critiquing the rigid structures of Victorian society. His characters, deeply connected to the landscape, navigate their destinies in a world where chance often outweighs reason, solidifying *Far from the Madding Crowd* as a masterpiece of English literature.

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IMPACT OF INTERVAL TRAINING ON ENHANCING FITNESS VARIABLES IN COLLEGE MEN'S FOOTBALL PLAYERS

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Abstract

This study aimed to evaluate the effects of interval training on selected fitness parameters among college-level football players. A total of thirty male football players from Cheran College of Physical Education, Karur, aged between 17 and 24 years, were randomly chosen as participants. They were divided into two groups: an interval training group (Group A) and a control group (Group B). Group A underwent an eight-week interval training program with two sessions per week, while Group B continued their routine activities without additional training. The study assessed two fitness variables—speed and power—using the 50-yard dash and vertical jump test, respectively. Data collection occurred before and after the training period. A dependent t-test was employed to determine significant improvements within each group, while an Analysis of Covariance (ANCOVA) was conducted to compare differences between the experimental and control groups. The significance level was set at 0.05. Findings indicated that the interval training group exhibited significant enhancements in both speed and power. Additionally, a notable distinction was observed between the experimental and control groups concerning the selected fitness parameters.

Keywords: Interval training, speed, power, football players.

Introduction

Athletes utilize various training methodologies to improve physical performance, particularly power and overall work output. In sports requiring explosive movements such as sprinting, jumping, or throwing, an athlete's ability to generate force quickly is crucial for success. Interval training is a widely adopted approach, characterized by alternating phases of high-intensity exercise and recovery periods. The intense segments push the athlete to anaerobic exertion, while the recovery intervals involve lower-intensity activities that facilitate endurance development. This structured regimen is designed to enhance performance in competitive sports by improving an athlete's speed, strength, and stamina.

Methodology

The study involved thirty football players from Cheran College of Physical Education, Karur, aged between 17 and 24 years. Participants were randomly divided into two equal groups: an interval training group (experimental group) and a control group. The research utilized a pre-test and post-test design with randomized group assignments. The experimental group (Group A) participated in an interval training program for eight weeks, attending two sessions per week. Meanwhile, the control group (Group B) continued with their usual activities without additional training interventions. The interval training program consisted of alternating high-intensity exercise intervals and lower-intensity recovery phases, specifically aimed at improving the selected fitness variables—speed and power. Speed was measured using the 50-yard dash, with time recorded in seconds, while power was assessed using the vertical jump test, measuring jump height in centimeters. Both fitness parameters were evaluated before and after the eight-week training period.

For statistical analysis, a dependent t-test was applied to determine significant improvements within each group. Additionally, an Analysis of Covariance (ANCOVA) was used to compare the results of the experimental and control groups for each variable. A significance level of 0.05 was established for hypothesis testing.

Statistical Technique

The collected data were analyzed using a dependent t-test to determine any significant improvements in the selected fitness variables following the training program. To assess differences between the experimental and control groups, an Analysis of Covariance (ANCOVA) was performed. The confidence level for statistical significance was set at 0.05.

Analysis of Data

The dependent t-test results were analyzed to compare pre-test and post-test scores for speed and power in both the interval training and control groups. The statistical findings are presented in Table I.

TABLE – I: THE SUMMARY OF MEAN AND DEPENDENT ‘t’ TEST FOR THE PRE AND POST TESTS ON SPEED AND POWER OF INTERVAL TRAINING AND CONTROL GROUPS

S. No	Variable	Test	Interval Training group	Control group
1	Speed	Pre- test mean	8.13	8.46
		Post – test mean	8.26	8.43
		‘t’ test	8.63*	0.08
2	Power	Pre- test mean	56.4	51.59
		Post – test mean	59.12	50.12
		‘t’ test	9.46*	0.46

*Significant at 0.05 level. (The table value required for .05 level of significance with df 14 is 2.145).

Table I presents the pre-test mean values for speed and power in both the interval training and control groups. In the interval training group, the initial mean values were recorded as 8.13 seconds for speed and 56.4 centimeters for power. Meanwhile, the control group had pre-test mean values of 8.46 seconds for speed and 51.59 centimeters for power. After the training period, the interval training group showed post-test mean values of 8.26 seconds for speed and 59.12 centimeters for power. In contrast, the control group's post-test mean values were 8.43 seconds for speed and 50.12 centimeters for power.

The dependent t-ratio analysis revealed values of 8.63 for speed and 8.19 for power in the interval training group, whereas the control group had t-ratio values of 0.08 for speed and 0.46 for power. The critical table value for significance at the 0.05 level with 14 degrees of freedom is 2.145. Since the t-ratio values in the interval training group exceeded this threshold, the results indicate a significant improvement in both speed and power for these participants. However, in the control group, the t-ratio values remained below the critical level, suggesting that the absence of a structured training program led to no notable improvements in the measured fitness variables.

The analysis of covariance (ANCOVA) for speed and power between the interval training and control groups is presented in Table - II.

TABLE – II. ANCOVA OF INTERVAL TRAINING AND CONTROL GROUPS ON SPEED AND POWER

S. No	Variable	Adjusted test mean		Source	SS	Df	MS	F
		ITG	CON					
1.	Speed	7.56	7.52	SSB	0.07	1	0.8	36.55*
				SSW	0.06	27	0.02	
2.	Power	49.65	43.09	SSB	318.98	1	319.69	49.36*
				SSW	185.14	27	6.48	

*Significant at .05 level of confidence (The table values required for significance at .05 level of confidence with df 1 and 27 is 4.21)

Table II displays the adjusted post-test mean values for the fitness variables—speed and power—among participants in the interval training and control groups. The adjusted post-test mean for speed was recorded as 7.56 seconds for the interval training group and 7.52 seconds for the control group. Similarly, the adjusted post-test means for power were 49.65 centimeters in the interval training group and 43.09 centimeters in the control group.

The computed F-ratio values were 36.55 for speed and 25.08 for power. Both values exceeded the critical table value of 4.21 at the 0.05 level of significance, with degrees of freedom set at 1 and 27. Since the F-ratio values surpassed the threshold, this confirms a statistically significant difference between the adjusted post-test means of the two groups for both speed and power.

Conclusion

The findings of this study demonstrate a significant enhancement in speed and power among football players who underwent interval training. Additionally, a clear distinction was observed between the interval training group and the control group in these fitness parameters. The interval training program proved to be an effective method for improving speed and power in football athletes. Participants in the experimental group exhibited substantial improvements compared to the control group, reinforcing the impact of interval training in boosting athletic performance in these essential areas.

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THE ROLE OF EDUCATIONAL ADMINISTRATION IN INSTITUTIONS

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Abstract:

Educational administration is a set of procedures for the administration of resources, tasks and communication which are involved in running a school system. It mainly focuses on directing, controlling, planning, organizing, evaluating and coordinating student performance. It requires day-to-day management and active operation of educational institutions. An educational administrator's responsibility is to exercise total authority over the development and execution of educational policies, processes, and programs. It entails carrying out student assessments, offering guidance for students' education, developing curriculum, and monitoring resources of the educational establishment to accomplish intended results. To ensure that educational institutions are managed and operated properly, administrators collaborate with educators, support personnel, students, parents, and local politicians. To be involved as an educational administrator, knowledge about their role will help one to maintain and manage the institution effectively. Thus, comprehending the purpose of educational administration in institutions is the primary objective of this descriptive research. The findings are articulated and suggestions are given in the conclusion to fulfill the objectives of the present paper.

KEYWORDS: Education, Administration, Institutions.

INTRODUCTION

Educational administration plays a very important role in structuring, and shaping the direction and function the educational institutions effectively. An educational administrator needs to manage and coordinate various aspects of the education system, ranging from developing the curriculum, personnel management and implementing the various policies and programmes. Thus, the purpose of current research is to comprehend that educational administration contributes to the maintenance and operation of school environments.

MEANING OF EDUCATIONAL ADMINISTRATION

The process of operating and maintaining an efficient teaching and learning environment in educational institutions is known as educational administration. It requires strategic planning, organizing, coordinating and evaluating the educational programs, policies and available resources to facilitate optimal student outcomes. Under the educational administration, the role and responsibilities of the educational leaders is to provide quality education to the students. They are responsible for creating and maintaining a suitable learning environment by implementing effective instructional strategies, fostering collaboration among staff and ensuring the success of educational institutions.

THE AIMS AND OBJECTIVES OF EDUCATIONAL ADMINISTRATION

Students' education is the primary aim of educational administration. Since an educational administrator's responsibility is to ensure that resources are being utilized properly, it attempts to ensure that resources correspond to the standards and requirements of students. To ensure and make the learning environment more engaging and enjoyable, educational administration also attempts that teachers and staff members constantly assess students' performance and develop a variety of programs and extracurricular activities for students. Organizing an efficient teaching and learning process through the recruitment of qualified teachers to institutions is an additional essential objective of educational management. In addition to assisting students to grasp concepts faster, the appointment of qualified teachers is a requirement for improving educational standards.

NEED AND IMPORTANCE OF THE STUDY

Examining the major trends and challenges of educational administration that are currently impacting the field of education is essential as it develops in combination with social change and industrial development. Educational administration is an important element of operating any school environment. Therefore, learning about the functions of educational administrations may help one to understand the role they play in maintaining the effectiveness of school environments.

OBJECTIVES OF THE STUDY

The primary objective of the research is “to understand the role of educational administration in the institutions”.

METHODOLOGY

The methodology used here is secondary sources. Under the secondary sources, the researchers have used various journals, internet and articles.

STATEMENT OF THE PROBLEM

The problem undertaken is stated as “Role of Educational Administrations in Institutions”.

REVIEW RELATED LITERATURE

Studies done abroad

Erkan Kiral and Burcu Altan.; Et al. in their study named “Expectations of Students in the Educational Administration, Supervision, Planning and Economics Master's Program without Thesis and Their Opinions Regarding the Satisfaction of Their Expectations” (2015). According to the results, educators and managers have identical and distinct expectations. Administrators' and educators' specific expectations are fulfilled. However, they fail to satisfy all of their organizational requirements.

Paul Min Phang Chang's.; Et al. “Education Administration: Analysis, New Challenges and Responses” (2017) interpreted that educational administration is identified with distinct roles and there is scope for creative management.

Aduma Fidelis's, Fidelis Aduma Wonah, Ene Ogar Egbula, Cletus Akpo Atah.; Et al. researched the topic “Quality in Educational Administration and the Sustainability of Academic programme in Universities in Cross River State, Nigeria”(2018) and demonstrated that the provision of infrastructure and monitoring of educational programs are related to the viability of academic programs.

Mahfouz, Julia, Barkauskas, Nikolaus J, Sausner, Erica B, Kornhaber, Mindy L.; Et al. in their research titled “Leadership Roles of Administration under the Common Core Reform”(2018) discovered that although they might have failed to make significant changes, administrators regard the PA Core as an opportunity to address areas of the district or school which require improvement. They additionally recognize the requirements of their diverse student body and the school context, however, the PA Core has yet to be modified for addressing these diversity issues. Additionally, administrators perceive themselves as leaders of buildings or districts irrespective of reform implementations.

Saikham, Sunthon; Rattanakorn, Sombat; Chanpla, Surasak; Mahahing, Prachitr; Suebnisai, Phamaha Phisit; Ruangsarn, Niraj.; Et al. in their research on the topic, “Educational Administration of Buddhist Schools under OBCP Online Submission, Psychology and Education”(2021) discovered that the subjects with the highest mean were "Academic Administration," "General Affairs," "Personnel," and "Finance." According to the aforementioned guidelines, the pedagogical curriculum of schools should be updated and modified to satisfy the requirements of the students; technology, advanced media, and creative instructional techniques ought to be employed for improving school evaluation systems and develop learning resources; and the average of the samples' views regarding the level of educational administration of Buddhist schools under OBCP was additionally high.

Studies done in India

Taghi Jabbarifar's.; Et al. "Higher Education Administration And Globalization In The 21st Century In India" (2011). This article discusses the evolving landscape and managerial responsibilities of Indian higher education in the 21st century.

Ahmed, Gouher & Ali, Abbas & Shohaib, & Desai, Ahmed.; Et al. on their research topic "India's Educational Management"(2013). The results demonstrate that universal literacy is a widely acknowledged educational objective and that literacy is a sufficient indicator of educational administration.

Pravat Kumar Jena.; Et al. researched the topic "A Study on Educational Management and Administration System of IGNOU" (2015) which described some basic features of the Educational Management and Administration System and the pattern of governance followed by IGNOU that helped it to stand as a unique institution.

Trilok Kumar Jain.; Et al. in his research topic, "Higher Education Administration: Case Study of a University in India" (2019) gives an overview of the planning of the university work and highlights all important activities in a university.

Shivani Bakshi.; Et al. in her research topic, "Covid-19, NEP & School Leadership: Reimagining School Education in India" (2022). In the current context, the paper contributes to the body of literature on school leadership. Post-COVID-19, schools in India are under threat of shutting down and are experiencing financial challenges. For overall school improvement, it is essential to establish school leadership in the context of changes brought about by the COVID-19 situation.

FINDINGS OF THE STUDY

Educational administration plays a vital role in an educational institution. Based on the findings we can see that educational administration needs to focus on the problems of maintenance and provision of resources. The process of educational administration involves interpersonal relationships that are influenced and controlled by several aspects that are crucial to the administration's efficient operation. Consequently, the primary responsibility of educational administration must be the development of human interactions and personality. According to additional research, curriculum indicates that the goal of an educational program can be understood at one point, and how students can become part of society that assists them reach their inspirations and goals at another. Educational institutions' curricula must be appropriate and comprehensive; additional, challenges will develop during the educational process.

DISCUSSION OF THE STUDY

Child education is the primary objective of every educational program in the practices of today. Therefore, to hold students accountable for their academic performance, educational administration must establish guidelines for admission and promotion. Since it is the responsibility of educational administration to collaborate with members of society and to produce the best possible socially responsible persons, the

educational system must eventually improve human and material resources that support the national economy. Education should be able to keep a positive relationship with society, and administration should be able to provide students with an opportunity to exercise greater responsibility for their education and develop into self-sufficient learners who can function effectively without a teacher to guide them. Since education is essentially a social matter and educational institutions, whether they be schools or colleges, are tasked by society with educating and raising the next generation, only then can the administration of education in any institution be genuinely significant. Educational administration can establish appropriate cooperation with society to make it a worthwhile society to live in.

RECOMMENDATION OF THE STUDY

Firstly, following government laws and regulations, educational institutions should oversee the training of administrators and teachers to assist individuals reach their highest potential. The value of educational administration in the modern day should also be promoted, and institutions should implement it. The educational administrator must therefore be able to provide the opportunity for students to take ownership of their education in increasing numbers and develop into self-sufficient learners who can operate well without a teacher to guide them through the process. Finally, the educational administrator's primary responsibility is to directly or indirectly engage all available human resources in the instructional process.

CONCLUSION

In conclusion, we can see that educational administration or any institution largely depends on the role of a leader. Since the educational system depends extensively on educational administration and has several issues to deal with, educational administration is of the highest priority in institutions. To ensure that educational institutions operate smoothly and without difficulties, and also that each of their parts is coordinated effectively towards a whole, it is the responsibility of the administration to ensure that educational administration stands out from other types of administration because it views every human resource as advantageous through which they can ensure fundamental personality development.

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EFFECT OF CARDIO RESPIRATORY TRAINING AND CORE STRENGTH TRAINING ON SELECTED PHYSICAL AND PHYSIOLOGICAL VARIABLES AMONG COLLEGE FOOTBALL PLAYERS

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Abstract

This study aimed to examine the effects of cardiorespiratory training and core strength training on selected physical and physiological attributes in college football players. To accomplish this, 30 male students from Ayya Nadar Janaki Ammal College, Sivakasi, Virudhunagar, Tamil Nadu, India, were chosen as participants. Their ages ranged from 18 to 25 years. The subjects were randomly assigned to three groups: Group I (Cardiorespiratory Training), Group II (Core Strength Training), and Group III (Control), with each group consisting of 10 participants. Group I and Group II engaged in their respective training programs three times per week for a duration of six weeks, whereas the control group maintained their usual daily activities without any additional training intervention. The study focused on four key physical attributes: speed, muscular endurance, cardiorespiratory endurance, and breath-holding time. These variables were assessed using standardized tests such as the 50-Yard Dash for speed, Sit-Ups for muscular endurance, the Cooper's Test for cardiorespiratory endurance, and a manual breath-holding test. The collected data were statistically analyzed using Analysis of Covariance (ANCOVA) to determine significant differences among the groups. If a significant F-ratio was found, Scheffe's post hoc test was applied to identify differences between specific pairs of means. The significance level was set at 0.05. The findings of the study indicated a significant enhancement in cardiorespiratory endurance and core strength training outcomes compared to the control group. This suggests that both training modalities contribute positively to improving physical fitness in college football players.

Keywords: Cardiorespiratory Training, Core Strength Training, Speed

Introduction to Cardiorespiratory Training

Cardiorespiratory fitness refers to the efficiency of the heart and lungs in supplying oxygen to the body during sustained physical activity. It evaluates how effectively oxygen is transported through the bloodstream and utilized by the muscles to

generate adenosine triphosphate (ATP) through cellular respiration. ATP serves as the primary energy source for muscle activity, and an individual's aerobic capacity is a critical indicator of overall fitness. The ability of the body to efficiently use oxygen during prolonged exercise is a key factor in athletic performance. Understanding the body's energy systems, particularly the aerobic system, provides valuable insights into optimizing endurance training and overall cardiovascular health.

Core Strength Training

Core strength training targets a range of muscle groups responsible for stabilizing the spine and pelvis. While many associate core training solely with abdominal exercises, it actually involves a broader set of muscles, including those in the lower back, hips, and pelvis. These stabilizing muscles are essential for the efficient transfer of energy from the body's larger muscle groups to smaller ones, especially in dynamic sports movements. A comprehensive core strength training program incorporates balance, stability, and coordination exercises, along with abdominal and lower back workouts. Activating these core muscles enhances overall athletic performance by improving stability, posture, and power generation.

Methodology

To investigate the effects of the training programs, 30 male football players from Ayya Nadar Janaki Ammal College, Sivakasi, Virudhunagar, Tamil Nadu, were randomly selected as study participants. Their ages ranged from 18 to 25 years. The participants were divided equally into three groups: Group I (Cardiorespiratory Training), Group II (Core Strength Training), and Group III (Control), with 10 participants in each. The experimental groups (Group I and Group II) underwent structured training three times per week for six weeks, while the control group maintained their usual activities without any additional intervention. All subjects were closely monitored throughout the training program to ensure safety and prevent injuries. The dependent variables assessed in this study included speed, muscular endurance, cardiorespiratory endurance, and breath-holding time. These parameters were measured before and after the training period.

Statistical analysis was conducted using ANCOVA to determine significant differences among the groups. Whenever a significant F-ratio was observed, Scheffe's post hoc test was applied to identify specific differences between groups. The level of statistical significance was set at 0.05.

Table – 1: Analysis of Co-variance for the Pre, Post and Adjusted Post Test Mean Values for Cardio Respiratory Training Group, Core Strength Training Group and Control Groups on Speed

Test	Cardio Respiratory Training Group	Core Strength Training Group	Control Group	Source of Variance	Sum of square	df	Mean Square	'F' ratio	Table Value
Pre Test Mean	7.64	7.54	7.73	Between	0.19	2	0.10	1.47	3.35
				Within	1.77	27	0.07		
Post Test Mean	7.35	7.43	7.74	Between	0.86	2	0.43	4.93*	3.35
				Within	2.34	27	0.09		
Adj Post Test Mean	7.35	7.41	7.75	Between	0.89	2	0.44	5.00*	3.37
				Within	2.31	26	0.04		

**Significant at 0.05 level of confidence*

Table 1 presents the pre-test mean values for speed in the cardio-respiratory training group, core strength training group, and control group, which were recorded as 7.64, 7.54, and 7.73, respectively. The computed F-ratio of 1.47 for the pre-test means was lower than the critical table value of 3.35 at a significance level of 0.05 with degrees of freedom (df) 2 and 27. This indicates that there was no significant difference in speed among the groups before the training intervention.

For the post-test results, the mean values for speed in the cardio-respiratory training group, core strength training group, and control group were 7.35, 7.43, and 7.74, respectively. The F-ratio for the post-test means was calculated as 4.93, which exceeded the table value of 3.35 at df 2 and 27, indicating a statistically significant difference at the 0.05 confidence level.

The adjusted post-test mean values for speed in the three groups were 7.35 for the cardio-respiratory training group, 7.41 for the core strength training group, and 7.75 for the control group. The obtained F-ratio for the adjusted post-test means was 5.00, which was greater than the table value of 3.37 at df 2 and 26, confirming a significant difference at the 0.05 level of confidence. As the F-ratio indicated statistical significance, Scheffe's post hoc test was conducted to determine specific paired mean differences, and the results are displayed in Table 2.

Table – 2: The Scheffe's Post Hoc Test for the Difference between Paired Means on Speed

Cardio Respiratory Training Group	Core Strength Training Group	Control Group	MD	CI
7.35		7.75	0.40*	0.32
	7.41	7.75	0.34*	0.32
7.35	7.41		0.06	0.32

**Significance at 0.05 level of confidence*

Table 2 presents the adjusted post-test mean differences in speed among the groups. The difference between the cardio-respiratory training group and the control group was 0.40, which was statistically significant at the 0.05 level, indicating a notable improvement in speed. Similarly, the mean difference between the core strength training group and the control group was 0.34, which also reached statistical significance at the 0.05 level, demonstrating an improvement in speed. This confirms that both experimental groups showed significant enhancement compared to the control group.

However, the mean difference between the two experimental groups, cardio-respiratory training and core strength training, was 0.06, which was not statistically significant at the 0.05 level. This suggests that there was no considerable difference in speed improvement between these two training methods. Overall, the findings indicate a significant improvement in speed for both experimental groups compared to the control group, but no substantial difference between the two experimental groups themselves.

Table – 3: Analysis of Co-variance for the Pre, Post and Adjusted Post Test Mean Values for Cardio Respiratory Training Group, Core Strength Training Group and Control Groups on Muscular Endurance

Test	Cardio Respiratory Training Group	Core Strength Training Group	Control Group	Source of Variance	Sum of square	df	Mean Square	'F' ratio	Table Value
Pre Test Mean	23.60	22.70	24.20	Between	11.40	2	5.70	0.79	3.35
				Within	194.10	27	7.19		
Post Test Mean	25.80	26.30	22.80	Between	71.67	2	35.83	10.15*	3.35
				Within	95.30	27	3.53		
Adjusted Post Test Mean	25.79	26.39	22.72	Between	73.99	2	36.99	10.35*	3.37
				Within	92.92	26	3.57		

**Significant at 0.05 level of confidence*

The table - 3 showed that the pre-test means values on muscular endurance of cardio respiratory training group, core strength training group and control group are 23.60, 22.70 and 24.20 respectively. The obtained 'F' ratio 0.79 for pre-test mean was less than the table value 3.35 for df 2 and 27 required for significance at 0.05 level of confidence on muscular endurance. The post-test means values on muscular endurance of cardio respiratory training group, core strength training group and control group are 25.80, 26.30 and 22.80 respectively. The obtained 'F' ratio 10.15 for post-test mean was greater than the table value 3.35 for df 2 and 27 required for significance at 0.05 level of confidence on muscular endurance. The Adjusted post-test means of cardio respiratory training group, core strength training group and control group are 25.79, 26.39 and 22.72 respectively. The obtained 'F' ratio 10.35 for adjusted post-test mean was greater than the table value 3.37 for df 2 and 26 required for significance at 0.05 level of confidence on muscular endurance. Since the obtained 'F' ratio value was significant further to find out the paired mean difference, the Scheffe's post hoc test was employed and presented in table - 4

Table – 4: The Scheffe’s Post Hoc Test for the Difference between Paired Means on Muscular Endurance

Cardio Respiratory Training Group	Core Strength Training Group	Control Group	MD	CI
25.78		22.72	3.06*	2.18
	26.38	22.72	3.66*	2.18
25.78	26.38		0.06	2.18

**Significant at 0.05 level of confidence*

Table 4 presents the adjusted post-test mean differences in muscular endurance among the groups. The difference between the cardio-respiratory training group and the control group was 3.06, which was statistically significant at the 0.05 level, indicating a notable improvement in muscular endurance. Similarly, the difference between the core strength training group and the control group was 3.66, also reaching statistical significance at the 0.05 level, demonstrating a significant enhancement. This confirms that both experimental groups showed considerable improvement compared to the control group.

However, the mean difference between the two experimental groups was 0.06, which was not statistically significant at the 0.05 level. This suggests that there was no substantial difference in muscular endurance improvements between the cardio-respiratory training and core strength training groups. Overall, the findings indicate a significant improvement in muscular endurance for both experimental groups compared to the control group, with a statistically significant difference between the core strength training and control groups.

Table – 5: Analysis of Co-variance for the Pre, Post and Adjusted Post Test Mean Values for Cardio Respiratory Training Group, Core Strength Training Group and Control Groups on Cardio Respiratory Endurance

Test	Cardio Respiratory Training Group	Core Strength Training Group	Control Group	Source of Variance	Sum of square	df	Mean Square	‘F’ ratio
Pre Test Mean	2207.50	2212.00	2172.00	Between	9601.67	2	4800.83	0.41
				Within	319782.50	27	11843.80	
Post Test Mean	2261.50	2274.00	2152.00	Between	90101.67	2	45050.83	4.32*
				Within	281902.50	27	10440.83	
Adj Post Test Mean	2254.00	2264.00	2169.00	Between	52842.18	2	26421.09	5.17*
				Within	132958.17	26	5113.78	

**Significant at 0.05 level of confidence*

Table 5 presents the pre-test mean values for cardio-respiratory endurance in the cardio-respiratory training group, core strength training group, and control group, which were recorded as 2207.50, 2212.00, and 2172.00, respectively. The computed F-ratio for the pre-test mean value was 0.41, which is lower than the required table value of 3.35 for degrees of freedom (df) 2 and 27 at the 0.05 significance level. This indicates that there was no significant difference in cardio-respiratory endurance among the groups before training.

The post-test mean values for cardio-respiratory endurance in the cardio-respiratory training group, core strength training group, and control group were 2261.50, 2274.00, and 2152.00, respectively. The F-ratio for the post-test mean value was 4.32, exceeding the critical table value of 3.35, demonstrating a significant difference at the 0.05 level of confidence.

Furthermore, the adjusted post-test mean values were 2254.00 for the cardio-respiratory training group, 2264.00 for the core strength training group, and 2169.00 for the control group. The F-ratio for the adjusted post-test mean value was 5.17, surpassing the required table value of 3.37 for df 2 and 26, confirming statistical significance at the 0.05 level. As the F-ratio indicated a significant difference, Scheffe's post hoc test was applied to identify paired mean differences, as presented in Table 6.

Table – 6: The Scheffe's Post Hoc Test for the Difference between Paired Means on Cardio Respiratory Endurance

Cardio Respiratory Training Group	Core Strength Training Group	Control Group	MD	CI
2254		2169	85*	82.82
	2264	2169	95*	82.82
2254	2264		10	82.82

**Significant at 0.05 level of confidence*

Table 6 presents the adjusted post-test mean differences in cardio-respiratory endurance among the groups. The difference between the cardio-respiratory training group and the control group was 85, which was statistically significant at the 0.05 level, indicating a notable improvement. Similarly, the difference between the core strength training group and the control group was 95, also significant at the 0.05 level, confirming a positive impact.

This demonstrates a substantial difference in cardio-respiratory endurance between the experimental groups and the control group among male football players. However, the difference between the two experimental groups was 10, which was not statistically significant at the 0.05 level. Therefore, it can be inferred that there was no considerable distinction between the cardio-respiratory training group and the core strength training group in terms of adjusted post-test means. Nonetheless, a significant difference was observed between the core strength training group and the control group. The findings suggest that both the cardio-respiratory training and core strength training programs effectively enhanced cardio-respiratory endurance compared to the control group.

Table – 7: Analysis of Co-variance for the Pre, Post and Adjusted Post Test Mean Values for Cardio Respiratory Training Group, Core Strength Training Group and Control Groups on Breath Holding Time

Test	Cardio Respiratory Training Group	Core Strength Training Group	Control Group	Source of Variance	Sum of square	df	Mean Square	'F' ratio	Table Value
Pre Test Mean	49.00	50.70	51.30	Between	28.47	2	14.23	1.46	3.35
				Within	264.20	27	9.79		
Post Test Mean	50.40	51.70	48.70	Between	45.27	2	22.63	4.35*	3.35
				Within	140.60	27	5.21		
Adjusted Post Test Mean	50.33	51.72	48.75	Between	43.83	2	21.91	4.07*	3.37
				Within	139.96	26	5.38		

**Significant at 0.05 level of confidence*

Table 7 presents the pre-test mean values for breath-holding time in the cardio-respiratory training group, core strength training group, and control group, which were 49.00, 50.70, and 51.30, respectively. The calculated F-ratio for the pre-test mean was 1.46, which is lower than the table value of 3.35 for degrees of freedom (df) 2 and 27, indicating no significant difference at the 0.05 level of confidence. In the post-test, the mean values for breath-holding time were 50.40 for the cardio-respiratory training group, 51.70 for the core strength training group, and 48.70 for the control group. The obtained F-ratio for the post-test mean was 4.35, exceeding the table value of 3.35 for df 2 and 27, signifying a statistically significant difference at the 0.05 level. The adjusted post-test means for the cardio-respiratory training group, core strength training group, and control group were 50.33, 51.72, and 48.75, respectively. The calculated F-ratio for the adjusted post-test mean was 4.07, surpassing the table value of 3.37 for df 2 and 26, confirming significance at the 0.05 level. Since the obtained F-ratio indicated a meaningful difference, the Scheffe's post hoc test was applied to determine the paired mean differences, as shown in Table 8.

Table – 8: The Scheffe's Post Hoc Test for the Difference between Paired Means on Breath Holding Time

Cardio Respiratory Training Group	Core Strength Training Group	Control Group	MD	CI
50.33		48.74	1.59	2.68
	51.71	48.74	2.97*	2.68
50.33	51.71		1.38	2.68

**Significant at 0.05 level of confidence*

Table 8 presents the adjusted post-test mean differences in breath-holding time. The difference between the cardio-respiratory training group and the control group was 1.59, which, while statistically analyzed, did not indicate a significant improvement at the 0.05 level of confidence. In contrast, the difference between the core strength training

group and the control group was 2.97, which was statistically significant at the same confidence level, confirming notable improvement. This suggests a significant difference between the control and experimental groups in breath-holding time among male football players. However, the mean difference between the two experimental groups was 1.38, which was not statistically significant at the 0.05 level. Based on these results, no substantial difference was observed between the adjusted post-test means of the cardio-respiratory training group and the core strength training group. However, a statistically significant difference was found between the core strength training group and the control group. The findings indicate that while the core strength training group exhibited significant improvement, the cardio-respiratory training group did not show a notable difference compared to the control group in breath-holding time.

Conclusions

From the results of the study, the following conclusions can be drawn: Both the cardio-respiratory training and core strength training groups demonstrated significant improvements in physical and physiological variables compared to the control group. The control group did not exhibit any meaningful changes in the selected variables. Overall, both training interventions effectively enhanced physical and physiological parameters among college football players.

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ANTHROPOMETRICAL, PHYSICAL FITNESS, AND PHYSIOLOGICAL VARIABLES WITH PREDICT KHO-KHO PLAYING ABILITY AMONG INTERCOLLEGIATE PLAYERS

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Abstract

The purpose of this study was to predict the influence of specific anthropometric and physiological characteristics on the skill performance of Kho-Kho players. The research involved thirty male intercollegiate players from Madurai Kamaraj University who participated in an intercollegiate Kho-Kho competition. The participants were between the ages of twenty and twenty-five. To assess the relationship between the dependent and independent variables, multiple correlation analysis was conducted on the collected data. A significance level of 0.05 was applied to test the hypothesis. The findings indicated a significant correlation between anthropometric factors and the skill proficiency of Kho-Kho players. Additionally, maximum breath-holding time and resting pulse rate showed a strong association with players' performance.

Introduction

Kho-Kho is a sport that requires strategic sacrifice and rapid adaptability to ever-changing situations. The game demands exceptional agility, muscular coordination, breath-holding capacity, quick reflexes, and sharp presence of mind. It stands out as a unique combative team sport where offensive play relies on collective effort. A single player must often face multiple opponents simultaneously, making it a true test of physical fitness, mental resilience, and the ability to anticipate an opponent's actions. Achieving success in Kho-Kho requires intensive tactical preparation and strategic maneuvering.

In recent years, significant focus has been placed on classifying boys and girls based on age, height, and weight to ensure homogeneous grouping, as these factors play a crucial role in determining physical performance.

Among physiological variables, heart rate is one of the most fundamental and informative indicators of cardiovascular function. The average resting heart rate typically falls between 60 and 80 beats per minute. However, in middle-aged, unconditioned

individuals with a sedentary lifestyle, it can exceed 100 beats per minute. In contrast, highly trained endurance athletes may exhibit resting heart rates as low as 28 to 40 beats per minute. Resting heart rate generally declines with age and is influenced by environmental factors.

Methodology

The study involved thirty male intercollegiate Kho-Kho players from Madurai Kamaraj University who participated in an intercollegiate competition. The age range of the participants was between twenty and twenty-five years. To analyze the relationship between dependent and independent variables, multiple correlation analysis was performed on the collected data. The significance level for testing the hypothesis was set at 0.05.

Table I: Test selection

S. No	Criterion variables	Test items	Unit of measure
1	Agility	Shuttle run	In Seconds
2	Speed	50m run	In Seconds
3	Resting Pulse rate	Radial Pulse	In Seconds
4	Max breath hold time	Nostril method	In Seconds
5	Muscular endurance	Bent knee sit ups	In Seconds
6	Vo2max	Queens college step test	In Seconds

Table II: PEARSON PRODUCT MOMENT CORELATION BETWEEN THE SELECTED VARIABLES AND PLAYING ABILITY OF KHO-KHO PLAYERS

Dependent variables	Independent variables	Pearson r12 value	Multiple Correlation
Playing Ability	Height	-.227	0.4*
	Weight	-.340	
	Arm Length	-.237	
	Leg Length	-.234	
	Speed	-.106	
	Muscular Endurance	.255	
	Shuttle run	-.127	
	Breath Hold Time	-.107	
	Resting Heart Rate	.125	
	Vo2 Max	.400	

*Significant at 0.05 level.

Anthropometric variables

Table III: MULTIPLE CORRELATION COEFFICIENTS BETWEEN THE SELECTED ANTHROPOMETRICAL VARIABLES AND PERFORMANCE OF KHO-KHO PLAYERS

Dependent variables	Independent variables	Pearson r12 value	Multiple Correlation
Playing Ability	Height	.227	0.32*
	Weight	.340	
	Arm Length	.237	
	Leg Length	.234	

*Significant at 0.05 level

Physical Fitness Variables

Table IV: MULTIPLE CORRELATION COEFFICIENTS BETWEEN THE SELECTED PHYSICAL FITNESS VARIABLES AND PERFORMANCE OF KHO-KHO

Dependent variables	Independent variables	Pearson r12 value	Multiple Correlation
Playing Ability	Speed	.106	0.27*
	Muscular Endurance	.255	
	Shuttle Run	.127	

*Significant at 0.05 level.

Physiological variables

Table V: MULTIPLE CORRELATION COEFFICIENTS BETWEEN THE SELECTED PHYSIOLOGICAL VARIABLES AND CHASING OF KHO-KHO PLAYERS.

Dependent variables	Independent variables	Pearson r12 value	Multiple Correlation
Playing Ability	Breath Hold Time	.107	0.40*
	Resting Heart Rate	.125	
	Vo2 Max	.400	

*Significant at 0.05 level.

Supportive Study

Oppliger et al. (1992) highlighted the necessity for accurate and reliable techniques in assessing body composition among athletes, particularly for physical

therapists. Their study evaluated 28 Division IA university football players using three different bioelectrical impedance analysis (BIA) systems, skinfold measurements (SF), and hydrostatic weighing (HYDRO). While all methods showed a high correlation with HYDRO ($>.88$), BIA was found to significantly overestimate body fat percentage. In contrast, skinfold equations demonstrated only minor deviations from HYDRO, making them a more reliable alternative for body composition assessment.

Bale (1991) conducted research to analyze the physique and body composition of young female basketball players, considering their playing positions. The study involved 18 members of the under-17 England Basketball squad, where measurements were taken from 20 different anthropometric sites to determine somatotype and body composition. Additionally, performance variables such as vertical jump, anaerobic power, grip strength (right and left), and laterality were assessed. Statistical comparisons using ANOVA revealed significant differences in body composition among playing positions. Centers exhibited the largest physique and body mass, followed by forwards, while guards had the smallest measurements. Notably, centers were significantly taller, had longer limb lengths, wider hip widths, and greater muscularity than guards.

Conclusions

- A significant correlation was observed between the skill performance of Kho-Kho players and anthropometric variables.
- The combined effect of resting pulse rate and maximum breath-holding time was strongly associated with the performance of Kho-Kho players.

Recommendations

- A similar study can be conducted on female athletes.
- The study may be extended to other major sports.
- Future research can explore additional variables, such as biochemical and psychological factors, as independent variables.

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INTEGRATING TRADITIONAL TRAINING METHODS WITH MODERN SCIENCE FOR RURAL HANDBALL PLAYER DEVELOPMENT

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Abstract

The integration of traditional training methods with modern scientific approaches offers a comprehensive strategy for enhancing the performance of rural handball players. Traditional training methods, rooted in indigenous practices, focus on endurance, agility, and natural resistance training. Modern sports science, on the other hand, incorporates biomechanical analysis, nutrition planning, psychological conditioning, and advanced training regimens. This paper explores the potential benefits of merging these two approaches, highlighting their individual strengths and how their integration can foster holistic player development in rural settings. The study also emphasizes the need for tailored training programs that consider the socio-economic and environmental conditions of rural athletes.

Introduction

Handball is a dynamic sport requiring a combination of speed, agility, endurance, and tactical intelligence. Rural handball players often lack access to high-tech training facilities and rely heavily on traditional training practices such as running on uneven terrain, bodyweight exercises, and skill-based drills. While these methods build fundamental strength and stamina, they may not fully address aspects like injury prevention, recovery, and biomechanical efficiency. The application of modern scientific techniques in training can bridge this gap and enhance overall performance. This paper discusses how integrating traditional and modern training methodologies can optimize the development of rural handball players. Furthermore, it examines the role of sports science in overcoming training barriers faced by rural athletes.

Traditional Training Methods in Rural Handball

Traditional training in rural areas is largely influenced by available resources and local cultural practices. Common methods include:

- **Endurance Training:** Running long distances in fields or hilly terrains improves cardiovascular fitness and stamina.
- **Strength Training:** Bodyweight exercises, carrying water-filled containers, and farm-based manual labor contribute to muscle development.

- **Agility and Reflex Training:** Playing indigenous sports like kabaddi and kho-kho enhances footwork, reaction time, and hand-eye coordination.
- **Skill Drills:** Practicing throws and catches with locally available balls helps develop basic handball skills in an informal setting.
- **Mental Toughness Training:** Rural players often develop mental resilience through community-based competitive games that emphasize perseverance and teamwork.

While these training techniques lay a strong foundation, they may lack precision and structured progression, which are crucial for professional-level performance. Additionally, the absence of scientific monitoring may lead to overtraining, injuries, and inefficient movement patterns.

Scientific Approaches to Training Handball Players

Modern sports science offers a systematic approach to player development through:

- **Biomechanics and Movement Analysis:** Identifying efficient movement patterns to improve technique and reduce injury risk.
- **Sports Nutrition:** Tailored diet plans to enhance energy levels, muscle recovery, and hydration.
- **Periodization Training:** Structured training cycles to prevent overtraining and optimize peak performance.
- **Strength and Conditioning:** Gym-based training with resistance exercises focusing on muscle strength, power, and injury prevention.
- **Psychological Conditioning:** Mental training techniques such as visualization, goal-setting, and stress management to improve performance consistency.
- **Recovery Strategies:** Use of physiotherapy, hydrotherapy, and sports massage to enhance recovery and minimize muscle fatigue.
- **Wearable Technology:** Application of fitness trackers and motion sensors to monitor workload, movement efficiency, and overall player performance.

Integrating Traditional and Modern Methods

A combined approach leverages the strengths of both traditional and scientific training for a well-rounded player development strategy:

1. **Blending Natural and Structured Endurance Training**
 - Continue traditional endurance activities such as running on varied terrain while incorporating interval training and heart-rate monitoring for efficiency.
2. **Enhancing Strength and Conditioning**
 - Utilize farm-based resistance training alongside scientifically designed gym workouts targeting specific muscle groups.

3. **Optimizing Skill Development**

- Traditional drills for ball-handling, passing, and shooting should be refined with video analysis and biomechanical feedback.

4. **Injury Prevention and Recovery**

- Traditional remedies for muscle recovery can be supplemented with modern physiotherapy techniques such as cryotherapy, massage therapy, and stretching routines.

5. **Holistic Player Well-being**

- Introduce sports psychology interventions alongside traditional community-driven motivation techniques to enhance mental resilience.

6. **Nutritional Support**

- Local diet practices should be optimized with modern sports nutrition principles to ensure players receive adequate macronutrients and micronutrients.

7. **Performance Monitoring and Feedback**

- Use modern technology, such as GPS trackers and performance analytics, to complement traditional coaching observations.

Challenges in Integrating Traditional and Modern Training

Despite the benefits of integrating traditional and modern methods, several challenges must be addressed:

- **Limited Access to Scientific Resources:** Many rural players lack access to physiotherapists, sports scientists, and modern gym facilities.
- **Economic Constraints:** Implementing modern training programs can be costly, making them less accessible for rural athletes.
- **Lack of Awareness:** Many rural coaches and players may not be aware of the advantages of sports science and its potential benefits.
- **Cultural Resistance:** Some communities may be hesitant to adopt new training methodologies, preferring their traditional approaches.
- **Infrastructure Deficiencies:** Poor training facilities and lack of proper sports surfaces can hinder the application of advanced training techniques.

Conclusion

The development of rural handball players can be significantly improved by integrating traditional training practices with modern scientific methodologies. While traditional training methods build endurance, agility, and resilience, modern approaches refine techniques, optimize performance, and prevent injuries. By blending both strategies, rural athletes can maximize their potential and compete at higher levels in handball. Future research and investment should focus on creating adaptable training models that leverage local strengths while incorporating scientific advancements for long-term player development. Governmental and non-governmental sports bodies

should also prioritize funding and awareness programs to bridge the gap between traditional and scientific training methods in rural sports development.

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HEAVY WORKLOAD AMONG NURSING EMPLOYEES: A REVIEW OF SECONDARY DATA

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Abstract

This study has reviewed the literatures about the heavy workload of the nursing employees. Few published research articles have been studied to know the various causes of heavy workload among the nurses, and its effects. The study has consolidated findings from the literatures analyzed.

Keywords: Nurse, heavy workload, causes, impacts, secondary data.

INTRODUCTION

Nurses are considered essential paramedical staff and serve as the primary human resource after doctors in saving patients' lives. They play a vital role in both preventive and promotive healthcare. Nursing personnel are generally classified into two main categories: staff nurses and nursing assistants. Staff nurses typically hold a Bachelor of Science in Nursing or a Diploma in General Nursing and Midwifery. In contrast, nursing assistants possess a Diploma in Nursing Assistance (2 years) or have completed a one-year course for male or female nursing assistants.

The roles and responsibilities of these two groups differ significantly. Staff nurses are primarily responsible for planning and delivering patient care in collaboration with doctors and surgeons. Their key duties include administering medications, continuously monitoring patient conditions, following medical directives, maintaining patient records, and managing hospital wards.

Nursing assistants, on the other hand, provide essential support to staff nurses, helping them perform their tasks more efficiently. They assist in transferring patients between different departments, such as wards, ICUs, operating theaters, emergency rooms, cath labs, dialysis units, and diagnostic centers. They also help bedridden and post-operative patients with daily activities like brushing, bathing, medication intake, grooming, bed preparation, and changing bed linens. Their support is crucial for the smooth execution of nursing duties.

Despite its importance, nursing remains one of the most demanding professions, often characterized by heavy workloads. Several factors contribute to high turnover rates among nursing staff, including the nature of the job, societal perceptions of the profession, hierarchical pressure from senior officials, and gender-based domination.

Additionally, the profit-driven approach of many hospitals has led to the adoption of a corporate culture, resulting in increased stress and rigid management practices.

Due to the commercial orientation and lack of proper professional management, many hospitals fail to recruit adequate nursing staff based on patient-to-nurse ratios. Often, nursing assistants are employed in roles meant for staff nurses, and ward secretaries or other support personnel are not hired to assist with the workload. Consequently, staff nurses are burdened with additional responsibilities. This excessive workload not only impacts their physical and mental well-being but also hampers their focus and job performance.

REVIEW OF LITERATURE

Workload arises when employees are faced with multiple work demands that exceed their capabilities. This can involve both quantitative and qualitative overload. Qualitative overload occurs when the tasks are too difficult to complete, while quantitative overload happens when there are too many tasks to finish. According to Stramler (1993), workload is an indicator of the overall mental and/or physical effort needed to perform one or more tasks at a certain level of performance (Elloy DF & Smith SR, 2003).

Workload refers to the elements of the work process that interact dynamically with each other and with the worker's body, leading to an adaptation process that results in wear and tear (Laurell AC, Noriega M 1989). It represents the amount of work that must be completed within a specific timeframe and with a certain level of quality, contributing to the productivity of the organization. From an individual perspective, it refers to the time and energy spent to accomplish tasks (Maslach and Leiter, 1997). Workload involves the tasks assigned to employees that must be completed within a set timeframe, utilizing the skills and potential of the workforce (Munandar A S, 2011).

Havaei and MacPhee (2020) explored how workload-related factors at various system levels—specifically unit, job, and task levels—are linked to patient and family complaints, as well as incidents of violence against nurses, using a human factors framework. The study gathered data from 528 nurses employed in medical-surgical units across British Columbia, Canada. Findings revealed a direct connection between workload variables at multiple levels and workplace violence. At the unit level, higher patient acuity was significantly associated with increased reports of emotional abuse experienced by nurses. At the job and task levels, compromised care standards and frequent interruptions were both linked to higher instances of physical and emotional violence. Additionally, the study found that complaints from patients and their families were strongly associated with increased reports of both emotional and physical violence, with a more pronounced correlation with emotional abuse. Importantly, workload factors at all levels were indirectly associated with elevated reports of workplace violence, mediated through patient and family complaints—suggesting that such complaints may

serve as early indicators or proxies for potential aggression towards nurses. Ultimately, the study concluded that among all variables, patient and family complaints emerged as the most significant predictor of both physical and emotional violence against nurses, even more so than direct workload factors.

Madadzadeh, Barati, and Ahmadi Asour (2018) conducted a study to investigate the relationship between workload and job stress among nurses at Vasei Hospital in Sabzevar, Iran. The findings revealed that nurses with only one year of work experience reported a higher workload compared to their more experienced peers. This was attributed to a lack of understanding among newer nurses about the various demands of the nursing profession. Nurses working in the emergency department experienced significantly higher workloads due to the unique nature of their work environment, time constraints, and increased physical demands. The study identified that the primary contributor to workload was physical effort, while frustration played a lesser role. Additionally, the research found no significant correlation between workload and demographic factors such as years of experience, marital status, gender, or the department in which nurses worked. Similarly, stress levels among nurses were generally moderate, and no significant relationship was found between stress and demographic variables. However, on average, female nurses experienced slightly higher stress levels than their male counterparts. Among all departments, emergency department nurses reported the highest stress levels. Overall, the study concluded that there was no significant association between the severity of job stress and demographic characteristics such as age, gender, work experience, type of employment, educational background, work shifts, or salary, thus supporting the overall findings.

MacPhee et al. (2017) examined how perceived heavy nursing workloads affect both patient and nurse outcomes. The study explored the relationship between seven specific workload factors and various outcome measures. These workload factors included nurse self-reports, patient acuity and dependency levels, perceptions of heavy workloads at the job level, unfinished nursing tasks, compromised professional standards, and workflow interruptions at the task level. Patient outcomes were evaluated through indicators such as medication errors, patient falls, and urinary tract infections. Nurse outcomes were assessed based on levels of emotional exhaustion and overall job satisfaction. The findings revealed that both perceived heavy workloads at the job level and interruptions at the task level had a significant direct impact on outcomes for both patients and nurses. In particular, interruptions were strongly associated with negative effects on both groups. Moreover, the study found that compromised professional standards served as a mediating factor, linking heavy workloads and interruptions to adverse nurse outcomes.

Magalhães et al. (2017) investigated the relationship between nursing staff workload and patient safety outcomes. Workload was measured by calculating the ratio of the average number of patients to the number of nursing personnel over a 24-hour period and during daytime shifts. The study included a sample of 151,481 patients, 502 nursing staff members, and 264 recorded observations of patient safety outcomes. Findings showed that, on average, each nurse cared for 14 to 15 patients, while each nursing technician was responsible for 5 to 6 patients during the day shifts. A significant correlation was found between nursing workload in inpatient units and factors such as

the average length of hospital stay, the incidence of urinary tract infections linked to invasive procedures, and patient satisfaction with nursing care. The study concluded that higher nursing workloads negatively affected both the quality and safety of patient care. It emphasized that adequate staffing levels are essential for creating a safer and more effective care environment.

Aslan et al. (2016) conducted a study to determine whether nurses were unable to complete certain aspects of patient care due to heavy workloads. Data were collected through questionnaires, interviews, and direct observation. The findings revealed that nurses typically spent up to one hour of their eight-hour shift performing tasks that were not officially assigned to them. Observations indicated that nurses often did not engage in psychological support for patients through conversation, did not attend to the needs of patients' families, nor did they consistently prepare care plans. Nursing care in hospital settings appeared to be predominantly focused on treatment activities. The study also found that nurses spent 41.2% of their shift—approximately 3.5 hours—on personal time. Hospital-related administrative tasks accounted for only one hour of the shift. On average, out of an eight-hour shift, nurses dedicated around 3.6 hours to direct patient care, 2.6 hours to personal time, and 1.8 hours to non-nursing duties or unrelated work. In summary, the study suggested that despite having heavy workloads, nurses often prioritized treatment and administrative tasks over holistic patient care. A significant portion of their shift was also spent on rest and personal activities rather than comprehensive caregiving.

Dechavez (2016) conducted a study to evaluate the impact of reduced nursing staff on the quality of care and to identify key factors contributing to nursing workload. The research involved a sample of 60 staff nurses from Shalamar Hospital in Lahore. Findings indicated that the primary contributors to increased workload were staff shortages, rising patient numbers, and disease outbreaks. All participants acknowledged that errors in areas such as psychomotor skills, documentation, and medication administration often occurred under high workload conditions. The majority also reported that excessive workload negatively affected both their physical and mental well-being. Additionally, nurses observed that patient safety issues frequently arose due to workload pressure, and it adversely influenced their professional lives. When asked about potential solutions, 70% of nurses believed that nursing assistants could help reduce the workload, while the remaining 30% disagreed. Job satisfaction levels were mixed, with 63% expressing satisfaction and the rest reporting dissatisfaction. Notably, all nurses agreed that increased workload had a direct impact on patient satisfaction. The respondents unanimously suggested that maintaining an appropriate nurse-to-patient ratio is essential for addressing the issue. The study recommended that hospital nursing management ensure adequate staffing, especially when patient numbers exceed the standard ratio, and implement policies to manage workload effectively during outbreaks.

Gouzou et al. (2015) conducted a study to assess professional satisfaction and nursing workload among staff working in a Coronary Care Unit (CCU) in Greece. The study examined several factors influencing job satisfaction, including salary, task demands, interpersonal interactions, professional status, organizational policies, and autonomy. The results revealed that levels of professional satisfaction differed depending on the hospital's location. Nurses in rural hospitals reported higher job satisfaction and

greater autonomy compared to those in urban hospitals. The study also found that job satisfaction was influenced by shift patterns and job roles. Autonomy was notably lower among assistant nurses and those working night shifts. There were significant correlations between the components of professional satisfaction and nursing workload. Among the satisfaction elements, professional status ranked highest, followed by interaction and autonomy. Conversely, pay and task requirements were rated the lowest in terms of satisfaction, although they were considered highly important by the respondents. Autonomy, while important to some, was ranked lowest in perceived significance for job satisfaction. Nurses employed at rural tertiary hospitals reported experiencing more autonomy in their roles than those working in hospitals located in Athens. Additionally, nurses on day shifts reported higher levels of overall job satisfaction, autonomy in their tasks, and satisfaction with organizational policies compared to those working night or rotating shifts.

Bahadori et al. (2014) conducted a study to identify the factors influencing the workload of nurses in Intensive Care Units (ICUs) across hospitals affiliated with Tehran University of Medical Sciences. Using a census method, the study surveyed a sample of 400 nurses and examined workload determinants under three main components: structure, process, and activity. Within the process component, the most significant contributor to workload was the mismatch between the number of patients and the capacity of the wards. In terms of activity, assisting students and newly hired staff had the greatest impact on increasing nurses' workload. Structural factors affecting workload included unclear job responsibilities and authority, assignment of numerous and varied tasks, lack of adequate systems to support understaffed units, burdensome clinical rules, shortage of secretarial, logistical, and supervisory staff, insufficient social and technical support, lack of trained internal patient transport teams, skill imbalances within nursing teams, poor individual performance, limited availability of single rooms, excessive CPR cases in relation to ward capacity, high involvement in research and quality improvement activities, and absence of teams dedicated to transferring patients to other hospitals. The study concluded that a broad range of factors across all three components significantly contribute to ICU nurses' workload.

Muller et al. (2013) found that assigning more patients to each nursing team resulted in higher rates of bed-related falls, bloodstream infections, employee turnover, and absenteeism. The qualitative analysis of the study identified key stressors, including medication administration, bed baths, and patient transport, which contributed to significant risks to patient, provider, and environmental safety. Additionally, the study highlighted that nursing staff who were responsible for fewer patients delivered better outcomes in terms of both care and management-related patient safety indicators.

Nishisaki et al. (2010) examined the correlation between patient dependency levels and the number of incident reports, as well as the relationship between accidental falls and the transfer of patients from the intensive care unit (ICU) to the wards. The study found that higher patient dependency scores were linked to a higher occurrence of incidents in the internal medicine ward. Additionally, it indicated that the transfer of patients from the ICU could serve as a risk factor for accidental falls.

FINDINGS

The literatures reviewed in this study shows the following findings with regard to the heavy workload of nursing employees.

- i. The primary factors contributing to nurses' workload include a mismatch between ward capacity and patient numbers, assisting students and newly hired staff, an increase in patient numbers, disease outbreaks, unclear job responsibilities, unnecessary tasks, and the assignment of a large variety of tasks. Additionally, the lack of systems to support understaffed units, burdensome clinical regulations, and shortages of secretaries, logistics staff, and supervisors significantly add to the workload.
- ii. Other major causes of nurses' workload include a lack of social and technical support, absence of trained teams for patient transport, skill disparities within nursing teams, poor individual performance, limited availability of single rooms, excessive CPRs in wards relative to their capacity, an overemphasis on research and quality improvement activities, and a shortage of trained teams for patient transfers to other hospitals.
- iii. Nurses in the emergency department experience higher workloads due to different working conditions, time constraints, and increased physical pressure compared to other departments. Workload is primarily driven by physical demands and less so by frustration and stress. Additionally, patient or family complaints are directly related to an increase in workplace violence, with emotional violence showing a stronger correlation than physical violence.
- iv. There is a significant relationship between interruptions and both nurse and patient outcomes. Compromised professional nursing standards were found to mediate the relationship between heavy workload and nurse outcomes, as well as between interruptions and nurse outcomes. Additionally, a significant link exists between workloads in inpatient units and the average length of patient stays.
- v. Workload has both physical and mental effects on nurses, leading to frequent patient safety issues and impacting their professional life. An increase in nursing team workload negatively affects the quality of care and patient safety. Heavy workloads result in necessary nursing tasks being left undone, causing nurses to compromise on professional standards. Significant associations were found between various components of professional satisfaction and nursing workload.

Conclusion

In this secondary data based study, the researcher reviewed few published research articles to identify the various causes of heavy workload among nursing employees, and impacts of heavy workload; And also, from the reviewed articles, the researcher has presented findings about the causes and impacts of heavy workload of the nursing employees.

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FACTORS INFLUENCING PATIENTS' CHOICE TOWARDS HOSPITALS: A REVIEW OF SECONDARY DATA

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Abstract

This study is based on the review of literature of the various factors influencing the patients to choose the hospitals for their treatment. The researcher has reviewed few published research articles to identify the various factors of patients' choice. From the reviewed article, the researcher has presented findings.

Keywords: Patient, choice, hospital, influencing factor, secondary data.

Introduction

Knowledge level of the people has been growing tremendously nowadays than before. Increasing accessibility of the educational institutions; importance given to the education by all sectors of people including village, urban, lower, middle, and upper level income people; technological growth; career related focus; migration of the people in India; increasing awareness of self-employment and entrepreneurship are some of the notable reasons. Besides, the choice and preferences of the people also have changed significantly. The widespread availability of internet, mobile and other technological devices have enhanced the knowledge of the people manifolds; hence, people show keen interest in choosing the products and services meticulously from the available alternatives. The choice of hospitals and other health related services are not exempted from this choice and preferences of people. Unlike earlier days, people do not choose the hospital just based on the availability of doctors. On contrast, nowadays, the people analyze various factors before choosing a particular hospital or clinic to avail the service: The qualification of doctors, nurses, and other paramedical staff; cleanliness of the hospital; facilities available such as blood bank, laboratory, pharmacy, cafeteria; and other related services; approach of staff; fee structure (because hospital nowadays have become like a corporate business; hence, people compare the fee structure of the different hospitals and choose the hospital) are some of the factors.

Hence, hospitals need to focus on all aspects of the hospitals both medical and non-medical not only to attract patients, but also to retain regular patients. Increasingly emerging medical and paramedical colleges and massive entrepreneurship spirit growing

among people have caused huge competition in healthcare sector; the result of which is the emergence of many hospitals – both single speciality, multi-speciality hospitals, clinics, and diagnostic centres, which has given so many choices to public. Thus, all health care industries are in compulsory position of providing the best in all aspects including both medical and non-medical areas to satisfy the patients and thereby retain them and enhance their reputation. This article has reviewed some of the articles related to patients' choice towards hospitals.

Review of literature

Mosadeghrad AM (2013) examined, 'Patient choice of a hospital: implications for health policy and management' with the objective of identifying the most important influencing factors in choosing a hospital by a patient. The study used focus group and in-depth individual interviews from a sample of 256 in-patients in this qualitative study to explore reasons for choosing a hospital. The samples were taken from both inpatients and outpatients departments in public, semipublic and private hospitals. The study examined 11 factors to decide the choice of patients. The result of the study discovered that easy access (location), friends or family member's recommendations, doctors' recommendation, services cost, insurance programme, physical environment, hospital facilities, hospital reputation, provider's interpersonal behavior and no-choice (emergency) are the reasons for choosing the hospital. The study also discovered that significant association was seen between patients' hospital choice and their education. The study also discovered that reasons for people going to a private hospital over public hospital include: shorter waiting time, receiving care from doctors' not medical students, clean environment, more facilities and staff courtesy.

Uchendu OC et al., (2013) examined 'factors influencing the choice of health care providing Facility among workers in a local government secretariat in South western nigeria' with the objectives of assessing the factors influencing choice and satisfaction with health service providers among local government staff' from the sample of 312 workers Local Government Secretariat in South West Nigeria. The researchers have used chi-square and logistic regression analysis. The result proved that majority of the respondents obtained the care from government owned facilities than private hospitals. The study also observed that majority of the respondents (92.5%) were satisfied and 7.9% were dissatisfied with the facilities they access. Majority of the respondents were satisfied with public health care facilities. Monogamous family members were more satisfied with the government hospital facilities than those whose family size was less than four members. The respondents were satisfied with interpersonal or communication skills, cost or payment services, cleanliness of facility and environment, whereas private hospitals were preferred only for ease of getting care and waiting time. Cost and payment service is 2.9 times higher in private hospitals than public hospitals.

Dubey P and Sharma SK (2013) examined, 'factors affecting chance of hospital services in Bilaspur city' with the objective of identifying various factors which affects the consumers in selection of hospital services in Bilaspur city in Chhattisgarh from the sample of 181 households. The study analysed 17 variables and the factor analysis applied in the study proved the following factors affecting the chance of hospital services: ATM facility inside the campus; basic facilities are good; information of the others;

approach of the doctor to the patients; hospital nearer to home; quality specialist doctor for treatment; confidential treatment record; punctual staff in duties; good condition equipments, machinery and technology; medicine shop inside/nearby the hospital campus; agents influencing patients; name and fame of hospital in the locality; quick admission process with less paper work; affordability; computerized and well equipped hospital; publicity and advertisements; and 24 hour outdoor services.

Bahadori M et al., (2016) studied, 'Factors contributing towards patients' choice of a hospital clinic from the patients' and managers' perspective' with the objective of identifying the factors that contribute to patient's choices of a clinic and the importance of each factor. The study was conducted in a hospital clinic from the sample of 381 patients and 22 managers and heads of outpatient wards. The study examined the factors under six categories: faculties and physical assets; physicians and employees; location and place; services; price; and promotion. The result found that the appropriate clinic environment; being a speciality and subspeciality clinic and having the majority of clinical and para-clinical services; good and modern facilities; compliance with plan and respecting the patients' privacy; more suitable visits and services and services costs; having trust in the clinic physicians; having experience and responsive personnel including physicians and employees; belonging to the Armed forces; adornment and good behaviour of staff; placed outside of the traffic plan and easy access to the clinic; inadequate facilities and poor quality of services provided in other healthcare organizations of the Armed forces; having responsive managers; the existence of and regular and systematic management system in the clinic; the good behavior of physicians and spending enough time to visit the patients by them; recommending this clinic to you by the relatives and friends; and advertising through TV and radio, internet, newspapers and son on were the patients' choices in descending order as per the Mean analysis. Majority of these factors were perceived at medium level except appropriate clinical environment; being a speciality and subspeciality clinic and having the majority of clinical and para-clinical services which were perceived at high level.

Dhanya PV and Maneesh P (2018) studied 'Choice of Healthcare and Factor Influencing Choice of Health Care: A Case of Kannur District, Kerala, India' with the objectives of investigating the socio-economic characteristics of the sample respondents in a comparative framework and identifying the reason for the selection of hospitals or healthcare services from the sample of 120 respondents. The result of the study found that private hospitals are mostly used by younger generations, whereas aged people prefer government hospitals. Both male and female uniformly preferred both kinds of hospitals. Education was the primary determinant of choice of health care. Daily wages workers who had the income between 4001 to 7000 usually prefer government hospitals. Free service, less expenses and close to the residence are the reasons for the choice of government hospitals.

Zhao X et al., (2022) assessed 'patients preferences and attitudes towards first choice medical services in Shenzhen, China: a cross sectional study' with the objective of explore the characteristic of Shenzhen residents' references and influencing factors regarding their first choice of medical institutions at various medical levels and to understand their attitudes towards community health services. The study sampled 1612 participants with age of minimum 18 years. Actual preferred first medical institution was

the independent variable along with education, monthly income, medical technology, convenience and providers' service attitude and medical ethnics, whereas expected preferred first medical institution was the dependent variable. The factors, medical technology, convenience, attitude of service and medical ethnics, and price have been selected to analyze the choice of participants towards four medical institutions: Municipal hospital, District level hospital, street level hospital, and community health service sectors. All of those factors decide the participants' choice in the following order – most to least: Municipal hospital, District level hospital, street level hospital, and community health service sectors. The analysis also proved that age, education, income, medical insurance, housing conditions, and registered permanent residence were significantly associated with first medical institutions – Municipal hospital.

Singh S et al., (2022) analysed the 'Determinants of Hospital Choice among Patients and Perceptions of the Same among Hospital Employees in a Tertiary Care Corporate Hospital in Mumbai, India'. The study sampled 252 patients and 56 employees of a tertiary care corporate hospital in Mumbai, using a structured questionnaire. The results of the study showed that Qualified and experienced doctors, Trained nursing staff, 24X7 Emergency services, Modern laboratory and equipment, Positive word of mouth, Fast and hassle-free billing, Affordable prices, Location and Accessibility, Infrastructure and physical facilities, Cashless and digital payment options, Past experience with the hospital, Least Waiting Time, Online appointment System and telemedicine respectively, Patient education and treatment outcomes, Insurance coverage, In-house pharmacy facility and Brand name of the hospital were the determinants of healthcare choice.

Sharma M and Rawat D (2023) analysed the 'Reasons for choice of private hospitals by patients: A Descriptive study' with the objectives of identifying the reasons why patients choose private hospitals over public hospitals from the sample of 219 respondents who have knowledge and experience of hospitality sectors. According to the percentage analysis of the study, the following components are the reasons for choice of private hospitals by patients as per the order of preferences top to bottom: more individualized attention; better reputation for providing high quality medical care; equipped with the latest medical facility and technology; patients can choose the doctors of their choice; private hospitals often provide more personalized care and treatment plans; private hospitals have access to experimental treatments and clinical trials; private health insurance covered; shorter waiting time for consultations, test, and procedures.

Findings of the study

The literatures reviewed in this study show the following findings.

- Easy access (location), friends or family member's recommendations, doctors' recommendation, services cost, insurance programme, physical environment, hospital facilities, hospital reputation, provider's interpersonal behavior and no-choice (emergency), shorter waiting time, receiving care from doctors' not medical students, clean environment, more facilities and staff courtesy are the reasons for choosing the hospital.

- The respondents were satisfied with interpersonal or communication skills, cost or payment services, cleanliness of facility and environment, whereas private hospitals were preferred only for ease of getting care and waiting time.
- ATM facility inside the campus; basic facilities are good; information of the others; approach of the doctor to the patients; hospital nearer to home; quality specialist doctor for treatment; confidential treatment record; punctual staff in duties; good condition equipments, machinery and technology; medicine shop inside/nearby the hospital campus; agents influencing patients; name and fame of hospital in the locality; quick admission process with less paper work; affordability; computerized and well equipped hospital; publicity and advertisements; and 24 hour outdoor services.
- Qualified and experienced doctors, Trained nursing staff, 24X7 Emergency services, Modern laboratory and equipment, Positive word of mouth, Fast and hassle-free billing, Affordable prices, Location and Accessibility, Infrastructure and physical facilities, Cashless and digital payment options, Past experience with the hospital, Least Waiting Time, Online appointment System and telemedicine respectively, Patient education and treatment outcomes, Insurance coverage, In-house pharmacy facility and Brand name of the hospital were the determinants of healthcare choice.
- More individualized attention; better reputation for providing high quality medical care; equipped with the latest medical facility and technology; patients can choose the doctors of their choice; private hospitals often provide more personalized care and treatment plans; private hospitals have access to experimental treatments and clinical trials; private health insurance covered; shorter waiting time for consultations, test, and procedures are the reasons for choice of private hospitals by patients.

Conclusion

In this secondary data based study, the researcher reviewed few published research articles to identify the various reasons for choosing the hospitals for treatment by the patients. And, from the reviewed articles, the researcher has presented few findings.

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ROLE OF ARTIFICIAL INTELLIGENCE IN AGRICULTURE: OPPORTUNITIES AND CHALLENGES

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Abstract

Artificial Intelligence (AI) is revolutionizing the agricultural sector by enhancing productivity, efficiency, and sustainability. AI applications such as precision farming, automated irrigation, predictive analytics, and smart pest control are transforming traditional farming methods. This article explores the opportunities AI presents in agriculture, including increased yield, resource optimization, and climate resilience, while also discussing the challenges such as high implementation costs, lack of awareness, and data privacy concerns.

Keywords: Artificial Intelligence, Agriculture, Precision Farming

INTRODUCTION

Agriculture plays a crucial role in the global economy, providing food, raw materials, and employment to a significant portion of the world's population. However, traditional farming practices face several challenges, including climate variability, resource limitations, and the need for increased productivity to feed a growing population. The advent of Artificial Intelligence (AI) has the potential to revolutionize agricultural practices by making farming more data-driven, efficient, and sustainable.

AI technologies, including machine learning, robotics, and IoT (Internet of Things), help in predictive analytics, early pest detection, and precision farming. AI-powered solutions enable farmers to analyze vast amounts of data, optimizing inputs like water, fertilizers, and pesticides, leading to increased crop yields and reduced environmental impact. Moreover, AI applications such as autonomous tractors, drones, and smart irrigation systems reduce manual labour and enhance operational efficiency.

Despite its numerous advantages, the adoption of AI in agriculture is not without challenges. High implementation costs, limited digital literacy among farmers, and concerns regarding data privacy and security are significant barriers. Additionally, inadequate rural infrastructure and limited access to advanced technology hinder AI

penetration in many developing regions. Addressing these challenges through policy interventions, financial support, and technological advancements is crucial for AI-driven agriculture to reach its full potential.

This paper delves into the transformative role of AI in agriculture, examining both the opportunities and challenges associated with its implementation. By analyzing real-world applications, we aim to provide insights into how AI can drive sustainable agricultural growth while addressing its inherent limitations.

STATEMENT OF THE PROBLEM

Despite AI's potential, its adoption in agriculture is hindered by technological, economic, and infrastructural barriers. High costs, lack of digital literacy, and concerns about data security pose significant challenges to AI implementation in farming. Understanding these challenges is essential to devise strategies for effective AI integration in the sector.

OBJECTIVES

The objectives of the study are as follows.

1. To understand the role of AI in modern agriculture.
2. To examine the opportunities AI presents in enhancing agricultural productivity.
3. To identify the challenges hindering AI adoption in farming.
4. To provide suggestions for overcoming AI-related challenges in agriculture.

SCOPE OF THE STUDY

The study focuses on AI applications in agriculture, examining their impact on yield optimization, resource management, and sustainability. Assessment of AI's effectiveness and challenges across different agricultural settings also encompasses by the research paper.

METHODOLOGY

The study employs a mixed-methods approach, including quantitative analysis of AI-driven agricultural outcomes and qualitative assessments through interviews with farmers and experts who are busy with technologically advanced and emerging agricultural regions where AI applications are being tested or implemented. Secondary data from reports, journals, and case studies supplement the analysis.

ANALYSIS AND INTERPRETATION

In this part, the researcher analyses AI's impact on various agricultural parameters.

Table 1: Region's AI Adoption Rate in Agriculture

Region	AI Adoption (%)	Primary AI Applications
North America	75%	Precision Farming
Europe	65%	Automated Irrigation
India	45%	Pest Control
Asia	55%	Pest Control
Africa	30%	Yield Prediction

Source: FAO (2023)

Table-1 indicates the selected region's rate of AI adoption in agriculture. The rate of AI adoption is highest in North America and it was followed by Europe, Asia, India and Africa.

Table 2: Impact of AI on Crop Yield

Crop	Traditional Yield (tons/ha)	AI-Enhanced Yield (tons/ha)
Wheat	3.2	4.5
Rice	4.0	5.8
Maize	5.5	7.2

Source: Agricultural Technologies Journal (2023)

Table-2 depicts the positive impact of AI applications on crop yield. Due to AI application, the yield from wheat, rice and maize was higher than the traditional yield.

Table 3: Cost-Benefit Analysis of AI Implementation

AI Technology	Initial Cost (\$)	ROP (%)
Drones	10,000	150
AI Sensors	5,000	120
Automated Tractors	50,000	180

Source: International Journal of Smart Agriculture (2022)

Table-3 shows the cost-benefit analysis of AI implementation. By adopting different AI technologies like Drones, AI Sensors and Automated Tractors, the rate of profit was higher than the initial cost.

Table 4: Challenges in AI Adoption

Challenges	Affected farmers (%)
High Cost	65%
Lack of Awareness	55%

Challenges	Affected farmers (%)
Data Privacy Concerns	40%
Infrastructure gap	50%

Source: FAO Report (2023)

Table-4 illustrates the percentage of farmers affected by the challenges of AI applications like High Cost, Lack of Awareness, Data Privacy Concerns and Infrastructure gap.

Table 5: AI and Resource Optimization

Resource	Usage Reduction (%)
Water	30%
Fertilizers	25%
Pesticides	20%

Source: UNDP (2023), Journal of Agritech (2021)

Table-5 demonstrates the level of optimization of resources like Water, Fertilizers and Pesticides by the application of AI.

Table 6: AI Applications and Their Effectiveness in Agriculture

AI Application	Effectiveness (%)	Major Benefits
Precision Farming	85%	Improved Yield, Cost Savings
AI-Driven Irrigation	75%	Water Conservation on Efficiency
Crop Disease Prediction	80%	Early Deduction, Reduced Loss
Smart Pest Control	70%	Reduced Pesticide Use, Healthier Crops

Source: UNDP (2023), FAO (2023)

Table-6 exhibits the effectiveness and major farming benefits by the applications of different AI like Precision Farming, AI-Driven Irrigation, Crop Disease Prediction and Smart Pest Control.

FINDINGS

- Adoption rates vary by region, with developed countries leading the way.
- AI significantly improves crop yield and resource utilization.
- High implementation costs and digital literacy gaps hinder AI penetration in small-scale farming.
- In agriculture, usage reduction of resources like Water, Fertilizers and Pesticides by the application of AI.
- Farmers are affected by the challenges of AI applications.

- Sustainable farming benefits from AI through optimized resource use and reduced environmental impact.

SUGGESTIONS

- Government subsidies and incentives are essential to lower AI adoption costs.
- There should be farmer training programs to enhance AI literacy and usability.
- Strengthening data privacy regulations to build trust among stakeholders.
- Public-private partnerships is must to expand AI infrastructure in rural areas.
- Continuous research to enhance AI efficiency and affordability in agriculture.

CONCLUSION

AI presents immense opportunities in agriculture, from boosting productivity to ensuring sustainability. However, addressing economic, technological, and infrastructural challenges is crucial for widespread adoption. Collaborative efforts from governments, tech companies, and farmers are essential to harness AI's full potential in agriculture.

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