

## **SLEEP DEPRIVATION AMONG WORKING MOTHERS AND THEIR JOB PERFORMANCE**

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### **ABSTRACT**

**Objectives:** *Present study intended to investigate the impact of parental personality traits on parenting patterns and parent child-relationships in Pakistan.*

**Methods and Materials:** *This study included 342 parents aged between 31 and 57 years, with 159 fathers and 183 mothers, who were selected through purposive convenient sampling from different cities of Punjab, Pakistan. Parents having children of ages 3-14 years were selected as per requirement of the (PCRI) scale. In the present study we have demonstrated, the two Scales Neo-FFI Scale and PCRI scales to test the hypotheses. It was hypothesized that parental personality traits including openness to experience, conscientiousness, extraversion, agreeableness and neuroticism would predict parent child relationship i.e. parental support, satisfaction, communication, involvement and autonomy.*

**Findings:** *The Cronbach's alpha coefficient was estimated for both the scale demonstrated reliable estimates for both scales. From the study through multiple regression analyses it is observed that among the predictors, openness to experience was significant positive predictor of parental support; agreeableness was significant positive predictor of satisfaction, and openness to experience and extraversion were significant positive predictors of communication.*

**Implications:** *This study will be helpful for school and family counselors in understanding and dealing with issues related to parents and children.*

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**Keywords:** *Sleep deprivation; Stress at workplace; Workplace deviance; Employee performance.*

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## **INTRODUCTION**

Employees are the main asset of an organization and their high performance is significantly essential for the organization to acquire a high market share. In an organization, high performance of employees will increase productivity and sales volume; whereas low performance will deteriorate their market position due to the cut throat competition. Individual performance is considered as an effective strategic tool in achieving organizational success and growth, for this reason it is very important for the organizational management to put emphasis on the factors that might influence or disturb an individual's performance.

A variety of reasons can contribute negatively, affecting the way an employee is performing within the organization. A significant one is sleep deprivation, whose importance is being overlooked by most researchers (National Sleep Foundation, 2007). Sleep is a cyclical, recurring process that keeps your spirits high and fuels you to embrace the daily challenges of life. It is an absolute necessity for the normal functioning of the body and to nourish your brain.

However, the scope and contribution of present research is very vast and beyond the past researches. This research study aims to examine the association between sleep deprivation and individual performance of working mothers with in the educational sector of Pakistan, and to examine the role of mediators, which are "stress at the workplace and workplace deviance" in the given relationship of sleep deprivation and individual performance.

In addition, the objective of this study is to evaluate and conclude on whether there is a full mediation, partial mediation or no mediation in the given relationship. It means not only direct relationship has been measured and evaluated between sleep deprivation and performance of working mothers but indirect relationship between these two variables (through "stress at workplace" and "workplace deviance") has also been evaluated in present study.

Sleep deprivation is a common dilemma that our society faces today. The ever-increasing demands of the modern world force people to reduce few hours of sleep to manage other daily life chores, not realizing the gravity of the

situation. By missing out on those few hours of sleep they might be putting their own health at risk, as it may seriously undermine their intellectual abilities along with their brain and bodily coordination.

Apart from the unpleasant and undesirable effects of lack of sleep on health issues quoted above, it has been observed that it also results in decline in an individual's performance and there are greater chances of errors at workplace as well. A person, who stays awake for 24 hours or less, is found to experience lethargy and tiredness throughout the day. Also their memory, attention, cognitive and psychomotor speed and executive functioning may be impaired leading to greater risk of errors in performance (Harrison & Horne, 1998; Durmer & Dinges, 2005; Banks & Dinges, 2007). Sleep inadequacy leads to mood fluctuations and the individual experiences a decline in their intellectual abilities (Pilcher & Huffcutt, 1996; Philibert, 2005).

People are working extra hours, late at night to stay competitive. Naturally, they also crave for spare time to relax themselves. The nature of the job greatly influences the number of hours of sleep an individual gets. Some jobs are more demanding than others. For example, jobs which require people to work in late night shifts, similar to those related to the health, security and transportation sector. It is observed that the productivity of employees in these fields is adversely affected due to insufficient sleep. Additionally, people have to push themselves to their optimum and persistently face sleep deprivation.

Several researchers have also conducted experiments and deduced that insufficient sleep shows symptoms and signs of stress along with declining in performance. Although a stressor is not negative all the time by its nature; it can be positive as well. However, the greater the person suffers from insufficient sleep, the greater the chances are of a stressor becoming negative in nature. Numerous studies have shown and it has been reported by people first handedly that those who are unable to complete their sleep suffer from a number of difficulties like extreme exhaustion, crankiness, and a feeling of drowsiness that just will not wear out.

On the other hand, a common emerging dilemma globally is known to be stress (Taylor, Bruns, & Hodges, 2004). For organizations, this has been an area of grave concern and has been escalating for the past decades and therefore, the fast-paced life nowadays has resulted in declining job performance due to increased job stress. Feeling stressed out at work is a common feeling. Employee productivity has shown a decline due to greater levels of stress as identified by

human resource managers in majority of the organizations. Ivancevich and Donnelly (1975) went on to study different managerial levels of an organization and established a close association between anxiety, employee performance, and contentment. He concluded, based on finding, that low levels of anxiety and stress ultimately uplift the performance of an individual at work.

Simultaneously, to acquire the desired outcome, one characteristic of a talented manager is that he is not only goal-oriented but is also concerned with the ways implemented by employee within the organization. Organizations often find themselves in crises due to widespread deviant behavior, which may also prove harmful to many stakeholders. By keeping your conscience free of guilt, it will not only upgrade the performance of the organization but also give it a well-reputed image. Great emphasis is laid on ethical principles while laying out important management decisions. Hiring a morally upright workforce can enable an organization to avoid any mistrust and gaps in ethical conduct. Positive people bring in positivity and negative people spread negative vibes. However, exceptions are always there, and certainly there is one for this scenario as suggested by established literature on ethical behavior. Dedicated employees might sometimes also fall prey to deviant behavior, and hence it becomes incumbent upon the management to highlight the root cause for this shift in behavior and address the problem accordingly, which might prove detrimental for the organization. It is a common belief that the more time one invests in his work, the greater results he would enjoy. However, in reality this might not be the case. There is a possibility that there might be a close link between workplace hours and deviance observed. Irrespective, of whatever position you are working on, workplace deviance creeps in, into all levels. Sleep deprived senior managers; often have this excuse to satisfy them by saying that it is the demanding nature of their job and position that they miss out on sleep. In reality, what an organization really wants from an employee is not endless work all day long, but the vibrancy and dynamic personality to lead the rest. Due to time constraints, the time invested in work cannot be spent elsewhere. What is the most note-worthy substitute of those precious hours? Undoubtedly, sleep. Studies conducted recently have brought this phenomenon into consideration that contradicts this temptation that people often face: For the sake of increasing productivity, if one is compromising on his sleep, it will not only make him tired, but it could also make him a bad leader.

The likelihood of his indulging in immoral behavior is highly dependent on that night's sleep as proven by past researches, because the system that drives

self-control has its roots linked to sleep. Scientific research has went on to explain that even missing out on two hours of sleep (for exampling sleeping for 7 hours instead of 9) usually resulted in acts of deviance occurring in the workplace the next day, again because of the profound effect of sleep on self-controlling mechanisms.

It is indeed a subject of grave concern for the management to deal with the behavior and attitude of their employees. The presence of deviance acts in the workplace continues to pose as a serious threat to employee and organizational success and has destructive effects for obvious reasons (Appelbaum, Deguire, & Lay, 2005; Mawritz, Mayer, Hoobler, Wayne, &Marinova, 2012). The impacts of deviant workplace behavior cannot be underestimated as these behaviors are capable of affecting many areas of the company like the ability to act decisively, efficiency and effectiveness and the monetary costs incurred (Appelbaum, Iaconi, & Matousek, 2007). Researchers have developed a great deal of interest in this topic lately (Bennett & Robinson, 2000, 2003; Colbert, Mount, & Dalal, 2005; Dunlop & Lee, 2004) and there is quite some proof which suggests that the way managers perceive how their employees are performing overall, are majorly affected by deviance acts (Rotundo & Sackett, 2002). An organization may be robbed off its competitive advantage due to the ‘crises of ethics’. The fact that at all levels of the organization, employees are involved in immoral behavior is quite surprising, but that is a fact (Sims, 1992). Therefore sleep must be considered as a blessing, if one wants to master one’s own thoughts, feelings and behaviors. Correcting and keeping a check on one’s sleep patterns will certainly help him in order to resist temptations throughout his life.

## **METHOD**

### ***Participants***

The targeted population of this research comprises of working mothers, who are employed in any educational sector such as school, college or university that are functioning in Pakistan. Karachi city was made the centre of acquiring samples as it is a metropolitan city and represents citizens from all over Pakistan.

Raosoft sample size calculator has been taken into consideration in order to decide the sample size and recommended sample size has been fixed at 377.

### ***Measures***

#### **Sleep Deprivation**

Keeping the previous researches in mind, partial deprivation has been given the status of a categorical variable (e.g., Barnett & Cooper, 2008; Chen, Gill, & Prigerson, 2005; Gangwisch, Malaspina, Boden-Albala, & Heymsfield, 2005; Kripke, Garfinkel, Wingard, Klauber, & Marler, 2002). Here, the cutoff point was selected as 6 hours. In order to measure the sleep deprivation, the question was first interrogated from the target population i.e. working mothers as to how many hours they had slept the night before, they took the survey.

#### **Stress at Workplace**

A 5-point response scale constituting of seven items (questions) ranging from “strongly agree” to “strongly disagree”, devised by House and Rizzo (1972) has been used as an instrument in order to measure stress at the workplace in this particular study.

#### **Workplace Deviance**

As this paper studied and examined the impact of production deviance quadrant of Robinson and Bennett’s typology of workplace deviance on an individual performance, so this variable (construct) has been assessed by using 7 items of production deviance as per the measures established by Bennett & Robinson’s (2000).

#### **Individual Performance**

A five-item scale for in-role job performance was adapted to measure individual performance by a Dutch translation (Van Yperen & De Jong, 1997) of Podsakoff and MacKenzie’s (1989).

### ***Procedure***

The current research is probe by questionnaires; whereas method of data collection was personal survey technique. A self-administered questionnaire was

developed by combining four separate established instruments measuring every construct separately. At random, 377 questionnaires were sent to different schools, colleges and universities of Karachi via email, fax, and post, and accessible areas were visited personally. After every three days a reminder in the form of an e-mail was sent to every respondent in order to remind them to complete and return the filled questionnaire on time. Afterwards, unprocessed data, which was received from the questionnaires was coded and entered into the software to be statistically analyzed. The responses used for analysis were 340 as 37 out of 377 responses were unusable. Thus, the response rate was 62.8%.

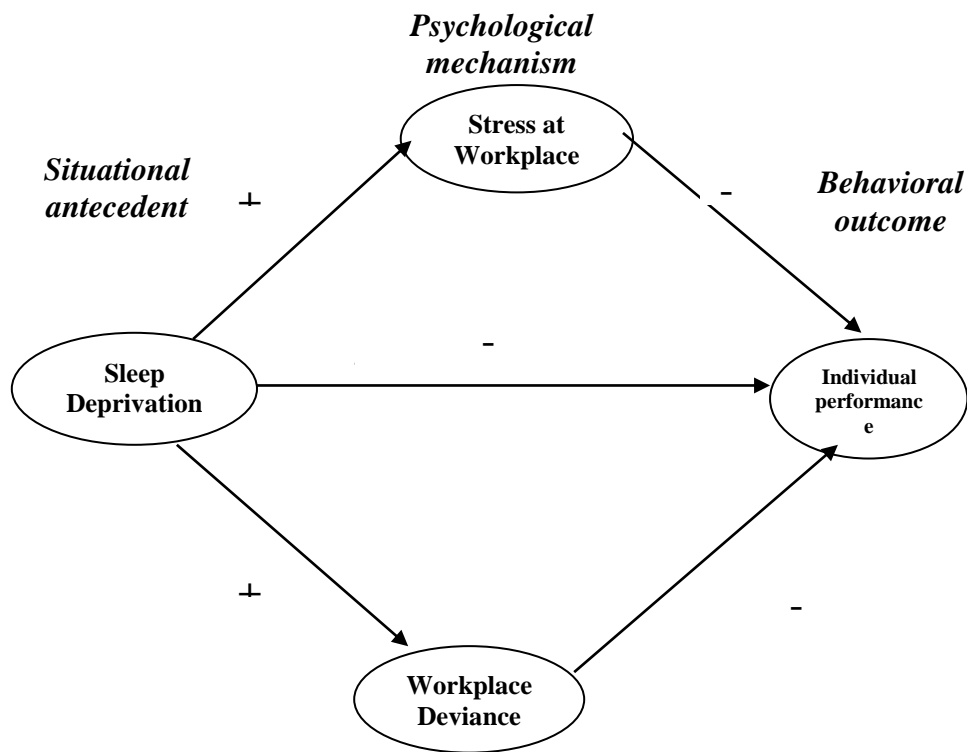
### ***Reliability Analysis***

In order to test the reliability, the data was analyzed. Coefficient alpha was applied at the initial stage (Cronbach, 1951). The overall reliability for each scale is given separately in Table 1 and since the values were even more than ( $\alpha = .70$ ), hence it was concluded that the measures adopted in the study were internally consistent and reliable.

**Table 1**  
***Alpha Reliability Coefficients of Composite Scales (N=340)***

<b>Variable Name</b>	<b>No. of Items</b>	<b>Cronbach's Alpha Coefficient</b>
<b>Workplace Deviance</b>	7	0.849
<b>Workplace Stress</b>	7	0.773
<b>Individual Performance</b>	5	0.913

### Hypothetical Framework



**Fig. 3.1: Conceptual framework**

### *Hypotheses*

1. There is a negative association between sleep deprivation and individual performance.
2. Stress at workplace mediates the relationship between sleep deprivation and individual performance.



3. When stress at workplace is held constant, there is also a direct negative effect of sleep deprivation on individual performance.
4. Workplace deviance mediates the relationship between sleep deprivation and individual performance.
5. When workplace deviance is held constant, there is also a direct negative effect of sleep deprivation on individual performance.

### ***Statistical Methodology***

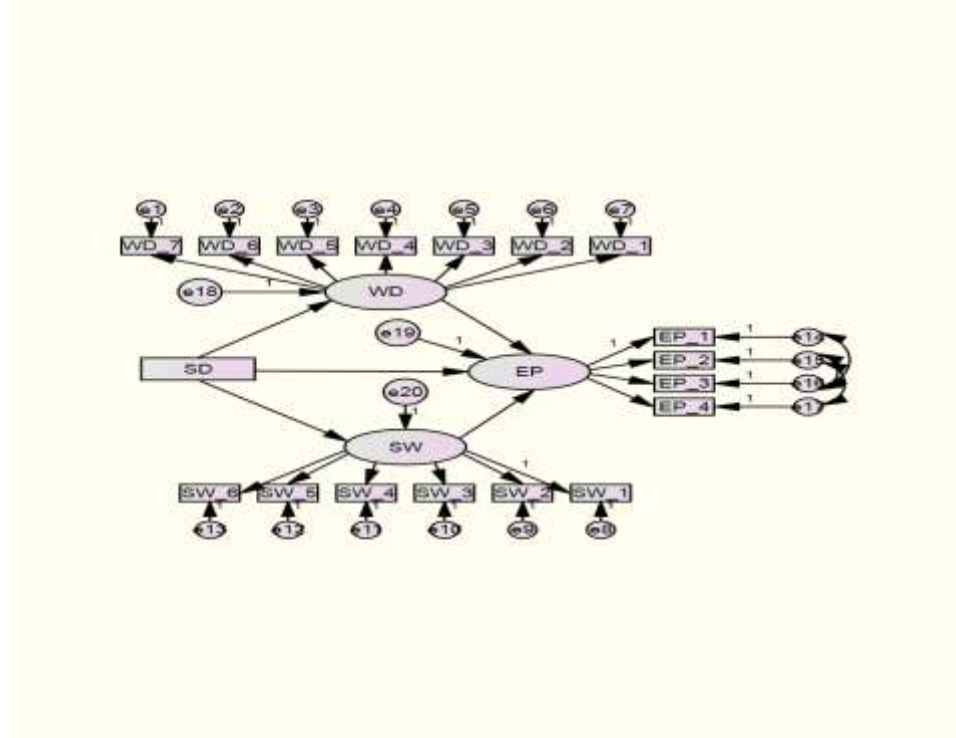
Structural equation modeling technique through AMOS software has been implemented; in order to examine the mediating effects of stress at workplace and workplace deviance between association of sleep deprivation and individual performance.

## **RESULTS**

H1: There is a negative association between sleep deprivation and individual performance.

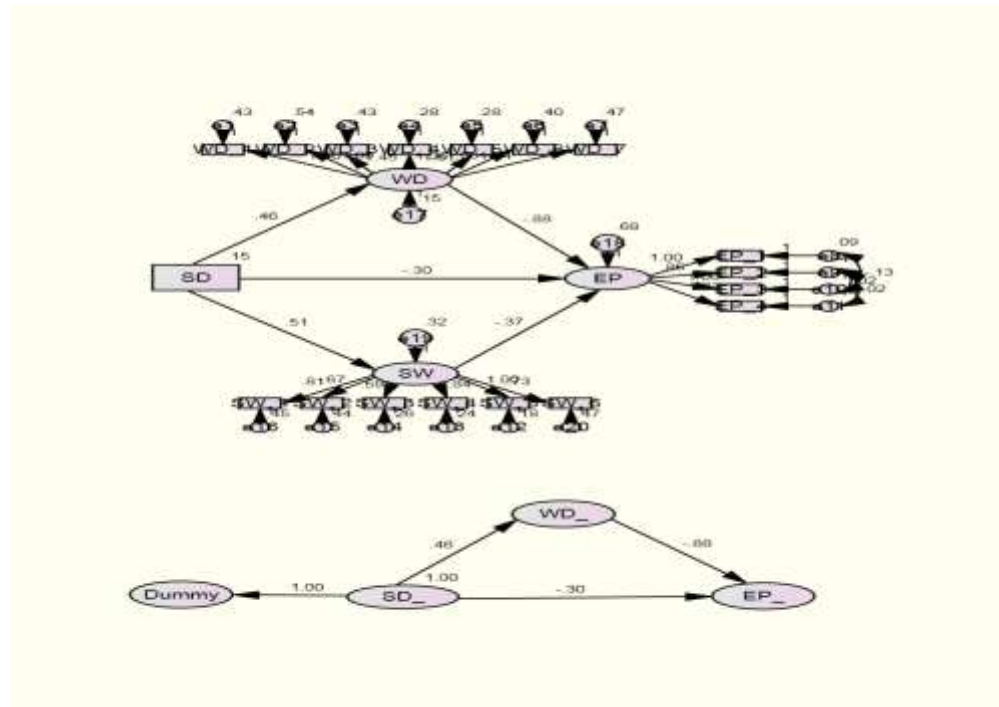
As from the bootstrap results (see the results of total effects in Table 2), it is clearly shown that there is significant negative relationship between sleep deprivation and employee performance ( $b = -0.895$ ,  $P < 0.05$ ), and this negative relationship implied that sleep deprivation negatively affects work performance—productivity and quality—and relationships at the workplace and thus H1 has been accepted.

On the other hand the direct effect (path  $c'$ ) of sleep deprivation on employee performance is  $-0.299$ , with  $p$  value  $0.027$  and indirect effect (path  $a1b1$  and  $a2b2$ ) of sleep deprivation on employee performance is  $-0.596$  with  $p$  value  $0.000$  (see Table 2), as their  $p$  values are less than  $0.05$ , it means that all paths are significant (Direct + Indirect). Thus from the above values it can be concluded here that there is direct and indirect relationship between sleep deprivation and employee performance and such kind of mediation would be known as partial mediation. Further analysis was done by using phantom models, in order to find out the role of each mediator (WD and SW) separately between the relationship of sleep deprivation and performance of working mothers.



**Figure 2: Hypothesized Structural Equation Model: Comparative fit index=0.932; Tucker–Lewis index =0.918; Root Mean Square Error of Approximation=0.070, chi-square=343.6; df=128; e= error.**

H2: Workplace deviance mediates the relationship between sleep deprivation and individual performance.



**Figure 3: Hypothesized Structural Equation Model (Phantom Model 1): Comparative fit index=0.932; Tucker-Lewis index =0.918; Root Mean Square Error of Approximation=0.070, chi-square=343.6; df =128; e= error.**

Now as concern to findings regarding workplace deviance that whether it mediates the negative relationship between sleep deprivation and employee performance or not, first phantom model was created. As from bootstrap results of indirect effect (see the results of indirect effects in Table 2 and see mediating final hypothesized phantom model 1 in Figure 3), were showing strong evidences that workplace deviance mediated the negative relationship between sleep deprivation and employee performance (a1b1 is -0.408 with p value 0.000). Thus H2 of this study has also been accepted and it indicates that mediation between the sleep deprivation and employee performance through workplace deviance has been established. This relationship explained that if any organization has employees, who are overwhelmed with the dilemma of sleep deprivation, they

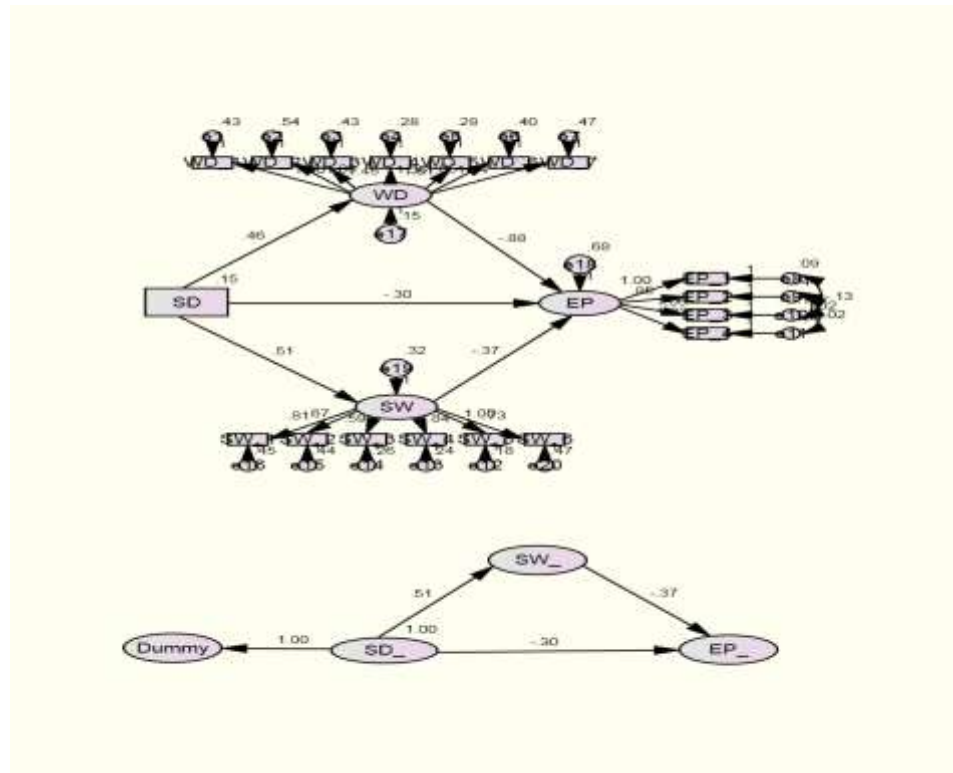
are bound to indulge in deviant acts or behaviors at the workplace that is purposefully intended to go against the norms of an organization, in order to harm its interests, the people associated with it, or both which undermines their productivity and performance of organization as a whole ultimately.

On the other hand the direct effect (path  $c'$ ) of sleep deprivation on employee performance is - 0.299, with  $p$  value 0.027 and total effect (path  $c$ ) of sleep deprivation on employee performance is - 0.707 with  $p$  value 0.000 (see Table 2), as their  $p$  values are less than .05, it means all paths are significant (Direct + Indirect). Thus from the above values it can be concluded here that there is direct and indirect relationship (through WD) between sleep deprivation and employee performance.

H3: When workplace deviance is held constant, there is also a direct negative effect of sleep deprivation on individual performance.

While the mediating effect of workplace deviance has been controlled, the direct relationship between sleep deprivation and employee performance was significant as well ( $b = -0.299$ ,  $p < 0.027$ ), which indicated that when workplace deviance is held constant, there is also a direct and negative effect of sleep deprivation on employee performance and thus H3 of this study has been accepted. This analysis suggests that workplace deviance partially mediates the relationship between sleep deprivation and employee performance.

H4: Stress at workplace mediates the relationship between sleep deprivation and individual performance.



**Figure 4: Hypothesized Structural Equation Model (Phantom Model 2): Comparative fit index=0.932; Tucker-Lewis index =0.918; Root Mean Square Error of Approximation=0.070, chi-square=343.6; df=128; e= error.**

Now as concern to findings regarding stress at workplace that whether it mediates the negative relationship between sleep deprivation and employee performance or not, second phantom model was created. As from bootstrap results of indirect effect (see the results of indirect effects in Table 2 and see mediating final hypothesized phantom model 2 in Figure 4), were showing strong evidences that stress at workplace mediated the negative relationship between sleep deprivation and employee performance (a2b2 is -0.188 with  $p$  value 0.000). Thus H2 of this study has also been accepted and it indicates that mediation between the sleep deprivation and employee performance through stress at

workplace has been established. This relationship explained that if any organization has employees, who are overwhelmed with the dilemma of sleep deprivation, they are bound to experience greater anxiety and restlessness, leading to build up of stress at the workplace which undermines their productivity and reduces employee performance ultimately.

On the other hand the direct effect (path  $c'$ ) of sleep deprivation on employee performance is - 0.299, with  $p$  value 0.027 and total effect (path  $c$ ) of sleep deprivation on employee performance is - 0.487 with  $p$  value .001 (see Table No: 2), as their  $p$  values are less than 0.05, it means all paths are significant (Direct + Indirect). Thus from the above values it can be concluded here that there is direct and indirect relationship (through SW) between sleep deprivation and employee performance.

H5: When stress at workplace is held constant, there is also a direct negative effect of sleep deprivation on individual performance.

While the mediator effect of stress at workplace has been controlled, the direct relationship between sleep deprivation and employee performance was significant as well ( $b = -0.299$ ,  $p < 0.027$ ), which indicated that when stress at workplace is held constant, there is also a direct negative effect of sleep deprivation on employee performance and thus H3 of this study has been accepted. This analysis suggests that stress at workplace partially mediates the relationship between sleep deprivation and employee performance.

**Table 2**  
***Bootstrap Results of Mediation from Structural Equation Modeling***

Model	Employee Performance					
	Hypothesized Structural Model		Phantom Model 1 (Mediator = Work- place Deviance)		Phantom Model 2 (Mediator = Stress at Workplace)	
	Sig value	<i>b</i>	Sig value	<i>b</i>	Sig value	<i>b</i>
Direct Effects Sleep Deprivation	-0.299	0.027	-0.299	0.027	-0.299	0.027
Indirect Effects Sleep Deprivation	-0.596	0.000	-0.408	0.000	-0.188	0.000
Total Effects Sleep Deprivation	-0.895	0.000	-0.707	0.000	-0.487	0.001

Table 2 shows all the coefficients and their significance values for the significant mediating paths i.e. workplace deviance and stress at workplace between sleep deprivation and employee performance.

## DISCUSSION

The conceptual framework that is fundamental to this study takes into account several constructs that directly or indirectly affects individual performance at the workplace. The different variables are either positively or negatively correlated. The whole framework can be broadly assorted into three categories. To begin with, sleep being the situational antecedent which is positively correlated with the two constructs, which make up the psychological mechanism, consisting of stress at workplace and workplace deviance. These factors, in turn, negatively affect the behavioral outcome that is individual performance. On the other hand, the direct relationship between sleep deprivation and individual performance has also been studied via this framework.

This research is distinctive from all other researches which have been conducted in the past due to the fact that the hypothetical framework studied in current research is a mediation model that has never been studied yet. Previous researches have separately identified and studied individual links to see the impact of sleep deprivation and the other possible factors on individual performance. However, this research not only studies the direct effect of sleep deprivation on individual performance but also takes into account psychological factors such as how sleep deprivation induces stress and makes employee indulge in deviant acts at the workplace which in turn deteriorates employee performance severely.

This research has concluded that a minimum of 5 to 6 hours of sleep and the ever-increasing demands of modern day professional lives have taken tolls on the personal lives of mothers and their relationships at work. This becomes an uphill task for those moms who barely get 4 hours of sleeps each night, which leaves them frustrated, short-tempered, and highly bitter and irritable. Furthermore, according to a poll, mothers who survive on hardly five hours sleep at night are completely drained by the end of the day in an attempt to balance the contradicting and hectic demands of professional life along with motherhood, where they fail to appreciate the true essence of having the privilege of being a mother. Moreover, a larger number of people are sleep deprived these days because they require time in order to cope up with the work load and stress that the ever-increasing demands of the modern world has put on them. Simultaneously, people are not realizing the seriousness of the situation, as they are putting themselves at a higher risk of potential harm than they can imagine. These anxiety- stricken people are not only sleep deprived but their sleep patterns are inconsistent and restless as well, leading to decreased work productivity, greater chances of errors in their professional life and accidents that may take a toll on lives as well as resources, as revealed by scientific research.

Furthermore, as nowadays it is not surprising that many people are subject to dilemma of extreme sleep shortage due to the constraints that the demands and time limits of modern around-the-clock society put on them. In this regard, an imperative question is, how our body reacts to stress when we are in a state of utter drowsiness as it helps us to combat difficulties that come our way on a daily basis? Thus the answer to the above given question which has been proposed by different researchers is that an individual may feel lethargic, put off the whole day and tend to fuel up unnecessary arguments and take up a voluntary solitary attitude if he does not get enough rest, doze off at inappropriate times or



do not sleep soundly. Upon waking up he will not feel invigorated and cautious. The functioning and activity of the various systems is undermined when an individual is sleep deprived, which adversely affects the alertness of the mind and physical fitness. Therefore, it has also been proved based on past researches that sleep deprivation not only directly affects individual performance but is a major stressor and simultaneously cause employees to indulge in deviant acts in the workplace, reducing overall employee performance and productivity inevitably.

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