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Evaluation of Desk Workers' Health Perceptions According to Their Leisure Time Attitudes and Participation

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Abstract

Occupational disadvantages of desk workers who are exposed for a long sitting periods during working hours cause them to live a sedentary lifestyle. A sedentary lifestyle negatively affects the health of desk workers in physical, physiological, social and psychological aspects. This study is to determine the relationship between leisure attitude, participation in leisure time and perception of health; to reveal the effects of leisure attitudes and leisure time participation on health perceptions. Relational scanning model was used in the research by including the desk workers working in public and private institutions (n= 434). A questionnaire form consisting of personal information form, health perception scale, leisure time participation scale and leisure attitude scale was used as data collection tools in the study. It was revealed that the leisure time attitudes of the participants did not have a statistically significant effect on health perception, but their leisure participation had a statistically significant effect on the perception of health. It was found that leisure time attitude alone did not have an effect on health perception, but the interaction of leisure time participation and leisure time participation mediator variable had a significant effect on health perception. As a result, it was revealed that the leisure time attitudes, leisure participation and health perceptions of the participants were above the average score. A positive correlation was found between leisure time attitude and leisure participation. In addition, it was concluded that leisure time attitude affects perception of health together with the leisure time participation tool variable. It is thought that the results of this descriptive research will constitute a reference to experimental studies.

Introduction:

Nowadays, many factors such as long shifts, rests with short breaks, income that does not satisfy the labor, competition in the work environment and many similar factors are important problems faced by employees (Avci, 2013). In addition, the inactive lifestyle seen in industrial societies, the overload caused by stress, and unfavorable working standards can negatively affect people's psychological, social and physical health (Solak, 2012). Dökmen (2003) revealed that working life is a factor affecting depression and the difficulties it contains affect the psychological health of individuals. As can be understood from this information, there are many personal and environmental

factors that negatively affect the health of employees today. One of these factors is the sedentary lifestyle. Living conditions of the present time limit people's range of motion. Today, many people have to work by sitting down during the day, and they spend most of their non-working time watching television or sitting in front of the computer for a long time (Akyol *et al.*, 2008). Occupational disadvantages of desk workers who are exposed to long sitting periods during working hours cause them to live a sedentary life. Working conditions together with a sedentary lifestyle negatively affect the physical, physiological, social and psychological health of desk employees.

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While people's health-related behaviors affect their health status, attitudes, beliefs, and perceptions play an active role in the development of these behaviors (Diamond *et al.*, 2007). The individual tends to act in line with the attitude developed in the direction of his perception. While perceptions turn into attitudes, these attitudes form the basis of desired behaviors in the future (Özdevecioglu, 2003). The perceptions of people about leisure time and attitudes developing in this direction will determine their participation in leisure activities. Leisure attitude (LA) and assessment skills of people is a phenomenon that starts at an early age and continues to change throughout adolescence, youth and adulthood (Hoff & Ellis, 1992). Individuals with high leisure perception and attitude take part in positive behavioral activities in order to spend their time effectively and efficiently (Aslan & Cansever, 2007). Participation in leisure activities (LP) will affect the mental and physical health and health perception of the individual. Frey *et al.* (1993) noted that the transformation of people's positive attitudes into positive behaviors is affected by many factors such as society, culture, economy and education. Furthermore, in connection with technological developments, working conditions will play a decisive role for time management, leisure time attitudes and behaviors, as well as health of individuals. In this case, it is thought that the health perception of desk workers will be affected by leisure attitudes and behavior. Although there have been studies on leisure time attitude, health perception and recreational participation, no studies investigating the relationship between these three phenomena have been found. This study would be the first in the field to study both the established model and the sample group constructed according to the model. It was aimed to determine the health perceptions, leisure attitudes and leisure time participation of desk workers; to determine the relationship between leisure attitude, participation in leisure time and perception of health and to reveal the effects of leisure attitudes and leisure time participation on health perceptions.

Methodology:

This study was conducted by taking the relational screening model into its core, which aims to determine the presence or degree of change between two or more variables among the general survey models in accordance with the aims of the study (Karasar, 2013). Participant population consisted of 179 women, 255 men and 434 voluntary desk workers in total, between the ages of 25-65 and working in public or private institutions in the city centre of Afyonkarahisar. Simple random sampling method was used for the sample selection which is one of the probabilistic sampling method (Table-1). The data were obtained with a questionnaire form consisting of a personal information form, "Leisure Attitude Scale (LAS)", "Leisure Time Participation Scale (LTPS)" and "Perception of Health Scale (PHS)".

Leisure Attitude Scale: in order to determine the participants' attitudes towards leisure time, "Leisure Attitude Scale" (LAS) developed by Raghep and Beard (1982) and adapted into Turkish by Akgül and Gürbüz (2010) was used. The scale consists of 36 items in 5-Likert type. It consists of 3 sub-dimensions, each containing 12 items, defined as "Cognitive", "Affective" and "Behavioral". Construct validity of Leisure Attitude Scale, explanatory factor analysis and confirmatory factor analysis were performed for the working sample group. The sub-dimensions that emerged as a result of these analyzes were determined as Affective (AF), Internal Cognitive (INTCOG), Exhibited Behavior (EXHB), Desired Behavior (DESB) and Extrinsic Cognitive (EXTRCOG). Cronbach's Alpha value was determined as 0.951 for this study.

Leisure Participation Scale: the Leisure Participation Questionnaire (LPQ) is a 5-point Likert-type scale, which was developed by Procidano and Heller (1983) and whose Turkish validity and reliability was tested by Sevil (2015). The scale consists of 27 items and 4 sub-dimensions. The sub-dimensions of the scale consisted of Recreational Activity (3 items), Cognitive Activity (9 items), Social Activity (9 items) and Productive Activity (6 items), respectively. In the study conducted by Sevil (2015), the total internal consistency coefficient of the Leisure Participation Scale was 0.706, while the internal consistency coefficient of the sub-dimensions of the scale was 0.724 for Recreational and Cognitive Activity, 0.856 for Productive Activity, and 0.658 for Social Activity.

In this study, construct validity of Leisure Participation Scale, explanatory factor analysis and confirmatory factor analysis were performed for the working sample group. The sub-dimensions that emerged as a result of these analyzes were determined as Recreational and Cognitive (RECCOG), Cultural Activity (CULACT), Pluralist Activity (PLUACT) and Productive Activity (PROACT), but they were used with the abbreviations given here during the study. Cronbach's Alpha value valid for this study was determined as 0.865.

Perception of Health Scale: the "Perception of Health Scale" (PHS), which was developed by Diamond *et al.*, (2007), is a five-point Likert type scale whose original language is English. Its Turkish validity and reliability were made by Kadioğlu & Yildiz (2012). The scale consists of 15 items and four sub-dimensions. Positive statements are items 1, 5, 9, 10, 11 and 14, negative statements are items 2, 3, 4, 6, 7, 8, 12, 13, and 15. Positive statements are scored as "Strongly agree = 5", "Agree = 4", "Undecided = 3", "Disagree = 2", "Totally Disagree = 1". Negative statements are scored inversely. The scale has four sub-dimensions: "Control Center", "Self-Awareness", "Precision" and "Importance of Health". Items 2, 3, 4, 12, and 13 of the scale depending on the control centre dimension, items 6, 7, 8, and 15 on the Precision dimension, items 1, 9, and 11 on the Importance of Health dimension and items 5, 10, 14 provide information

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on the Self Awareness dimension. In this study, the structure validity of the Perception of Health Scale, explanatory factor analysis and confirmatory factor analysis was completed for the sample group working at the desk. The sub-dimensions that emerged as a result of these analyzes were determined as Precision dimension (PREDIM), Control Center (CC) and Importance of Health (IMPHEL), and were used in the continuation of the study with the abbreviations given here. Cronbach's Alpha value valid for this study was determined as 0.576.

Data analysis: within the scope of the study, a questionnaire containing demographic questions and scales was applied to 515 people and relevant data were collected. However, after the erroneous questionnaire forms were removed, the data were analyzed over 434 valid questionnaires. SPSS (Statistical Package for the Social Sciences) package program and LISREL (Linear Structural Relations) package programs were used in the analysis of the obtained data. It was determined that the skewness and kurtosis coefficients of the scores of the sample group of desk workers from PHS, LPQ and LAS were between -1.5 and +1.5, and it was observed that the data were distributed normally (Tabachnick & Fidell, 2013). Pearson correlation analysis was used to determine the relationship between scales, and Explanatory Factor Analysis (EFA) was used to determine the sub-dimensions of the relevant scales. Confirmatory Factor Analysis (CFA) was conducted to verify the relationships between sub-dimensions. Finally, Structural Equation Modeling (SEM) was used to model the relationships between scales. Structural Equation Modeling (SEM) is a statistical modelling technique and reveals the cause-effect relationship between the measured and unmeasurable variables (Sehribanoglu, 2005).

Results :

Results are summerized in Table 1 to 5 and figure 1 & 2.

While Table-2 is analyzed that although the relationships between PH and LA of desk workers are not statistically significant, they are in a weak negative relationship, on the other hand, there is a statistically significant positive weak relationship between these individuals and LA.

Figure-1 shows the result of SEM established between the LA and LTP of the desk workers and the Perceptions of Health, different from the models previously established for the sub-dimensions of Health Perception. It is seen that the most effective variable on the LTPs of the desk workers is the Recreational Cognitive (RECCOG) variable with a coefficient of 0.93, and the Affective (AFF) variable with a coefficient of 0.97 on their LA. The Control Center (CC) variable shows itself as the most effective variable on health perceptions with an effect of 0.99.

A 1 unit increase in the LTP of the desk workers causes a decrease of 0.21 on their PH, as can be seen from Table 3,

which was found to be statistically significant and the hypothesis was confirmed. Apart from this, a one-unit increase in the LA of the employees causes a decrease of 0.04 on their PH, but when Table 3 is examined, this decrease was not found to be statistically significant.

Table-1: Distribution of Participants as per their Demographic Characteristics and Descriptive Statistics of LA, LTP and PH

Variable		Freq.	%	LA $\bar{x} \pm ss$	LTP $\bar{x} \pm ss$	PH $\bar{x} \pm ss$
Sex	Fem.	179	41.2	3.811 $\pm$ 0.53	23.395 $\pm$ 0.597	3.235 $\pm$ 0.502
	Male	255	58.8	3.806 $\pm$ 0.574	3.192 $\pm$ 0.676	3.214 $\pm$ 0.480
Age	22-26	45	10.4	3.834 $\pm$ 0.555	3.438 $\pm$ 0.558	3.272 $\pm$ 0.616
	27-31	86	19.8	3.886 $\pm$ 0.565	3.330 $\pm$ 0.614	3.216 $\pm$ 0.509
	32-36	84	19.4	3.816 $\pm$ 0.452	3.216 $\pm$ 0.666	3.231 $\pm$ 0.399
	37-41	71	16.4	3.818 $\pm$ 0.517	3.272 $\pm$ 0.656	3.169 $\pm$ 0.479
	42-46	60	13.8	3.774 $\pm$ 0.541	3.243 $\pm$ 0.647	3.326 $\pm$ 0.517
	47-51	37	8.5	3.742 $\pm$ 0.556	3.167 $\pm$ 0.694	3.161 $\pm$ 0.475
	52+	40	9.2	3.571 $\pm$ 0.757	3.055 $\pm$ 0.638	3.231 $\pm$ 0.454
Missing		11	2.5			
Marital Status	Single	136	31.3	3.803 $\pm$ 0.575	3.360 $\pm$ 0.632	3.232 $\pm$ 0.518
	Married	286	65.9	3.803 $\pm$ 0.558	3.207 $\pm$ 0.647	3.220 $\pm$ 0.463
Missing		12	2.8			
Perceived Income	V.Low	29	6.7	3.726 $\pm$ 0.636	3.440 $\pm$ 0.692	3.232 $\pm$ 0.564
	Low	75	17.3	3.821 $\pm$ 0.573	3.216 $\pm$ 0.6309	3.118 $\pm$ 0.460
	Average	205	47.2	3.848 $\pm$ 0.550	3.295 $\pm$ 0.629	3.260 $\pm$ 0.489
	Good	96	22.1	3.713 $\pm$ 0.515	3.127 $\pm$ 0.639	3.277 $\pm$ 0.479
	V. Good	12	2.8	3.711 $\pm$ 0.741	3.377 $\pm$ 0.841	3.151 $\pm$ 0.556
Missing		17	3.9			
Smoking	Yes	186	42.9	3.857 $\pm$ 0.520	3.268 $\pm$ 0.662	3.190 $\pm$ 0.463
	No	240	55.3	3.758 $\pm$ 0.580	3.263 $\pm$ 0.625	3.258 $\pm$ 0.502
Missing		8	1.8			
Institution Type	State	335	77.2	3.796 $\pm$ 0.544	3.261 $\pm$ 0.664	3.260 $\pm$ 0.487
	Private	61	14.1	3.900 $\pm$ 0.556	3.300 $\pm$ 0.590	3.132 $\pm$ 0.536
Missing		38	8.8			
Health History	No	371	85.5	3.801 $\pm$ 0.538	3.269 $\pm$ 0.642	3.226 $\pm$ 0.497
	Yes	60	13.8	3.827 $\pm$ 0.650	3.340 $\pm$ 0.699	3.201 $\pm$ 0.448
Missing		8	1.8			
Regular Exercise	Yes	200	46.1	3.879 $\pm$ 0.505	3.412 $\pm$ 0.622	3.231 $\pm$ 0.511
	No	228	52.5	3.736 $\pm$ 0.592	3.153 $\pm$ 0.653	3.218 $\pm$ 0.469
Missing		6	1.4			
BMI	Weak	14	3.2	3.927 $\pm$ 0.638	3.401 $\pm$ 0.780	3.172 $\pm$ 0.532
	Normal	167	38.5	3.847 $\pm$ 0.495	3.333 $\pm$ 0.651	3.215 $\pm$ 0.492
	Over	143	32.9	3.809 $\pm$ 0.602	3.263 $\pm$ 0.690	3.218 $\pm$ 0.515
	Obese	65	15.0	3.714 $\pm$ 0.585	3.156 $\pm$ 0.591	3.226 $\pm$ 0.443
Missing		32	7.4			

Table-2: Correlations between PH, LTP and LA Variables

Variable	LA	LTP	Variable	LA	LTP
LTP	0.195*	1	PH	-0.043	-0.068

**PH: Perception of Health, LTP: Leisure Time Participation, LA: Leisure Attitude

Table-3: Standardized Parameter Estimates (SPE), t Statistics and Hypotheses of the Established Model for LTP, LA and PH

Hypotheses	Paths	SPE	t statistics	Result
H1	(LTP)→(PH)	-0.21	-7.43	Verified
H2	(LA)→(PH)	-0.024	-1.50	Not Verified

As per Table-5, it could be said that the model is a suitable model according to all criteria. Also, the values of $\chi^2(46) = 127.26$; $\chi^2/df = 2.766 < 3$ show that it is a suitable model.

Figure-2: SEM Result Regarding the Relationship with the Regulatory Effect of LTP between LA and PH

In Figure 2, SEM results regarding the regulatory effect of LTP between LA and PH for desk workers are shown. It is seen that the most effective variable on the LTPs of the desk workers is the RECCOG variable with a coefficient of 0.93, and the variable of AFF with a coefficient of 0.97 on the LAs. On the other hand, CC variable shows itself as the most effective variable with a coefficient of 0.60 on Perceptions of Health.

A 1-unit increase in the LAs of desk workers causes a 0.13-unit increase in their PH's and a 0.11-unit increase on their LTP, while one-unit increase in their LTP causes a 0.58-percent decrease on their PH. As can be seen from Table-4, the relationship between LA and LTP and the relationship between LA and PH were found to be statistically significant and the related hypotheses were confirmed, while the relationship between LA and PH was not statistically significant. As a result of the findings, it is possible to say that LTP has a significant regulatory effect between LA and PH.

Table-5: Values of Compliance Criteria for the Established YEM Models

Compli. Perfect Criteria Match	Acceptable Match	KM	KES	SON	PH	EM
RMSEA	0.05 < RMSEA < 0.10	0.043	0.051	0.048	0.06	
NFI	0.95 < NFI = 1	0.96	0.95	0.95	0.94	
NNFI	0.95 < NNFI = 0.97	0.97	0.96	0.97	0.95	
CFI	0.95 < CFI = 0.97	0.98	0.97	0.98	0.96	
SRMR	0.05 < SRMR < 0.10	0.043	0.043	0.045	0.066	
GFI	0.90 < GFI = 0.95	0.96	0.96	0.96	0.95	
AGFI	0.85 < AGFI = 0.90	0.94	0.94	0.94	0.92	

(RMSEA: Root Mean Square Error of Approximation, NFI: Normed Fit Index, NNFI: Non-Normed Fit Index, CFI: Comparative Fit Index, SRMR: Standardized Root Mean Square Residual, GFI: Goodness of Fit Index, AGFI: Adjusted Goodness of Fit Index)

(Resource: Schermelleh-Engel and Moosbrugger, 2003).

Apart from this, when the values given in Table 5 are examined in order to determine the statistical significance of the SEM given in Figure 2, it can be said that the model is a suitable model according to all criteria. Also, the values of $\chi^2(46) = 131.89$; $\chi^2 / sd = 2.867 < 3$ are other indicators which show that it is a suitable model.

Discussion

Leisure Time Participation of desk workers shown a statistically significant and negative effect on Health Perceptions. This negative result makes us think that individuals working at a desk are affected by their upbringing, beliefs in their cultural and social environment and a number of other facts. In addition, the fact that the desk workers who participate in recreational activities are individuals with a low perception of health suggests that negative health perceptions create an inclination toward these activities and these individuals participate in leisure time to get out of this perception. Stress negatively affects health and causes people to perceive their health negatively (Kelestimur, 2015). Therefore, it is thought that desk workers may have a low perception of health and tend to direct themselves to recreational activities. In the literature, it is seen that the stress and burnout of work-life are tried to be eliminated by recreational activities (Bauman *et al.*, 2016; Mokaya & Gitari 2012). In addition, Sudholz *et al.*, (2018) states that desk workers are uncomfortable with their sitting times and this affects their health beliefs. It is seen that the effect of Leisure Attitude on the Perception of Health is not statistically significant. In addition, it was found that Leisure Attitude negatively affected the perception of health. The direct effect of the Leisure Attitudes of desk workers on Health Perceptions is negative, although it is not statistically significant. When the indirect effects of the Employees' Leisure Attitudes on Health Perceptions are examined; it is seen that there is a significant and positive relationship between the Leisure Attitudes of the individuals and their Leisure Time Participation. A significant and negative relationship was also found between Leisure Participation and Perception of Health. It can be said that the leisure time participation of individuals plays a significant regulatory variable between their Leisure Attitude and Health perceptions. As can be seen in Fig.-2, when employees' leisure time participation is considered as a regulatory variable, different from the models given before, it is seen that Recreational and Cognitive participation is the most effective variable on the leisure time participation of employees. While the Leisure Attitudes of the desk workers do not have a direct effect on their Health Perceptions, these attitudes have a significant effect on the Perceptions of Health when taken together with their behaviours. The result that attitudes affect behaviour is consistent with the literature (Alport, 1935;

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Fazio & Zanna, 1978; Kagitçibasi, 1983; Lee, 2009).

Conclusion and Recommendation:

A positive relationship between leisure attitude and participation in leisure activities was revealed. It was found that the relationship between leisure attitude and perception of health was not significant, but there was a significant regulatory effect of health perception in the relationship between leisure attitude and health perception. In line with the results obtained in the study, support should be provided with seminars and training that will ensure the positive development of time management, leisure attitudes and behaviour for Desk workers. Suitable leisure activity participation programs should be prepared for desk employees and necessary support should be given to ensure their participation in leisure activities. Information about short-term in-office activity programs for desk workers who are exposed to long sitting periods should be given and sample exercise programs should be prepared. In addition, it is recommended to include experimental or longitudinal studies in order to determine the status of the existing literature in the field, to guide for similar studies and to examine the current situation in the process. Since the results obtained in this study are within-sample limitation, it is recommended to increase the sample numbers and differences for generalized results.

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