

## Level of Occupational Stress among Smokers and Nonsmokers: A case study of Private organizations of Pakistan

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### ABSTRACT

As a result of globalization, competition and economic uncertainty, the occupational environment has led to a marked change over the decades. Recent researches reported that Occupational stress is a said source for 19% of absenteeism cost, 40% of turnover cost and 60% of workplace accidents. A growing body of evidence is revealing that chronic stress is related to several unhealthy behaviors i.e., smoking. In this regard, the present study was conducted to examine a) the relationship between occupational stress and smoking, b) the level of occupational stress among smokers and non-smokers. Sample consisted of 80 male office workers (40 smokers and 40 nonsmokers) of different private organizations from Islamabad and Rawalpindi. The instrument used in this study was Pressure Management Indicator (PMI) and demographic information sheet. Alpha reliability coefficient for this instrument was found to be highly satisfactory. The present study aimed at the following question: a) Is there any difference between smokers and nonsmokers on occupational stress, b) Do high level of Occupational stress is related with binge smoking. As anticipated, a positive significant relationship was found between Occupational stress and smoking among employees of private organization. Results of t-test analysis suggested smokers have high level of occupational stress as nonsmokers. Generally, the present study highlights the significance of stress among smokers and nonsmokers at organizational level.

**KEYWORDS:** Occupational Stress, Smokers, Non-smokers.

### INTRODUCTION

Stress is a physiological phenomenon experienced by all people regardless of their socioeconomic status, occupation, age or gender. Baum (1990), defined stress as a negative emotional experience accompanied by predictable biochemical, physiological, cognitive and behavioral changes that are directed either towards altering the stressful event or accommodating to its effects.

Recent researches indicate work environment has a defining role in inducing healthy and unhealthy habits among workers performing professional and managerial roles at different levels. From the past several years, psychologists have a great concern over workplace stress as it has a negative impact on the biological and emotional well-being of workers. A growing body of evidence indicates chronic stress has negative physiological outcomes such as mental disorder, cardiovascular disease, anxiety, depression, hostility, heart attack, headaches, and back pain.

The explanation regarding relationship between occupational stress and smoking can be given in two ways. It is been assumed that individuals are more prone toward self-medication in order to retain the individual stability. In this context, employees perceive alcohol and cigarettes as anti-anxiety or anti-depressant agents in order to make oneself free from occupational stress.

The work of Seyle (1956) is generally considering the first major discussion of stress as a phenomenon. He was interested in the response of the body to demands made upon it and believed that this response was 'non-specific'. He was of the view that whatever the external or internal demands on the body, the person's response to stress followed a universal pattern. He termed this pattern the General Adaptation Syndrome (GAS).

Holmes and Rahe (1967), defined stressful life events as those events initiate significant life change in the individual experiencing them. This model has been criticized for many reasons. First, it is difficult to accept that experiencing the particular life event experiences the same the same amount of life change and therefore the same amount of stress. However this model is valuable in recognizing that

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we do experience stress from a variety of events, some quite routine. This model gives the idea of stress as a response to life change rather than to negative events alone is a stimulating one.

The model of stress is perhaps the most widely regarded today, is the transactional model (or interactional model) of Richard Lazarus (Lazarus & Launier, 1978; Lazarus & Folkman, 1948). This model postulates that stress occurs as a result of imbalance between demands and resources, and highlights the ongoing nature of the balance and imbalance. Moreover, this model says that environment may play an influencing role on individuals and that individuals may have an impact on environments therefore, any specific individual-environment encounter may have implications for both the person and the environment.

There has been tremendous increase in research on job stress in recent years in the area of social, cognitive and clinical psychology (Staw, 1984).

According to Beehr and Newman (1978) occupational stress is a result of a situation in which determinants interact with a worker to change (i.e. disrupt or enhance) his/her psychological and/or biological conditions in such a way that the person is compelled to deviate from normal functioning. In the opinion of House (1981) job stress refers to the perception of strain caused by overtaking of the ability of the individual to cope with the demands made upon him, thereby depleting his physical or psychological resources.

According to the recent definition, occupational stress can be defined as a hazardous biological and psychological response that occur when the requirements of the job do not match capabilities, resources, or needs of the worker. Workplace stress may lead to health deterioration or even injury (United States National Institute of Occupational Safety and Health, Cincinnati, 1999).

Smoking the dictionary meaning of which is the act or habit of inhaling tobacco smoke (Oxford dictionary). The World Health Organization (WHO, 2002) indicates that tobacco smoking act as a milestone in putting individuals on risk for several chronic diseases or even death. Cigarette smoking and related tobacco use has been declared the single greatest cause of unnecessary (preventable) illness and premature death (Rogers, 1975). Smoking is said to be the leading cause of lung cancer as well as cancer of mouth, larynx, esophagus, bladder, and pancreas. Many researches are conducted on the harmful effects of smoking and it is now being confirmed that it is the cause of many fetal diseases like heart diseases, lung cancer, bronchitis, emphysema, strokes and ulcer. Programs related to smoking prevention and cessation are based on giving an understanding of the psychological, social, biological, and pharmacological processes involved in smoking initiation as well as maintenance (Leventhal & Cleary 1980). If we think realistically it is the most threatening and the most dangerous problem that our youth is facing today, not only youth but the whole country and all over the world it is an ever growing problem.

Cigarette smoking is one of the weirdest forms of human behaviors. It is always intriguing for psychologists to understand why nearly half of adult population is involved regularly in the act of smoking which is necessary neither for the regulation of life nor for the satisfaction of social, cultural, or spiritual needs.

Several studies indicate that employees at lower level are more prone toward smoking and even smoke at a greater extent than other related groups. In educational terms, high achievers tend to smoke less as compared to lower achievers. Similarly, students with preparatory courses are more prone toward smoking as compared to students of management sciences (Heath & McArthur, 1958). Students who are academically inferior to their classmates have a significantly greater tendency to be a smoker. Socio-economic status, students with a lower socio economic status are at higher risk of smoking as compared to students from all other groups.

In 1981, Conway, Vickers and Rahe investigated in a longitudinal field study, the impact of occupational stress on self-reported cigarette, coffee and alcohol consumption. Substance consumption and subjective stress indicators were measured repeatedly for 34 men performing a job with known systematic variation in stress. Positive association was found between habitual cigarette smoking, coffee drinking and chronic tendencies to perceive high amount of stress; no associations were found between chronic alcohol consumption and stress perceptions.

Nicotine acts as an activating substance that has a positive impact on depression (Klimek, 2001). Depression can lead to smoking (Glassman, 1990; Bardone, 1998). Smoking can be seen as a device in order to release oneself from stress and anxiety (Warburton, 1992).

Recent researches indicate that smokers report greater amount of stress as compared to non-smokers (Sheahan & Latimer, 1995). Although Adult smokers reported higher level of stress as compared to nonsmokers, it is reported by smokers related to adolescence period that as regular pattern

of smoking developed, it increases level of stress, so smoking cessation leads to reduced amount of stress (Parrott, 1999).

Smoking, alcoholism and drug dependence are the indications of an individual's incapacity of coping with daily stress agents. Studies done at Bristol University explored the relationship between occupational stress and health. Their work was based on responses of about 8,000 people in Bristol area who replied to two postal questionnaires sent a year apart. The results indicates that there is a positive relationship between excessive stress and poor health outcomes, i.e., poor cognitive functioning and back pain; and also linked to binge drinking and smoking.

Another study conducted by Francoise Leynen and his colleagues on 2, 821 people from nine companies revealed that workers who have jobs with high stress and little decision-making authority are less likely to stop smoking, irregardless of their socio-economic levels and intensity of smoking habits. In addition male smokers have an even harder time quitting.

Siahpush, Borland and Scollo (2002) investigated the relationship between smoking and financial stress. It was found that smoking households have notably higher levels of financial stress than non-smoking ones regardless of income level.

Recent studies on workplace stress have led to the formulation of several theories about the determinants of stress. Stress can be defined as a situation where determinants interact with a worker to manipulate (it disrupt or enhance) his/her mental and physical condition, such that the person is forced to deviate from normal functioning (Beehr & Newman, 1978).

Cooper and Baglioni (1988) found sufficient evidence in order to support the model of stress which states that there are two main factors, i.e., personality and coping strategies that mainly contribute in determining the perception of stressors related to one's occupation which has ultimately a strong influence on psychological well-being of individuals.

Job stress could be seen in light of individual's cognition, his current organization and the environment outside of the organization (Heck & Marcoulides, 1989).

### ***Significance of the Study***

Previous research has authenticated that smoking can be seen as a response to stress and depression. Stress relief is commonly provided as a reason for smoking. But there is not much evidence in the past researches that indicates that people who smoke have increased level of occupational stress than non-smokers. So, the present research was conducted to compare smokers and non-smokers on occupational stress and to examine differences between them. It is hypothesized that male office workers who smoke will score higher on stress scale as compared to the workers who do not smoke.

## **METHOD**

The study was conducted to explore the level of occupational stress among smokers and non smokers.

### **Objective**

The objectives of the present study are as follows:

1. To investigate the differences in the level of occupational stress of male office workers who smoke and those who do not smoke.
2. To find out the relationship between Demographic Information and Occupational Stress among smokers and non-smokers.

### **Hypotheses**

The hypotheses of the present study are as follows:

1. There is a positive relationship between occupational stress and smoking.
2. The male office workers who smoke will score higher on stress scale as compared to the workers who do not smoke.

### **Operational definitions**

Following are the operational definitions presented:

*Occupational Stress is defined as " "Occupational stress is the sum total of factors experienced in relation to work which affect the psychosocial and physiological homeostasis of the worker. The individual factor is termed a stressor and stress is the individual worker's reaction to stressors" (Weiman, 1977).*

*Smoking is defined as "Intake of tobacco in the form of cigarettes, pipes and cigars".*

## Participants

A sample of 80 adult men working in private organizations of Islamabad was selected from six private organizations of Islamabad, of which 40 were smokers and 40 non-smokers. The age range was 20-50 years. Purposive sampling was used for selection of the participants.

## Instruments

Following instrument were used in the present study.

*Demographic Information Sheet.* It comprised of age, gender, monthly income, marital status, qualification, experience, Smoker/Non-smoker, Quantity (cigarette).

*Pressure Management Indicator (PMI).* This scale was used for measuring the level of occupational stress in smokers and non-smokers. It was developed by Williams & Cooper in 1998. It consists of 120 items comprising of 22 subscales out of which 40 items were selected which are all potential sources of occupational stress and measures the following eight areas: workload, relationships, recognition, organizational climate, personal responsibility, managerial role, home/work balance and daily hassles. The items of these eight subscales were rated in terms of the degree of pressure respondents perceived in their job. Six point Likert-type rating scales were used for each item, where a high score indicated the extent of the occupational stress. The internal consistencies calculated from Cronbach alpha shows that most scales in the PMI have Alpha value of 0.7 and above.

## Procedure

For finding the reliability of the instrument used in the study, pilot study was conducted consisted of 10 male office workers who smoke and 10 male office workers who do not smoke, taken from different private organization of Islamabad. The reliability for Pressure Management indicator was found to be 0.88. Present study was conducted to explore the level of Occupational Stress among smokers and non smokers. With permission of concerned authorities, participants were approached. The participants were informed about the nature of the study and were ensured about the confidentiality of the information which they were providing. After their consent the data was collected and they were also explained that they can quit at any point of time.

## RESULTS

Present study was conducted to explore the level of occupational stress among smokers and non smokers.

### Reliability Analysis

For reliability analysis of the instrument the Cronbach Alpha was computed.

**Table 1**

*Alpha Reliability of Pressure Management Indicator (N=60)*

| Scale                         | No. of items | $\alpha$ |
|-------------------------------|--------------|----------|
| Pressure Management Indicator | 40           | .88      |

Table shows that alpha reliability of Pressure Management Indicator is .88 which shows that the test is reliable to use.

**Table 2**

*Correlation between Occupational Stress and Smoking(N=60)*

|                     | Smoking |
|---------------------|---------|
| Occupational Stress | .30*    |

(\* $p < .05$ )

The above table shows that there is a highly significant positive relationship between occupational stress and smoking.

**Table 3**

*Means, Standard Deviations and t-value for Smokers and Non-smokers on Occupational Stress (N=60).*

|                     | Smokers<br>(n=30) |       | Non-smokers<br>(n=30) |       | t    | P   | Cohen's d |
|---------------------|-------------------|-------|-----------------------|-------|------|-----|-----------|
|                     | M                 | SD    | M                     | SD    |      |     |           |
| Occupational Stress | 139               | 25.00 | 118.35                | 32.10 | 1.84 | .05 | .713      |

The table shows that results of *t*-test analysis suggested male office workers who smoke report more occupational stress as compared to those who do not smoke. Generally, the present study highlights the differences in occupational stress among smokers and non-smokers.

## DISCUSSION

The present research was done to study the level of perceived stress in male office workers of private organizations of in Islamabad. Many researchers have confirmed a relationship between stress and smoking.

The results show that smokers are more stressed than nonsmokers as they scored high on Pressure Management Indicator (PMI). The reliability coefficient showed that this scale can be used for measuring the level of stress among smokers and nonsmokers.

Smokers scoring high on stress scale showed that they might be more confused and unsure about their lives. Recent studies in this field support these findings. There are certain drawbacks as no time-order relationship was considered. For how has worker been smoking? How many cigarettes are taken in 24 hours? Does he know of its side effects? Physiological and psychological problems caused by smoking? Does he really feel that smoking can reduced his stress and so on?

Reuters (2000) reported that teens who smoke cigarette run in a high risk of developing panic attacks and anxiety disorders. This means that if smoker believes that smoking is harmless and can reduce stress and they know the consequences of smoking and they are still smoking then they are denying the facts, and highly rationalizing their behavior. If they are well aware of the consequences of the smoking but then they deny the fact that smoking can cause cancer, heart diseases and any psychological diseases. Matarazo and Saslow (1960) found that smokers are more prone to anxiety, less reduced and more neurotic. Smith (1970) conducted several studies that confirmed that smokers show significantly greater anti-social tendencies than nonsmokers.

Parrot (1995) observes that stress level of adult smokers is higher than those of nonsmokers. Pomerleau and Rosencrans (1989) reported that nicotine is the substance that is responsible for mental and behavioral effects of smoking, which may include that impact of smoking on stress. Nevertheless, it should not take into account that nicotine is the only component responsible for reducing the stress or any other effects. Rose and her colleagues (1991) reported that despite of nicotine, cues that are related to smoking are taking part in the regulation of smoke intake and psychological stress.

There was no other causality factor under studied in this research means there might be other indices of stress that are contributing in the prevalence of smoking, occupational stress not being the sole contributor. Factors such as family background, home environment, peer influence etc might also be the contributors. We cannot exactly relate smoking to stress in a way that it is always occupational stress that cause smoking and vice versa.

Most studies have subject levels of analysis to compare smokers with nonsmokers on various indices of stress (e.g., occupational and martial stress, negative life events, divorce, financial difficulties), with the majority findings that smokers report more stress than nonsmokers. Given all these aggregates findings there is a reason to believe that stressful situations increase smoking. Within subject studies make a compelling case that stress increases smoking among the regular smokers. The need of the thing is that they should be informed of the dangerous psychological and physiological problems. Even if they know about its side effects and they are denying the facts, and highly rationalizing their behavior, they need to be clearly told that their denial or rationalization can lead them to death some day.

### Limitations

The present research has following limitations:

1. Due to limited resources, the sample size taken was very small.
2. The workers of the private organization were studied thus ignoring many other segments of society.
3. Research is on the broad topic and it takes much time but the time limit was very short.

### Recommendations

Much research has been done on smoking but every culture has different religious beliefs and moral norms. Accordingly, more studies should be conducted in Pakistan to find how they can be

helped in this respect. For future purpose, sample should be large in size for more accurate results. In this research employees of private sector were included but in future studies, workers of government sectors should also be consulted for more valid results. Further study may also ask for the type of smokers, whether the smoker is heavy smoker or light smoker. For how long they are smoking? What were the factors that lead them towards smoking? This could help to determine and understand the intensity of attitude.

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