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## Developing a multidimensional scale for presenteeism: A study on measurement and implications

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**Abstract.** Presenteeism is among the key factors that negatively affect employee efficiency and, therefore, company organizational performance. The existing measurement tools for assessing presenteeism highlight health-related issues as the main reason behind this counterproductive behaviour. On the other hand, other factors that influence modern business life and processes are omitted. The paper's primary purpose is to develop a comprehensive measurement tool suitable for the individual and organizational multi-factor structure of presenteeism that accurately reflects the complex nature of today's business world. Methodologically, the research is shaped within the framework of grounded theory. In the study, mixed methods research combining qualitative and quantitative methods was utilized. In this context, firstly, the authors conducted a literature review and focus group interviews with experts in the field in order to reveal the conceptual structure. We analysed the data using content analysis and then moved on to writing 18 scale items. We performed exploratory factor analysis using the SPSS program and confirmatory factor analysis using the AMOS program. As a result, we develop a four-dimensional scale for presenteeism covering work focus, stress management, social loafing, and performance. The verified multidimensional scale fills a vacuum in the literature by offering a comprehensive and dependable instrument to gauge presenteeism on organizational and individual dimensions. Among the possible avenues for further research are testing the scale in different cultural contexts and addressing the organizational causes of presenteeism.

**Keywords:** presenteeism; absenteeism; productivity; presenteeism assessment; multidimensional scale; Turkey.

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## Разработка многомерной шкалы оценки уровня презентеизма

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**Аннотация.** Презентеизм является одним из ключевых факторов, оказывающих негативное влияние на эффективность труда работников и, как следствие, на результаты деятельности всей организации. Существующие методики оценки уровня презентеизма в качестве основной причины данного контрпродуктивного поведения выделяют проблемы со здоровьем. При этом другие факторы, возникающие вследствие активного развития сферы бизнеса и протекающих в ней процессов, остаются без внимания. Статья направлена на разработку комплексной шкалы оценки уровня презентеизма, учитывающей помимо состояния здоровья работников также организационные и индивидуальные факторы. Методологический каркас исследования представлен обоснованной теорией (grounded theory). В работе применен комбинированный подход, сочетающий качественные и количественные методы анализа. Концептуализация шкалы выполнена на основе обзора научной литературы в области презентеизма и результатов фокусированных интервью. Полученные данные были подвергнуты контент-анализу и использованы для построения шкалы из 18 утверждений. Исследовательский и подтверждающий факторный анализ осуществлялись в программах SPSS и AMOS соответственно. В результате сформирована шкала оценки уровня презентеизма в организациях на базе четырех критериев: способности концентрироваться на работе, умения справляться со стрессом, склонности к безделью на рабочем месте (лофингу) и результативности трудовой деятельности. Специфика предложенного метода многокритериальной оценки заключается в учете современных факторов, обуславливающих презентеизм: организационных аспектов трудовой деятельности и индивидуальных характеристик работников. Среди возможных направлений дальнейших исследований – апробация предложенной шкалы на примере разных стран, а также углубленное изучение организационных предпосылок презентеизма.

**Ключевые слова:** презентеизм; абсентеизм; продуктивность; оценка уровня презентеизма; многомерная шкала; Турция.

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## INTRODUCTION

In contemporary organizational settings, an increasing emphasis is placed on prioritizing employees' mental and physical well-being. Presenteeism emerges as one of the critical consequences of this psychological and physical fatigue. Presenteeism involves employees working long hours or appearing to work efficiently to eliminate negative opinions [Cooper, 1998]. On the other hand, efforts to quantify the costs associated with health-related problems that hinder productivity continue<sup>1</sup>. Many of these cost metrics typically revolve around the impact of sick and absent workdays on overall productivity. To reduce these costs, organizations often implement mandatory attendance policies. However, the result of these policies is that a critical perspective on the emergence of non-existence is overlooked.

Recent studies across 27 EU member countries have brought attention to the costs associated with presenteeism, prompting the development of preventive measures<sup>2</sup>. Shockingly, research reports from some EU countries indicate that 50–70% of employees engage in presenteeism behaviour. The prevalence of presenteeism has been a concern, with studies in Sweden suggesting that half of the employees exhibited such behaviour in the 1990s. Notably, studies in the UK underscore that presenteeism may be more economically burdensome than absenteeism<sup>3</sup>. Research shows that being visible at work increases the cost of healthcare [Schultz et al., 2009], lowers performance and efficiency [Cooper, Lu, 2016], reduces motivation [McClearn et al., 2010], aggravates absenteeism [Bergström et al., 2009] and may result in an intention to quit [Chen et al., 2012; Haque, 2018]. Given these considerations, it becomes imperative for employees to have sufficient rest and maintain good health outside the confines of their work environments<sup>4</sup>. A study by the Center for Social Policy [Aronsson, Gustafsson, 2005] indicated that a higher percentage of employees persist in working while unwell than those absent. This study further revealed that 72% of enterprises' productivity losses could be attributed to presenteeism, with only 28% linked to absenteeism. Regarding annual productivity loss, presenteeism accounts for a staggering \$180 billion [Levin-Epstein, 2005]. The scrutiny of presenteeism is essential due to the significant productivity losses it incurs and its profound impact on employee well-being.

On the other hand, this concept emphasizes the decrease in productivity and quality of work resulting from health problems, financial concerns, excessive attachment to work, anxiety about job insecurity that may be

experienced due to age, individual problems such as personality, and organizational stressors [Simpson, 1998; Aronsson, Gustafsson, Dallner, 2000; Dew, Keefe, Small, 2005]; Aronsson, Gustafsson, 2005; Bergström et al., 2009].

In studies on presenteeism, the Stanford Presenteeism Scale [Koopman et al., 2002], Endicott Work Productivity Scale (EWPS) [Endicott, Nee, 1997], and Health and Work Questionnaire (HWQ) [Shikiar et al., 2004] are frequently used in the literature. Concerns have arisen regarding the adequacy of the psychometric measurements in these three tools, and it has been stated that future studies are needed to address the gap in a measurement tool that will specifically include organizational issues [Ospina et al., 2015]. Presenteeism, a concept popular in academic literature and commonly encountered in the workplace, lacks a comprehensive scale for thorough evaluation. The existing studies that aim to measure presenteeism often focus on health issues. However, presenteeism extends beyond merely the cognitive and physical disengagement from work due to health problems. This study aims to address this gap in organizational behaviour by developing a comprehensive measurement tool to assess presenteeism more extensively. This measurement tool will provide a foundation for a deeper exploration of the various dimensions and effects of presenteeism and guide future research endeavours.

Our research presents a comprehensive measurement tool suitable for the individual and organizational multi-factor structure of presenteeism. The scale we propose indicates productivity losses due to stress, inability to focus on work, distraction, and inefficient use of time, which results from individual and organizational problems. Unlike the existing instruments, our scale investigates the impact of an individual who has to go to work late because of their sick child on their presence at work due to such an external factor. It also examines its effects on employees' focus and productivity during working hours. Our approach addresses presenteeism with an understanding that includes individual/organizational factors and health factors, taking into account both the individual performance of employees and the productivity losses experienced by organizations.

## LITERATURE REVIEW

The primary source of competitive advantage for organizations is their employees. A common phenomenon regarding employee productivity is presenteeism. The roots and historical background of presenteeism date back to the economic depression of the 1930s, marked by downsizing through business closures or workforce layoffs and increased job insecurity [Aronsson, Gustafsson, Dallner, 2000]. There was a significant increase in layoffs during the economic depression. In this regard, current employees experienced fear of dismissal, and presenteeism emerged as a concept [Cooper, 1998]. Contrary to the cur-

<sup>1</sup> IES. (2016). Institute for Employment Studies. IES Annual Review 2016. <https://www.employment-studies.co.uk/resource/ies-annual-review-2016>

<sup>2</sup> Eurofound. (2010). Consulted between June and July 2021. [www.eurofound.europa.eu](http://www.eurofound.europa.eu).

<sup>3</sup> Ibid.

<sup>4</sup> IES. (2016). Institute for Employment Studies. IES Annual Review 2016.

rent understanding, presenteeism is not merely the opposite of absenteeism or simply an indicator of workplace inefficiency.

Cooper [1998] conceptualized presenteeism primarily as a situation where individuals, who spend long hours at work due to perceived organizational pressures, try to appear hard-working to their managers or business owners. Later, this concept witnessed a further change, becoming more closely associated with employee health problems. Aronsson, Gustafsson and Dallner [2000] defined presenteeism as employees working while sick, which reflected the change in the definition of the concept. Other definitions of presenteeism in the literature refer to the employee's difficulty concentrating on their job and productivity losses resulting from their inability to show the desired performance despite appearing to be working [Levin-Epstein, 2005; Johns, 2010]. The literature presents various definitions of presenteeism emphasizing different aspects. Some definitions stress physical presence at the workplace without productivity or job quality [Koopman et al., 2002; D'Abate, Eddy, 2007; Bergström et al., 2009; Hemp, 2004; Demerouti et al., 2009]. Others underscore an individual's commitment to work despite sickness or personal problems [Bierla, Huver, Richard, 2011; Hansen, Andersen, 2008; Johns, 2010; Biron et al., 2006; Yilmaz, Ekici, 2003; McGregor, Barton Cunningham, Coverley, 2008; Akdoğan, Bayram, Harmanci, 2018; Dewa, Lin, 2000; McGregor et al., 2014; Cullen, McLaughlin, 2006; Aronsson, Gustafsson, 2005; Caverley, Cunningham, Macgregor, 2007; Goetzel et al., 2004]. Some definitions even address the loss of productivity when employees do not use their time for work despite being physically present at the workplace [D'Abate, Eddy, 2007; Gilbreath, Karimi, 2012]. Common to all these definitions is the centrality of health problems [Allen et al., 2018; Ferreira, Martinez, 2012; McLean et al., 2010; Bergström et al., 2009; Warren, 2009; Lerner, Henke, 2008; MacGregor, Barton Cunningham, Coverley, 2008; Collins et al., 2005; Hellgren et al., 2010; Kessler, Stang, 2006].

According to contemporary perceptions, presenteeism has a multidimensional structure influenced not only by health issues but also by organizational and individual factors. Organizational factors include an employee's obligation to continue working, resource shortages, time pressure, stressful work environments, and job insecurity [Bergström et al., 2009; McGregor et al., 2014; Cullen, McLaughlin, 2006; Edington, Schultz, 2008; Ferreira et al., 2017]. Individual factors encompass financial problems, excessive work commitment, age, neglecting existing illnesses, gender, work-life balance, stress level, and motivation [Hansen, Andersen, 2008; McIntosh, 2003; McGregor, Barton Cunningham, Coverley, 2008; Collins, Cartwright, 2012; McGregor et al., 2014, p. 1319; Aronsson, Gustafsson, 2005, p. 960; Cooper, Lu, 2016, p. 221; Milano, 2005].

Systematic reviews on presenteeism reveal a limited number of measurement tools [Ospina et al., 2015], rais-

ing concerns about the adequacy of psychometric measurements. The widely used Stanford Presenteeism Scale primarily focuses on health-related reasons for presenteeism, lacking an assessment of individual and organizational causes. The Endicott Work Productivity Scale focuses on the effects of the individual's illnesses on his/her performance and measures only the inability to be present at work due to health problems [Endicott, Nee, 1997]. Another scale, the Health and Work Questionnaire, evaluates employees' quality and quantity of work and the results they get in return for their efforts. However, this scale needs to include a comprehensive evaluation of the organizational and individual factors of presenteeism. The same is characteristic of the presenteeism and productivity loss scale developed by Vänni et al. [2018] as it tries to explain productivity losses by focusing exclusively on the individual issues. When the concept of presenteeism is examined in detail in the literature, it is observed that a measurement tool and approach that includes individual and organizational factors is needed instead of measurement tools that focus only on health problems. Current measurement tools appear to focus only on health problems. The measurement tool we propose in our study addresses the literature gap by going beyond health problems and addressing both individual and organizational contexts.

In addition, the measurement tool we propose aims to determine the factors that cause presenteeism in employees by taking into account the personal characteristics of individuals. On the other hand, the measurement tool considers organizational factors including the rigidity of institutional procedures and policies to prevent absenteeism in organizations and promotion opportunities. In this way, we strive to investigate the underlying motivations behind being absent at work. The development phase of our scale follows a methodology consisting of three main stages, namely focus group interviews, exploratory factor analysis, and confirmatory factor analyses.

## METHODOLOGY

A mixed-method approach, specifically grounded theory, was employed for scale development. Grounded theory allows for the simultaneous use of qualitative and quantitative patterns in data collection [Walker, Myrick, 2006; Strauss, Corbin, 1997; Creswell, Plano Clark, 2007; Yıldırım, Şimşek, 2016; Charmaz, Belgrave, 2019]. Our scale development process was designed using the methodology suggested by DeVellis [2017]. This methodological process begins with a focus group meeting where the research problem is discussed. Subsequently, the data obtained were subjected to content analysis, and an item pool was prepared. A pilot study regarding the item pool was carried out. Subsequently, the survey data of two samples were analysed [Krueger, Casey, 2000].

In the first stage of the scale process, researchers determined the theoretical background of the concept un-

der the guidance of a comprehensive literature review. The literature research established that the concept of presenteeism was a dominant relationship between health-related employee concerns. Then, the relationship between presenteeism at work, organizational conditions, and individual factors, apart from health factors, was revealed. Researchers aimed to determine whether the measurement tool they wanted to develop should be a general measurement or reflect a specific factor/characteristic [DeVellis, 2017]. After the analysis of focus group data, an item pool was created, considering the boundaries of the relevant concept. Focus group discussions reflected the multidimensional nature of experiences and realities in social events. Expert opinions were consulted to increase the content validity of the item pool. Two faculty members working in the relevant field evaluated the statements in the item pool to prevent possible measurement errors and increase content validity. The purpose is to emphasize measurement content validity [DeVellis, 2017]. Using qualitative and quantitative data in the scale development phase corresponds to mixed methods research that aims to verify and strengthen data reliability [Creswell, Plano Clark, 2007; Tashakkori, Teddlie, 2021]. In this context, a “grounded theory” design from mixed-method research was adopted, where the quantitative method serves as the primary design, supplemented by a qualitative dimension to provide additional data for supporting, generalizing, and explaining the findings.

Focus group interviews were held to determine the statements that could be included in the measurement tool. The interview questions were prepared based on the literature, examined by two expert faculty members and turned into an interview form. During these inter-

views, six basic questions and probing questions related to these questions (sample question: *When you have any problems – health, family or organizational – and you have to continue working, how does this affect your performance?*) were asked to the participants. Three focus group interviews were conducted with twenty participants with similar educational levels and professional statuses [Kitzinger, Farquhar, 1999]. The interviews were structured, audio-recorded with participants’ consent, transcribed, and then analysed. Content analysis, the most suitable method for qualitative research analysis [Thorne, 2000], was employed to identify key themes, organize data, and select meaningful data for coding. Two researchers coding the data, reaching a consensus on code definitions and demonstrating high reliability in the coding process, ensured coding reliability. The relationships between coded data and themes were then established [Yıldırım, Şimşek, 2016]. The following sections delineate and elaborate on the stages of the scale development process (see Table 1).

Following the processes in Stage 1a-b-c, the scale items were meticulously crafted, with a conscious effort to mitigate respondents’ affirmation or acceptance bias [Büyüköztürk, 2005; Büyüköztürk, 2007]. Recognizing the tendency of respondents to provide predominantly positive answers, it was imperative to decide on the response format for the measurement tool [DeVellis, 2017]. Hence, a 6-point Likert scale was chosen as the preferred item format during the item pool creation. The use of a Likert scale aimed to capture a nuanced range of responses allowing participants to express their agreement levels on a spectrum from “Strongly disagree” (1) to “Strongly agree” (6). This approach provided a balanced and comprehensive means of assessing respondents’ perspectives on

Table 1 – Presenteeism scale development procedure  
Таблица 1 – Алгоритм разработки шкалы презентеизма

| Stages                                           | Processes                                        | Description                                                                                                                                                          | Sample                             |
|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Stage 1-a.<br>Conceptual<br>model<br>development | 1. Conceptualization of structure                | Literature search                                                                                                                                                    | Purposive<br>sampling<br>(n = 20)  |
|                                                  |                                                  | Conceptualization of dimensionality                                                                                                                                  |                                    |
|                                                  | 2. Development of the conceptual model           | Determining the boundaries of the concept                                                                                                                            |                                    |
|                                                  |                                                  | Interviews with experts                                                                                                                                              |                                    |
| Stage 1-b.<br>Item<br>development                | 3. Framing focus group interview questions       | Creation and development of the first question pool based on the conceptual model                                                                                    | Purposive<br>sampling<br>(n = 20)  |
|                                                  | 4. Item scale design                             | Application of six-item focus group interview questions to three different groups                                                                                    |                                    |
|                                                  | 5. Evaluation of item scale for content validity |                                                                                                                                                                      |                                    |
| Stage 1-c.<br>Scale<br>development               | 6. Preparing item pool for the scale             | Content analysis of focus group interviews.<br>Evaluation of content validity.<br>Creation of item pool as a result of content analysis.<br>Finalizing the questions | Data from<br>Stage 1-b<br>sample   |
| Stage 2.<br>Testing the scale                    | 7. Analysis of the first scale                   | Pilot test: item analysis, validity (construct, concurrent) and reliability (Cronbach's alpha), EFA                                                                  | Pilot group<br>sample<br>(n = 200) |
| Stage 3.<br>Finalizing<br>the scale              | 8. Scale verification                            | CFA                                                                                                                                                                  | Main group<br>(n = 342)            |

presenteeism. Following the determination of the measurement method, experts rigorously evaluated the statements to bolster the scale's content validity in its final form [Corbin, Strauss, 1990; DeVellis, 2017]. The final scale comprised 18 items meticulously curated through the research process. With the scale's formulation complete, the next phase involved sampling, where a questionnaire was disseminated to white-collar employees via an online platform using convenience sampling. Participants were instructed to indicate their level of agreement with the statements, measuring their presenteeism, on the 6-point Likert-type scale. 252 questionnaires were distributed, resulting in a valid response from 200 employees, forming the dataset for subsequent analysis. The demographic distribution of participants revealed a balanced representation, with 46.5% male and 53.5% female respondents. Marital status distribution indicated 48.5% single and 51.5% married participants. Age-wise, 32% fell between 20 and 30 years old, 45.5% between 30 and 40, and 22.5% were over 40. Educational background diversity was observed, with 8.0% high school graduates, 48% undergraduates, and 44% graduates. The collected data representing a diverse sample of white-collar employees were analysed using the SPSS program to derive meaningful insights into the dimensions and impact of presenteeism in the workplace. Before delving into the scale's construct validity, the Kaiser-Meyer-Olkin (KMO) coefficient and the Bartlett Sphericity test were employed to assess the data's suitability for factor analysis. The KMO value determined to be 0.933 and the significant  $\chi^2$  value of the Bartlett

Sphericity test (2457.001,  $df = 153$ ,  $p < .001$ ) indicate the appropriateness of the data for factor analysis, achieving good and excellent standards in social sciences [Tabachnick, Fidell, Ullman, 2013].

Principal Component Analysis and Varimax Rotation were applied to unveil the scale's factor structure. A cut-off point 0.45 for factor load values was set, adhering to the criterion that values of 0.45 and above are considered favourable [Hair et al., 2010; Pallant, 2013; Tabachnick, Fidell, 2007]. The analysis imposed no limit on the number of factors, with eigenvalues guiding the determination of factor numbers. Factors with eigenvalues surpassing one were deemed essential in establishing the scale's factor structure [Pallant, 2013]. The analysis yielded eigenvalues for the factors as follows: focusing on work (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%).

Consequently, the cumulative variance explanation rate of these factors reached 71.54%. Post-establishment of the scale's factor structure, the factor loads of items corresponding to the identified factors were ascertained. During the factorization phase, it was imperative to select items with high factor loads, and each factor consisted of a minimum of three items, ensuring robust factorization [Gürbüz, Şahin, 2016]. The factor item loadings and total score correlations resulting from Varimax rotation are presented in Table 2 for a comprehensive understanding of the scale's construct validity.

Table 2 – Factor item loadings and total score correlations  
Таблица 2 – Факторные нагрузки и корреляция итоговых значений элементов шкалы

| Factors and substances                                                                           | Factor loads | Common variance | Item-total correlations |
|--------------------------------------------------------------------------------------------------|--------------|-----------------|-------------------------|
| <b>Focus on work (6 items)</b><br><i>Eigenvalue: 4.395. Variance explained: 24.41</i>            |              |                 |                         |
| 5. I did not enjoy my job                                                                        | .869         | .852            | .734                    |
| 4. I did not feel energetic enough to finish my job                                              | .829         | .829            | .766                    |
| 6. I had difficulty concentrating while working                                                  | .779         | .762            | .749                    |
| 3. My interest in work has decreased                                                             | .694         | .714            | .701                    |
| 14. I was able to finish my job taking longer than usual                                         | .620         | .728            | .754                    |
| 7. While working, I started to think about my problem (health, personal, organizational)         | .493         | .597            | .712                    |
| <b>Coping with stress (4 items)</b><br><i>Eigenvalue: 3.164. Variance explained: 17.57</i>       |              |                 |                         |
| 11. I was worried about having problems with my colleagues (managers, peers, subordinates, etc.) | .820         | .770            | .622                    |
| 12. I was worried that I would not be able to finish my work on time                             | .778         | .746            | .642                    |
| 10. I could not cope with the stress of my job                                                   | .652         | .643            | .657                    |
| 13. I felt nervous while working                                                                 | .650         | .726            | .675                    |
| <b>Social loafing (4 items)</b><br><i>Eigenvalue: 2.719. Variance explained: 15.10</i>           |              |                 |                         |
| 1. I spent time at work dealing with social media, phone, internet, etc.                         | .814         | .713            | .468                    |
| 2. I have been at work just to save the day / pass the day                                       | .771         | .761            | .641                    |
| 8. I looked for ways to escape from work during the day                                          | .667         | .764            | .738                    |
| 9. I took breaks while working                                                                   | .545         | .683            | .735                    |

Table 2 (concluded)  
Окончание табл. 2

| Factors and substances                                                       | Factor loads | Common variance | Item-total correlations |
|------------------------------------------------------------------------------|--------------|-----------------|-------------------------|
| Performance (4 items)<br><i>Eigenvalue: 2.598. Variance explained: 14.43</i> |              |                 |                         |
| 17. I could not complete my daily work tasks                                 | .741         | .768            | .698                    |
| 15. I did some of the things I had to do incompletely or incorrectly         | .662         | .680            | .650                    |
| 18. I arrived later than scheduled working hours                             | .651         | .449            | .309                    |
| 16. I made less effort every day than I did                                  | .609         | .691            | .662                    |

The scrutiny of the factor loads for all 18 items revealed values consistently surpassing the 0.45 threshold, ranging between 0.493 and 0.869. These robust factor loadings affirm the sufficiency and relevance of each item (Table 2). Furthermore, the total correlations of the items, which significantly exceed the 0.30 benchmark, indicate the exceptional acceptability and strength of these items. In the scale development phase, item evaluation stands out as a crucial step. At this juncture, the performance of individual items is meticulously assessed. The presence of highly correlated items, a testament to their reliability, contributes to the overall reliability of the scale that incorporates these items [DeVellis, 2017].

An in-depth analysis was conducted to ascertain the scale's reliability, examining the correlation between the Cronbach's alpha internal consistency coefficient, item-total score correlation, and scale dimensions. The results from the data analysis are summarized in Table 3, which shows the internal consistency coefficient for the overall scale and dimensions.

The reliability analysis presented in Table 3 demonstrates that the Cronbach's alpha values of the presenteeism scale are within the acceptable range for social sciences [DeVellis, Thorpe, 2021; Kalayci, 2009]. Table 3 outlines the relationships between the presenteeism scale and its dimensions. The mean scores for 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 3.07 (sd = 1.48). These evaluations were conducted using a 6-point Likert scale.

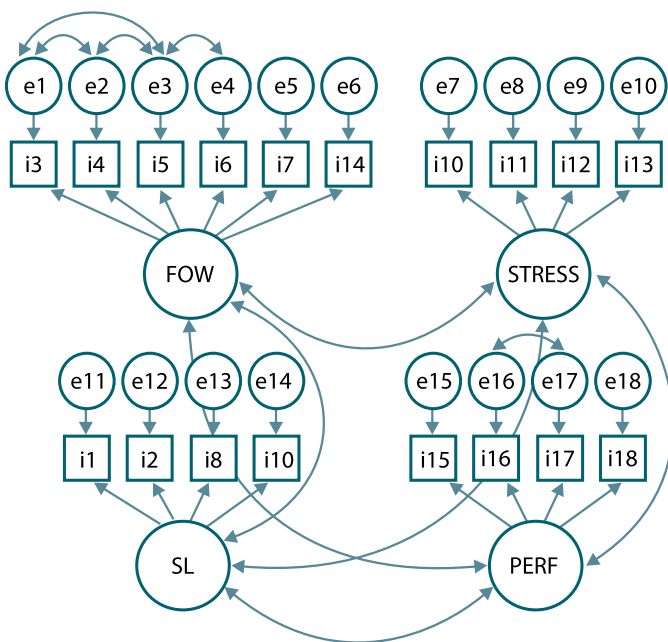
When developing a new measurement tool, confirmatory factor analysis (CFA) is an essential step following exploratory factor analysis (EFA) to ensure the scale aligns with its intended theoretical structure [Hinkin, 1995]. Additionally, CFA aids in verifying items within the same group and predicting relationship patterns [DeVellis, 2017]. For CFA, 342 more white-collar people were reached, and CFA was performed using the data obtained. The IBM SPSS AMOS 18 program was employed for first-level multi-factor CFA (see Figure). CFA model aligns with the four-factor structure of the scale: focusing on work, coping with stress, social loafing, and performance. Commonly, Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Incremental Fit Index (IFI) values are examined to assess model fit. The obtained values from the CFA are as follows: the model was significant at the  $p = .000$  level, the  $\chi^2/df$  value falls between 3 and 5, indicating an acceptable fit, the GFI value approaches .90, which is acceptable, and the CFI value surpasses .90 at .903, suggesting a good fit. The RMSEA value of .08 within the predetermined limits also signifies an acceptable fit. These results collectively indicate that the model is congruent with the data and that the values are acceptable. The subsequent CFA regression further examined the significance of the regression coefficients. Standardized regression coefficients, representing factor loadings, were all significant at the  $p < .001$  level. As depicted in Table 4, factor loadings of the items range between .404 and .856 affirming that the factors identified through EFA were validated by CFA. This vali-

Table 3 – Reliability values for presenteeism scale  
Таблица 3 – Результаты анализа надежности шкалы презентеизма

| Factors               | (α)  | Mean / sd |      | Correlations |         |         |   |
|-----------------------|------|-----------|------|--------------|---------|---------|---|
|                       |      | σ         | x    | 1            | 2       | 3       | 4 |
| Presenteeism          | .940 | 3.07      | 1.48 | –            | –       | –       | – |
| 1. Focus on work      | .913 | 3.64      | 1.64 | 1            | –       | –       | – |
| 2. Coping with stress | .862 | 2.97      | 1.46 | 0.705**      | 1       | –       | – |
| 3. Social loafing     | .837 | 2.92      | 1.49 | 0.675**      | 0.570** | 1       | – |
| 4. Performance        | .791 | 3.07      | 1.48 | 0.642**      | 0.575** | 0.615** | 1 |

Note: \* $p < 0.05$ , \*\* $p < 0.01$

dition through CFA attests to the construct validity of the four-factor presenteeism scale.



FOW is Focus on Work; SL is Social Loafing;  
PERF is Performance; I is Item.

**Presenteeism Scale CFA model**  
**Модель ПФА шкалы презентеизма**

**Table 4 – Fit indices for confirmatory factor analysis (CFA)**  
**Таблица 4 – Индексы соответствия подтверждающего факторного анализа (ПФА)**

| Indices     | Compatible values | Acceptable values     | Values |
|-------------|-------------------|-----------------------|--------|
| $\chi^2$    | $p > 0.05$        |                       | 414.03 |
| $\chi^2/df$ | $< 3$             | $3 < (\chi^2/df) < 5$ | 3.313  |
| RMSEA       | $> .05$           | $< .08$               | .08    |
| CFI         | $> .95$           | $> .90$               | .93    |
| GFI         | $> .95$           | $> .90$               | .89    |
| AGFI        | $> .95$           | $> .90$               | .83    |
| SRMR        | $p < 0.08$        |                       | 0.054  |
| NFI         | $> .95$           | $> .90$               | .90    |

The regression coefficients obtained from CFA show the factor loadings. According to Harrington [2009], factor loadings above 0.71 are considered excellent, 0.63 is very good, 0.55 is good, 0.45 is acceptable, and 0.32 is poor. Factor loadings below 0.30 indicate that the values are unacceptable (see Table 2). Regression values greater than 0.40 indicate that the items loaded on the correct factors. All factor values obtained were significant at  $p < 0.01$  level. As seen from Table 5, the factor loadings of the items vary between 0.404 and 0.856. The factors obtained by EFA were confirmed by CFA. The final version of the scale is shared as an attachment. The presenteeism scale is given in Appendix.

**Table 5 – Regression coefficients**  
**Таблица 5 – Коэффициенты регрессии**

| Item no. |   | Dimensions     | Estimates |
|----------|---|----------------|-----------|
| 14       | ← | Focus on work  | 0.833     |
| 7        | ← | Focus on work  | 0.736     |
| 6        | ← | Focus on work  | 0.831     |
| 5        | ← | Focus on work  | 0.833     |
| 4        | ← | Focus on work  | 0.800     |
| 3        | ← | Focus on work  | 0.778     |
| 10       | ← | Stress         | 0.670     |
| 11       | ← | Stress         | 0.733     |
| 12       | ← | Stress         | 0.814     |
| 13       | ← | Stress         | 0.856     |
| 1        | ← | Social loafing | 0.537     |
| 2        | ← | Social loafing | 0.724     |
| 8        | ← | Social loafing | 0.815     |
| 10       | ← | Social loafing | 0.832     |
| 15       | ← | Performance    | 0.757     |
| 16       | ← | Performance    | 0.822     |
| 17       | ← | Performance    | 0.850     |
| 18       | ← | Performance    | 0.404     |

**Validity and reliability.** The assessment included Cronbach's alpha, rho-Ave, and composite reliability (CR) coefficients to evaluate internal consistency reliability, with expectations set at factor loadings  $\geq 0.70$  and coefficients (Cronbach's alpha, rho-Ave, and composite reliability)  $\geq 0.70$  (Table 6). The average variance explained (AVE) is also expected to be  $\geq 0.50$  [Hair et al., 2017; Hair et al., 2010; Fornell, Larcker, 1981]. The results obtained from CFA reveal that factor loadings vary between 0.404 and 0.856. In this context, the internal consistency coefficients of the dimensions of the presenteeism scale developed in this study appear to be above the threshold level. The calculated AVE value was found to be above the threshold value of 0.50 [Mishra, 2015]. According to the analysis results, CR values are greater than 0.7. In addition, the CR value was found to be greater than the square root of the AVE values. As expected, the Maximum Shared Squared Variance (MSV) value was found to be smaller than the CR value, the MaxR(H) value was found to be larger than the CR values, and the MSV is expected to be smaller than the CR value [Hair et al., 2010].

The heterotrait-monotrait (HTMT) correlation method is used for discriminant validity and it has high performance. The HTMT value is expected to be below 0.90 for discriminant validity [Henseler, 2015]. The values obtained are below 0.90 and the discriminant validity of the scale has been ensured.

Thus, the above values meet the expected values and the four-dimensional scale is validated.

Table 6 – Validity and reliability values

Таблица 6 – Результаты тестов на валидность и надежность

| Variables         | CR   | AVE   | MSV   | MaxR(H) | HTMT         |              |              |   |
|-------------------|------|-------|-------|---------|--------------|--------------|--------------|---|
|                   |      |       |       |         | 1            | 2            | 3            | 4 |
| 1. Social loafing | 0.84 | 0.670 | 0.699 | 0.852   | –            | –            | –            | – |
| 2. Focus on work  | 0.91 | 0.698 | 0.664 | 0.918   | <b>0.783</b> | –            | –            | – |
| 3. Performance    | 0.75 | 0.627 | 0.669 | 0.830   | 0.845        | <b>0.799</b> | –            | – |
| 4. Stress         | 0.84 | 0.708 | 0.669 | 0.854   | 0.709        | 0.789        | <b>0.760</b> | – |

Note: CR is Composite Reliability; AVE is Average Variance Extracted; MSV is Maximum Shared Squared Variance; MaxR(H) is Maximum H Reliability.

## DISCUSSION AND CONCLUSION

Measuring the right qualities with appropriate measurement tools is vital to achieving the data collection goals. Otherwise, errors regarding certain features may occur. The systematic review study of twenty-three different presenteeism scales by Ospina et al. [2015] highlighted the need for a reliable instrument with high content validity. Additionally, Shikar et al. [2004] noted deficiencies in the psychometric measurements of presenteeism scales. The presenteeism and productivity loss scale in [Vanni et al., 2018] aims to identify employees' health problems and measure productivity losses. On the other hand, while the Stanford Presenteeism Scale, frequently used in the literature, focuses on employee health, it cannot express the personal and organizational factors that cause absenteeism at work. Similarly, the Endicott Work Productivity Scale assesses the impact of psychological health problems on work performance, while the Health and Work Questionnaire primarily addresses health-related aspects [Ospina et al., 2015].

Addressing this gap, our developed presenteeism scale incorporates health problems and individual and organizational issues, reflecting a holistic understanding of presenteeism from past to present. This study presents the comprehensive development and validation process of the presenteeism scale, designed to measure employee presenteeism levels associated with individual, organizational, and health-related challenges. An extensive item pool, aligned with the existing literature, formed the initial stage of scale development. Evaluation by two organizational behaviour experts led to the decision to supplement the study with qualitative data. Focus group interviews were conducted to enhance the conceptual understanding, resulting in eighteen items extracted from a pool of sixty expressions through content analysis. EFA revealed a four-factor structure – Work Focus, Coping with Stress, Social Loafing, and Performance – validated by CFA. Model compatibility with data and acceptable values reinforced the construct validity of the four-factor visible presence at work scale. The significance of regression coefficients was confirmed through analysis supporting the factors identified in EFA. Cronbach's alpha coefficients demonstrated internal consistency for dimensions: social loafing, work focus, performance, and stress. Social

loafing 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.

The work focus factor refers to employees being at work despite their health problems, individual and organizational problems, and not being able to fully concentrate on their work. Coping with stress refers to the state of being able to deal with anxiety created by health problems or individual/organizational problems of employees or by continuing working without permission due to these problems. Finally, performance refers to employees' effort to work below the expected daily level due to health problems or individual/organizational problems they experience. Scoring ranges from 1 to 6, reflecting overall presenteeism behaviour. Higher scores indicate elevated presenteeism behaviours, providing insights into employees' focus, stress levels, or performance.

**Limitations.** As with every study, this research also has some limitations. The data are one-time only and cross-sectional. In addition, our study has limitations that should be considered in the development stages of the scale and the interpretation of the scale's items. For example, variables not represented in the model are a reliability problem. In contrast, variables that interfere with the model in some way, even though they do not want to be included in the model, are a problem of validity [Podsakoff et al., 2003]. 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 behaviours resulting from the employees' health, organizational, and individual problems.

Collecting research data from a single sample or using measurement tools with different constructs can lead to methodological problems [Malhotra, Kim, Patil, 2006]. In the present study, Harman's one-factor test was applied to test whether there is any potential common method bias [Podsakoff et al., 2003]. The results have demonstrated that 38.24% of the total variance is expected to be lower than 50%. Consequently, common method bias does not have a significant effect on the study.

Another limitation of the study is that it is based on individuals' perceptions. For example, levels of interpersonal perception may cause individuals to interpret their health-related or organizational problems as mild or severe problems relative to each other. To eliminate this limitation regarding perception, we determined the boundaries of health, individual, and organizational problems in the scale and avoided expressions that could lead to different perceptions. Finally, the inability to provide evidence for the causality of observed effects due to the correlational design of our scale development study is similar to the limitations of other studies in the social sciences. In this context, similar to the existing studies [Koopman et al., 2002; Vänni et al., 2018], which suggest that presenteeism is not only caused by health problems, our study examines the causes of

presenteeism by identifying that problems in employees' workplace, family or personal lives create stress, prevent employees from focusing on work, cause them to deal with other things at work and reduce their performance.

The research data 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.

The developed scale offers practical utility for researchers and company owners. Future studies must investigate the main reasons for not being present at work. In addition, addressing the organizational causes of presenteeism and proposing policies and procedures by questioning what preventive practices for work-family conflict should be helpful. ■

## Appendix Приложение

1 – Strongly disagree 2 – Disagree 3 – Somewhat disagree 4 – Somewhat agree 5 – Agree 6 – Strongly agree

### Presenteeism scale - Items

1. I spent time at work dealing with social media, phone, internet, etc.
2. I have 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.

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