

# ARTICLES

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## A THEORY OF PRESENTEEISM BEYOND BEING SICK AND A MEASUREMENT TOOL

*Uma teoria do presenteísmo para além da doença e uma ferramenta para sua mensuração*

*Una teoría del presentismo más allá de la enfermedad y una herramienta para su medición*

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### ABSTRACT

The first definition of presenteeism was limited to individuals who attended work despite being unwell. Over the past 15 years, other perspectives have expanded the concept to encompass any non-work-related factors influencing behavior during working hours. This research aims to redefine presenteeism within the context of healthcare workers' behaviors and contribute to the literature by introducing a measurement scale. The study involved 431 healthcare professionals across nine public and four private/foundation hospitals. Presenteeism was associated positively with burnout and negatively with happiness at work. Younger people showed higher levels of presenteeism compared to their older counterparts, as did those who worked nine hours or more per day. Although the scale was applied to healthcare professionals, its framework holds potential for use in other areas.

**Keywords:** presenteeism, healthcare workers, psychometric analyses, validity, reliability.

### RESUMO

Quando o presenteísmo foi introduzido, tratava-se de uma questão limitada ao fato das pessoas irem trabalhar mesmo doentes. Nos últimos anos, no entanto, surgiram outras perspectivas, defendendo que também deve ser considerado presenteísmo todo assunto que não esteja necessariamente relacionado à atividade laboral, mas que possa ter efeito sobre o desempenho do trabalhador ou incorra em alguma ação durante o horário de trabalho. A presente pesquisa tem como objetivo redefinir o conceito de presenteísmo no âmbito dos comportamentos dos trabalhadores da área da saúde e contribuir para a literatura, oferecendo uma escala para sua mensuração. O estudo foi realizado com 431 profissionais de saúde em nove hospitais públicos e quatro hospitais privados/fundacionais. O presenteísmo foi associado positivamente ao esgotamento profissional e negativamente com a felicidade no trabalho. Pessoas mais jovens mostraram comportamentos de presenteísmo mais elevados do que as pessoas mais velhas e do que aquelas que trabalhavam nove horas ou mais por dia. A escala foi aplicada a profissionais de saúde, mas apresenta um desenho estrutural que pode ser aplicado em outras áreas.

**Palavras-chave:** Presenteísmo, trabalhadores da saúde, análises psicométricas, validade, confiabilidade.

### RESUMEN

Inicialmente, el término presentismo se aplicaba solamente en los casos de personas que iban a trabajar incluso estando enfermas. Sin embargo, en los últimos años, surgieron otras perspectivas que argumentan que también debe considerarse presentismo todo tema que no necesariamente esté relacionado con la actividad laboral, pero que afecte el desempeño del trabajador o implique alguna acción durante la jornada laboral. Esta investigación tiene como objetivo redefinir el presentismo en el ámbito del comportamiento de los trabajadores de la salud y contribuir a la literatura al ofrecer una escala para su medición. El estudio se realizó con 431 profesionales de la salud de 9 hospitales públicos y 4 privados/fundaciones. El presentismo se asoció positivamente con el agotamiento y negativamente con la felicidad en el trabajo. Las personas más jóvenes mostraron comportamientos de presentismo más altos que las personas mayores y las que trabajaban 9 horas o más al día. Esta escala, que se aplicó a profesionales de la salud, tiene un diseño estructural que permite que se aplique a otras áreas.

**Palabras clave:** Presentismo, trabajadores de la salud, análisis psicométricos, validez, fiabilidad.

## INTRODUCTION

Presenteeism, as described by Cooper and Lu (2018), was initially defined by Auren Uris in 1955 and later incorporated into Cranfield and Soash's book on worker behaviors. The concept gained prominence with Lancaster University's Cooper's research on organizational restructuring (Cooper, 1996). Historically, presenteeism emerged from the dimension of absenteeism based on health conditions (Lohaus & Habermann, 2019), with a reported 4% productivity loss attributed to health-related absences (Goetzel et al., 2004). Over time, presenteeism was examined in depth concerning potential contributions to an individual's health, self-esteem, and employability (D'Abate & Eddy, 2007; Lohaus & Habermann, 2019; Rainbow et al., 2021). This approach offered insights into how presenteeism arises even when an individual's health condition is unilaterally expressed, emphasizing the mutual benefits for both the workplace and the employee (Fernando et al., 2017; Yang et al., 2021). Consequently, numerous studies, especially in the United States, have recommended employers to be more understanding and supportive (Halbesleben et al., 2014; Krane et al., 2014; Shdaifat, 2022; Siqueira et al., 2023). However, debates arose regarding the precise definition of presenteeism, with some authors suggesting that it could not be entirely separated from the context of illness (D'Abate & Eddy, 2007; Johns, 2010; Lohaus & Habermann, 2019). Indeed, when presenteeism is defined as an individual being physically present at work but not mentally engaged, it necessitates a multi-dimensional evaluation (Cooper & Lu, 2018; Lohaus & Habermann, 2019).

Lohaus and Habermann (2019) highlighted two primary perspectives on presenteeism: one focusing on the individual's health condition necessitating absence and the other emphasizing the negative productivity impacts. While some studies evaluated the impact of work-related injuries and illnesses within the scope of presenteeism (Won et al., 2022), others argued that this perspective falls short, emphasizing that reduced workforce productivity prevents a completely unproductive situation caused by sick leave (Johns, 2010). Various tools have been developed to measure these two perspectives, with the "Stanford Presenteeism Scale" being one of the most popular, examining performance disruptions due to health issues over a month (Koopman et al., 2002). Similarly, the World Health Organization's "Health and Work Performance Questionnaire" follows the same approach (Kessler et al., 2004), while the "Work Limitations" survey evaluates the situation based on productivity (Lerner et al., 2001). However, these widely used measurement tools have faced criticism (Lohaus & Habermann, 2019) as they fail to integrate the different perspectives while evaluating presenteeism (Gilbreath et al., 2012; McGregor & Caputi, 2022). Moreover, there is a noted absence of a scale in the literature that holistically evaluates employees' emotional and behavioral responses at work (Jayaweera & Dayarathna, 2019; Lohaus & Habermann, 2019; McGregor & Caputi, 2022). This gap underscores the need for a comprehensive understanding of presenteeism, both in the business world and in academic literature (Lohaus & Habermann, 2019; McGregor & Caputi, 2022; Rainbow et al., 2021; Siqueira et al., 2023; Vänni et al., 2017).

In response to this need, our developed scale aims to evaluate individuals' emotional and behavioral responses at work, including their relationships with productivity and health conditions. We aspire to help both employers and employees genuinely understand how they are affected and how they react. In doing so, we will explore both the health-related and performance-related facets of presenteeism. We believe this will aid in developing a more holistic approach to the phenomenon, delving deeper into its definition, causes, and consequences.

## THEORETICAL BACKGROUND AND HYPOTHESIS

As defined by Cooper (1996), Presenteeism refers to being at work when one should be at home due to illness or overwork. While many studies have focused on illness-related presenteeism, Johns (2010) emphasizes the need to distinguish between various definitions. Presenteeism represents an employee attending work despite physical or emotional health issues. This concept encompasses two perspectives: the impact of an employee attending work when they should not and the effect on work performance (Bryan et al., 2022).

Two approaches in the working world can be likened to different entrances of a labyrinth. On the one hand, studies from Scandinavia and the UK suggest that employees feel compelled to attend work (Johansen et al., 2014; Kinman & Clements, 2022; Sendén et al., 2016). This is primarily driven by the fear of job loss. However, attending work while unwell can have negative health implications (McGregor & Caputi, 2022). Generally, it's not recommended for an unwell employee to attend work. Yet, some studies highlight the positive aspects of such behavior, including increased self-esteem and a mental escape from health issues (Lohaus & Habermann, 2019; Min et al., 2022).

Johns (2010) underscores the need to integrate these perspectives and revise the definition of presenteeism. The decision for an employee to attend or skip work is not solely based on physical health but also psychological, social, and institutional factors (Johns, 2010; Patel et al., 2023). Striking a balance between presence and productivity at work is complex and requires an integrated approach (Ishimaru & Fujino, 2021).

### Presenteeism determinants

While most studies focus on illness-based presenteeism, they also discuss potential contagions, inefficiencies, and dual-sided damages in employer-employee relationships (Johansen et al., 2014; Kinman & Clements, 2022; Krane et al., 2014). Later studies expanded the definition of presenteeism to encompass performance-related aspects (Ruhle et al., 2020). Factors like illness, boredom, personal issues, and workload variations contribute to presenteeism behaviors.

Understanding presenteeism requires examining its determinants and effects, as summarized in Exhibit 1. Presenteeism often results in delayed tasks, with employees sometimes intentionally or unintentionally slowing down their work (Demerouti et al., 2009). The degree of this delay,

whether it is significant or minimal, can influence managerial relationships and overall productivity (D'Abate & Eddy, 2007). Factors like task urgency, daily responsibilities, and deadlines can also play a role in these behaviors (Wan et al., 2014).

Exhibit 1 suggests that presenteeism's impact on performance and productivity is multifaceted. Its observable effects on work performance are crucial (Bamforth et al., 2023; Lohaus & Habermann, 2019). For example, the length and frequency of breaks can disrupt workflow and reduce productivity (Bamforth et al., 2023). The duration of presenteeism behavior, whether short or long-term, explains the time element in this regard (Patel et al., 2023). While occasional distractions and breaks are natural and can be considered a form of presenteeism (Sampat & Basu, 2017), frequent or prolonged behaviors may indicate deeper organizational or personal issues (Demerouti et al., 2009; McGregor & Caputi, 2022).

**Exhibit 1.** Elements that determine the nature of the presenteeism

Elements	Content
Rationale	Illness, boredom, personal problems, lack of focus, low workload, high workload, distraction, etc.
Work Procrastination	High, low, none.
Duration	Short-term, long-term
Frequency	Frequent, sometimes, rarely.
Type	Emotional, behavioral.

In understanding the causes of presenteeism and its related concepts, demographic determinants can also be considered. For instance, a study examining the relationship between depression and presenteeism found age to be a distinguishing factor for both employees and employers (Lee et al., 2022). Another research identified marital status as a distinguishing sociodemographic factor (Naid & Asshidin, 2020). Gender is also highlighted as a distinguishing factor, with men reportedly being able to withstand presenteeism pressures less than women (Johns, 2010). Differences are also noted in comparisons of educational levels, such as graduate and undergraduate levels (Güngör et al., 2022). Whether an institution is private or public can also be a reason for different presenteeism behaviors (Ferreira & Martinez, 2012). Another study from the health sector indicates that task distribution plays a significant role in presenteeism behaviors (Kandemir & Bayram, 2017). A study focusing on the positive potential of presenteeism mentions that the number of working years affects presenteeism behaviors (Wang et al., 2023). Another research points out a significant relationship between shift work, the length of working hours, and presenteeism behaviors (Min & Hong, 2023). The variables highlighted in the literature are hypothesized in our presenteeism tool's validity section and will be compared with existing literature. In the validation phase for our research group, which includes healthcare workers and other employees, we propose:

H<sub>1</sub>: There are differences in the presenteeism behaviors of healthcare workers based on their demographic characteristics.

A study in Malaysia found a negative correlation between presenteeism, happiness, and psychological well-being (Ho et al., 2022). Another research indicated a weak positive relationship between burnout and presenteeism, and a weak negative one with well-being (Ozduran et al., 2023). Workplace happiness was shown to be strongly linked to well-being (Kun & Gadanez, 2022). Given our focus on Turkish-speaking healthcare workers, we used widely accepted Turkish tools to measure burnout and workplace happiness, leading to the following hypotheses:

H<sub>2</sub>: Healthcare workers' presenteeism is negatively correlated with their workplace happiness.

H<sub>3</sub>: Healthcare workers' presenteeism is positively correlated with their burnout.

Research has highlighted the role of emotional intelligence in presenteeism (Karimi et al., 2015) and the connection between emotional exhaustion and presenteeism (Baeriswyl et al., 2017). Presenteeism, often driven by fears like job loss or management issues, is rooted in emotions and thoughts (Gilbreath et al., 2012; Johns, 2010; Patel et al., 2023). However, it is essential to consider both the emotional and actionable aspects of presenteeism (Ollo-López & Nuñez, 2023). Thus, a comprehensive approach to measuring presenteeism should encompass both dimensions (Block et al., 2008; Kaiser, 2018; Lohaus & Habermann, 2019).

## Types of presenteeism

Presenteeism is shaped by multiple elements, such as the individual employee, coworkers, management, and organizational policies. While the concept of attending work despite illness is frequently discussed in the literature, being present at work but unproductive is not solely attributed to health issues. Drawing from the information in the literature, we categorize presenteeism into two primary types: Emotion-Based and Action-Based (Gilbreath et al., 2012; Lohaus & Habermann, 2019; McGregor et al., 2016; McGregor & Caputi, 2022; Ruhle et al., 2020).

### Emotion-Based Presenteeism (Affect)

This refers to employees attending work despite being inefficient due to mild symptoms like pain or fatigue (Leal & Ferreira, 2021). Some argue that attending work, even with reduced performance, is essential for job continuity (Ruhle et al., 2020). However, long-term mental health treatments require a more understanding workplace approach. Fear of job loss or damaged reputation can also drive employees to work when rest is needed, potentially harming their long-term commitment (Collins et al., 2022). Emotion-based presenteeism encompasses momentary emotional states, such as happiness or sadness, affecting productivity (Karimi et al., 2015).

## Action-based Presenteeism (Action)

This goes beyond the emotional response to illness and includes observable behaviors affecting productivity. A performance-centric approach to presenteeism should consider both its emotional and behavioral aspects (Lohaus & Habermann, 2019; Ruhle et al., 2020). Challenges in addressing presenteeism are present in both public and private sectors (Borges et al., 2023). Action-based presenteeism arises from an employee's awareness, but not all non-work-related activities during work hours are inefficiencies. Breaks are essential, and only behaviors that diminish work efficiency should be classified as action-based presenteeism (McGregor et al., 2016).

In summary, presenteeism can be categorized into affect-based and action-based types. While the former relates to feelings affecting work, the latter involves behaviors directly impacting productivity. There is a need for a comprehensive scale that addresses both dimensions, as current scales mainly focus on health-related issues (Gilbreath et al., 2012; Koopman et al., 2002; Lohaus & Habermann, 2019; Rainbow et al., 2021).

## METHODOLOGY

This cross-sectional and methodological study aims to develop a reliable and valid scale for a specific construct, capturing data at a particular point to discern patterns and relationships within the healthcare context.

### Research setting, characteristics, and timeline

The research was conducted in 13 hospitals in Istanbul, consisting of 9 public and 4 private or foundation-run institutions. These hospitals were chosen for their diverse workforce and operational structures, providing a broad range of healthcare professionals for participation. The study was carried out from March 2020 to February 2022. It is important to note that the sample distribution between public and private sectors was influenced by the overall employment distribution in Turkey. According to data from the Turkish Statistical Institute and the provided tables, a significant majority of healthcare professionals in Turkey are employed in the public sector (Turkish Statistical Institute, 2023). In Istanbul, 65.6% of healthcare professionals work in public institutions, while in Turkey overall, this figure is even higher at 76.2%. This distribution was reflected in our sample, with a higher number of participants from the public sector, aligning with the national trend.

### Population and sample

Targeting all healthcare professionals in Istanbul's hospitals, the study aimed for a holistic understanding of their experiences and viewpoints. A sample of 431 professionals, representing varied roles and backgrounds, voluntarily participated. Their involvement highlights the healthcare community's dedication to the research. For determining sample size in exploratory and confirmatory factor analysis, the literature suggests (Orcan, 2018):

- Number of variables and number of items = number of observed variables X 10 (or minimum 5 in areas where sampling is difficult to reach)
- If the number of observed variables is <20: n= 200 (minimum).

### Scale development process

Over a two-year period, we developed a scale to measure “presenteeism” among healthcare professionals in Istanbul hospitals. Initially, a literature review helped identify potential items for the concept. These items were then reviewed by 10 experts in fields like health management and organizational behavior. Their feedback led to the removal of 2 items, the addition of 1, and the revision of 4, resulting in a 12-item scale. As defined by Polit and Beck (2006), content validity ensures a tool accurately represents the intended concept. An associated metric, the Content Validity Ratio (CVR), gauges expert agreement on an item's necessity in the tool. The CVR quantifies the degree of agreement among experts about the essentiality of an item in a particular instrument. It provides a statistical measure to determine if an item is considered necessary by a panel of experts (Taherdoost & Lumpur, 2016). Following the CVR is the Content Validity Index (CVI). The CVI evaluates the relevance of items in a tool based on expert feedback, ensuring each item's fit and relevance to the overall concept (Polit & Beck, 2006). This tool was then reviewed by 8 expert academics for content validity calculations. Using the Lawshe technique, a CVR of 0.860 was achieved for each item, reflecting an expert consensus on the appropriateness (Lawshe, 1975). The CVI determined through the Davis technique yielded an average score of 0.933, signifying its appropriateness for the pilot study (Davis, 1992).

In the pilot phase, the scale was administered to 50 healthcare professionals. Analysis of the responses revealed that the item with the lowest score (I6) had a mean of  $4.54 \pm 0.50$ , while the highest-scoring item registered a mean of  $4.72 \pm 0.45$ . The overall average score across all 12 items was  $4.63 \pm 0.16$ . To ensure the scale's robustness, the distribution of scores was examined, and it was observed that the scores were consistent, indicating a good level of internal consistency among the items. Participant feedback was gathered for item clarity and relevance, leading to minor adjustments for clarity. With these insights and established content validity, the YS Presenteeism scale was deemed ready for further validation. This pilot was pivotal in refining the scale for the target audience and paved the way for the construct validity phase.

Construct validity is a multifaceted concept that can be divided into exploratory and confirmatory components. The exploratory component often involves item analysis and exploratory factor analysis (EFA), which aim to uncover the underlying structure of the data and identify potential factors or dimensions. On the other hand, the confirmatory component employs confirmatory factor analysis (CFA) to test a predefined structure or model. Additionally, convergent validity, which assesses the degree to which two measures that should theoretically be related are related, and known-groups validity, which compares scores between groups that are expected to differ, are also integral parts of the confirmatory aspect of construct validity (Taylor et al., 2007; Weiner et al., 2017). In our study, the exploratory phase of the scale development used Exploratory Factor Analysis (EFA) to ascertain the structural validity of the scale, which was subsequently confirmed through a Confirmatory Factor Analysis (CFA). The fit indices in the CFA were meticulously examined to assess how well the model conformed to the data. On the reliability front, the exploratory side delved into item analysis, intra-class correlations, and Cronbach's Alpha coefficient. For validation purposes, the reliability analysis was further evaluated using the test-retest method.

Of the 431 individuals reached, 231 were used in exploratory methods (EFA, item analysis, Alpha coefficient check), while 200 were used in confirmatory methods (CFA, Known groups validity, convergent validity). The reason for this is that applying both exploratory and confirmatory factor analysis to the same population does not sufficiently test the  $H_0$  hypothesis in a scientific sense (Hurley et al., 1997). To obtain stronger results, validation was carried out in a different population. This comprehensive and rigorous procedure ensured the development of the presenteeism scale with scientific rigor and the highest standards.

## Other data collection tools

In the survey's participant introduction form, respondents provided information on various aspects of their demographics and professional backgrounds. Specifically, they indicated their type of institution (whether public or private-foundation), age, sex, living arrangements detailing with whom they reside, their current position or role, the total number of years they have been in their profession, their daily working hours, and their marital status.

Two scales were used for convergent validity in confirmatory methods of the research:

- **Happiness At Work Scale:** Originally developed by Singh and Aggarwal (2018) and adapted to Turkish by Sever et al. (2020), this scale consists of 12 items. It primarily identifies four sub-dimensions that indicate an increase in an employee's job satisfaction as the overall score rises. In this study, the general job satisfaction score was used for evaluation. Items 4, 5, 6, 10, 11, and 12 are reverse-coded. Scoring is based on a 7-point Likert scale.
- **Burnout Scale Short Version:** Introduced to the Turkish literature by Tümkaya et al. (2009), this scale was originally prepared by Malach-Pines (2005). Both the Turkish

and original versions have three sub-dimensions. During its adaptation to Turkish, it was noted that a general score could be calculated, and as this score increases, an individual's burnout level also rises. Scoring is based on a 7-point Likert scale, and there are no reverse-coded items.

## Data collection

The entirety of the data for validity was collected through face-to-face interactions. The study was conducted with healthcare professionals for whom Turkish is the native language, and a total of 431 valid surveys were included in the research. During the initial data collection phase, participants were asked in the final question whether they were willing to participate in a test-retest validity assessment. Out of those approached, 151 individuals expressed their willingness to participate.

In line with this, the initial test was administered between January 11, 2021, and January 29, 2021. Subsequently, an invitation for the retest was extended between October 27, 2021, and November 31, 2021. Using phone and WhatsApp as the primary means of communication, out of the 151 invitees, 103 agreed and participated in the retest phase.

Considering the process from content validity onwards the data collection spanned from May 01, 2020, to January 10, 2022. After obtaining the ethical committee's approval, healthcare professionals to be included in the study were approached starting from the pilot study. Throughout this period, a comprehensive and in-depth understanding of the experiences and perspectives of these healthcare workers was achieved.

## Ethical considerations and permissions

The study received ethical approval from Istanbul Okan University's Ethics Committee on November 11, 2020. Due to COVID-19, the Ministry of Health's Scientific Research Platform became the primary authority for research permissions. Initially, approval was secured for six public hospitals, which later expanded to ten (Data collected from two hospitals (one public and one private) were used in the pilot study). Additionally, private hospitals' permissions were obtained from five private and foundation university hospitals. All healthcare professionals were given the choice to participate, and those who opted out were excluded. The research strictly adhered to the principles of the Helsinki Declaration.

## Statistical analysis

Lisrel 8.51 and IBM SPSS 22.0 software were used. Normality assumption was checked with skewness and kurtosis values. KMO and Bartlett's tests were used in the sample adequacy. Direct Oblimin rotation was used. Intra-class correlation coefficient and F test and Cronbach Alpha values were used. Independent t-test was used in one-way ANOVA difference analysis. In post-hoc analyses, the Games-Howell or Tukey HSD tests were utilized. Pearson and Spearman correlations were used in the relationship analysis. It was evaluated at a 95% confidence level.

## Research limitations, inclusion, and exclusion criteria

The research limitations are as follows:

- Challenges were encountered in data collection due to COVID-19, with some services being inaccessible.
- Face-to-face surveys were restricted in some hospitals due to COVID-19 precautions, necessitating online surveys.
- The high frequency of surveys conducted during the COVID-19 period deterred some individuals from participating in another study.
- High workloads in certain public hospitals posed significant challenges in data collection.
- The inclusion criteria for the research are as follows:
  - The participant must be employed as a healthcare professional in a hospital in Istanbul.
  - The participant must be proficient in the Turkish language.
  - The participant must voluntarily agree to participate in the research.
- The exclusion criteria for the research are as follows:
  - Individuals who have worked in their institutions for less than six months.
  - Individuals who are not knowledgeable about the research topic or have not received training on the subject.
  - Individuals who declined to participate or did not complete the survey.

## RESULTS

The responses of 231 healthcare professionals reached in the first wave were used in item analysis and exploratory factor analysis, and the responses of 200 healthcare professionals reached in the second wave were used in confirmatory factor analysis.

In Table 1, the characteristics of healthcare workers included in both the exploratory and confirmatory methods are presented. Most participants in both sections are from public institutions, with 64.1% in the exploratory section and 75% in the confirmatory section. Most participants are under 30 years of age in the exploratory section (60.6%), while the age distribution is more balanced in the confirmatory section. Females dominate in both sections, making up 71% and 70%, respectively. A significant portion of participants live with their spouse, partner, or child, especially in the confirmatory section (52.5%). Nurses form the largest professional group in both sections, especially in the confirmatory section at 49%. The distribution of total working time in the profession is balanced between those with 5 years or less and those with over 5 years of experience. Most participants work 9 hours or more daily. Lastly, while most participants in the exploratory section are single (58.4%), the confirmatory section has a more even distribution between single and married participants.

**Table 1.** Characteristics of healthcare workers included in exploratory and confirmatory methods

	Exploratory Section		Confirmatory Section	
	n	%	n	%
Institution				
Public	148	64.1	150	75.0
Private/Foundation	83	35.9	50	25.0
Age				
30 years and below	140	60.6	103	51.5
31 years and above	91	39.4	97	48.5
Sex				
Female	164	71.0	140	70.0
Male	67	29.0	60	30.0
With whom s/he lives				
Alone	59	25.5	40	20.0
Spouse/partner/child	90	39.0	105	52.5

Continua

**Table 1.** Characteristics of healthcare workers included in exploratory and confirmatory methods Conclusão

Friend	11	4.8	14	7.0
Parent	56	24.2	34	17.0
Other (Sibling, cousin)	15	6.5	7	3.5
Position				
Physician (Medical Doctor)	55	23.8	44	22.0
Nurse	84	36.4	98	49.0
Health technician	19	8.2	30	15.0
Dietitian	20	8.7	5	2.5
Physiotherapist	6	2.6	0	0.0
Administrative Staff	37	16.0	14	7.0
Other (Dentist, pharmacist, psychologist)	10	4.3	9	4.5
Total Working Time in the Profession (years)				
5 years and less	111	48.1	91	45.5
Over 5 years	120	51.9	109	54.5
Daily Working Time (hours)				
Below 9 hours	97	42.0	94	47.0
9 hours and more	134	58.0	106	53.0
Marital Status				
Single	135	58.4	96	48.0
Married	96	41.6	104	52.0
Total	231	100.0	200	100.0
	Mean±SD	Min-Max	Mean±SD	Min-Max
Age (years)	31.28±7.76	21-53	32.86±8.28	20-61
Total years in profession	8.42±7.66	0.5-33.4	10.14±8.94	0.5-42
Daily working hours	9.16±1.35	6-15	9.37±2.07	4-14

In the first step, there was no item below 0.15 in the total score correlation calculation in the item analysis. However, the scale with a Cronbach Alpha value of 0.858 before the removal of the item increased to 0.871 as a result of the removal of the I1 item. Therefore, it was deemed appropriate to remove the I1 item. In the second step, the items were reordered. It was accepted that the item analysis was successfully completed since values were above 0.15 in the total score correlation of the items and the single measurement intraclass correlation of the scale, the mean measurement intraclass correlation was highly reliable (0.850) and the ANOVA statistical value was significant ( $F:37.467;p<0,001$ ) (Table 2).

**Table 2.** YS presenteeism item analysis results

Item	$\bar{x}\pm\sigma$	Corrected Item-Total Correlation	Squared Multiple Correlation
I1	2.54±1.13	0.720	0.628
I2	2.36±1.12	0.677	0.585
I3	3.15±1.26	0.435	0.294
I4	3.35±1.17	0.740	0.718
I5	2.70±1.22	0.690	0.526
I6	2.84±1.15	0.443	0.297
I7	2.52±1.15	0.702	0.683
I8	2.26±0.98	0.684	0.540
I9	3.09±1.19	0.404	0.449
I10	2.28±1.08	0.401	0.290
I11	2.54±1.13	0.387	0.399

Note: N=231

Kaiser Meier Olkin and Bartlett's (KMO) sphericity tests were used to measure the suitability of the sample adequacy of the exploratory factor analysis for factor analysis. The result of the sample adequacy applied was found to be significant and was found suitable for factor analysis ( $\chi^2:1195.855;KMO=0.867;df=55;p<0.001$ ). The total variance explained was 59.475%. rotation was 4 iterations. Following this part, we moved on to the confirmatory factor analysis to determine the path diagram and fit indices (Table 3).

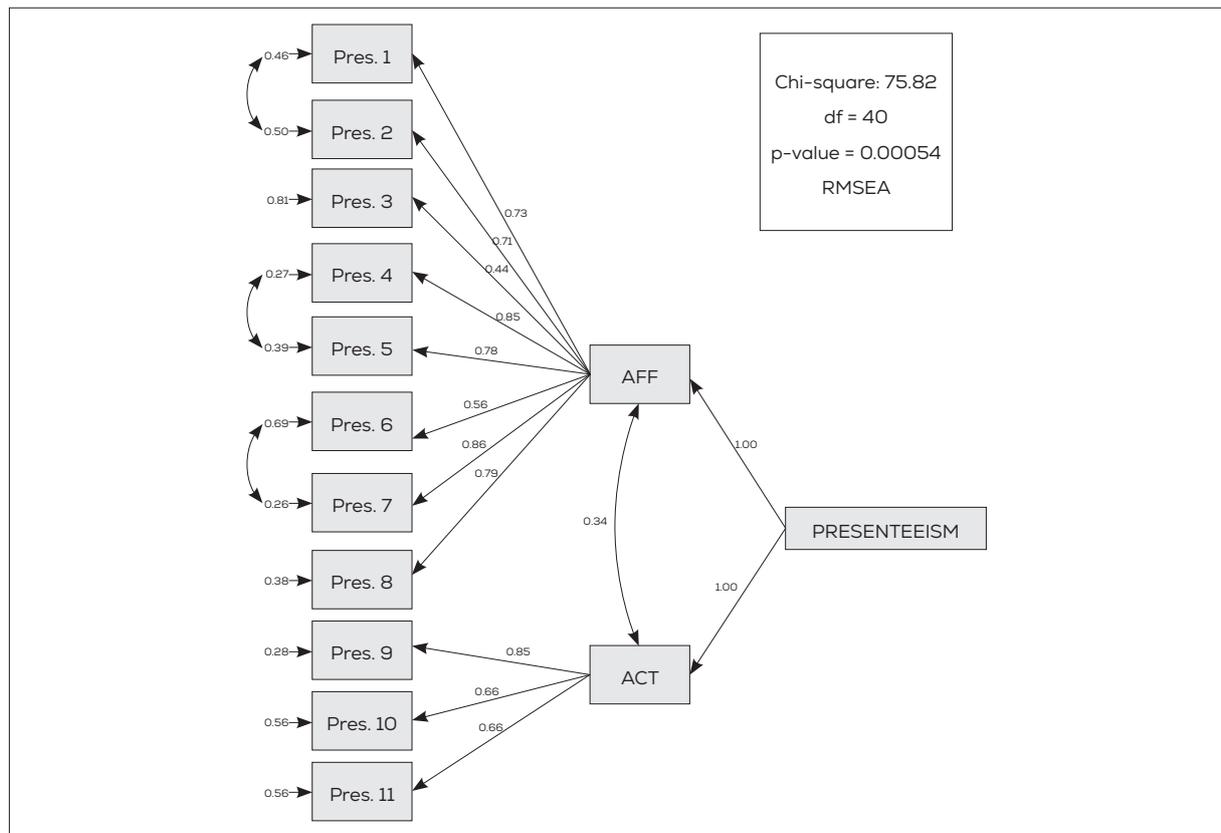
**Table 3.** YS presenteeism scale exploratory factor analysis results

Items	Total Eigenvalue	Factor 1	Factor 2	Extractions
I1	4.958	0.791		0.673
I2	1.585	0.755		0.604
I3	0.944	0.374		0.287
I4	0.823	0.841		0.728
I5	0.589	0.747		0.614
I6	0.459	0.654		0.382
I7	0.451	0.896		0.745
I8*	0.249	0.763		0.619
I9	0.373		0.868	0.733
I10*	0.380		0.653	0.474
I11	0.189		0.841	0.683

Eigenvalue: Factor 1: 4.958 Factor 2: 1.585;  
 Variance: Factor 1: 45.068; Factor 2: 14.406  
 Total Variance Explained: 59.475; N:231

Note: N=231

**Figure 1.** Path diagram standardized solution graph



The results of the confirmatory factor analysis of the YS Presenteeism Scale are given in Figure 1. All paths were highly significant since even the lowest path in the t statistic value was  $t=6.18$ . In addition, the general model of the diagram is statistically significant ( $p=.00054$ ). As a result of the chi-squared difference analysis, a decrease of 39.81 points occurred in the modification of 3 degrees of freedom, and it was concluded that the difference was statistically significant ( $p<.001$ ). Modifications were completed in a single iteration. Among the results of fit indices, 3 were acceptable; 3 gave good fit results. Accordingly, it was determined that the scale was suitable as a result of the confirmatory factor analysis (Table 4).

**Table 4.** YS presenteeism scale confirmatory factor analysis fit indices

Fit Indices	Fit Indices' Criteria	Acceptable Cohesion Criteria	Result Values	Result Compliance
$\chi^2/df$	$0 \leq \chi^2 /sd \leq 2$	$2 \leq \chi^2 /sd \leq 5$	1.895	Good
RMSEA	$.00 \leq RMSEA \leq .05$	$.05 \leq RMSEA \leq .08$	0.067	Acceptable
SRMR	$.00 \leq SRMR \leq .05$	$05 \leq SRMR \leq .08$	0.050	Good
GFI	$95 \leq GFI \leq 1.00$	$90 \leq GFI \leq 95$	0.94	Acceptable
AGFI	$.90 \leq AGFI \leq 1.00$	$.85 \leq AGFI \leq .90$	0.89	Acceptable
CFI	$.95 \leq CFI \leq 1.00$	$.90 \leq CFI \leq .95$	0.97	Good

Note: N=200

For known groups' validity, many differences of inter-groups were obtained. Health workers aged 30 and under have higher AFF (sub-dimension "affection" in the YS Presenteeism Scale) scores than those aged above 30. Those aged 30 and under have higher presenteeism scores than healthcare workers aged above 30. Single people are more likely to engage in action and presenteeism behaviors than those who are married. Men are more engaged in action behaviors than women. Those who graduated from graduate/medical school and completed specialization/doctorate in medicine had higher action and presenteeism scores than undergraduates. Nurses and administrative staff have higher affect scores than dietitians, physicians have higher levels of presenteeism than nurses, health technicians, dietitians, and administrative staff. Healthcare workers who have worked in the profession for 5 years or less have higher AFF and ACT (sub-dimension "action" in the YS Presenteeism Scale) points than those who have worked for more than 5 years. In addition, those who work for 9 hours or more have higher AFF and presenteeism points than those who work for 9 hours or less (Table 5).

**Table 5.** Known groups validity results

Characteristics	n	AFF	ACT	Presenteeism
		$\bar{x} \pm s$	$\bar{x} \pm s$	$\bar{x} \pm s$
Institution				
Public	150	2,92±0,88	2,24±0,85	2,57±0,69
Private/Foundation	50	2,71±0,96	2,29±0,87	2,50±0,74
Test p		1.448 <sup>†</sup> 1.149	-0.412 <sup>†</sup> 0.681	0.670 <sup>†</sup> 0.504
Age				
30 years and below	103	2.99±0.92	2.34±0.90	2.68±0.76
31 years and above	97	2.73±0.86	2.14±0.79	2.44±0.63
Test p		<b>2.013<sup>†</sup></b> 0.045*	1.645 <sup>†</sup> 0.101	<b>2.285<sup>†</sup></b> 0.023*
Sex				
Female	140	2.88±0.87	2.15±0.80	2.51±0.66
Male	60	2.86±0.99	2.46±0.94	2.67±0.80
Test p		-0.013 <sup>†</sup> 0.990	<b>-2.369<sup>†</sup></b> 0.028*	-1.425 <sup>†</sup> 0.156
With whom s/he lives				
Alone <sup>a</sup>	40	2.95±1.00	2.73±0.94	2.84±0.89
Spouse/partner/child <sup>b</sup>	105	2.78±0.91	2.08±0.84	2.43±0.68
Friend <sup>c</sup>	14	3.19±0.77	2.29±0.83	2.74±0.60
Parent <sup>d</sup>	34	2.85±0.85	2.25±0.66	2.55±0.54
Other (Sibling, cousin) <sup>e</sup>	7	3.21±0.72	2.05±0.65	2.63±0.60
Test p		1.037 <sup>F</sup> 0.817	4.552 <sup>F</sup> 0.002**	2.743 <sup>F</sup> 0.030*
Position				
Physician <sup>a</sup>	44	3.24±0.88	2.58±1.04	2.91±0.77
Nurse <sup>b</sup>	98	2.82±0.83	2.13±0.74	2.48±0.61
Health technician <sup>c</sup>	30	2.6±0.93	2.37±0.85	2.49±0.75
Dietitian <sup>d</sup>	5	1.95±0.94	2.00±1.25	1.98±1.08
Administrative Staff <sup>e</sup>	14	2.88±1.00	2.00±0.67	2.44±0.6
Other (Dentist, pharmacist, psychologist) <sup>f</sup>	9	2.92±1.05	2.11±0.87	2.51±0.78

Continua

**Table 5.** Known groups validity results

Conclusão

Characteristics	n	AFF	ACT	Presenteeism
		$\bar{x} \pm s$	$\bar{x} \pm s$	$\bar{x} \pm s$
Test p		3.276 <sup>F</sup> 0.007**	2.211 <sup>F</sup> 0.055	3.435 <sup>F</sup> 0.005**
Post-hoc		a>b, c, d b, e>d		a>b, c, d, e
Total Working Time in the Profession (years)				
5 years and less	91	3.01±0.95	2.38±0.89	2.69±0.77
Over 5 years	109	2.74±0.84	2.14±0.80	2.44±0.63
Test p		<b>2.067<sup>t</sup></b> 0.040*	<b>1.991<sup>t</sup></b> 0.048*	<b>2.532<sup>t</sup></b> 0.012*
Daily Working Time (hours)				
Below 9 hours	94	2.57±0.89	2.09±0.72	2.33±0.65
9 hours and more	106	3.12±0.83	2.38±0.94	2.76±0.69
Test p		<b>-4.566<sup>t</sup></b> <0.001**	-2.371 <sup>t</sup> 0.017*	<b>-4.374<sup>t</sup></b> <0.001**
Marital Status				
Single	96	2.94±0.91	2.42±0.84	2.69±0.73
Married	104	2.49±0.89	2.08±0.83	2.44±0.67
Test p		-1.170 <sup>t</sup> 0.243	<b>2.860<sup>t</sup></b> 0.005**	<b>2.470<sup>t</sup></b> 0.014*

**Note:** N:200; <sup>t</sup>: Independent sample t test; F: ANOVA test; \*: p<0.05; \*\*: p<0.001; AFF: Affect; ACT: Action

There was a moderate negative correlation between the scores from the Affect factor of the Presenteeism scale and the Happiness at Work scale ( $r:-.604$ ). A weak negative correlation was observed between the Action factor score and the Happiness at Work scale score ( $r:-.192$ ), and a moderate negative correlation between the overall presenteeism score and the Happiness at Work scale score ( $r:-.567$ ). A moderate positive correlation was found between the Burnout scale score and the Affect factor score ( $r:.693$ ), a weak positive correlation with the Action factor score ( $r:.224$ ), and a moderate positive correlation with the overall presenteeism score ( $r:.653$ ) (Table 6).

**Table 6.** Convergent validity results of the YS presenteeism scale

	Happiness at Work		Burnout	
	r	p	r	p
AFF	-0.604 <sub>pe</sub>	<0.001**	0.693 <sub>sp</sub>	<0.001**
ACT	-0.192 <sub>pe</sub>	0.003*	0.224 <sub>sp</sub>	0.001*
Presenteeism	-0.567 <sub>pe</sub>	<0.001**	0.653 <sub>sp</sub>	<0.001**

Note: N=231; pe: Pearson correlation; sp: spearman correlation; \*:p<0.01; \*\*:p<0.001

The internal consistency coefficient Cronbach Alpha value is 0.886 in Factor 1 and 0.713 in Factor 2. The overall reliability of all items on the scale is 0.871. Values are high in Factor 1; moderate in Factor 2 and they indicate that the overall scale is highly reliable. Based on these findings, the pre-test reliability analysis was concluded. For the post-test reliability analysis, the test-retest method was employed, with 103 participants. Positive and significantly high correlations were observed for all test-retest results of Affect, Action, and Presenteeism, with values of  $r_{\text{AFF}}:0.634$ ,  $r_{\text{ACT}}:0.635$ ,  $r_{\text{PRES}}:0.642$  respectively ( $p<0.001$ ) (Table 7).

**Table 7.** Results of the reliability analyses

	Internal Consistency (N=231)		8-month interval test-retest correlation (N=103)	
	Item Count	Cronbach Alpha	r	p
AFF	8	0.886	0.634 <sup>pe</sup>	<0.001*
ACT	3	0.713	0.635 <sup>pe</sup>	<0.001*
Presenteeism	11	0.871	0.642 <sup>sp</sup>	<0.001*

Note: pe: Pearson correlation; sp: spearman correlation; \*:p<0.001

## DISCUSSION

The YS Presenteeism Scale is a tool developed to measure presenteeism behaviors that address the presence of the person in feelings and behaviors that will reduce efficiency during working hours. Commonly used scales to determine the level of Presenteeism were handled based on health problems, and it was aimed to prove that employees should not come to work when they do not feel well (Kessler et al., 2004; Koopman et al., 2002). Over the past 15 years, this perspective has started to face criticism, with some authors emphasizing the need for a broader approach (D'Abate & Eddy, 2007; Johns, 2010; Krane et al., 2014; Lohaus & Habermann, 2019; McGregor & Caputi, 2022; Ruhle et al., 2020). Lohaus and Habermann (2019) argue that there is still no universally

accepted understanding. The YS Presenteeism Scale was developed considering these discussions, encompassing views that focus on both performance and the notion of an employee working despite being ill. The scale measures both the emotional aspect of presenteeism and its actionable, behavior-reflecting side. The items of the scale were crafted to ensure these issues were not overlooked and were discussed with experts for refinement. From the scale, which was initially designed with 12 items, the item “I could have done my work better” was removed.

Participants under the age of 30 in our study displayed higher presenteeism scores compared to those aged 31 and older. Another scholarly investigation indicated that the root causes of work-related behavioral disorders, like presenteeism, for those under 25 were associated with alcohol use (Moan & Halkjelsvik, 2021). Research involving 2093 industrial workers revealed that those younger than 30 displayed elevated presenteeism levels (Pie et al., 2020). Despite diverse findings in the literature, we contend that heightened presenteeism levels in individuals below 30 years of age are anticipated, given the influential role of age in shaping responsibility, enthusiasm, wanderlust, and social interaction tendencies. Furthermore, we identified that healthcare professionals working over 9 hours daily registered higher Affect scores and overall Presenteeism scores than those working fewer hours. An independent study deduced that environments with intense work demands showed pronounced presenteeism levels in both genders (Cho et al., 2016). It is inherently challenging to sustain optimal productivity over prolonged work durations, leading us to view the pronounced presenteeism in those working over 9 hours as a foreseeable result. In a German study of 14,299 employees, marital status emerged as a significant mediator in discerning presenteeism behaviors (Pfortner & Demirel, 2023). In our study, single individuals scored higher in both Affect and overall presenteeism than their married counterparts. A study involving 1,914 healthcare professionals found that doctors and pharmacists exhibited the highest levels of presenteeism (Chiu et al., 2017). Similarly, in our research, while doctors displayed the highest presenteeism, a group comprising pharmacists, dentists, and psychologists showed the second-highest levels of presenteeism. All these findings serve as appropriate examples for known-groups validity. Considering the numerous significant differences observed, it is presumed that Hypothesis 1 has been accepted.

There were significant negative correlations between happiness at work and both presenteeism and its associated factors. Furthermore, significant positive correlations existed between burnout and the various dimensions of presenteeism. These two outcomes validated our dual hypotheses and provided substantial evidence for the convergent validity of our scale. Another study identified a moderate negative correlation between workplace happiness and presenteeism (Sever et al., 2020). Numerous other studies on burnout revealed significant positive correlations between presenteeism and burnout (Baeriswyl et al., 2017; Ferreira et al., 2019; Gillet et al., 2020). In a study conducted on nurses, a moderate positive correlation ( $r=.498$ ) has been reported between presenteeism and burnout (Gillet et al., 2020). Literature findings reinforce the convergent validity of our scale.

## CONCLUSION

The sub-dimension named “Affect” (AFF) of the YS Presenteeism Scale encompasses items 1 through 8. Items 9, 10, and 11 form the “Action” (ACT) sub-dimension. The scale does not contain any reverse-coded questions. The AFF sub-dimension represents emotion-based presenteeism behaviors, capturing feelings of unhappiness, reluctance to work, lack of focus, and general malaise, all of which can diminish workplace productivity. In contrast, the ACT sub-dimension captures more overt behaviors, such as taking extended coffee breaks or excessive internet browsing. The scale provides an overall score derived from all items, reflecting employees’ presenteeism behaviors. The scale design indicates that as scores increase in either a sub-dimension or the overall measure, the corresponding presenteeism behaviors intensify. The scale utilizes a standard 5-point Likert, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). As the creators of this scale, we suggest evaluations be based on either the overall score or sub-dimension scores, calculated as an average (Total score/Number of items). This approach offers a more straightforward interpretation than a score range of 1 to 5. The scale does not have a designated cut-off point. The reliability scores are as follows: AFF at 0.886, ACT at 0.713, and the overall scale at 0.871.

Validity and reliability analyses were completed within the scope of these results and the scale called “YS Presenteeism Scale,” which measures the presenteeism levels of the employees was added to the literature.

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

## AUTHORS' CONTRIBUTION.

Salim Yılmaz: Conceptualization, data curation, formal analysis, funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Validation; Visualization; Writing – original draft; Writing – proofreading and editing.

Selma Söyük: Conceptualization, Project administration;; Supervision; Writing – proofreading and editing.