# Mediation Effect of Job Security and Teamwork in between Physical Health Problems, Mental Health Problems and Presenteeism

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*This paper aims at studying the mediation effect of job security and teamwork in between physical health problems, mental health problems and presenteeism and exploring the relationship between physical health problems, mental health problems and presenteeism. Data collected from a sample of 375 employees in public sector manufacturing organisations were analysed. This research provides evidence that physical health problems and presenteeism show a significant relationship. But mental health problems and presenteeism not showed significant relationship. The results indicate that job security is working as a mediator variable in between physical health problems and presenteeism. Result also indicates that teamwork not working as a mediator in between physical health problems and presenteeism.*

**Keywords:** Presenteeism, Physical health problems, Mental health problems, Job security, Teamwork

## 1. Introduction

In the corporate world of today, it's all about accomplishing more with less. When discussing a company's success, it's important to include phrases like employee performance and productivity. A company's performance, which is determined by the productivity of its personnel, is typically used to determine if it is a success. Productivity gains a competitive advantage for businesses. A number of direct and indirect factors influence employee productivity. Absenteeism is a widely recognised health problem that accounts for the majority of lost productivity among employees. Absenteeism is defined as an employee's failure to attend work due to a convincing reason such as illness or a lack of motivation (Sadri & Lewis 1995). Companies have a long history of dealing with absenteeism to reduce and control productivity losses. A hidden component that shows itself as an unobserved event in every firm arose in front of researcher "Presenteeism" at some time during this period. Cary Cooper, a psychologist specialising in organisational management, created the term presenteeism in 1994. Presenteeism is the practise of lowering employee productivity at work as a result of mental, emotional, or physical issues (Burton, Conti, Chen, Schultz, Edington 1999). When employees are sick, they are still present on the job, but they are not totally productive. The cost of absenteeism is easy to assess, but the cost of presenteeism is more complex. Due to the high cost category, presenteeism has been taken into consideration by companies in recent decades (Lerner, Amick, Roger, Malspeiz, Bungay and Cynn 2001). The study of presenteeism has lately expanded as a result of several studies demonstrating that the cost of presenteeism when paired with absenteeism is greater than absenteeism. Problems with health are a common occurrence in people's lives. The majority of businesses throughout the world provide sick leave to employees who are unwell, as well as medical insurance, reimbursement, medical leave, and other perks. As a result of changes in the organization's working environment, employees may go to work while they are sick due to work pressure or other conditions. This tendency will have an impact on employee performance, and the cause for their presence is frequently unknown, thus this study took that into account. As a result, a comprehensive presenteeism measure that includes information on presenteeism determinants is urgently needed. Because large-scale studies in the area of presenteeism are rare in countries like India, an all-encompassing measure of presenteeism is necessary. Furthermore, presenteeism definitions must be agreed upon, and the factors that influence presenteeism are unexplored. This survey was done among public sector manufacturing organisations in the state of Kerala in India. The Government of India or state governments develop, manage, and control public sector undertakings because they are government-owned businesses. The Indian economy is greatly influenced by government-owned firms. By entering the major industrial sector, these public sector businesses aimed to alleviate poverty and underdevelopment. As a result, the new problem or phenomenon has focused on government-owned businesses. To the best of the researcher's knowledge, this is India's first large-scale study on presenteeism. Based on a research gap, this study investigates the relationship between health concerns and presenteeism, as well as the mediating variables. Testable hypotheses were developed based on the objectives and theoretical framework of presenteeism. The data from the field survey was analysed to evaluate these hypotheses. The majority of past presenteeism studies have used samples from the United States and Europe (Lin and Lu, 2013). This research is taking samples from a varied population with a variety of socio-cultural backgrounds. This study fills a research gap on presenteeism by incorporating empirical data from a diverse population in India. Furthermore, this research fills a research gap on the variables of presenteeism and adds to the presenteeism literature.

**Presenteeism and Health**

Multiple studies have been done to evaluate the relationship between health and absenteeism (Chatterji, Tilley 2002, Burton et al 2004, Stewart et al 2003), but there has been less research on the relationship between health problems and presenteeism. A wide range of health issues has a greater impact on decreased productivity at work (Schwart et al 1997, Stewart et al 2003). Presenteeism-related productivity loss is most often caused by health problems (Johns, 2010). Various studies are being conducted to understand which health conditions are influencing presenteeism. Arthritis (Goetz et al 2004), back or neck discomfort, musculoskeletal problems, migraines, very frequent headaches, allergies, asthma, and depression were among the health conditions influencing work performance (Goetz et al 2004). This highlights the need of addressing presenteeism as a health-related behaviour. Other health-related disorders, such as chronic pain (Canadian 2006), hypertension (Wang et al., 2003), and cardiac ailments, have an impact on employee performance. Respiratory or lung diseases, diabetes problems (Collins et al 2005), high cholesterol, obesity, sleep problems, chronic fatigue /low energy, and anxiety all affect employee performance (Kessler et al., 2008). Allergies, asthma, depression (Goetz et al 2004), cancer (Wang et al 2003), stress (Pandey, 2020), drug/alcohol use (Thorrisen et al 2019), and sinusitis (Burton et al 2001) all have an impact on job performance.Table no: 1 contains physical and mental health conditions most associated with presenteeism across numerous published studies. The standard errors were included. The majority of studies have focused on presenteeism caused by chronic conditions (Schultz and Edington 2007). There are four statistical risk factors linked to presenteeism: 1. Influenza-related behaviour, 2. Socio-demographic factors, 3. Employment characteristics, and 4. Health (Webster et al., 2019).

**Table 1** *Occurrence of Health Conditions Associated with Presenteeism from Multiple Sources and Occupations*

| Health Condition | Prevalence (%) | SE | Source |
|---|---|---|---|
| Arthritis | 15.2 | 1.8 | Goetzel, 2004 |
| Back or neck pain | 25.1 | 0.9 | Goetzel, 2004 |
| Other musculoskeletal disorder | 33.5 | 1.8 | Goetzel, 2004 |
| Migraines, severe/frequent headaches | 17.7 | 0.7 | Goetzel, 2004 |
| Chronic pain | 23.6 | NA* | Canadian, 2006 |
| Hypertension | 14.9 | 0.7 | Wang, 2003 |
| Heart disease | 11.9 | NA* | Collins, 2005 |
| High cholesterol | 20.0 | 0.5 | Kessler, 2008 |
| Stomach or intestinal ulcers | 1.9 | NA* | Collins, 2005 |
| Other gastrointestinal problems | 8.1 | 0.3 | Kessler, 2008 |
| Allergies | 31.2 | 1.8 | Goetzel, 2004 |
| Asthma | 10.2 | 0.5 | Goetzel, 2004 |
| Other respiratory or lung problem | 1.3 | NA* | Collins, 2005 |
| Diabetes | 3.8 | 0.4 | Collins, 2005 |
| Obesity | 5.9 | 0.3 | Kessler, 2004 |
| Sleep problem | 8.6 | 0.3 | Kessler, 2008 |
| Chronic fatigue/low energy | 6.4 | 0.3 | Kessler, 2008 |
| Cancer | 1.7 | 0.2 | Wang, 2003 |
| Anxiety | 5.6 | 0.3 | Kessler, 2008 |
| Depression | 9.4 | 0.6 | Goetzel, 2004 |

*Source: Warren, Carol L., "Cost Burden of the 'Presenteeism' Health Outcome in a Diverse Nurse and Pharmacist Workforce: Practice Models and Health Policy Implications" (2009). Theses and Dissertations (ETD). Paper 295. http://dx.doi.org/10.21007/etd.cghs.2009.0345.*

**Presenteeism and organizational Factors**

According to the research review, job expectations and burnout (Demerouti, Le Blanc, Bakker, Schaufeli, Hox 2009) as well as job security (Macgregor, Cunningham and Caverely 2008, Paton 2010) influence presenteeism. Employees who are unable to take sick leave because they are afraid of reprisal at work are demonstrating presenteeism (Athey 2009, Grinyer and Singleton 2000). Employees' negative opinions of the workplace, workplace interpersonal conflict, employee job unhappiness (Pillette 2005), and the organization's poor health-care plan (Athey 2009) are all factors that contribute to presenteeism. Furthermore, fear of being unable to work due to illness may jeopardise advancement (Grinyer and Singleton 2000, Mc Kevitt, Morgan, Dundas, Holland 1998), concern about change, downsizing/job insecurity (Mac Gregor, Cunningham, and Caverley 2008), time commitment (Hudson 2004), deadlines (Athey 2009), job satisfaction (Caverley, Cunningham, & MacGregor 2007; Dew, Keefe, & Small, 2005), and teamwork (Johns, 2010) contribute to presenteeism. When employees are under time constraints (Hansen& Andersen, 2008) or fear of job instability, they make the decision to go to work without considering their health (Aronsson & Gustafsson, 2005; Aronsson, et al., 2000). Job instability is a mediating issue that has an impact on presenteeism and absenteeism (Hansen and Anderson, 2008). Support from coworkers is another mediating factor that influences presenteeism and absenteeism (Leineweber et al., 2012).

**John's Model**

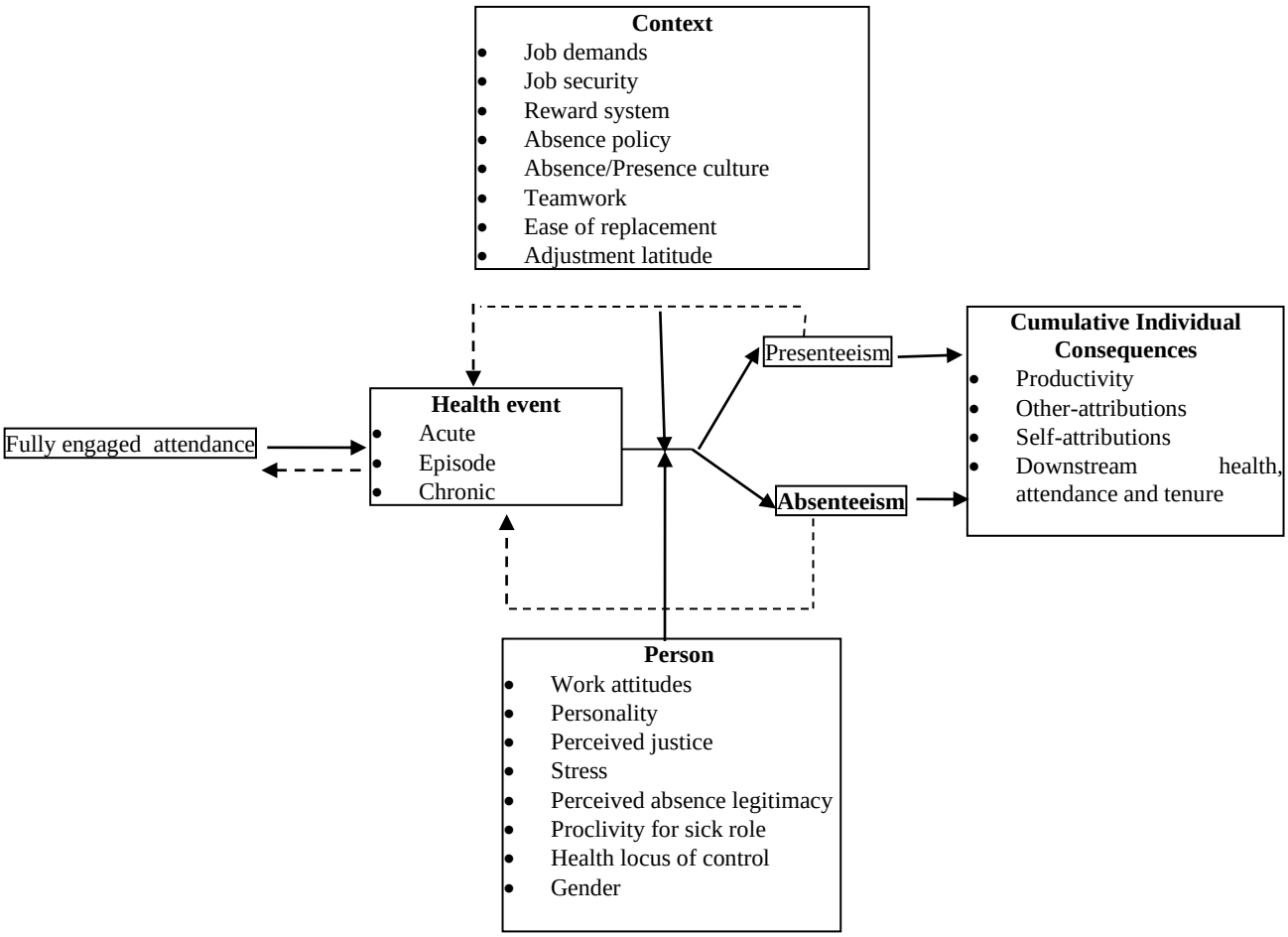



**Figure 1** *A Dynamic Model of Presenteeism and Absenteeism*
*Source: Johns, G. (2010), Presenteeism in the workplace: A review and research agenda. J. Organiz. Behav., 31: 519-542. https://doi.org/10.1002/job.630*

John's model is a well-proven and widely recognised presenteeism paradigm. Context factor, personal factor, and health factor are the variables in the Johns model. Employees are totally engaged at first, according to the Johns model of presenteeism, but are then interrupted by health concerns. The nature of one's health problems determines whether or not one should report to work. Furthermore, organisational and personal variables influence the decision to return to work or take a leave of absence (Johns, 2010). Job demand, job security, reward system, absence policy, absence or presence culture, teamwork, ease of replacement and adjustment latitude are among the context elements incorporated in the model. Work attitude, personality, perceived justice, stress, perceived absence legitimacy, inclination for the ill role, health locus of control, and gender are among the personal determinants. Johns developed a model for presenteeism and that was shown in Figure 1.

## 2. Methodology

In order to investigate the association between health problems (independent variable) and presenteeism, this study used a descriptive research approach (dependent variable). This study used the likert scale to evaluate all of the variables, making it a quantitative descriptive research method. According to Saunders, et al. (2003), descriptive survey research studies the occurrence of the moment with remarkable accuracy and then accurately depicts what the researcher observes. As a result, survey research is used in this study. The variables were taken from John's model, which is a well-proven and widely accepted paradigm for presenteeism. The variables in Johns' model are context factor, personal factor, and health factor. After using the expert opinion approach, two variables were chosen from among context factors: job security and teamwork. From a variety of sources, expert panels selected 21 health issues or diseases as health variables.

**$H_0^1$:** There is no relationship between physical health problems and presenteeism
**$H_1^1$:** There is a relationship between physical health problems and presenteeism
**$H_0^2$:** There is no relationship between mental health problems and presenteeism
**$H_1^2$:** There is a relationship between mental health problems and presenteeism
**$H_1^3$:** Job security significantly mediates the relationship between physical health problems and presenteeism
**$H_1^4$:** Teamwork significantly mediates the relationship between physical health problems and presenteeism.

Statistics from the Department of Industries and Commerce and the CAG report on public sector undertakings in Kerala for 2015-16 were used to build the sample frame. The original criteria examined for sample frame development were manufacturing public sector enterprises within the Kerala Government's Department of Industries and Commerce, which are also categorised as manufacturing in the CAG report on public sector undertakings in Kerala for 2015-16. Organizations with at least 10 years of financial results submitted for CAG audits were also considered. A public-sector manufacturing organisation has to have at least one manufacturing unit, according to the second criteria. The third requirement was that the organisation be active or operational, rather being closed, dormant, liquidated, or non-operational. Based on the three criteria listed above, a sampling frame of twenty-two manufacturing public sector organisations was selected. These 22 organisations are represented in the chemical, electrical, ceramics and refractories, electronics, engineering, textiles, and wood/agricultural sectors. As a result, the study's sampling frame, or working population, consists of 22 organisations and their 9851 employees, giving the investigation enough scope. To choose manufacturing units in the public sector from the sampling frame, the census method was employed. The approach utilised to select a sample from each organisation is simple random sampling. The sampling number of respondents drawn from each unit is in the same proportion they occur in the population. The desired sample size from each organisation was determined using lottery approach in the simple random sampling. As a result, all of the approaches used in this study ensured that the sampling error was kept to a minimum, resulting in a precise conclusion. Here a subset of the population, which means sample, as per calculation got as 370 at a confidence level of 95% and margin of error 5%. The sample size was increased 10% to recoup for probable non responses (Martinez-meza et al., 2014). The sample size was then increased to 410 and after dropping the invalid and incomplete responses the final sample size of 375 reached at a response rate of 91%. The sample size was calculated with the help of the survey monkey platform and this sample size was confirmed through two other online platforms Raosoft calculator and open epi (Version 3.01). In this research, the researcher used both primary and secondary source for data collection. The primary data was collected with the help of different data collection instruments and secondary data was collected through books, journals, thesis and websites. A method called a self-administered structured questionnaire was used to collect the primary data in this investigation. Stanford presenteeism scale and as well as questionnaires on health, job security and teamwork were employed in this study. The questionnaires were closed-ended and used a five-point likert scale to assess responses. Stanford presenteeism scale was found as the best acceptable questionnaire among a series of questionnaires for measuring the dependent variable presenteeism based on the available literature. The additional questionnaires were created with the use of literature study, an expert opinion process, and validity and reliability testing. Expert review is a relatively quick and cost-effective method of evaluating questionnaires (Presser et al., 1994). An expert panel was assembled from a group of academics and industry experts. The surveys comprised the questions with the highest number of expert approvals. According to Ospina et al., (2015) Stanford presenteeism scale (SPS-6) has an acceptable level of proof for the mainstream measurement domains including internal consistency, content validity, convergent validity, construct validity and responsiveness. The Cronbach's alpha (.83) of the scale indicates adequate reliability and factor analysis shows a valid result (.98). Validity of the rest of the questionnaires was approved by the expert opinion method and the reliability of the questionnaires was measured with Cronbach's alpha. Cronbach's alpha for health problems questionnaire is .787 and the validity of the health questionnaire was approved by an expert panel of Doctors. Cronbach's alpha for Job security questionnaire is .742 and Teamwork is .888 and validity of two questionnaires are also quite high. Percentage analysis, t-tests, ANOVAs, regression, and correlation tests were among the methods used to evaluate the data in SPSS. Three methodologies were used to conduct the mediation analysis. First method is Baron and Kenny's (1986) three-step mediation analysis and its result was confirmed using Sobel's (1982), Aroian's (1944), and Goodman's (1960) tests, as well as Andrew F Hayes' processv3.5 through SPSS.

## Analysis and Interpretations

### Analysis of relationship between health problems and presenteeism based on health problems classification according to health conditions

Gosselin and Lauzier (2011) mentioned the characteristics of presenteeism through two types of health problems, physical health problems and mental health problems. Hence the health problems were classified into two, physical health problems and mental health Problems. The relationship analysis was done based on these classifications. The primary objective of this research was to identify the relationship between physical health problems, mental health problems and presenteeism. Correlation analysis was conducted to examine the relationship between independent variable physical health problems, mental health problems and dependent variable presenteeism and regression analysis was used to find model fit.

### Physical health Problems and Presenteeism

Relationship with physical health problems and presenteeism was analysed and shows a correlation value of .145 and p=.005 in table no.3.The significant value shows that, there is a relationship between physical health problems and presenteeism.

**Table 2** *Physical Health Problems and Presenteeism Descriptive Statistics*

| Variables | Mean | Std. Deviation | N |
|---|---|---|---|
| Presenteeism | 20.9787 | 4.62781 | 375 |
| Physical health problems | 25.0600 | 6.33500 | 375 |

**Table 3** *Correlation Analysis between Physical Health Problems and Presenteeism*

| | | Presenteeism | Physical health problems |
|---|---|---|---|
| Presenteeism | Pearson Correlation | 1 | .145** |
| | Sig. (2-tailed) | | .005 |
| | N | 375 | 375 |
| Physical health problems | Pearson Correlation | .145** | 1 |
| | Sig. (2-tailed) | .005 | |
| | N | 375 | 375 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

**Regression Analysis between Physical Health Problems and Presenteeism**

The regression analysis between physical health problems and presenteeism in table no.4,5,6 shows an R value of .145, R squared value of .021.The ANOVA analysis shows an f value of 7.955 and sig vale of .005.The coefficient analysis shows t value of 2.820 for health and sig value .005.The significant value shows model applied, statistically predict the dependent variable.

**Table 4**

| Model Summary physical health problems and presenteeism | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .145[a] | .021 | .018 | 4.585 | .021 | 7.955 | 1 | 373 | .005 |
| a. Predictors: (Constant), Physical health problems | | | | | | | | | |

**Table 5**

| ANOVA physical health problems and presenteeism | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 167.250 | 1 | 167.250 | 7.955 | .005[b] |
| | Residual | 7842.579 | 373 | 21.026 | | |
| | Total | 8009.829 | 374 | | | |
| a. Dependent Variable: Presenteeism | | | | | | |
| b. Predictors: (Constant), Physical health problems | | | | | | |

**Table 6**

| Coefficients of physical health problems and presenteeism | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 18.334 | .967 | | 18.954 | .000 |
| | Physical health problems | .106 | .037 | .145 | 2.820 | .005 |
| a. Dependent Variable: Presenteeism | | | | | | |

**Mental health problems and Presenteeism**

The relationship with mental health problems and presenteeism was analysed and shows a correlation value of -.051 and p=.325 in table no.8.The significant value shows that there is no relationship between mental health problems and presenteeism.

**Table 7** *Descriptive Statistics of Mental Health Problems and Presenteeism*

| | **Mean** | **Std. Deviation** | **N** |
|---|---|---|---|
| Presenteeism | 20.98 | 4.628 | 375 |

**Table 8** *Correlations of Mental Health Problems and Presenteeism*

| **Variables** | | **Presenteeism** | **Mental health problems** |
|---|---|---|---|
| Presenteeism | Pearson Correlation | 1 | -.051 |
| | Sig. (2-tailed) | | .325 |
| | N | 375 | 375 |
| Mental health problems | Pearson Correlation | -.051 | 1 |
| | Sig. (2-tailed) | .325 | |
| | N | 375 | 375 |

**Physical health problems and its relationship with Presenteeism through mediation analysis**

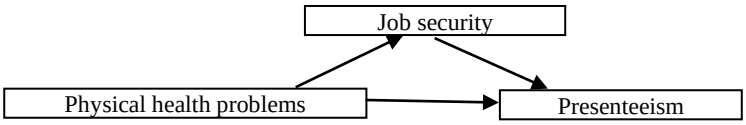
The mediation analysis test investigates impact of mediator on relationship between independent and dependent variable. The mediation analysis is used to enumerate and examine the direct and indirect corridor through which independent variable X spread its effect on dependent variable Y through one or more mediator variables (Hayes, 2018). The mediation analysis was done with Baron and Kenny's (1986) three step mediation analysis and the result of mediation analysis was confirmed through Sobel's test (1982), Aroian's test (1944) and Goodman's test (1960). The processv3.5 by Andrew F Hayes through SPSS was used for identifying mediation and for identifying direct and indirect effect of mediation. According to Baron and Kenny's (1986), mediation said to occur when

1. Independent variable show significant relationship with dependent variable without mediator
2. Independent variable show significant relationship with mediator variable
3. The mediator show significant relationship with dependent variable and relationship between dependent and independent variable diminish when adding mediator to model.

This method was used by the researcher for detecting whether mediation was occurring or not and then mediation was formally assessed by Sobel's test, Aroian's test and Goodman's test. These tests use unstandardised regression estimate and standard error for assessing relationship between variables.

**Mediation effect of job security on physical health problems and presenteeism**

The mediation effect of job security on relationship between physical health problems and presenteeism was analysed**.**




**Mediation of job security on physical health problems and presenteeism based on Baron and Kenny's method**

The mediation analysis was done by taking job security as mediator, physical health as independent variable and presenteeism as dependent variable. The condition for mediation by Baron and Kenny's was analysed step by step.

**1. Independent Variable Show Significant Relationship with Dependent Variable without Mediator**

The regression analysis shows that the independent variable physical health problems and dependent variable presenteeism shows significant relationship (p=.005).That means regression model predict dependent variable significantly well. The R square value shows that variation of dependent variable was small (.021). The standardised coeffiecient was .145 and unstandardised coefficient was.106. The p-value (.005) value shows that model significantly fit the data (Table No: 4,5.6)

**2. Independent Variable Show Significant Relationship with Mediator Variable**

The independent variable was physical health problems and mediator was job security. In this analysis physical health problems works as independent variable and job security as dependent variable. The regression analysis in table no.9,10.11 shows that the independent variable physical health problems and dependent variable job security shows significant relationship (p=.001). That means regression model predict dependent variable significantly well. The R square value shows that variation of dependent variable was small (.032). The standardised coefficient was .178 and unstandardised coefficient was .157. The p-value (.001) values shows that model significantly fit the data. So the independent variable physical health problems show significant relationship with mediator variable job security.

**Table 9**

| **Model Summary of physical health problems and job security** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .178[a] | .032 | .029 | 5.487 | .032 | 12.231 | 1 | 373 | .001 |
| a. Predictors: (Constant), Physical health problems | | | | | | | | | |

**Table 10**

| **ANOVA[a] of physical health problems and job security** | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 368.221 | 1 | 368.221 | 12.231 | .001[b] |
| | Residual | 11229.449 | 373 | 30.106 | | |
| | Total | 11597.669 | 374 | | | |
| a. Dependent Variable: Job security | | | | | | |
| b. Predictors: (Constant), Physical health problems | | | | | | |

**Table 11**

| Coefficients[a] of physical health problems and job security | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 31.257 | 1.157 | | 27.005 | .000 |
| | Physical health problems | .157 | .045 | .178 | 3.497 | .001 |
| a. Dependent Variable: Job security | | | | | | |

**3.** The mediator show significant relationship with dependent variable and relationship between dependent and independent variable diminish when adding mediator to model.

The independent variable physical health problems, dependent variable presenteeism and mediating variable job security was analysed. The regression analysis in table no.12,13,14 shows that the independent variable physical health problems and dependent variable presenteeism shows non-significant relationship (p=.052). The mediator variable job security and dependent variable presenteeism (p=.000) shows significant relationship. When mediator job security was added the relationship between physical health problem and presenteeism diminished. The results show that the job security worked as a mediator in analysis. The R square value shows that variation of dependent variable was small (.087). The standardised coefficient of job security was .261 and unstandardised coefficient was .217. The p-value (.000) of ANOVA shows that independent variables predict the dependent variable. According to Baron and Kenny's (1986) three step mediation analysis the job security worked as a mediator in between independent variable physical health problems and dependent variable presenteeism

**Table 12**

| Model Summary of job security as mediator between physical health problems and presenteeism | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .295[a] | .087 | .082 | 4.434 | .087 | 17.671 | 2 | 372 | .000 |
| a. Predictors: (Constant), Job security, Physical health problems | | | | | | | | | |

**Table 13**

| ANOVA[a] of job security as mediator between physical health problems and presenteeism | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 694.948 | 2 | 347.474 | 17.671 | .000[b] |
| | Residual | 7314.881 | 372 | 19.664 | | |
| | Total | 8009.829 | 374 | | | |
| a. Dependent Variable: Presenteeism | | | | | | |
| b. Predictors: (Constant), Job security, Physical health problems | | | | | | |

**Table 14**

| Coefficients[a] of job security as mediator in between physical health problems and presenteeism | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 11.558 | 1.608 | | 7.188 | .000 |
| | Physical health problems | .072 | .037 | .098 | 1.947 | .052 |
| | Job security | .217 | .042 | .261 | 5.180 | .000 |
| a. Dependent Variable: Presenteeism | | | | | | |

**Mediation of job security on physical health problems and presenteeism based on Sobel's, Aroian's test and Goodman's test**

The mediation effect was confirmed through Sobel's, Aroian's test and Goodman's test shown in table no.15. The p value of Sobel's test (.003), Aroian test (.004) and Goodman test (.003) interpret the mediation effect of job security. The z-value of Sobel's test (2.898), Aroian test (2.861) and Goodman test (2.936) confirmed the mediation effect of job security between physical health problems and presenteeism.

**Table 15** *Sobel's, Aroian's test and Goodman's Test of Job Security as Mediator in between Physical Health Problems and Presenteeism*

| Test | Test statistics | p-value |
|---|---|---|
| Sobel test | 2.89835408 | 0.00375127 |
| Aroian test | 2.86195158 | 0.00421041 |
| Goodman test | 2.93618193 | 0.00332279 |

**Mediation of job security based on Hayes process in SPSS**

Process macro is a modification to statistical program like SPSS computing regression analysis containing mediating, moderating and covariates combinations. In this section the independent variable physical health problems, dependent variable presenteeism and mediating variable job security was analysed and shown in table no.16. The regression analysis shows that the independent variable physical health problems and dependent variable presenteeism shows non-significant relationship (p=.052).The independent variable physical health problems and job security (p=.000) and mediator variable job security and dependent variable presenteeism (p=.000) shows significant relationship. When mediator job security was added the relationship between physical health problems and presenteeism diminished. The results show that the job security worked as a mediator in analysis. The R square value shows that variation of dependent variable was small (.087). The standardised coefficient of job security was .260 and unstandardised coefficient was .217. The direct effect of physical health problems on presenteeism is .071 and indirect effect is .034. The results interpret that job security works as a mediator in physical health problems and presenteeism relation.

**Table 16** *Mediation of Job security on Physical Health Problems and Presenteeism based on Hayes Process*

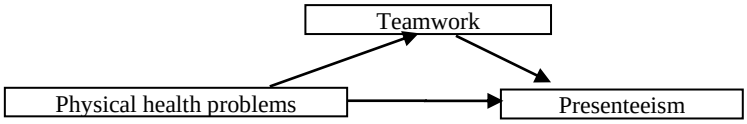
```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Version 3.5 *****************
        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3
**************************************************************************
Model  : 4
    Y  : PST
    X  : PHT
    M  : JST
Sample Size:  375
**************************************************************************
OUTCOME VARIABLE: JST
Model Summary
        R        R-sq       MSE         F          df1        df2          p
    .1782     .0317    30.1058    12.2309     1.0000   373.0000     .0005
Model
              coeff         se          t          p       LLCI      ULCI
constant   31.2566     1.1574    27.0048     .0000    28.9806   33.5325
PHT          .1566      .0448     3.4973     .0005     .0686     .2447
Standardized coefficients
        coeff
PHT     .1782
**************************************************************************OUTCOME VARIABLE: PST
Model Summary
        R        R-sq       MSE         F          df1        df2          p
    .2946     .0868    19.6637    17.6709     2.0000   372.0000     .0000
Model
              coeff         se          t          p       LLCI      ULCI
constant   11.5579     1.6080     7.1876     .0000     8.3959   14.7198
PHT          .0716      .0368     1.9467     .0523     -.0007     .1439
JST          .2168      .0418     5.1804     .0000     .1345     .2991
Standardized coefficients
        coeff
PHT     .0980
JST     .2608
Test(s) of X by M interaction:
        F       df1        df2          p
    .1216     1.0000   371.0000     .7275
********************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE: PST
Model Summary
        R        R-sq       MSE         F          df1        df2          p
    .1445     .0209    21.0257     7.9546     1.0000   373.0000     .0051
Model
              coeff         se          t          p       LLCI      ULCI
constant   18.3336      .9673    18.9538     .0000    16.4316   20.2356
PHT          .1056      .0374     2.8204     .0051     .0320     .1791
Standardized coefficients
        coeff
PHT     .1445
********* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************
Total effect of X on Y
      Effect         se          t          p       LLCI       ULCI       c_ps       c_cs
```

```
    .1056     .0374     2.8204     .0051     .0320     .1791     .0228     .1445
Direct effect of X on Y
      Effect         se          t          p       LLCI       ULCI      c'_ps      c'_cs
    .0716     .0368     1.9467     .0523    -.0007     .1439     .0155     .0980
Indirect effect(s) of X on Y:
        Effect    BootSE  BootLLCI  BootULCI
JST     .0340     .0123     .0131     .0608
Partially standardized indirect effect(s) of X on Y:
      Effect    BootSE  BootLLCI  BootULCI
JST     .0073     .0026     .0028     .0131

Completely standardized indirect effect(s) of X on Y:
      Effect    BootSE  BootLLCI  BootULCI
JST     .0465     .0162     .0182     .0812
****************** ANALYSIS NOTES AND ERRORS ************************
Level of confidence for all confidence intervals in output:  95.0000
Number of bootstrap samples for percentile bootstrap confidence intervals:  5000
------ END MATRIX -----
```

**Mediation effect of teamwork on physical health problems and presenteeism**

The mediation effect of teamwork on relationship between physical health problems and presenteeism was analysed**.**




**Mediation of teamwork on physical health problems and presenteeism based on Baron and Kenny's**

## 3. Method

The mediation analysis was done by taking teamwork as mediator, physical health problems as independent variable and presenteeism as dependent variable.

1. Independent variable show significant relationship with dependent variable without mediator

The regression analysis shows that the independent variable physical health problems and dependent variable presenteeism shows significant relationship (p=.005).That means regression model predict dependent variable significantly well. The R square value shows that variation of dependent variable was small (.021). The standardized coeffiecient was .145 and unstandardised coefficient was.106. The p-value (.005) value shows that model significantly fit the data (Table No: 4,5,6)

2. Independent variable show significant relationship with mediator variable

The independent variable was physical health problems and mediator was teamwork. In this analysis physical health problems works as independent variable and teamwork as dependent variable. The regression analysis in table no.16,17,18 shows that the independent variable physical health problems and dependent variable teamwork shows significant relationship (p=.000). That means regression model predict dependent variable significantly well. The R square value shows that variation of dependent variable was small (.041). The standardised coeffiecient was .203 and unstandardised coefficient was .277. The p-value (.000) values shows that model significantly fit the data. So the independent variable physical health problems show significant relationship with mediator variable teamwork.

**Table 16**

| **Model Summary of physical health problems and team work** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .203[a] | .041 | .039 | 8.477 | .041 | 15.976 | 1 | 373 | .000 |
| a. Predictors: (Constant), Physical health problems | | | | | | | | | |

**Table 17**

| **ANOVA[a] of physical health problems and team work** | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 1148.075 | 1 | 1148.075 | 15.976 | .000[b] |
| | Residual | 26805.163 | 373 | 71.864 | | |
| | Total | 27953.237 | 374 | | | |
| a. Dependent Variable: Teamwork | | | | | | |
| b. Predictors: (Constant), Physical health problems | | | | | | |

**Table 18**

| Coefficients[a] of physical health problems and team work | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 29.419 | 1.788 | | 16.451 | .000 |
| | Physical health problems | .277 | .069 | .203 | 3.997 | .000 |
| a. Dependent Variable: Teamwork | | | | | | |

3. The mediator show significant relationship with dependent variable and relationship between dependent and independent variable diminish when adding mediator to model.

The independent variable physical health problems, dependent variable presenteeism and mediating variable teamwork were analysed. The regression analysis in table no.19,20,21 shows that the independent variable physical health problems and dependent variable presenteeism shows significant relationship (p=.014). The mediator variable teamwork and dependent variable presenteeism (p=.147) shows no significant relationship. When mediator teamwork was added the relationship between physical health problems and presenteeism not diminished. The results show that the teamwork not worked as a mediator in analysis. The R square value shows that variation of dependent variable was small (.026). The standardised coefficient of teamwork was .076 and unstandardised coefficient was .041. The p-value (.007) of ANOVA shows that independent variables predict the dependent variable. After conducting Baron and Kenny's (1986) three step mediation analysis, it was interpreted that the teamwork not worked as a mediator in between independent variable physical health problems and dependent variable presenteeism.

**Table 19**

| Model Summary of team work as mediator between physical health problems and presenteeism | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .163[a] | .026 | .021 | 4.579 | .026 | 5.046 | 2 | 372 | .007 |
| a. Predictors: (Constant), Physical health problems, Teamwork | | | | | | | | | |

**Table 20**

| ANOVA[a] of team work as mediator between physical health problems and presenteeism | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 211.541 | 2 | 105.771 | 5.046 | .007[b] |
| | Residual | 7798.288 | 372 | 20.963 | | |
| | Total | 8009.829 | 374 | | | |
| a. Dependent Variable: Presenteeism | | | | | | |
| b. Predictors: (Constant), Physical health problems, Teamwork | | | | | | |

**Table 21**

| Coefficients[a] of team work as mediator between physical health problems and presenteeism | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 17.138 | 1.269 | | 13.508 | .000 |
| | Teamwork | .041 | .028 | .076 | 1.454 | .147 |
| | Physical health problems | .094 | .038 | .129 | 2.471 | .014 |
| a. Dependent Variable: Presenteeism | | | | | | |

**Mediation of teamwork on physical health problems and presenteeism based on Sobel's, Aroian's test and Goodman's test**

The mediation effect was confirmed through Sobel's, Aroian's test and Goodman's test in table no.22.The p value of Sobel's test (.171), Aroian test (.183) and Goodman test (.159) interpret that mediation effect of teamwork was not confirmed. The z-value of Sobel's test (1.366), Aroian test (1.330) and Goodman test (1.405) not confirmed the mediation effect of teamwork between physical health problems and presenteeism.

**Table 22** *Sobel's, Aroian's test and Goodman's test of Teamwork as Mediator in between Physical Health Problems and Presenteeism*

| Test | Test statistics | p-value |
|---|---|---|
| Sobel test | 1.36639974 | 0.17181353 |
| Aroian test | 1.33013025 | 0.18347536 |
| Goodman test | 1.40580776 | 0.15978122 |

According to Baron and Kenny's method and Sobel's, Aroian's test and Goodman's test, the team work was not worked as a mediator between physical health problems and presenteeism. So Hayes process for mediation was not conducted for team work.

## 4. Conclusion

Employers are becoming increasingly interested in the concept of presenteeism as a result of the increased health-related costs associated with it. This research aimed to determine the causes of presenteeism and/or provide an explanation for why a sick individual goes to work.The role of different variables related to presenteeism is in under researched area. This study was an attempt to define the role of different variables related to presenteeism. The study expands the literature on presenteeism in such a way that, it gives insights into, health problems as the basic reason for presenteeism and answer why an unhealthy employee showing presenteeism. The researches show that presenteeism is influencing productivity and employee performance much bigger than absenteeism. Employee performance and factors influencing employee performance is a major area of research among academicians and industrialist due to its importance in the organisation. The companies are focusing on productivity or employee performance or outcome of an organisation. The profit situation of a company is determined based on employee performance and productivity. So organisations are focusing on how can increase the outcome of the organisation and what are the hurdles for achieving the best result. Presenteeism is a factor that reduces productivity and employee performance. This shows the importance of this research because research tried to study the concept of presenteeism and factors influencing presenteeism. The research major aim was to measure presenteeism is existing in the Indian context or not and also factors influencing presenteeism. The study was conducted among the employees working in public sector manufacturing organisations. Presenteeism is a concept in which employees will come to work without showing absenteeism due to various consensus factors. The mainstream researches show that presenteeism is coming to work while ill. So in this research, the researcher tried to find out whether there is any relationship between health problems and presenteeism. From secondary research, the researcher found that job security, teamwork has a relationship with presenteeism. Based on this, the researcher chooses these variables as mediating variable to answer why an unhealthy person is going to work. This research contributing to existing literature on presenteeism based on the findings. The research shows that physical health problems was related to presenteeism and mental health problem not related to presenteism. These findings give more specific answer to which type of health problems are leading to presenteeism. Job security was working as a mediating variable in between physical health problems and presenteeism according to this research. Teamwork was not working as a mediating variable in between physical health problem and presenteeism. This study used selected factors related to presenteeism from Johns model of presenteeism. More work need to done on other factors in Johns model and that are left to future researchers in the OB/HRM area. The physical health problems and presenteeism were related, so the physical health problems like Musculoskeletal, Arthritis, Diabetes, Stomach or intestinal ulcer, Asthma, Chronic pain, Cholesterol, Gastro-Intestinal problem, Heart diseases, Cancer, Obesity, Respiratory or Lungs Problem, Hypertension, Neck pain or Back pain, and Allergies need to focus by employees and organisation. So, the organization must take necessary action to control these health problems through medical benefits or medical insurance or frequent medical checkup among employees. This research finding suggests that the managers of organization operating in India should carefully handle health problems among their employees. This research finding provides further insights to which type of health problems are related to presenteeism.

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