Influence of Sports and Physical Activities on Job Performance of Working Professionals

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Abstract

The often-said statement "A fit employee is a productive employee" is the basis of this research. The purpose of this study is to address the interplay among individuals who participate in sports or physical activities and their perceived job performance. Job performance is one of the most salient aspects of individuals working in an organization. With organizations emphasizing the need of inculcating various co-curricular activities to increase workplace productivity, it is important to understand if participation in sports/ physical activities does aid in doing so. Thus, the objective of the study is to find the correlation between participation in sports/ physical activities and job performance and also to see the difference in the effect of sports on job performance between government sector employees and non-government sector employees. The data was collected from three different groups of the working population (Government employees, non-government employees, and individuals who have taken sports as their profession) within the age range of 20-60 years. The Individual Work Performance Questionnaire (IWPQ) by Koopman (2013) was used for assessing the job performance levels among individuals, while the SQUASH (Short Questionnaire to Assess Health enhancing physical activity) developed in 2008, was used to measure the physical activity level of the individuals and their participation in any form of sports. Correlation was conducted between the two data sets followed by t-tests. The results concluded that there is a strong positive correlation between participation in sports and job performance and that the government employees had a better job performance compared to the non-government employees owing to their greater amount of time spend in engaging in a sport of physical activity. Also, the participants associated with sports were seen to have a better work performance as compared to those who were not associated with any sports and physical activities. Thus, this paper suggests organizations promote and incorporate fitness programs and yearly inter as well as intra sports tournaments as a part of their routine.

Keywords: Sports, Job performance, Government and non-government employees, Physical activities

INTRODUCTION

A workplace is a location where individuals perform tasks, assigned jobs, and projects for an employer. Behavior within a workplace can be influenced by various factors and have different dimensions to it. Job performance is one such aspect among the individuals in a workplace. Job performance is useful for analyzing strategies and techniques in Industrial and Organizational psychology that might help increase the productivity level and performance of the individuals in the organization. According to Motowildo, Borman & Schmit (1997), the definition of *job performance* is "the total expected value to the organization of the discrete behavioral episodes that an individual carries out over a specified time period" (Motowildo, Borman, & Schmit, 1997). While Campbell defines job performance as "a means to achieve goals within a job, role or organization, (Campbell, 1990), but not the actual consequences of the act performed within the job." Job performance is synonymous to the term individual work performance which means "the actions or the behaviors that are pertinent to an organization" (Campbell,1990)

For years there have been studies trying to determine the various dimensions of job performance. Campbell (1990) explained the eight behavioral dimensions which covers-up the various aspects of performance. These factors are not consistent throughout jobs and their contents and sub-general factors vary across the jobs differentially. The eight factors were:

1. *Job-specific task proficiency*- measures the efficiency with what an individual does the tasks that constitutes the core technical requirements of the job and the one that distinguishes the individual's job from the others.
2. *Non-job-specific task proficiency*- measures the efficiency with which an individual does a task which is not specific to his/her job but are rather essential or requisite for almost all jobs in an organization.
3. *Written and oral communication*- measures the efficiency with which an individual can reach out to any size of audience through written or oral communication.
4. *Demonstrating effort*- measures the commitment of an individual towards their job tasks and how unrelentingly and determinedly they work towards their assigned tasks.
5. *Facilitating team and peer performance*- measures how cooperative an individual is and how readily they are willing to support, help and develop their peers and enhances the group functioning.
6. *Maintaining personal discipline*- measures how much an individual refrains from misbehavior or misconduct such as alcohol abuse, rule breaking, and absenteeism.
7. *Supervision*- measures how effectively an individual has an impact or guides their subordinates through face-to-face interaction.
8. *Management and administration*- measures how effectively an individual performs nonsupervisory tasks such as systematizing resources and organizing people, setting particular organizational goals, monitoring progress of other individuals or employees, controlling the expenses, and subsequently figuring out additional resources.

On further research three main dimensions or factors of job performance were established. There were: Task performance, Contextual performance, and Counterproductive work behavior (Koopman, 2014).

Task Performance- The different frameworks of performance mentioned task performance as a core dimension of work performance. The definition of task performance includes the competency or expertise with which an individual performs their central job tasks. Campbell's first two dimensions of job-specific task proficiency and non-job-specific task proficiency constitute the task performance.

Contextual Performance- The concept of work performance is much more than merely meeting the assigned work

goals. According to Borman and Motowildo(1993), contextual performance are an individual's behavior that enhances the organizational, social and psychological environment in which the technical core tasks are carried out. In Campbell's framework, six out of the eight dimensions of work performance were inclusive of contextual performance. The dimensions inclusive of Contextual performance were written and oral communication, supervision, demonstrating effort, facilitating peer and team performance, maintaining personal discipline, and management and administration.

Counterproductive work behavior- Counterproductive work behavior has been defined as those behaviors of an individual or employee that have a negative impact on the overall well-being of the organization (Rotundo and Sackett, 2002). It is the opposite of Campbell's dimension of maintaining personal discipline. Though Campbell's framework doesn't include any dimensions of counterproductive work behavior, there have been other frameworks that have incorporated one or more dimensions of counterproductive work behavior. Murphy's framework of hazardous/destructive behaviors (behaviors leading to loss of productivity, damage to organization and other setbacks) and down-time behavior(behaviors including avoidance of work) attains to behaviors that harm the functioning of an organization.

Behavior and performance are not synonymous. Behavior refers to what a person does, while performance refers to what is expected out of an individual that has some organizational value. Thus, performance in a workplace refers to those behaviors that helps in accomplishing an organizational goal. The domain of performance encompasses behaviors that have a positive influence as well as behaviors that have a negative influence on the organizational goal accomplishment. This expected value of behaviors for the organization differs from individual to individual with behavioral episodes ranging from slightly to extremely favorable which aids in the goal accomplishment while certain behaviors ranging from slightly to extremely unfavorable that hinders the goal accomplishment in the organizations. It's extremely important for organizations to differentiate among these behaviors and encourage the ones that help the organization move forward.

Many studies have identified the importance of promoting exercise in one's workplace as well as identifying its associated health potential (Dishman et al.,1998; Ewles & Simnett,2003; Taylor, 2005). Studies have shown that employees who engage in exercises are healthier than the sedentary ones (Jex & Heinisch, 1996). Workplace stress can be effectively dealt with the help of exercise (Flood & Long,1996). Also, physical activities aid in developing coping skills for workplace behaviors and help increase resilience to tolerate some minor irritations without becoming stressed (Steptoe et al.,1998).

Physical activities can be defined as the voluntary movement of the body which is produced by our skeletal muscles, and one that leads to some energy expenditure. (WHO,2020). Physical activities incorporate various activities such as different sports, at different intensities, that can be performed at any time of the day. Engaging in physical activities and sports has a wide range of benefit, both psychologically and physically, with it having an impact on a minimum of 20 major diseases (Booth et al.,2000). It also has a positive effect on the mental health of individuals (Department of Health,2004), such as morale and mood (Lechner,1997; Goetzel et al.,1998; Peterson & Dunnagan,1998; Harden et al., 1999). This in turn aids the overall performance of an individual (Stewart et al., 2003). This mind-body connection theory has survived through years which has its roots among the early Greek philosophers.

With the increase in the awareness of the importance of physical activities, the health and fitness trend has been on a rise globally around the world. According to Wellness Creative co: one of the biggest publishers of resources relating to health and fitness business, the gym membership has increased from 62.5 million US gym members in 2018 to 64.2

million in 2019. On comparing the data between 2008 and 2018, gym memberships have grown by 37.1%. While in the Indian context, the fitness market had observed a growth rate of 18-20% during the year 2012. The Deloitte Indian Report (2017) had stated that worth of the fitness industry in India was USD 1.1 billion which was expected to reach a total of more than $1.1 billion by 2017. Also, with the government giving a priority to the 'Wellness' sector in the Make in India campaign, has given a necessary push to this sector. While according to Passey (2018), the corporate sector makes use of the sports medicine service the most. The reason being, sedentary employees when trying a new sport or take up exercise sessions, ends up with injuries, which also includes those who wishes to perform well in endurance sports like marathon, ultra-marathon etc. For reasons like these, employers are now concerned about work-based exercise facilities (Shephard,1992; Grey, Norton and Dietrich,2014). It was observed that almost half (48 percent) of "The 100 Best Companies to Work For 2006" had provided their employees with a gym access (Sunday Times, 2006) which emphasized on the gaining importance of physical fitness in the working sector. Thus, all in all, physical activities enhance the physical endurance of individual to perform strenuous work as well helps manage the ill health and a lower productivity of the employees at work (Wattles and Harris, 1997).

Even with the increasing popularity of the importance of physical activities on an individual's job performance, there have been very few research to study the same, with limited research done in the Indian context. The purpose of this research is to study the importance of physical activities on an individual's performance level within the Indian population. The aim of this paper is:

To find out the characteristics of the sample and to study the correlation between participation in sports/physical activities and job performance. It also further aims to study the difference in the job performance between government sector employees and non-government sector employees and also between participants associated with sports and those not associated with sports.

LITERATURE REVIEW:

Literatures have shown a mixed review on the participation of sports or other physical activities on the performance of an individual. There have been a number of research to determine the effect of sports on the academic performance of students. Wretman(2017) in his paper examined the potential that sports activities carried out in schools have on the academic performance of students. The results of the study indicated that participation in school sports has a positive effect on the academic achievement of students, along with increasing their overall self-esteem. This has also been supported by the study conducted by Rees and Sabia (2010), whose paper concluded that participation in sports enhances certain dimensions of academic performance and achievement. Yeung (2013) also studied the academic achievement of athletes and the effect of athletic leadership on performance and have found that athletes perform better in almost every subject than the non-athletes in high school. In another study by Mohd Daud et al. (2013), they examined the relationship between sports involvement and student's performance. The study suggested that the individuals who participated in sports had a better academic performance, also they have a more energetic body, an intelligent mind and a stronger immune system. Raspberry et al. (2011) in their review found that participation in sports had a positive effect on academic performance, academic behavior, cognitive skills and behaviors. Similarly, Fedewa and Ahn (2013) aimed to assess the academic performance and cognitive functioning among sports participants. The results indicated that participation in physical activities enhances the achievement in performance and cognitive functioning of individuals. Broh (2002) stated that longitudinal studies are indicative of the fact that participation in sports leads to a better grade point among the students. This has been supported by the study of Stephen and Schaben (2002) who concluded that the students who participated in at least one sports throughout the year outperforms others and have a better overall GPA when compared to those who did not participate in any sports.

Some researchers have contradicted these findings showing that sports participation may lead to a reduced productivity. Klein (2011) in his paper measured the correlation between sports participation sponsored by schools and the academic achievement of students. The study concluded that the academic performance of students in terms of scores and GPA were greater for those who did not participate in sports. Similarly in the paper by McCarthy (2014) it was found that the academic performance growth rate of the non-participants in sports was more statistically significant as compared to the participants. But there have also been studies which have not shown any significant difference in the performance levels among participants and non-participants of any physical activities. Keeley and Fox (2009) in their paper found a weak positive correlation between participation in physical activities and academic performance. Similarly, Singleton (2016) in her study did not find any statistically significant difference in the grade points between students who participated in sports and among the non-participants.

These findings have not just been limited to academic performance but have also taken into account the workplace performance of individuals. There have been studies showing the relationship between sports or physical activities and job performance of employees. In the study conducted by Coulson, McKenna & Field (2008), aimed to study the connection of workplace exercise on self-reported workplace performance. A mixed methods design combined with randomized control trial was adopted, and data was collected from three workplaces (2 private companies and 1 public company) having on-site exercise facilities and size (>250 employees). Mood was calculated using PANAS and the list of exercise specifics (Duration, Intensity, mode) was kept; Mood was recorded pre and post exercise on the self-selected exercise day(ExD) and

earlier and later in the working day on the no-exercise days (NExD). 15 items of the Work Limitation Questionnaire were completed at day-ends. The findings indicated that mood improved on ExD, pre-to-post exercise, and also

performance indicators were higher on ExD as compared to NExD, independent of exercise specifics and workload. Neck and Cooper (2000) also concluded that fitness levels of individuals have a positive effect on higher performance. DeNelsky and McKee (1969) attempted to predict the individual's job performance based on their fitness level among government employees and the results were inclusive that high levels of job performance was because of participation in physical activities. Similar results were indicated by Pronk et al., (2004) which showed that physical activities have a positive effect on the quality of job performance and also that higher cardiorespiratory fitness had a positive impact on the quantity of job performance. Grzywaez et al., (2007) also concluded physical activities enhance the workplace productivity of the company. Similar findings have also been reported by other studies (Calfas et al., 1996; Erickson et al., 2011; Falkenberg, 1987)

Mills et al., (2007) found that incorporating a multi-component health promotion in the workplace in order to increase the fitness levels of employees has a significant impact on the productivity and performance in the workplace. Similar results have also been observed by Burton et al. (2005), where the employees who had enrolled in the fitness center of the company had a more enhanced work performance as compared to those who did not enroll in the program. Mokaya and Gitari (2012) in their paper inferred that physical fitness programs have a positive effect on the work performance, work quality, morale and efficiency of employees. Studies have also shown that there is an increase in work performance after an increased physical activity (Barr-Anderson et al., 2011). Thus, there have been a number of research that have recommended incorporating physical activity programs in one's workplace (Phipps et al.,2010; Crespo et al., 2007)

Wattles & Harris (2003) in their paper examined the relationship between the components of health-related behavior and the employee's perceived productivity, job satisfaction and absenteeism. Questionnaires were distributed among 143 employees to study the relationship between fitness levels and perceived productivity and job satisfaction while absenteeism rates were calculated over a period of one year. Results indicated that job satisfaction was influenced by employee's level of cardiovascular endurance while the productivity was related to the employee's level of muscular strength. In overall, various components of fitness has positive effect on employee productivity, job satisfaction and absenteeism. Similarly, Van den Heuvel et al., (2005) in their paper studied the effect of sporting activities on the absenteeism of employees. The study concluded that the individuals who engaged in sports or other physical activities had a reduced absenteeism rate and had to take fewer sick leave. Similar results have been indicated by Jacobson and Aldana (2001) reflecting that lower exercise rates were associated with higher rates of annual absenteeism. Kerr and Kerr and Vos (1993) have also concluded that physical activities and increased fitness reduces the absenteeism rates and increases the general well-being of individuals. Shephard (1992) in his paper of Benefits of worksite fitness programs concluded that the fitness programs aid in increasing the overall performance of the employees and also in a reduction of absenteeism.

In the study by Drannan (2016), studied the relationship between physical exercise and job performance as well as the other mediating effects such as good mood and increased subjective health among 413 respondents. Job performance was measured using the perceived productivity scale adopted from Wattles and Harris, mood variable was assessed using PANAS scale subjective health was assessed using Short Form 12 Health Survey. The findings of the study showed that physical exercise has a significant relationship with job performance and also has a positive correlation with the mediating effects of good mood and subjective health. Bennie et al. (2011) found that employees who engaged in daily physical activities need lesser breaks thus adding to the productivity of the employees.

Though the majority of the research has shown to have a positive effect of sports and physical exercise on job performance, some researchers have concluded to have a negative relation between these two variables. In the research conducted by Hashim et al. (2011) aimed to assess the correlation among staff who participated in sports or a physical

activity and their job performance. A cross-sectional survey was conducted, and the questionnaires were given for two weeks. Following which, Pearson's correlation analyses were done to measure the correlation between the variables. The findings of the showed a weak correlation between participation in sports and annual performance appraisal marks.

There have been a number of research studying the various dimensions of job performance. In a study conducted by Fox et al., (2007) tested the convergence of 136 matched self-reports and coworker-reports of work stressors and counterproductive work behavior (CWB). For each participant dyad the focal employee ("incumbent") was given a "Reaction to Work" employee questionnaire booklet and a "Reaction to Work" employee questionnaire booklet to a peer familiar with the incumbent's work situation and behavior. The findings of the study indicated a similarity between incumbent's and coworker report of key study variable, except organization- targeted CWB. Furthermore, it indicated that counterproductive work behavior is associated with job satisfaction, job stressors, and to some extent emotions provided in the past. Hadidz, Hoesni & Fatimah (2012) in their study aimed to examine the relationship between organizational citizenship behavior and counterproductive work behavior. OCB was measured using a 24- item scale developed by Podskoff et al., while CWB was measured using a 84-item questionnaire, which was distributed among 267 students and a correlational analyses was done between OCB and CWB.

The results showed a moderate negative correlation indicating that the two variables are separate but related constructs, thus individuals can engage in OCB and CWB at the same time. Diez- Vilela (2015) concluded that Organizational Citzenship Behavior(OCB) correlated with Task performance, which is also supported by the study of Podsakoff et al. (2009).

From the existing research on the topic, we see that the majority of them are literature reviews. Thus, we conducted quantitative research, which further has the ability to be replicated, making the data more reliable. The researchers conducted by Rees and Sabia (2010), Mohd Daud et al. (2013), and Wretman(2017) and some others have mainly focused on studying the effect that sports has on academic performance, with very few researches focusing on the effect that sports and not physical exercise has on one's job performance. Thus, in our study we took into consideration the effect of sports along with other physical exercises to assess the participants' job performance.

Hashim et al., (2010) in their study assessed the correlation between physical activity and their job performance only for participants working in a government university, thus making it difficult to generalize the data over private sector employees. To overcome this drawback, we collected data from participants working in both Private and Government sectors, in order to check the difference in the effect that sports has on job performance among both the sectors. Shephard et al. (1992) and Barr-Anderson et al. (2011) had studied the immediate effect that physical activities (PA) and sports have on an individual's job performance. Whereas, in our study we are looking into the more consistent effect that sports and PA have on their job performance. Burton et al. (2005) in their study did not measure the activity time and the duration for which the participants engaged in any Physical Activity. To overcome this, in our study we determined the different level of intensity (high/moderate/low) with which the participants engaged in any sports or Physical activity by using the SQUASH Questionnaire. Thus, by adopting these certain procedures, we tried to overcome some drawbacks of the previous research.

METHODOLOGY

The objective of this research is to study the effect that participation in sports or other physical activities has on the job performance of an individual. Employees working in both private and government sector were taken as the heterogeneous sample for this study. A total of 70 employees participated in the study which included 38 males and 32 females. The participants were given a hardcopy of the questionnaire which was divided into three sections; Section A consisted of the demographic details Section B consisted of the Individual Work Performance Questionnaire (IWPQ) and Section C had the Squash Questionnaire. Prior to the collection of data, a rapport building session was conducted where the participants were informed about the study and a declaration form was given stating that their responses would be kept confidential and also that they were free to quit anytime they wanted to. Also their consent for voluntary participant was taken. Everybody had to complete all the questions in the questionnaire for their data to be calculated.

The age range of the sample for this research included participants within the age of 20-60 years which consists of working individuals. The data was collected using convenience sampling. Convenience sampling is a type of non-probability sampling in which data are taken from a pool of population, which is readily available to the researcher. In this research, subjects who agreed to fill the questionnaire were also requested to pass the questionnaire to their co-worker and colleagues.

The participants gave their responses to their work performance and participation in sports along with their demographic details. The demographic details included their sex, age range, type of organization and the amount of weekly participation in sports or physical activities. Two questionnaires were used for this research; The Individual Work Performance Questionnaire (IWPQ) to measure the job performance of an individual and the SQUASH (Short Questionnaire to Assess Health enhancing physical activity) to measure their levels of participation in sports or other physical activities.

The initial Individual Work Performance Questionnaire was developed by Koopmans, Bernaards, Hildebrandt, De Vet and Van der Beek (2013). The IWPQ consisted of 317 potential items that belonged to four-dimensional conceptual framework of task performance, contextual performance, counterproductive work behaviors and adaptive performance, which was further reduced to 128 items after removing items that indicated an overlap among variables that were determinant of job performance and not of performance itself. (e.g.- Motivation). Koopman et al., (2013) further developed a pilot test with researchers(N=54) which was followed by field test of the 47-item IWPQ on a representative sample of 1,181 Dutch blue-, pink- and white-collar workers. This led to the development of a generic scale with three dimensions of: Task performance, Contextual performance and Counterproductive behavior.
The version of IWPQ used in this study is the cross-culturally adapted Individual Work Performance Questionnaire (IWPQ) from the American-English language (Koopman,2016). It consists of 18 items divided into the three scales of Task performance, Contextual performance, and Counterproductive behavior. The items in the scale had a recall period of three months and was marked on a 5-pointer Likert scale (0= ‘seldom’ to 4=‘always’ for task performance and contextual performance; and 0=‘never’ to 4=‘often’ for counterproductive work behavior. A mean score for three IWPQ scales can be calculated by summing up the scores obtained in each item and dividing them with the total number of items in that scale. Thus, the IPWQ yields the scores of three scales, with higher scores indicating higher task and contextual performance, and also higher
counterproductive behavior. The internal consistency of the scales was determined using Cronbach’s alpha (0.79,0.83 and 0.89 for task performance, contextual performance,
counterproductive behavior respectively). The item to scale correlation was sufficiently high (r>0.40). The content validity of the IPWQ was judged to be good which was evaluated by the members of the expert committee through the

cross-cultural adaptation process, and by the developers of scale through a qualitative analysis of the observations and statements put forth by the participants of the pilot test.

The SQUASH Questionnaire, developed by Wendel-Vos, Schuit, Saris and Kromhout (2003), was used to measure the physical activity levels of individuals. It consists of items that measure multiple activities: (A) commuting activities, (B) leisure time activities, (C) Household activities, (D) Activities at work or school and also takes into account if an individual is engaged in any sports. The questionnaire has different dimensions which measures the number of days an individual engaged in the activity, the average time per day spent on that activity (hours and minutes) and the intensity with which they carried out the activity (low/ moderate/ high). Each activity was assigned a MET value, derived from Ainsworth Compendium of physical activities (Ainsworth, 2011). MET values are used to calculate the energy expenditure of an individual. 1 MET has been defined as the energy expenditure for sitting idle. Based on the Dutch physical activity guideline (Kemper, Ooijendik & Stiggelbout, 2000), the energy expenditure was categorized into three categories, for adults and older adults(age >55). For adults: the MET value between 2 and < 4 was considered light, between 4 and < 6.5 as moderate and greater than or equal to 6.5 as vigorous intensity. For older adults: the MET value between 2 and <3 was considered as light, between 3 and <5 as moderate and greater than or equal to 5 as vigorous intensity. Based on the self-reported responses, each activity was given an intensity score and a total activity score.

The activity score for the questions were calculated by multiplying the average minutes engaged in the activity with the intensity score, that is the MET value. The reproducibility of the test is calculated using Spearman's correlation, r=0.58. For the separate questions, the correlation varied from 0.44 to 0.96 (Wendel-Vous et al., 2003). The questionnaire is valid against accelerometry (r=0.45-0.67) which was found to be comparable with other questionnaires (Wagenmakers at al., 2008)

Once data was collected from the participants, the scoring of individual questionnaires were done, which was followed by statistical analysis. The characteristics of the sample were calculated using the Arithmetic mean. The arithmetic means is used to find the 'average' score that is obtained by the sample. It is the sum of the scores obtained by individual participants divided by the total number of participants. Following this correlation was done to quantitatively find the relationship between the two sets of scores obtained from the Individual Work Performance Questionnaire and the SQUASH. Here we used the Pearson's linear correlation to determine the degree of correlation of correspondence between these two sets of variables. Finally individual T-tests were done to determine if there is any reliable difference in the means of job performance between the two groups. It would help us make inferences about the population beyond our data. We used the equal variance t-test for the two pairs of groups based on their difference of variance. The t-test values were further checked at two critical values. The critical value of 0.05, which indicates that there is a 5% chance of no real difference, and at critical value of 0.01, which indicates that there is a 1% chance of no real difference.

The hypotheses for the study are as follows:

H01: There is no significant difference in the job performance between participants associated with sports with those not associated with sports.

H02: There is no significant difference in the job performance between participants working in government sectors with those working in non-government sectors.

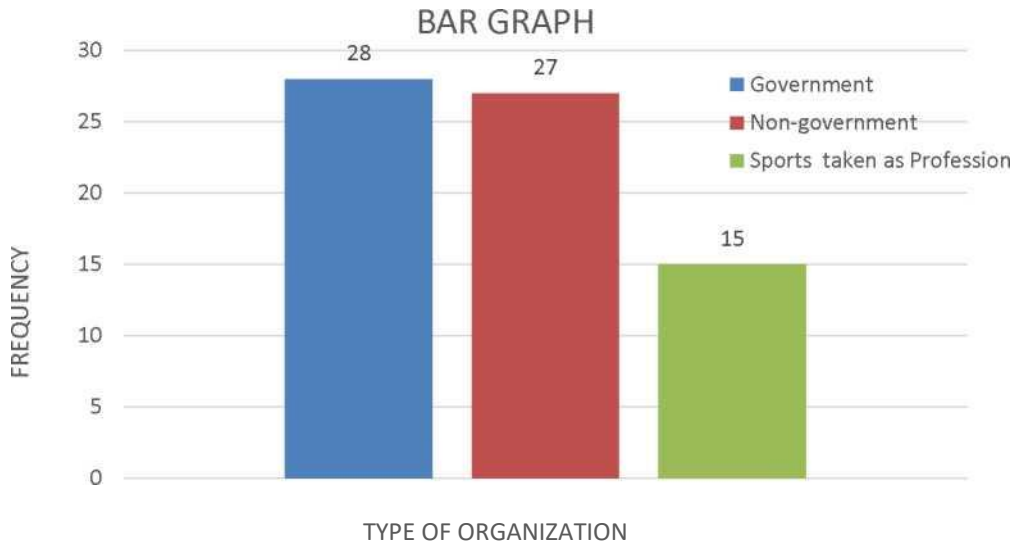
DEMOGRAPHIC DETAILS		FREQUENCY (N)	PERCENT	CUMULATIVE PERCENT
GENDER	Male	38	54.3	54.3
	Female	32	45.7	100.0
AGE	20-30	18	25.7	25.7
	30-40	32	45.7	71.4
	40-50	16	22.9	94.3
	50-60	04	5.7	100.0
TYPE OF ORGANIZATION	Government	28	40.0	40.0
	Non-government	27	38.6	78.6
	Sports as Profession	15	21.4	100.0
GOVERNMENT EMPLOYEES	Associated with sports	17	60.7	60.7
	Not associated with sports	11	39.3	100.0
NON-EMPLOYEES	Associated with sports	11	40.7	40.7
	Not associated with sports	16	59.3	100.0
Total number of Participants		70	100.0	

TABLE 2: DEMOGRAPHIC DETAILS TABLE

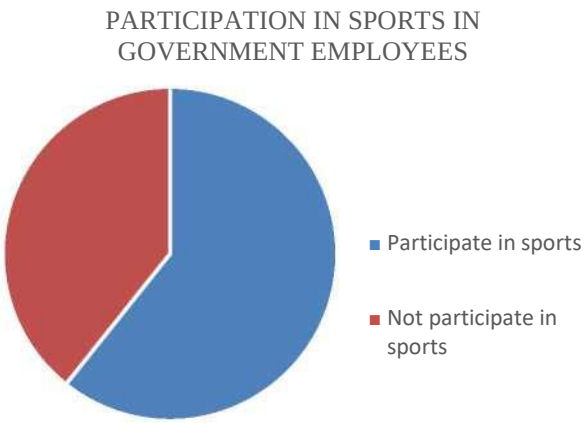
From the demographic details table, we find that the total number of participants are 70 among which 54.3% (N=38) are Males and 45.7(N=32) are Females.

The age range of the participants has been divided into four groups. 25.7%(N=18) of the participants falls under the age range of 20-30 years, 45.7%(N=32) of the participants are under the age range of 30-40 years, 22.9%(N=16) of the participants are between 40-50 years and 5.7%(N=4) of the participants are between the age range of 50-60 years. We also find that 40% (N=28) of the total sample are Government employees among which 60.7%(N=17) participate in sports, while the 39.3%(N=11) does not participates in any kind of sports. While 38.6%(N=27) of the sample are non-government employees, among which **24 |** Page

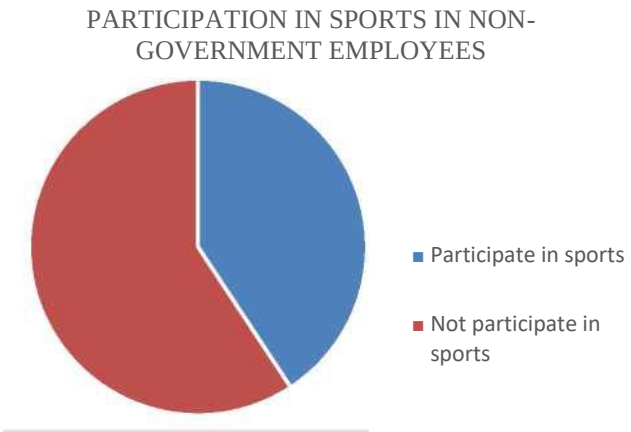
40.7%(N=11) are associated with playing some sports and 59.3%(N=16) are not associated with playing any kind of sports. Finally, 21.4%(N=15) of the sample has taken up sports as their profession.



Graph 1: Column Graph showing the frequency of sample (Government employees, non-government employees and participants taken sports as profession)



Graph 2: Pie chart showing Frequency of Government employees participating in sports.



Graph 3: Pie chart showing Frequency of Non-government employees participating in sports

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RESULTS

70 participants had returned the completely filled questionnaires. Following this, statistical analysis was done. The results indicate that the mean score of the total sample for the Individual Work Performance Questionnaire was 42.71. On doing a detailed analysis we found that mean score of the Government employees for the Work Performance was 44.68, while the mean score of the non-government employees for the Work Performance was 38.52 and the mean score of the participants who have taken up sports as their profession was 46.60 (Table 3).

Similarly, the total mean score of the sample for the SQUASH Questionnaire was 482.57. The mean of MET score for the Government employees was 465.36, for the non-government employees was 381.1 and for the participants who has taken sports as their profession was 697.33 (Table 3)

The means scores for the participants associated with sports and those not associated with sports were also calculated. The mean score for the Individual Work Performance Questionnaire of the employees who participated in a minimum of one sport was 47.14, while the mean score of the employees who did not participate in any sports activities was found to be 35.67. Similarly, the mean MET score for those associated with sports was 617.56 as compared to those not associated whose mean score was 267.59

TYPE OF ORGANIZATION	IWPQ		SQUASH	
	Mean	SD	Mean	SD
Government	44.68	6.098	465.36	156.961
Non-government	38.52	7.046	381.11	180.226
Sports as Profession	46.60	2.345	697.33	106.333
Total	42.71	6.791	482.57	195.829

Table 3: Mean score of IWPQ and SQUASH for sample (Government, non-government and sports taken as profession)

PARTICIPATION IN SPORTS	IWPQ		SQUASH	
	Mean	SD	Mean	SD
Associated with sports	47.14	2.949	617.56	110.805
Not associated with sports	35.67	4.938	267.59	61.728
Total	42.71	6.791	482.57	195.829

Table 4: Mean score of IWPQ and SQUASH for sample (involved in sports activities and not involved in sports activities)

Following this, correlation was calculated between the scores obtained in IWPQ and SQUASH. Table 5 indicates that the Pearson's correlation between these two variables was 0.78. Thus, a strong positive correlation was found between the scores of Work performance and participation in Sports and Physical activities. This indicates that the higher the scores of SQUASH, higher would be the scores of the Individual Work Performance Questionnaire, thus implying that the more the participants engage in a sport or physical activities, greater would be their job performance.

Further correlation was also calculated for all the three individual scales of IWPQ with the scores of SQUASH. The results indicated that the Pearson's correlation between Task Performance (TP) and SQUASH scores were 0.77, which indicates a strong positive correlation between the two variables. The correlation between the scores of SQUASH and Contextual Performance (CP) was 0.74, which also indicates a strong positive correlation. Thus, an increase in participation in sports is likely to increase not just the task performance, but also the contextual performance, that is the factors that are indirectly related to one's job, in their workplace. It was also observed that the correlation between the scores of SQUASH and Counterproductive Work Behavior (CWB) was -0.50 which indicates a moderate negative correlation. Thus, an increase in participation in sports and physical activities is likely

to reduce the undesirable Counterproductive behaviors such as absenteeism, violation of rules in one's workplace.

		SQUASH	IWPQ
SQUASH	Pearson Correlation	1	.780
	Sig. (2-tailed)		<.001
	N	70	70
IWPQ	Pearson Correlation	.780	1
	Sig. (2-tailed)	<.001	
	N	70	70

Table 5: Pearson correlation between IWPQ (Individual Work Performance Questionnaire) and SQUASH

		TP	CP	CWB
SQUASH	Pearson Correlation	.773	.738	-.501
	Sig. (2-tailed)	<.001	<.001	<.001
	N	70	70	70

Table 6: Correlation of the scores of SQUASH with TP(Task performance), CP (Contextual Performance) and CWB (Counterproductive Work Behavior) individually.

Further independent t-tests were computed to determine if there exists any reliable difference in the means of job performance between two groups. An equal variance t-test was done based on the difference in the variance of the groups. According to our hypothesis, first an independent equal T-test was done between the groups based on those involved in playing sports and those not involved in playing any sport. From table 4 we observe that the difference of their Standard Deviation (SD) is less than 2, indicating an equal variance. The results indicate that the t-test value for the two groups is 12.189 with a degree of freedom (df) of 68. This value was then checked at two critical values of 0.05(95%) and 0.01(99%).

	Participants of sports	*Non-Participants of sports*
Mean	47.13953488	35.66666667
Variance	8.694352159	24.38461538
Observations	43	27

Pooled Variance	14.69357045	
Hypothesized Mean Difference		0
df		68
t Stat	12.18920624	
P(T<=t) one-tail		4.53518E-19
t Critical one-tail	1.667572281	
P(T<=t) two-tail		9.07036E-19
t Critical two-tail	1.995468931	

Table 7: T-test between sample (involved in sports activity and not involved in sports activity)

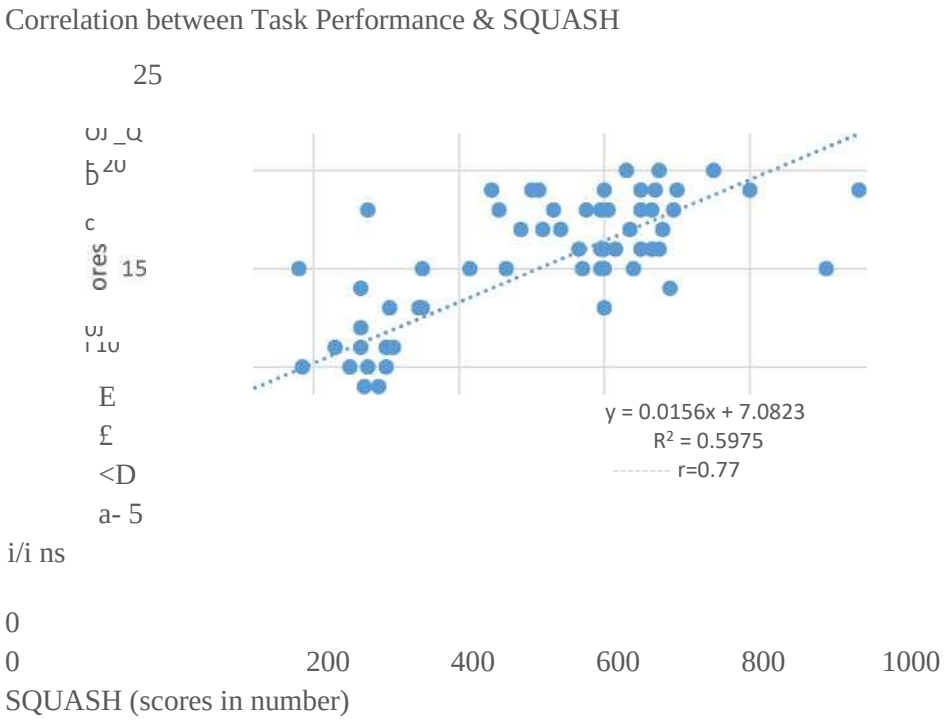
Since we had collected data from participants working in different sectors, mainly government sectors and non-government sectors, we computed other t-tests to determine the difference in their means of job performance.

From table 3 which shows the Standard deviations (SD) for all the three groups, we find that difference for the SD between the government employees and the non-government employees is

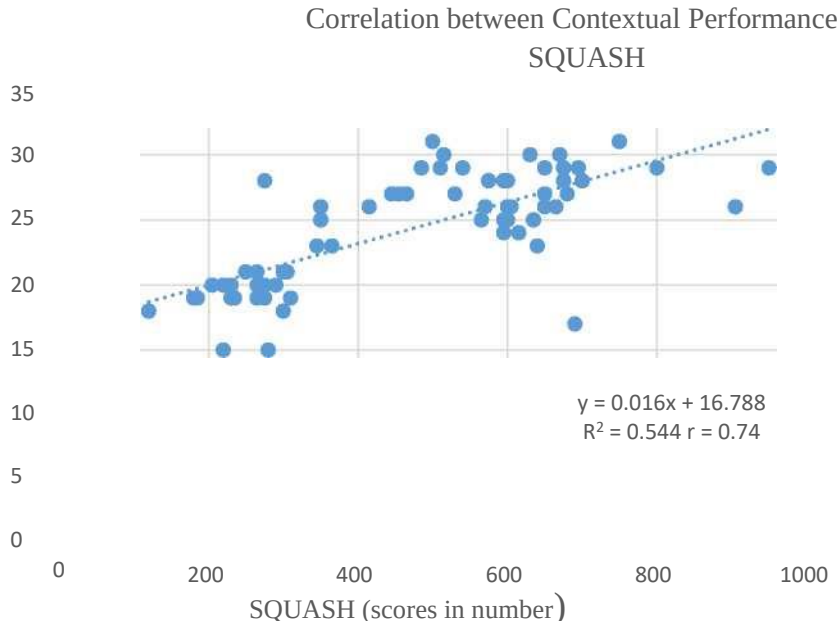
less than 2, thus we computed an individual equal variance t-test. The results indicate that the t- test value is 3.470 with a degree of freedom (df) of 53, which was further checked at the two critical values of 0.05 and 0.01.

	Government	*Non-Government*
Mean	44.67857143	38.51851852
Variance	37.18915344	49.64387464
Observations	28	27
Pooled Variance	43.29901667	
Hypothesized Mean Difference	0	
df	53	
t Stat	3.470763157	
P(T<=t) one-tail	0.000520119	
t Critical one-tail	1.674116237	
P(T<=t) two-tail	0.001040238	
t Critical two-tail	2.005745995	

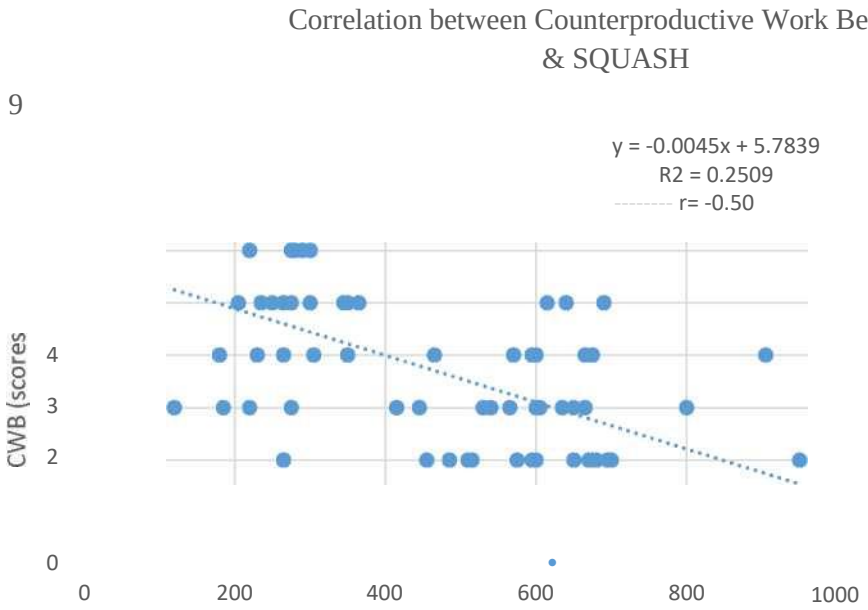
Table 8: T-test between sample (Government and Non-government employees)



Graph 4: Scatter plot showing the Correlation between TP(Task Performance) and SQUASH


Correlation between Contextual Performance & SQUASH
35
30
25
20
15
10
5
0
0
200
400
600
800
1000
y = 0.016x + 16.788
R² = 0.544 r = 0.74
SQUASH (scores in number)

Graph 5: Scatter plot showing the Correlation between CP(Contextual Performance) and SQUASH



Graph 6: Scatter plot showing the Correlation between CWB(Counterproductive Work Behavior) and SQUASH

DISCUSSION

This study aims to explore the effect of engaging in sports and physical activities on the Job performance of an individual. It also compares the difference in the Job performance among government employees and non-government employees.

The findings of the paper is in parity with the existing literature which indicates that participation in sports and Physical Activities (PA) does have a positive effect on the performance of the individual (Neck & Cooper,2000; Warris & Harris,2003; Pronk,2004; Rees & Sabia,2010; Wretman,2017).

There are three major findings based on the data we have. One of the objectives of the paper was to study the correlation between job performance and sports or physical activity levels. From the results we can see that the Pearson's correlation between the two sets of data is 0.78. Thus, there is a strong positive correlation between the two variables indicating that participation in sports and PA helps enhance the productivity and performance of the employee. Exercise aids in improving the brain's ability to make faster decisions and work more effectively (Mulcahy, 1995). The physiological basis behind this is that exercise leads to the growth of neurotrophic factors (growth factors of nervous tissue) among which BDNF (Brain-derived Neurotrophic factor) has an essential role. This along with some other factors improves the survival of the existing neurons and produces new brain tissues. Changes in the BDNF levels are most remarkable in the hippocampus region of the brain, which is responsible for memory retention and learning and other cognitive functions. Thus, a consistent exercise routine helps an individual to concentrate and focus

better and respond swiftly to the information which is related to their task at hand (Mulcahy,1995). While short bouts of exercise also help the productivity and cognitive performance of the employees (Barr-Anderson et al., 2011).

This result can also be evaluated based on the Developmental theory, where sports and PA are considered means to facilitate an overall development of an individual (Holland & Andre, 1987). According to this theory, participation can influence the performance by strengthening the individual's self-efficacy and his social status and a heightened sense of self-worth which leads to greater aspirational behaviors, thus giving a necessary push to their performance in their workplace (Snyder & Spreitzer, 1990).

From our data, we also found that most of our participants engage in sports such as badminton and cricket, which are usually considered as group sports. Since in group sports, every individual has to exert an equal amount of effort in order to succeed, thus it helps reduce the factor of social loafing (Czyz, Szmajke, Kruger & Kubler, 2016) which would also help them increase their individual performance levels. Engaging in group sports also facilitates a feeling of team cohesion (Marsh & Kleitman,2003; Kao, 2019). Participating in organizational team sports increases communication among the co-workers and an improved commitment level which provides a sustainable environment in their workplace, thus helping employees be more productive.

Further on doing an in-depth analysis of the three different dimensions of IWPQ, we found that the correlation of Task Performance, Contextual Performance and Counterproductive Work Behavior with engagement in sports individually was 0.77, 0.74 and -0.50 respectively. This indicates that there is a positive strong correlation between Task Performance and sports participation, and also a strong positive correlation between Contextual Performance and engagement in sports. Also there exists a negative correlation between Counterproductive Work Behavior and sports and PA participation. Task performance is a factor of one's cognitive abilities while the predictor of contextual performance is personality (Hunthausen, 2000). As mentioned above, sports plays an important role in enhancing the cognitive abilities of an individual, thus it gives the employees an opportunity to perform better in their task performance. Similarly, sports, especially group sports aid in improving the communication skills (Uluoz et al., 2019). It also helps employees take up more corporate responsibility thus improving their contextual performance (Bason & Anagnostopoulos, 2015). Finally sports and Physical Activities play a major role in improving the esteem and efficacy of an individual (Snyder & Spreitzer,1990; Malm, Jakobsson & Isaksson,2019). Due to this increased efficacy, employees better rely on their competency to organize and execute their tasks at hand which is related to the completion of jobs and also with the other role supporting behaviors which are indirectly related to their tasks.

Counterproductive Work Behaviors at an organizational level includes behaviors such as absenteeism, violation of rules and reduced productivity (Koopman, 2014). The negative correlation of sports with Counterproductive Work Behavior indicates that participation in sports or other physical activities is likely to reduce the occurrence of the counterproductive work behaviors. Employees who engage in physical activities are fitter and healthier than those who do not. This further leads to a reduced absenteeism rate as employees have to take fewer sick leave (Shephard,1992; Van den Heuvel et al.2005; Warris & Harris,2003). Being physically and mentally fit in one's workplace helps the employee have an overall positive approach towards their work culture, thus disregarding the negative factors associated with their job (Marques, Balle & Curado, 2018), which in turn helps the employees be more productive towards the work they do. We also studied the characteristics of the sample. From Table 1 we can see that 40% of the total sample worked in government sectors, among which 60.7% participated in at least one type of sport, while the rest 39.3% did not participate in any sports. Similarly, 38.6% of the sample were non-government or private sector employees, among which 40.7% participated in some sports while the rest 59.3% does not participate in any sports. The mean score for IWPQ for the government employees was 44.68 which is greater than the mean score for the non-government employees, 38.52. While the mean score for IWPQ for the participants who have taken up sports as their

profession was 46.6, which is similar to that of government employees. This implies that the government employees have a better performance at their workplace as compared to the non-government employees. Also, on calculating the mean scores of SQUASH, it could be interpreted that the participants who have taken up sports as their profession spent the most amount of time playing some high intensity sport, which was followed by the employees in the government sector, while the employees in the private sectors spent the least amount of time with a lower intensity, thus a lower mean MET score.

One reason behind the greater participation in sports among the government employees as compared to the non-government employees could be that government organizations provides a sports quota through which individuals can be recruited in their organizations. They also send their employees for inter-organization tournaments and thus encourage them to not just participate but also cultivate their skills in the sports of their choice. Thus, they provide a greater opportunity to their employees to take part in sports. This can be a reason why the government employees can spend more of their time engaging in sports and physical activities as compared to the non-government employees. Another factor could be that employees in the private sectors engages in more overtime works as compared to employees working in public or government sectors (Snir and Harpaz,2001; Federal University of Paraiba, 2017) and thus the government employees can manage to spend more time engaging in the co-curricular activities of their choice. Since we have already observed that participation in sports and physical activities does a positive effect on the performance of an individual, this it could be concluded that because the government sector employees spend a greater amount of time engaging in sports and PA as compared to non-government employees, thus they have a better work performance compared to their counterparts. Further t-tests were computed to study the significant difference in the means of job performance among two groups. Table 7 shows the t-test value between participants and non-participants of sports which is 12.189 with a df of 68, which was checked at the critical values of 0.05 and 0.01. The critical value for df=68 at 0.05 level is 1.667 and the critical value at 0.01 is 2.382 df=68 (Critical value at 0.05 = 1.667 < 12.189, Critical value at 0.01 = 2.382 < 12.189)

Since the t-test value was greater than the critical values at both the levels, thus the H01 which states that there is no significant difference in the job performance among participants associated with sports and those not-associated with sports, was rejected. This indicates that there is a reliable difference in the scores of job performance with the mean score of those associated with sports being higher, suggesting that the participants who engages in some sports or physical activities have a better job performance as compared to those who doesn't engages in any sports. The findings is in parity with the previous researches. (Burton et al. 2005, Stephens and Schaben 2002). As mentioned earlier, the participants who engage in sports have an increased cognitive functioning (Mulcahy, 1995; Barr-Anderson et al., 2011), which allows them to be more productive at the work they do. These participants also have a better self-efficacy (Snyder & Spreitzer, 1990; Malm, Jakobsson & Isaksson,2019) which leads to an increased confidence about their own ability to successful accomplish a job and thus take up new challenges at their workplace. These are the probable reasons because of which there is a significant difference in the scores of job performance between the participants who are associated with sports with those who are not associated with any sports or physical activities.

Table 8 shows that the t-value is 3.47 and the df is 58, with a critical value of 1.674 at 0.05 level and 2.398 at 0.01 level df=53 (Critical value at 0.05 = 1.674 < 3.47, Critical value at 0.01 = 2.398 < 3.47)

Since the t-stat value was greater than the critical values at both the levels, the second H02 was also rejected. This indicates that there is a difference in the means of job performance between government sectors and non-government sector employees. The reason could be that, since the government employees could spend a greater amount of time engaging in sports and PA, this accounts for the significant difference in their job performances.

The findings provide positive evidence that participating in sports and physical exercise does seem to have an impact

on the job performance of individuals, with the growing body of literature pointing in a similar direction. Thus, we find that the job performance of those participants who were associated with sports was higher when compared with those who were not associated with any sports or physical activities and also the job performance was higher among the government employees in comparison with the non-government employees owing to their greater tendency to be engaged in sports and physical exercises.

Limitations

Although our study has positive findings, there are certain limitations. The data for both the questionnaires has been collected through self-reported measures which has been criticized by some researchers (Sallis and Saelens, 2000). Due to this, it becomes difficult to confirm whether the self-reported workplace behaviors correspond to their actual behavior in their workplace.

There was a self-selection of participants who wished to engage in any kind of sport or physical activities. The employees were not randomly assigned to engage in any sport or to refrain from the same. Since data was collected from such participants, it might have an influence on the relationship that has been observed in this study.

Though we wanted to collect an equal amount of data for all the three different groups, but due to the current pandemic situation, it was difficult to reach out to people who have taken up sports as their profession, such as coaches and professional players, leading to a smaller number of sample when compared with government and non-government employees.

Finally, the last limitation is that this was a cross-sectional study. The limitation of using a cross-sectional study was that there could be the presence of some other factors at play that might influence the performance of the participants other than participation in sports and physical activities.

Understanding the behaviors which might facilitate an increased performance from the employees is an essential factor for the organization to make the organization move forward towards success. This study assesses one of those behaviors that have the potential to affect an individuals' work performance. From the results we can see that participating in sports does have a positive effect on the performance of individuals. Group sports especially helps increase not only the task performance but also some other supporting role behaviors such as improved communication and enhanced discipline. Thus, the different organizations should organize at least yearly intra and inter sports tournaments which should include not only individual sports but also group sports which would help increase the cohesion among the co-workers within the same department or the organization.

As we can see those sports along with long term benefits, also provide short term, immediate benefits. Thus, organizations can consider including recreational breaks during the day, in which the employees can engage in any sports of their choice. They may also incorporate some worksite fitness programs. This can help reduce their stress and anxiety and enhance their immediate performance due to the release of the hormone dopamine, which is also known as the happy hormone.

The majority of organizations provide residences for their all the employees and their families to stay at the same place. These companies/ organizations can also build sports facilities such as badminton & tennis courts, football & cricket fields, swimming pools etc. in their residential places, so that the employees can engage in these physical activities on their leisure days or after returning from their works. As it would be a needed break from their monotonous routines and would also keep them physically fit, thus reducing sick leave and absenteeism rates, and also enhanced productivity, thus giving the organization a good return on investment rate.

Further studies can be conducted with a larger sample of individuals who have taken up sports as their profession, which might include not just coaches but also current players of the different sports.

Also, further researches can study if participation in different sports has a varied effect on the job performance of individuals. Such as if there's a difference in the performance between individuals participating in groups sports and individual sports, or in indoor sports versus outdoor sports. Finally, longitudinal studies can be conducted on this topic, to have a better and a more in-depth understanding of how just participation in sports can have an effect on the job performance of an individual, eliminating the other factors that might come into play.

Conclusion

Today's modern lifestyle can be considered far from an active one. The majority of the employees spend hours sitting down in front of their computers or at their work desks. This inactive lifestyle leads to some undesirable outcomes such as increased weight and health issues as well as reduced performance and productivity. Thus, the purpose of this study was to find the interplay between job performance and participation in sports and other physical activities. This study demonstrates a significant positive association of job performance with participation in sports and physical activities. The findings of this paper are consistent with the findings of previous studies showing a positive relationship between these two variables, thus indicating that engaging in physical activities has become a key component for an increased job performance. In our study, we used Pearson's correlation, which showed a positive strong correlation between job performance and engagement in sports and physical activities. Furthermore, the results concluded that the different dimensions of job performance are also related to physical activities and sports. Association with sports has the ability to not just enhance the task performance which is the performance related to the actual work at hand, but also has a positive impact on the other role supporting behaviors which are indirectly related to the task and are referred as contextual performance. Participation in sports aids in increasing the cognitive functioning, thus enhancing task performance as well helps develop better communication skills and enhances cohesion among co-workers, which in turn enhances one's contextual performance. Participation in sports and physical activities also helps reducing the frequency of the unwanted Counterproductive work behaviors such as absenteeism, violation of rules or other negative factors related to one's work. The results also indicated that the government employees had a better job performance compared to the non-government employees owing to their greater tendency to be engaged in sports and physical exercises. Since further analysis indicated that the participants associated with sports had a better job performance as compared to those who were not associated with any sports, thus this paper suggests individuals as well as the organizations in which they are employed in, to promote participation in these behaviors and other fitness programs which has a positive effect on both the short-run as well as in the long-run of the self and the organization.

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