

## Investigating the Relationship between Sleep Quality and Career Adaptability with Occupational Burnout among Employees

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### Abstract

**Background and Objective:** Disruption of the sleep cycle normal functioning of body system with a significant effect on various dimensions of human lives such as career-related variables. The objective of this study was to investigate the relationship between sleep quality and career adaptability with occupational burnout and to compare them among employees with low and normal sleep quality.

**Materials and Methods:** In terms of objective and nature, this study was an applied-descriptive, correlational, and causal-comparative study. The statistical population of the study included a private company in Tehran Province, Iran, where 286 people were selected using simple random sampling as the sample and after completing career adaptability, occupational burnout, and sleep quality scales, the relationship between variables was investigated.

**Results:** The findings indicated a significant negative relationship between sleep quality and occupational burnout and its dimensions. Moreover, a significant positive relationship was found between career adaptability of people with normal sleep and low sleep ( $P < 0.0500$ ) and people with normal sleep quality showed lower occupational burnout and higher career adaptability. In comparing female and male groups regarding career adaptability and occupational burnout, the results showed that a significant difference exists between them in emotional exhaustion; females obtained larger mean values compared to men and no significant difference was observed among the components.

**Conclusion:** Given the findings of this study, it can be concluded that sleep, in addition to decreasing occupational burnout, leads to higher career adaptability among employees.

**Keywords:** Sleep quality; Psychological burn-out; Occupational burnout; Vocational guidance

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### Introduction

In the era that its distinctive features are economic, social, and technological changes as well as increasing complexity and variety, individual adaptability that is the ability to adapt to varying and vague conditions is very important (1). Career

adaptability is a self-regulatory competence, not only for employees, but also for students and young people since it is an important source to develop successful career (2). Adaptability refers to obtaining attitudes, competencies, and traits people employ to make themselves consistent with the affairs and professions that are suitable for them (3). Super and Knasel has introduced career adaptability and conceptualized it as a psychosocial source (4).

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According to the definitions provided, career adaptability can be considered as the most important dimension in career development of people (5). In sum, career adaptability includes attitudes and competencies that people use to follow stages, perform roles, and properly perform various life tasks (6).

Adaptability has four dimensions of concern, control, curiosity, and trust (7). Concern about future career is the first career adaptability dimension and means an orientation towards the future and it is a feeling necessary for self-preparation for the future. Control over future career is the second dimension in career adaptability and includes intrapersonal self-discipline, conscience, awareness, organization, and determination in performing career duties (8). Career curiosity emerges from a self-control sense and is related to taking the initiative to learn about the task that the person wants to do as well as its related career opportunities (9). The last dimension of career adaptability is trust. Trust is a success precursor in facing challenges and overcoming the obstacles and here, career choices need complex problem-solving and for this purpose, trust is necessary (8).

Occupational burnout is due to severe, persistent, and uncontrolled stress when the workplace demand is higher than individual potentials and abilities for adaptation or success (10, 11). Lack of effective coping with stress leads to occupational burnout. Occupational burnout does not emerge suddenly, rather it is a progressive process with gradual development (12). Occupational burnout syndrome is a psychosocial syndrome and is among serious career diseases (13). This syndrome is caused by career stress, which is an outcome of occupational burnout (10) and is mostly observed in contexts where the person spends many hours in contact with people (14). Three important dimensions of occupational burnout are emotional exhaustion that includes chronic exhaustion, sleep disorders, and various physical symptoms as energy reduction and spiritual power depletion; depersonalization disorder including negative reaction, lack of feeling, and ignoring colleagues and clients, feeling guilty, isolation, and reduced workload and daily activities that mean psychological separation from one's career, reduced sense of competency and success; and reduced career functioning (15). These people employ a negative view towards the world and their environment.

Low sleep quality is a main sign of chronic sleep deficit and it is estimated that 30-45 percent of the world population suffer from sleep deficit and this rate increases with age. Low sleep quality or drowsiness during the day in elderlies is accompanied by serious health issues, poor physical functioning, illness, mortality, low quality of life (QOL), increased risk of psychological diseases, and low daily functioning. Low quality sleep causes disorder in feelings, thoughts, and motivations and increases stress, wound recovery, and pain, in addition to increasing career damages and risks (16).

Sleep quality report is an important clinical construct but sleep quality is a complex phenomenon that its definition is complicated and its measurement is subjective; it means that it cannot be measured in the test environment (17). On the other hand, variables constituting sleep quality and its importance level may vary among individuals (18). Sleep quality and quantity influence learning, memory, and many cognitive abilities, especially activities related to the storage of new information and skills in educational environments (19).

According to the importance of sleep in human life and the relationship between sleep deficit and career functioning on the one hand and lack of studies on the effect of sleep deficit on career adaptability and burnout on the other hand, this study to compare social competence and QOL and answer the main question of whether there was any significant relationship between sleep quality and career adaptability and burnout. The second research question was that whether there was any difference between career adaptability and occupational burnout among employees with low and high sleep quality.

## Materials and Methods

In terms of objective and nature, this study was an applied and descriptive study and a correlational and causal-comparative, cross-sectional study. The statistical population included a private company in Tehran (n = 1121) Province where using Morgan formula, 286 people were selected using simple random sampling as the sample. After visiting the workplace and making the necessary arrangements, questionnaires were distributed among the sample group as office automation. After completing the Pittsburgh Sleep Quality Index (PSQI), 114 of employees with low sleep

quality (those with scores above 6) and 172 of employees with normal sleep quality (those with scores below 6) were selected. The study inclusion criteria included willingness to participate in the study and at least one year of work experience, and the exclusion criteria included unwillingness to participate in the study. For data analysis, the SPSS software (version 18.0, SPSS Inc., Chicago, IL, USA) and one-way analysis of variance (ANOVA) and Pearson correlation coefficient were used.

**Research questionnaires:** In order to measure occupational burnout of the participants in this study, Maslach Burnout Inventory (MBI) was used. This scale is a golden measurement tool to measure occupational burnout and includes three independent measurement scales. Emotional exhaustion scale measures exhaustion and too much emotional activity. The depersonalization disorder scale measures the degree of insensitivity and lack of personality and the personal adequacy scale measures feeling of adequacy and career success.

This questionnaire includes 22 articles that evaluate emotional exhaustion (9 articles), depersonalization (5 articles), and personal adequacy (8 articles) within the framework of professional activities. These articles were scored based on a 5-point Likert scale, with the minimum and maximum scores as 22 and 110, respectively (11).

For the emotional exhaustion subscale, scores above 30, between 18 and 29, and below 17 were high, moderate, and weak, respectively. For the depersonalization subscale, scores above 12, between 6 and 11, and below 5 were high, moderate, and weak, respectively. For the personal adequacy subscale, scores below 33, between 39 and 34, above 40 were high, moderate, and weak, respectively. In this study, to obtain the total score of personal adequacy, reverse scoring was employed (20).

The high emotional exhaustion score or depersonalization disorder score or low personal adequacy score showed high occupational burnout levels. The internal consistency (IC) of the three MBI criteria with Cronbach's  $\alpha$  value of 71 to 90% in the main sample that included 11000 people, was satisfactory. In other examples such as psychologists, human services, teachers, social workers, nurses, and prison guards, similar significance levels were found (21).

The test-retest reliability coefficients in short-term periods up to one month were 60 to 80%. Two similar studies examined the validity for one year. The reliability coefficient in a sample of 700 teachers was 33 to 67% and in another sample of 46 people working in human services was 34 to 62%. In all of these studies, emotional exhaustion was the most stable dimension and depersonalization disorder was the less stable dimension (21).

**PSQI:** This standard scale includes 19 items and differentiates good sleep from bad sleep by measuring 7 sleep features (22). These 7 features include sleep quality from the person's viewpoint, delay in sleep, duration, efficiency and disorders, hypnotics, and daily dysfunction. The scores range from 0 to 3, with a maximum score of each component being 3. The total score of the instrument results from the sum of mean scores of these 7 components, varying from 0 to 21. Higher scores show lower sleep quality. Scores above 6 refer to poor sleep quality. The reliability of this scale was obtained using IC (0.8) and the test-retest reliability as 0.98 (23).

**Career Adaptability Scale:** this scale was designed by Porfeli and Savickas and includes 24 items and the total score indicates adaptability of the person. The subjects answer the items according to a 5-point Likert scale from 1 (very low) to 5 (very high). Higher and lower scores indicate the high and low career adaptability of the person, respectively. This scale includes 4 subscales that measure concerns, control, curiosity, and trust. The validity values are reported with a Cronbach's alpha of 92% for control, curiosity, and trust were 0.83, 0.74, and 0.79, respectively (24). The validity and reliability of the scale were desirable in the Iranian sample (25). The reliability of this scale in this study was 0.88. For data analysis, the SPSS software (version 18, SPSS Inc., Chicago, IL, USA) was used and data were analyzed at descriptive [(mean  $\pm$  standard deviation (SD)] and inferential (correlational tests, t-test with two independent samples) levels.

## Results

In table 1, the descriptive characteristics of the study variables in the two groups of employees with normal sleep and low sleep quality are presented.

**Table 1.** Descriptive characteristics of study variables

Variable		Sleep		
		Low sleep	Normal sleep	Total
Emotional exhaustion	n	114	172	286
	Mean $\pm$ SD	29.00 $\pm$ 15.05	23.49 $\pm$ 13.42	25.68 $\pm$ 14.32
Depersonalization disorder	n	114	172	286
	Mean $\pm$ SD	17.33 $\pm$ 9.27	15.61 $\pm$ 8.40	16.30 $\pm$ 8.78
Personal adequacy	n	114	172	286
	Mean $\pm$ SD	17.36 $\pm$ 8.95	15.23 $\pm$ 8.56	16.08 $\pm$ 8.77
Total score of occupational burnout	n	114	172	286
	Mean $\pm$ SD	63.70 $\pm$ 27.98	54.34 $\pm$ 25.88	58.07 $\pm$ 27.08
Trust	n	114	172	286
	Mean $\pm$ SD	14.88 $\pm$ 7.30	20.38 $\pm$ 5.64	18.19 $\pm$ 6.89
Control	n	114	172	286
	Mean $\pm$ SD	15.58 $\pm$ 6.54	20.10 $\pm$ 5.69	18.30 $\pm$ 6.43
Curiosity	n	114	172	286
	Mean $\pm$ SD	15.08 $\pm$ 6.82	19.96 $\pm$ 5.94	18.02 $\pm$ 6.74
Concern	n	114	172	286
	Mean $\pm$ SD	15.37 $\pm$ 6.66	20.02 $\pm$ 6.27	18.17 $\pm$ 6.81
Total score of career adaptability	n	114	172	286
	Mean $\pm$ SD	60.93 $\pm$ 22.09	80.48 $\pm$ 16.27	72.69 $\pm$ 21.08

SD: Standard deviation

In the following, the results of independent sample t-test are presented for group comparison (Table 2).

To compare the variables in the low and normal sleep quality groups, independent sample t-test was used.

The results of the t-test with two independent samples showed a significant difference between the low sleep group (29.00  $\pm$  15.05) and normal sleep group (23.49  $\pm$  13.42) in terms of emotional exhaustion [t(284) = 3.23, P = 0.0010]. In the depersonalization disorder, no significant difference was observed between the low sleep group (17.33  $\pm$  9.27) and the normal sleep group (15.61  $\pm$  8.40) [t(284) = 1.62, P = 0.1060]. In the personal adequacy, there was no significant difference between the low sleep group (M = 17.36, SD = 8.95) and the normal sleep group (15.23  $\pm$  8.25) [t(284) = 1.84, P = 0.0660]. In the total score of occupational burnout, a significant difference was observed between the low

sleep group (63.70  $\pm$  27.98) and the normal sleep group (54.34  $\pm$  25.88) [t(284) = 2.83, P = 0.0050].

In the trust dimension, there was a significant difference between the low sleep group (M = 14.88, SD = 7.30) and the normal sleep group (20.38  $\pm$  5.64) [t(284) = -7.16, P = 0.0001]. In the control dimension, a significant difference was observed between the low sleep group (15.58  $\pm$  6.54) and the normal sleep group (20.10  $\pm$  5.69) [t(284) = -6.18, P = 0.0001]. In the curiosity dimension, there was a significant difference between the low sleep group (15.37  $\pm$  6.66) and the normal sleep group (20.02  $\pm$  6.27) [t(284) = -6.39, P = 0.0001]. Finally in the concern dimension, a significant difference was observed between the low sleep group (15.08  $\pm$  6.82) and the normal sleep group (19.96  $\pm$  5.94) [t(284) = -5.98, P = 0.0001].

In the total score of adaptability, a significant difference was observed between the low sleep group (60.93  $\pm$  22.09) and the normal sleep group (80.48  $\pm$  16.27) [t(284) = -8.60, P = 0.0001].

**Table 2.** Independent sample t-test for group comparison

Variable	t	df	P (2-tailed)	Mean difference
Emotional exhaustion	-3.049	284	0.003	-5.09636
Depersonalization disorder	-1.383	284	0.168	-1.43537
Personal adequacy	-0.937	284	0.349	-0.98120
Total score of occupational burnout	-2.355	284	0.019	-7.51293
Trust	0.884	284	0.377	0.72170
Control	0.533	284	0.595	0.40580
Curiosity	1.387	284	0.166	1.10478
Concern	2.418	284	0.016	1.93420
Total score of career adaptability	1.676	284	0.095	4.16647

**Table 3.** Correlation matrix among study variables

Variable	SQ	EE	DD	PA	OB	T	CO	CU	CA
SQ	1								
EE	-0.33**	1							
DD	-0.29**	0.53**	1						
PA	-0.20**	0.58**	0.59**	1					
OB	-0.34**	0.89**	0.80**	0.82**	1				
T	0.61**	-0.30**	-0.21**	-0.21**	-0.29**	1			
CO	0.86**	-0.23**	-0.22**	-0.15**	-0.25**	0.56**	1		
CU	0.88**	-0.35**	-0.29**	-0.21**	-0.34**	0.50**	0.52**	1	
CON	0.46**	-0.35**	-0.27**	-0.26**	-0.36**	0.51**	0.33**	0.47**	1
CA	0.89**	-0.39**	-0.32**	-0.26**	-0.40**	0.82**	0.76**	0.79**	0.74**

SQ: Sleep quality; EE: Emotional exhaustion; DD: Depersonalization disorder; PA: Personal adequacy; OB: Occupational burnout; T: Trust; CO: Control; CU: Curiosity; CON: Concern; CA: Career adaptability

Table 3 presents the correlation matrix among the study variables.

As can be seen in the table above, sleep quality and occupational burnout show a negative relationship; however, a significant positive relationship can be observed between sleep quality and career adaptability ( $P < 0.0500$ ).

In comparing female and male groups regarding career adaptability and occupational burnout, the results showed a significant difference between them in emotional exhaustion; females ( $M = 28.32$ ,  $SD = 14.06$ ) obtained larger mean than men ( $23.22 \pm 14.17$ ) [ $t(284) = -3.04$ ,  $P = 0.0030$ ] and no significant difference was observed among the components.

## Discussion

Sleep is one of the fundamental needs of humans that is necessary to maintain energy, appearance, and physical wellbeing and reduces anxiety and stress. However, any disorder in its natural process, in addition to creating psychological disorders, reduces efficiency.

The purpose of the current study was to investigate the relationship that may exist between sleep quality and career adaptability. The findings suggested a negative relationship between sleep quality and occupational burnout dimensions and also a significant positive relationship between sleep quality and career adaptability. Moreover, the results were indicative of a significant relationship between sleep, occupational burnout, and adaptability in people with low and people with high sleep quality. In explaining the findings, it can be said that the lack of good sleep during the day makes the person incapable of performing his career duties in full consciousness and due to this mood, different career errors may happen that can lead to customer or management dissatisfaction. If

frequent errors happen and dissatisfaction rate increases, the person will become incapable of performing his duties and this leads to occupational burnout. Additionally, adaptability and its components are considered as sources and abilities that allow people adapt their behavior to specific environmental and situational constraints. Good sleep can be defined as an indirect source that increases person's abilities in higher career adaptability. As pointed out, career adaptability has 4 components of trust, curiosity, concern, and control. Sleep has a deep impact on career control, because control includes intrapersonal self-discipline, conscience, awareness, organization, and determination in performing career duties. Attitude, conscience, and belief in personal responsibility lead people towards deliberate and informed career directions. Lack of career control is called career indecision that has a significant relationship with negative career consequences such as burnout.

The findings of this study confirm Azizi et al. who determined the role of sleep quality, morning-afternoon personality, and sensory processing in career performance prediction of nurses and concluded that sleep quality variables, morning-afternoon personality, and sensory sensitivity components can significantly predict career performance (26). Moreover, the findings are consistent with a study by Amini Manesh et al. on predicting drivers' drowsiness due to occupational burnout, sleep quality, and coping strategies and concluded that occupational burnout, sleep quality, and coping strategies can predict drowsiness (27).

Fatigue can cause consequences such as pessimism in burnout through emotional distance. This separates employees from career and cases inattention to customers. Dynamic personality without depression predicts career performance

and organizational citizenship behaviors (such as altruism, politeness, kindness, and masculinity) through the need for vitality and satisfaction. On the other hand, dynamic personality is positively related to innovation and professional initiative. Furthermore, innovation and professional initiative are related to career advancement and career satisfaction. Occupational burnout is the outcome of frequent and permanent career stress. Accordingly, the person in his workplace is under pressure due to internal and external factors and this pressure is continuous and finally, it leads to burnout. Occupational burnout is defined as lack of energy and happiness and the person with occupational burnout shows a boring feeling about career behavior.

The findings of a study by Kaveh et al. who investigated correlation between the mental burden of work and sleep quality with occupational burnout in faculty members of Kashan University of Medical Sciences, Kashan, Iran, revealed that there was no significant relationship between occupational burnout and mental burden of work and sleep quality, which was not consistent with this study (28). However, the findings of the current study are consistent with Ekstedt et al. who conducted a study on disrupted sleep and fatigue in occupational burnout (29) and Gillet et al. who investigated the relationship between occupational burnout and sleep among nurses (30).

In comparing occupational burnout among females and males, the findings of this study support Khodabakhsh and Mansuri (31) on the frequency of occupational burnout among male and female nurses and Pordelan et al. (32) on women suffering from higher career problems than men.

This study suffered from limitations since it was carried out in Tehran based on a cross-sectional design. Therefore, it is suggested to conduct a similar study in other cities.

## Conclusion

This study aimed to investigate the relationship between career adaptability and occupational burnout and compare these two variables among people with low and normal sleep.

According to the findings of this study, it can be said that sleep reduces occupational burnout and leads to higher career adaptability in employees.

Given the comparison of the variables based on gender, it found that was a significant difference between male and female groups only in

emotional burnout, and no significant difference was observed in other variables.

## Conflict of Interests

Authors have no conflict of interests.

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