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Is it a Health Issue or an Effort to Escape from the Problem? A Scale Development Study on the Concept of Presenteeism

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Abstract: The concept of Presenteeism first emerged due to the economic difficulties experienced in the 1970s and 1980s, and during this period, employees' perceptions of job insecurity caused presenteeism. Presenteeism was evaluated in the 2000s in terms of productivity losses resulting from health problems and was associated with the individual continuing to work despite being sick and unproductive. In recent years, this concept has been associated with health, personal and organizational reasons. Due to different definitions of presenteeism, the various scales used to measure the concept do not fully meet the current definitions. In this context, it is aimed to develop a measurement tool that will meet the current definition of presenteeism. During the development of the presenteeism scale, a scale was created due to the literature review and focus group discussions. This scale was delivered to 252 people, with valid returns of 200. Exploratory factor analysis was conducted with the data obtained. As a result of this analysis, a presenteeism scale consisting of 4 dimensions and 18 items was developed. Following the exploratory factor analysis, a confirmatory factor analysis was conducted with the data obtained from 342 white-collar employees to verify the suitability of the scale to the theoretical structure. As a result, a presenteeism scale consisting of four dimensions was developed.

Keywords: Presenteeism; Scale development; Productivity, Presenteeism phenomenon; Preenteeism scale

1. Introduction

Today, organizations give more importance to their employees' mental and physical health and make measurements to reveal the costs of health problems that affect productivity. Many of these metrics are associated with lost productivity on sick and absent work days. Organizations develop compulsory attendance policies to reduce the costs of employees not coming to work when sick. Still, they overlook that this situation causes presenteeism. In a last study carried out in 27 EU member countries, the costs of presenteeism in organizations were noticed by businesses and efforts to prevent presenteeism were developed. According to a research report covering some of the EU countries, 50%-70% of the employees engage in presenteeism behavior. A study conducted in Sweden in the 1990s stated that presenteeism behavior was observed in half of the employees. Studies in the UK suggest that presenteeism is more costly than absenteeism (Eurofound, 2010). Research shows that presenteeism negatively affects employee health, morale, and productivity in the long run. For this reason employees need to rest and be in good condition outside work. A study conducted by the Center for Social Policy concluded that the rate of employees who continue to work while sick is significantly higher than the rate of absenteeism. In addition, this study determined that 72% of productivity losses in enterprises were due to presenteeism and 28% to absenteeism. Considering the annual loss of productivity, 180 billion dollars of productivity loss is due to presenteeism (Levin-Epstein, 2005). Examining the subject of presenteeism becomes

an essential and valuable issue due to productivity losses and its effects on the employee.

The concept of presenteeism suggests that individuals work long hours or appear to be working because of the workplace pressures employees experience (Cooper, 1998). This concept is defined as the decrease in productivity and work quality due to the individual's low capacity at work, resulting from health (Aronsson et al., 2000; Dew et al., 2005), individual -financial, over-commitment, personality, age- (Aronsson & Gustafsson, 2005; Hansen & Andersen, 2008) and organizational -stressful work and environment, job insecurity, obligation to continue- (Bergström et al., 2009; Biron et al., 2006) problems. In the literature, there are scales developed to measure the concept of presenteeism that only consider health problems. However, presenteeism is not only a concept associated with health problems but also covers individual and organizational problems. The development of measurement tools focusing only on health problems in the literature may cause a gap in the measurement of the concept. In this direction, the aim of the study has been determined as the development of a measurement tool that can determine the individual and organizational problems of the employee and the health problems and reveal the general level of presenteeism. Therefore, it is thought that the developed measurement tool can help define the problems experienced by the employees and facilitate the understanding of the problems that cause productivity losses in organizations.

2. Literature Review

Organizations' most important source of competitive advantage for productivity is their employees. Presenteeism is one of the concepts we encounter when the employee is unproductive. The Cambridge dictionary uses the word presenteeism to mean staying at work for extended periods or going to work while sick to prove yourself essential to the employer and hard work (dictionary.cambridge.org). The reason for the emergence of the concept of presenteeism is the closure of businesses because of the economic depression in the 1930s, their shrinkage, the reduction of the number of employees, the restriction of employment contracts, and the reduction of job security (Aronsson et al., 2000). In this period, when layoffs increased, those who continued to work in the enterprise experienced the fear of being fired at any moment. Employees who fear losing their jobs have increased perceptions of job insecurity, and the presenteeism problem has emerged (Cooper, 1998). In the literature, the concept of presenteeism was first used by Mark Twain in 1892 and was expressed as the opposite of absenteeism (Johns, 2010).

On the other hand, presenteeism is neither the opposite of absenteeism nor the counterpart of inefficiency in the employee's workplace. The main reason is that employees are affected by organizational and individual factors, resulting in a decrease in their focus or productivity. Cooper (1998), who defined the concept for the first time, expressed presenteeism as employees spending long hours at work due to the pressures they see in their organization and wanting to look like they are working for their managers/business owners.

Presenteeism began to be expressed as a health problem for employees at the beginning of the 21st century. Aronsson et al. (2000) voiced presenteeism as the employee's being sick and continuing to work despite being ill. In another definition, presenteeism is expressed as the productivity losses that occur as a result of the employee having difficulty focusing on their work due to some problems, seeming to be working, and not being able to perform their job at total capacity (Johns, 2010; Levin-Epstein, 2005).

The concept has been defined many times in the literature, and references have been made to different aspects. One definition emphasizes being physically present at the workplace but not being productive and the decrease in job quality (Bergström et al., 2009; D'Abate & Eddy, 2007; Demerouti et al., 2009; Hemp, 2004; Koopman et al., 2002), while another definition emphasizes the individual's organizational It refers to the fact that he is at work even though he is sick due to reasons or personal problems (Akdoğan et al., 2018; Aronsson & Gustafsson, 2005; Bierla et al., 2011; Biron et al., 2006; Caverley et al., 2007; Cullen & McLaughlin, 2006; Dewa & Lin, 2000; Goetzel et al., 2004; Hansen & Andersen, 2008; Johns, 2010; MacGregor et al., 2008; McGregor et al., 2014; Yılmaz & Ekici, 2003). In some definitions, the concept is the loss of productivity caused by the employees using some of their time for their work, even though they are at the workplace (D'Abate & Eddy, 2007). In the mainly expressed definitions, the emphasis is placed on the fact that, apart from health problems, the individual issues of employees (elderly and child care, problems with spouse, etc.) negatively affect their performance (Aronsson & Gustafsson, 2005; Cooper & Lu, 2016; Cullen & McLaughlin, 2006; Hellgren et al., 2010; Koopman et al., 2002; Milano, 2005) and being physically at work but not being able to focus on work (Gilbreath & Karimi, 2012). It is seen that the common point of all these definitions is health problems.

Today, the concept has been associated with organizational and personal factors and health problems. Organizational factors can be listed as the obligation of employees to continue to work, lack of resources, time pressure, stressful work environment, and job insecurity (Bergström et al., 2009; Cullen & McLaughlin, 2006; Edington & Schultz, 2008; Ferreira et al., 2019; McGregor et al., 2014). Personal factors are the individual's financial problems, excessive commitment to work, age, ignoring an existing illness or disease (Hansen & Andersen, 2008), gender and work-life balance (McIntosh, 2003), and stress level (MacGregor et al., 2008), motivation (Collins & Cartwright, 2012). As can be seen, presenteeism has a multidimensional structure caused

not only by health problems but also by personal and organizational factors. It is vital in terms of literature to reveal this structure.

The systematic review study on presenteeism states that there are only three measurement tools on the subject (Ospina et al., 2015). It was emphasized that the measurement tools specified in the study did not include adequate psychometric measurements and that this issue should be addressed in future studies. The Stanford Presenteeism Scale is the most widely used measurement tool in the literature to measure productivity losses caused by presenteeism. This scale consists of six statements and explains the presenteeism based on health-related reasons only. This measurement tool does not assess individual and organizational causes. The second measurement tool is The Endicott Work Productivity Scale (EWPS). This scale measures presenteeism based on health problems only. The scale is a self-report questionnaire designed to measure the effects of health problems (depressive disorders, etc.) on job performance (Endicott & Nee, 1997). Evaluation is based on the total score. The total score identifies those who have difficulty doing work due to a particular disease and reveals the change in work productivity (Uguz et al., 2004). The Health and Work Questionnaire (HWQ) consists of 24 items that evaluate the quality of work, the amount of work, and the efficiency of the work. The survey measures the quality, quantity, and productivity of the work done by the employee, his supervisors, and colleagues on scales ranging from 1 to 10. Presenteeism and productivity loss scales were developed by Vänni et al. (2018). This measurement tool, like the Stanford Presenteeism scale, only measures productivity losses resulting from health problems of the concept and does not contain statements that include individual and organizational issues that cause not being present at work today.

Presenteeism has been frequently discussed in studies, and some assessment tools have been developed for its measurement. However, measurement tools mainly focus on the measurement of health problems. On the other hand, it has been seen that it is insufficient to explain presenteeism only with health problems, and individual and organizational issues also cause presenteeism. In this direction, a scale study was carried out with a method consisting of three stages. In the first stage, focus group discussions were held. Then, exploratory and confirmatory factor analyses were conducted.

3. Methodology

Study 1 - Scale Development Process

We used grounded theory, one of the mixed methods studies, for scale development. This method enables data collection by allowing qualitative and quantitative patterns to be used together (Creswell & Clark, 2007; Strauss & Corbin, 1997; Walker & Myrick, 2006; Yıldırım & Şimşek, 2016). The process was supported primarily by focus group interviews and survey studies in developing the presenteeism scale.

We applied the method Devellis (2017) suggested during the scale development process. This method generates research questions, focus group interviews, qualitative data analysis, pilot application, and quantitative data analysis (Krueger & Casey, 2000). In the first stage, the researchers defined the concept's structure, and the limits of the concept were determined. While determining the boundaries of the concept, the theoretical dimension to guide the researchers was considered. For this purpose, priority literature research was conducted. At this stage, it was decided which subjects would be evaluated. In the relevant literature, it is seen that the studies on presenteeism are primarily associated with health (Allen et al., 2018; Bergström et al., 2009; Collins et al., 2005; Ferreira & Martinez, 2012; Lerner & Henke, 2008; MacGregor et al., 2008; McLearn et al., 2010; Warren, 2009).

On the other hand, in some studies, the relationship of presenteeism with health conditions (Collins et al., 2005; Goetzel et al., 2004; Kessler & Stang, 2006; Wang et al., 2003) work environment (leadership, social support, attendance requirement) (Bergström et al., 2009; Cullen & McLaughlin, 2006; Edington & Schultz, 2008) and personal factors (personality, emotional intelligence, etc.) have been stated (Aronsson & Gustafsson, 2005; Cooper & Lu, 2016; McGregor et al., 2014). After determining the boundaries of the concept and examining the theoretical background, the researchers decided to determine whether the measurement tool measures a general situation or a specific feature (Devellis, 2017).

In this context, it was aimed to measure the available presenteeism levels of the employees. The focus group interviews were carried out. The number of participants in each focus group discussion varies between 6-8. According to Kitzinger & Farquhar (1999), 4-9 participants are sufficient for focus group discussions. It is emphasized that the aim of the research is essential when choosing the people to be invited to focus group interviews (Kitzinger & Farquhar, 1999). The people invited for the interview were selected by considering factors such as the purpose of the research and the diversity or similarity of the social structure (Yıldırım & Şimşek, 2016). The participants of the focus group discussions, 12 participants with the same education level and social level with 8 participants from the same status and department, were invited to three different focus group discussions. It was aimed to obtain in-depth information about the causes of presenteeism from the interviewees through focus group interviews. At this point, focus group interview questions were prepared based on the literature. Interview questions were evaluated with two expert lecturers, and an interview form consisting of six questions was created.

It is appropriate to ask 5-7 questions to the participants in focus group interviews. As a result, three focus group interviews were conducted with twenty people with similar education levels and statuses. The interviews were carried out in a structured way, and the interview was audio-recorded with the participant's permission. In the last stage, the audio recordings were deciphered, the notes taken during the interview were arranged, and content analysis was made.

The most appropriate method used for analysis in qualitative research is expressed content analysis (Kitzinger & Farquhar, 1999). During the content analysis, key themes were determined, data were organized, and meaningful data were selected and coded. Coding According to Miles & Huberman (1994), if two researchers code using the same data set, a shared vision can be reached regarding the definitions and determining which code the data belongs to. The main point of this technique is that encoders use similar codes for similar data. The coding reliability can be calculated when the number of regulations the encoders agree with is divided by the number of rules that cannot be approved (Arastaman et al., 2018). In our study, two researchers coded the data, and it was determined that a consensus was reached between the coders by using similar codes. With this aspect, it is possible to state that the coding is highly reliable. Relationships between coded data and themes were determined (Yıldırım & Şimşek, 2016).

Table 1. Scale development procedure

Stage 1. Conceptual Model Development	1. Conceptualization of structure 2. Development of the conceptual model	– Literature search – Conceptualization of dimensionality – Determining the boundaries of the concept – Conversations with experts	Purposive sampling n=20
Stage 2. Item Development	3. Creating focus group interview questions 4. Item scale design 5. Evaluation item scale for content validity	– Creation and development of the first question pool based on the conceptual model – Application of 6-item focus group interview questions to three different groups	Purposive sampling n=20
Stage 3. Scale Development	6. Item pool for the scale	– Content analysis of focus group interviews – Evaluation of content validity – Creation of item pool as a result of content analysis – Finalizing the questions	
Stage 4. Testing the Scale	7. Analysis of the first scale	– Pilot test: Item analysis, validity (construct, concurrent) and reliability (Cronbach alpha)	Pilot group sample n=200
Stage 5. Termination of the Scale	8. Scale verification 9. Applying generalizability	- CFA (confirmatory factor analysis)	Main group sample n=252

Study 2 - Testing the Scale

After all these processes, the items were written (Table 1). While writing the items, it was tried to avoid the affirmation or acceptance bias of the respondents. Because respondents tend to give primarily positive answers (Büyüköztürk, 2005) while creating the items, it is necessary to decide what the way of responding to the measurement tool will be (Devellis, 2017). In this context, it was decided to use a 6-point Likert-type scale, one of the item forms, while creating the item pool. After the measurement method was determined, experts evaluated the statements to increase the content validity of the fourth stage scale (Corbin & Strauss, 1990; Devellis, 2017). The scale took its final form with the 18 items obtained because of the research, and the sampling stage was started. In this direction, a questionnaire form was sent to the white-collar employees by online method via convenience sampling. Participants were asked to mark the statements according to their level of agreement with the statements measuring their presenteeism level with a 6-point Likert-type scale ranging from "Strongly Disagree (1)" to "Strongly Agree (6)". The questionnaire was sent to 252 employees, and the valid number of questionnaires was determined as 200. The data of 200 employees who answered the questionnaire were included in the analysis. Regarding gender distribution of the participants, 93 (46.5%) were male, and 107 (53.5%) were female. While 97 (48.5%) were single, 103 (51.5%) were married. 64 (32%) were between 20-30 years old, 91 (45.5%) were between 30-40 years old, and 45 (22.5%) were over 40 years old. 27 (8.0%) are high school graduates, 96 (48%) are undergraduate graduates, and 88 (44%) are graduate graduates. The data collected at the end of the study were analyzed with the SPSS program.

Study 3 - Exploratory Factor Analysis

Before testing the construct validity of the scale, the KMO (Kaiser-Meyer-Olkin) coefficient and Barlett

Sphericity test were used to determine whether the data were suitable for factor analysis (Gürbüz & Şahin, 2016). As a result of this analysis, the KMO value was 0.933, and the Barlett Sphericity test x^2 value was found to be 2457.001 (df = 153, $p < 0.001$). These values can be evaluated as good and excellent in social sciences (Sipahi et al., 2008). In addition, the results of the Barlett Sphericity test show that the chi-square value is significant. Principal Component Analysis and Varimax Rotation determined the scale's factor structure. The lower cut-off point was determined as 0.45 to determine the factor load value. 0.45 and above is a good measure for selection (Büyüköztürk, 2007). There was no limit to the number of factors in the analysis. Eigenvalues and percentages of variance were used to determine the factor numbers of the scale and to reveal the relationship between the items. The eigenvalue is vital for deciding factor numbers. Factors with a factor eigenvalue above one are considered when determining the factor number of the scale (Gürbüz & Şahin, 2016). As a result of the analysis, the eigenvalues of the factors Focusing on Work were calculated as 4.39 (variance 24.41%), Coping with Stress 3.16 (variance 17.57%), Social Loafing 2.71 (variance 15.10%) and Performance 2.59 (variance 14.43%). Therefore, the total variance explanation rate of the factors was found to be 71.54%.

After the scale's factor structure was created, the factor loads of the items belonging to the factors obtained were determined. In the factorization phase, the items belonging to each factor are determined, and it is crucial for the selection that the factor loads of these items are high. Another critical issue in the factorization phase is that a factor consists of at least three items (Gürbüz & Şahin, 2016). Factor item loadings and total score correlations of items obtained from Varimax rotation are as follows.

Table 2. Factor loadings and item correlations

Factors and Substances	Factor Load	Common Variance	Item-Total Correlations
Focus on work (6 items)			
Eigenvalue: 4.395 Variance Explained: 24.419%			
5. I did not enjoy my job.	0.869	0.852	0.734
4. I did not feel energetic enough to finish my job.	0.829	0.829	0.766
6. I had difficulty concentrating while working	0.779	0.762	0.749
3. My interest in work has decreased.	0.694	0.714	0.701
14. I was able to finish my job taking longer than usual.	0.620	0.728	0.754
7. While working I started to think about my problem (health. personal. organizational).	0.493	0.597	0.712
Coping with Stress (4 Items)			
Eigenvalue: 3.164 Variance Explained: 17.577%			
11. I was worried about having problems with my colleagues (managers, peers, subordinates, etc.).	0.820	0.770	0.622
12. I was worried that I would not be able to finish my work on time.	0.778	0.746	0.642
10. I could not cope with the stress of my job.	0.652	0.643	0.657
13. I felt nervous while working.	0.650	0.726	0.675
Social loafing (4 Items)			
Eigenvalue: 2.719 Variance Explained: 15.108%			
1. I spent time at work dealing with social media, phone, internet, etc.	0.814	0.713	0.468
2. I've been at work just to save the day/ Pass the day.	0.771	0.761	0.641
8. I looked for ways to escape from work during the day.	0.667	0.764	0.738
9. I took breaks while working.	0.545	0.683	0.735
Performance (4 Items)			
Eigenvalue: 2.598 Variance Explained: 14.435%			
17. I could not complete my daily work tasks.	0.741	0.768	0.698
15. I did some of the things I had to do incompletely or incorrectly.	0.662	0.680	0.650
18. I arrived later than scheduled working hours.	0.651	0.449	0.309
16. I made less effort every day than I did.	0.609	0.691	0.662

It shows that the factor loads of 18 items are above 0.45, and the factor values vary between 0.493 and 0.869. These values show that the factor loadings of all items are sufficient. Furthermore, the total correlations of the items are over 0.30. Therefore, items above this value are considered acceptable and good (Table 2). Evaluation of the items is one of the essential steps in the scale development phase. At this stage, the performance of the items is evaluated. The presence of highly correlated items indicates item reliability, while the reliability of the items indicates that the scale containing these items is highly reliable (DeVellis & Thorpe, 2021). In order to evaluate the reliability of the scale, the correlation between Cronbach alpha internal consistency coefficient, item-total score correlation, and scale dimensions was examined. Analysis results are given below.After the factor analysis, Cronbach alpha values were calculated to determine the reliability of the scale and its dimensions. The Cronbach alpha internal consistency coefficients for the scale and its dimensions are as follows.

Table 3. Reliability values for presenteeism scale and dimensions

Factors	(α)	Mean and ss		Correlations			
		x̄	σ	1	2	3	4
Presenteeism	0.940	3.07	1.48				
Focus on work (1)	0.917	3.64	1.64	1			
Coping with stress (2)	0.851	2.97	1.46	0.705**	1		
Social loafing (3)	0.847	2.92	1.49	0.675**	0.570**	1	
Performance (4)	0.776	3.07	1.48	0.642**	0.575**	0.615**	1
					**p<0.01		

The findings show that the Cronbach alpha values of the Presenteeism Scale are reliable in terms of social sciences in Table 3 (Devellis & Thorpe, 2021; Kalaycı, 2009).

The relationships between the presenteeism scale and its dimensions are shown in Table 6. The averages of the Presenteeism scale and its dimensions are as follows: 3.07 (sd=1.48), Focusing on Work 3.64 (sd=1.64), Coping with Stress 2.97 (sd= 1.46), Social Loafing 2.92 (sd=) 1.49 and Performance was found to be 3.07 (sd = 1.48). The items were evaluated with a 6-point Likert Type scale.

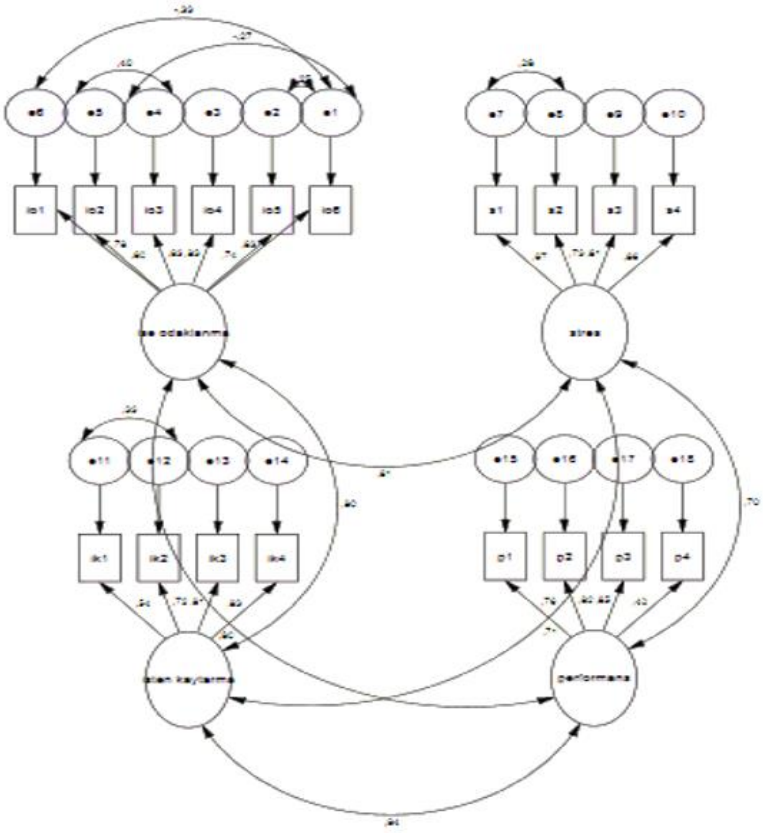

Figure 1. First-level multi-factor CFA model
Note: This figure was prepared by the authors

Confirmatory factor analysis (Figure 1). In developing a new measurement tool, CFA is also performed after exploratory factor analysis to verify the scale's consistency with the theoretical structure (Hinkin, 1995). In addition, CFA aims to reveal the construct validity of the developed scale (Gürbüz & Şahin, 2016). CFA can also be used to verify the items in the same group and predict relationship patterns (Devellis, 2017).

Data were collected from 342 white-collar employees who fully responded to the presenteeism scale for CFA. In addition, the data obtained from 342 white-collar employees were subjected to first-level multi-factor confirmatory factor analysis with the IBM SPSS AMOS 18 program. First-level multi-factor confirmatory factor analysis is a model in which observable variables consist of more than one factor. Also, similarly observed variables are gathered under the same factors (Gürbüz & Şahin, 2016). According to this model, the scale consists of four factors: focus on work, coping with stress, social loafing, and performance.

Generally, GFI, CFI, RMSEA, and IFI values are considered to verify the model fit. The values obtained from the confirmatory factor analysis are given below.

Table 4. Fit indices for confirmatory factor analysis

Index	Compatible Values	Acceptable Values	Values
x^2	p>0.05		414.034
X^2/df	<3	3<(x^2/df)<5	3.313
RMSEA	<0.05	<0.08	0.08
NFI	>0.95	>0.90	0.907
CFI	>0.95	>0.90	0.934
GFI	>0.95	>0.90	0.88
AGFI	>0.95	>0.90	0.834

The model (Table 4) was found to be significant at the p=0.000 level. Considering the fit indices of the model, x^2/df value is between 3 and 5. There is an acceptable fit, the GFI value is close to 0.90 and an acceptable value, the CFI value above 0.90 and 0.934 indicates the goodness of fit, and the RMSEA value being .08 within the determined limits also shows that there is a fit. The findings show that the model is compatible with the data, and the values are acceptable.

As a result of the analysis, the construct validity of the four-factor presenteeism scale obtained by exploratory factor analysis was confirmed by confirmatory factor analysis. Confirmation of the scale with confirmatory factor analysis shows that the scale is valid (Kline, 1998).

CFA regression. The significance of the regression coefficients was examined by confirmatory factor analysis. The standardized regression coefficients for the scale are as follows:

Table 5. Regression coefficients

Item	Factors	Factors Loading
14←	Focus on work	0.801
7←	Focus on work	0.724
6←	Focus on work	0.838
5←	Focus on work.	0.817
4←	Focus on work	0.812
3←	Focus on work	0.778
10←	Coping with stress	0.672
11←	Coping with stress	0.737
12←	Coping with stress	0.816
13←	Coping with stress	0.851
1←	Social loafing	0.537
2←	Social loafing	0.725
8←	Social loafing	0.815
9←	Social loafing	0.831
15←	Performance	0.758
16←	Performance	0.821
17←	Performance	0.85
18←	Performance	0.405

The regression coefficients obtained show the factor loadings. All the values obtained were significant at the p<0.001 level. As seen in Table 5, the factor loads of the items vary between 0.401 and 0.851. The factors obtained by exploratory factor analysis were confirmed by confirmatory factor analysis.

Study 4 - Smart PLS Confirmatory Factor Analysis – Second Working Group

While the validity and reliability studies of the measurement tool were carried out, the internal consistency reliability, convergent validity and discriminant validity of the scale were evaluated. Croncach and rho-Ave composite reliability coefficients were evaluated to evaluate internal consistency reliability. Factor loadings ≥0.70; Cronbach Alpha, rho-Ave composite reliability coefficients ≥0.70; The average variance explained is expected to be ≥0.50 (Hair et al., 2017). Below are the results regarding the internal consistency reliability and convergent validity of the scale.

It is seen that factor loads obtained as a result of confirmatory factor analysis vary between 0.691 and 0.889. According to Harrington, factor loads above 0.70 are considered excellent values, while values below 0.32 are considered weak values. In this context, the regression values obtained show that the items were loaded on the right factors.

The Cronbach's Alpha coefficient obtained to test the internal consistency of the scale is expected to be above 0.70 (Hair et al., 2017). When the Cronbach's Alpha values obtained as a result of the analysis are examined, it is seen that the values are above 0.70 and the internal consistency of the scale is provided (Table 6).

Table 6. Validity and reliability values of presenteeism scale

Variable	Indicators	Factor Loads	VIF	Compound Reliability	C. Alpha	AVE
Social loafing	Social L.1	0.716	1.577	0.890	0.837	0.671
	Social L.2	0.847*	2.085			
	Social L.3	0.855*	2.065			
	Social L.4	0.851*	1.984			
Focus on work	FW.1	0.810*	2.212	0.933	0.913	0.698
	FW.2	0.877*	3.403			
	FW.3	0.880*	3.749			
	FW.4	0.878*	3.095			
	FW.5	0.772*	1.923			
	FW.6	0.790	1.993			
Performance	Perf.1	0.839*	1.884	0.867	0.791	0.627
	Perf.2	0.860*	2.171			
	Perf.3	0.889*	2.439			
	Perf.4	0.523	1.160			
Stress	Stress1	0.804*	1.793	0.906	0.862	0.708
	Stress2	0.852*	2.197			
	Stress3	0.691*	2.383			
	Stress4	0.743*	2.232			

While performing the validity analyzes of the scale, convergent validity was tested first. For convergent validity, the factor loads of the expressions and the average explained variance values are examined (Hair et al., 2017). It was determined that the factor loads of the scale were at the desired level as stated above. When the AVE values are examined, it is seen that all values are above 0.50 and within acceptable values (Hair et al., 2017).

VIF values were checked to determine whether the scale had a multicollinearity problem. VIF values are expected to be below 5 (Hair et al., 2017). When VIF values are examined, it is seen that they are below 5 and vary between 1.577 and 3.749. The obtained values show that the scale does not have a multicollinearity problem.

Apart from the VIF values examined, the communalities values obtained as a result of the factor analysis are also important for the convergent validity of the scale. Values for the focus on work dimension of the scale range from 0.70 to 0.80, for the job loafing dimension between 0.690 and 0.850, for the performance dimension between 0.50 and 0.83, and for the stress dimension 0.80 and 0.85 values appear to vary. All analyzes show that the scale meets the necessary conditions for convergent validity. According to the results of factor analysis performed with PLS, the four-factor structure of the scale was confirmed. The level of explanation of the presenteeism variable of each dimension is shared below (Table 7).

Table 7. Coefficients- presenteeism variable of each dimension

Variable	Coefficients	p
Focus on work	0.920	0.001
Social loafing	0.854	0.001
Performance	0.854	0.001
Stress	0.844	0.001

The last value examined to reveal the discriminant validity of the scale is the HTMT values. The HTMT values of the scale are as follows.

Table 8. HTMT-discriminant validity

Constructs	1	2	3	4
Focus on work				
Social loafing	**0.783**			
Performance	0.799	**0.845**		
Stress	0.789	0.709	**0.760**	

Note: Bold diagonal values represent the square of AVE

It is possible to say that the HTMT values given in the Table 8 are ≤ 0.85 (Henseler et al., 2015) and the discriminant validity of the scale is provided. Looking at the results, it is possible to say that factor loads and HTMT values provide discriminant validity. As a result of the analyzes made in this context, it has been determined that the scale provides structural validity and reliability.

4. Conclusions

In this study, the Presenteeism Scale was developed to measure the presenteeism levels of employees arising from individual and organizational problems and health problems. In order to develop the Presenteeism Scale, an item pool was created in line with the literature in the first stage. Then, two experts in their fields evaluated the questions. After the evaluation, it was decided to support the research with qualitative data, and it was decided to conduct focus group interviews in order to understand the concept better and analyze and integrate the data. After the focus group discussions with three separate groups, audio recordings were listened to, and content analysis was conducted. As a result of content analysis, 18 items were obtained from a 60-item expression pool.

Before testing the scale's construct validity, it was examined whether the data were suitable for factor analysis, and exploratory factor analysis was performed to test construct validity. After determining the factor structure of the scale, item-total score correlations were calculated. As a result, item correlations of the scale and factor loadings related to the items were revealed. In order to demonstrate the reliability of the scale, Cronbach's alpha values for the Presenteeism Scale and its Dimensions were calculated. Because of exploratory factor analysis, a 4-factor structure with an eigenvalue above one was obtained. It was named Focusing on Work, Coping with Stress, Social loafing, and Performance.

The Work Focus Factor refers to the inability of the employee to fully concentrate on his work even though he is at work due to health problems or individual and organizational problems. Coping with Stress refers to the state of being able to cope with the Stress created by the health problems or individual/organizational problems of the employees or by continuing to work without permission due to these problems. Social loafing work refers to employees being busy with other things outside of work or taking a break during the day due to their health problems or individual/organizational problems. Finally, Performance refers to the effort of the employees to make an effort below the expected daily effort due to the health problems or individual/organizational problems they experience.

After the factor analysis, Cronbach's alpha values were calculated to test the scale's reliability. In this context, the analysis results show that the Presenteeism Scale is highly reliable.

After the exploratory factor analysis on the Presenteeism Scale, confirmatory factor analysis was performed to confirm the scale's consistency with the theoretical structure and to reveal the scale's construct validity. The findings show that the model is compatible with the data, and the values are acceptable. In addition, confirmation of the scale by confirmatory factor analysis shows that the scale is valid. In addition, the significance of the regression coefficients was examined by regression analysis, and all values were found to be significant. The factors obtained by exploratory factor analysis were confirmed by confirmatory factor analysis.

PLS analyzes were used to confirm the four-factor structure of the presenteeism scale and to reveal the convergent validity and discriminant validity of the scale. As a result of the analyzes conducted with PLS, the four-factor structure of the scale was confirmed and the factor loadings took values between 0.691 and 0.899, and the Cronbach's alpha coefficient was calculated as 0.837 for the social loafing dimension, 0.913 for the work focus dimension, 0.791 for the performance dimension and 0.862 for the stress dimension. Convergent validity coefficients were found to be between 0.867-0.933, and discriminant validity (AVE) was found to be between 0.627-0.708. The obtained values show that the presenteeism scale provides internal consistency reliability, convergent and discriminant validity.

5. Discussion

Specific characteristics are required for measurement tools used in data collection to serve the research purpose. Otherwise, measurement errors may occur. In a systematic review conducted by Ospina et al. (2015), the validity and reliability of 23 previously developed presenteeism scales were evaluated. The study found that a reliable measurement tool with content validity that ensures data quality needed to be identified. Shikiar emphasized that presenteeism scales were inadequate in psychometrics. A recent study has developed a presenteeism and productivity loss scale (Vänni et al., 2018), which aims to identify health problems experienced by employees during a specific period and measure the resulting productivity losses due to health issues.

The Stanford Presenteeism Scale is the most commonly used measurement tool for presenteeism. Although this scale only contains health-related statements, it does not express personal and organizational reasons that may lead to presenteeism. Another measurement tool is the Endicott Work Productivity Scale (EWPS), designed to measure the effects of psychological health problems (such as depressive disorders) on work performance. The scale demonstrates the change in individuals' work productivity based on their total score of health problems experienced (Uguz et al., 2004). Another scale is the Health and Work Questionnaire (HWQ), which was developed to measure work quality, quantity, and efficiency. As mentioned by Ospina et al. (2015), these measurement tools only address the health-related aspects of presenteeism.

Therefore, it is observed that the current presenteeism scales need to consider personal and organizational reasons, causing validity and reliability problems in measurement. Therefore, the presenteeism scale we have

developed considers the concept in its entirety from past to present, with expressions that measure health problems and individual and organizational issues.

6. Limitations

The data obtained in the research were obtained only from the employees in Turkey. For this reason, it would be appropriate for researchers who will study presenteeism to examine cultural contexts and test different samples. Furthermore, data are one-time only and cross-sectional.

As in every study, there are limitations in our study that should be taken into account in the scale development stages and the interpretation of the items of the scale. For example, variables not represented in the model are a problem of reliability. In contrast, variables that interfere with the model in some way, even though they are not wanted to be included in the model, are a problem of validity. In this context, focus group interviews were conducted with different groups to ensure the scale's construct validity and to avoid measurement bias. The scale statements were finalized by determining the stress, inability to focus on work, low performance, and social loafing behaviors that result from the employees' health problems, organizational problems, and individual problems.

Another limitation of the study stems from the perceptions of individuals. Employees have different personality traits individually, and each individual's perception differs in terms of personality. For example, interpersonal perception levels may cause individuals to interpret their health-related or organizational problems as mild or severe problems relative to each other. In order to eliminate this limitation related to perception, we have determined the boundaries of health, individual and organizational problems in our scale and avoided expressions that may lead to different perceptions and expressions that create bias.

Another limitation of our research is that the participant's responses to the scale statements affect the variances of coping with stress, social loafing, performance, or inability to focus on work individually. It is not possible to say that the statements in our scale will not affect the variances of the other dimensions of the scale on an individual basis. Although this uncertainty does not necessarily affect our research results, we emphasize that it was taken into account when interpreting the findings and should be considered by future researchers. Lastly, due to the relational design of our scale development study, the inability to provide evidence for the causality of the observed effects is similar to the limitations of other studies in the social sciences. Specifically, we identified the causes of presenteeism and modeled the organizational consequences associated with presenteeism. We have determined that the problems of employees at work, in their families, or in their personal lives cause stress while working individually, prevent employees from focusing on work, spend time dealing with other things at work, and cause them to underperform. In this context, our research provides a solid foundation on the causes of presenteeism, unlike existing studies that suggest that presenteeism is caused only by health problems (Koopman et al., 2002; Vänni et al., 2018).

Data Availability

The places where data were collected are described in detail in the study. Data cannot be shared for confidentiality reasons.

Conflicts of Interest

The authors declare no conflict of interest.

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Appendix

The statements related to the presenteeism scale are presented below. Before the questionnaire was shared with the respondents, an explanation was made and the definition of presenteeism was given. Accordingly, the participants were asked to answer the questions in line with the definition.

Presenteeism scale Turkish

Aşağıdaki ifadeler Presenteeism ile ilgilidir. Presenteeism: Çalışanın fiziksel ya da ruhsal bir hastalığı, iş veya çevresel faktörlerden kaynaklı bir problemi olmasına rağmen iş yerinde bulunması, iş yerinde bulunduğu süre içerisinde çalışıyor görünmek istemesi ve bu durumun işletmelerde yarattığı verimlilik kayıplarıdır.

Lütfen aşağıdaki ifadeleri Presenteeism tanımı doğrultusunda, herhangi bir sağlık probleminiz ya da bireysel, örgütsel bir probleminiz olduğu halde işe geldiğiniz bir günü düşünerek, sorulara katılım durumunuza göre işaretleyeniz.

1. Yaşadığım problemlerden dolayı; Yaptığım işten keyif alamadım.
2. Yaşadığım problemlerden dolayı; Kendimi işimi bitirecek kadar enerjik hissetmedim.
3. Yaşadığım problemlerden dolayı; Çalışırken dikkatimi toplamakta zorluk yaşadım.
4. Yaşadığım problemlerden dolayı; İşe olan ilgim azaldı.
5. Yaşadığım problemlerden dolayı; İşimi normalinden daha uzun bir sürede bitirebildim.
6. Yaşadığım problemlerden dolayı; Sık sık yaşadığım problem (sağlık, kişisel, örgütsel) ile ilgili düşüncelere daldım.
7. Yaşadığım problemlerden dolayı; İşimi zamanında bitiremeyeceğim için endişelendim.
8. Yaşadığım problemlerden dolayı; Çalışma arkadaşlarım (yöneticilerim, akranlarım, astlarım gibi) ile sorun yaşamaktan endişe duydum.
9. Yaşadığım problemlerden dolayı; Çalışırken kendimi gergin hissettim.
10. Yaşadığım problemlerden dolayı; İşimin verdiği stres ile başa çıkamadım.
11. Yaşadığım problemlerden dolayı; Gün içinde işten kaçmanın yollarını aradım.
12. Yaşadığım problemlerden dolayı; Sadece günü kurtarmak için iş yerinde bulundum.
13. Yaşadığım problemlerden dolayı; Çalışırken sürekli mola verdim.
14. Yaşadığım problemlerden dolayı; Her gün gösterdiğim çabadan daha az bir çaba gösterdim.
15. Yaşadığım problemlerden dolayı; İş yerinde sosyal medya, telefon, internet gibi başka şeylerle uğraşarak vakit geçirdim.
16. Yaşadığım problemlerden dolayı; Günlük iş planımı gerçekleştiremedim.
17. Yaşadığım problemlerden dolayı; Yapmam gereken işlerin bazılarını eksik veya hatalı yaptım.
18. Yaşadığım problemlerden dolayı; İşe mesai saatinin başlamasından daha geç bir saatte geldim.

Presenteeism scale English

The following statements are related to Presenteeism. Presenteeism It is the presence of an employee at work despite having a physical or mental illness, a problem arising from work or environmental factors, wanting to appear to be working during the time he/she is at work, and the productivity losses caused by this situation in businesses.

Please mark the following statements in line with the definition of Presenteeism, thinking about a day when you came to work despite having a health problem or an individual or organizational problem, according to your level of participation in the questions.

1. I spent time at work dealing with social media, phone, internet, etc.
2. I've been at work just to save the day/ Pass the day.
3. My interest in work has decreased
4. I did not feel energetic enough to finish my job.
5. I did not enjoy my job.
6. I had difficulty concentrating while working
7. While working I started to think about my problem (health, personal, organizational).
8. I looked for ways to escape from work during the day.
9. I took breaks while working.
10. I could not cope with the stress of my job.
11. I was worried about having problems with my colleagues (managers, peers, subordinates, etc.).
12. I was worried that I would not be able to finish my work on time.
13. I felt nervous while working.
14. I was able to finish my job taking longer than usual.
15. I did some of the things I had to do incompletely or incorrectly.
16. I made less effort every day than I did.
17. I could not complete my daily work tasks.
18. I arrived later than scheduled working hours.