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C E R R A H P A Ş A

Research Article

Psychometrics of Stanford Presenteeism Scale-Short Form in Turkish

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Abstract

AIM: Presenteeism means that employees feel obliged to go to work even if there is a real problem that they cannot work. The main purpose is to to adapt the "Stanford Presenteeism Scale-Short Form" into Turkish on Nurses.

METHOD: This is a methodological study. The study sample included the nurses working at the medical and surgical clinics of two public hospitals in 2017 in İstanbul. A total of 290 nurses participated in the study. Language, content, construct validities, total item correlation analysis, Kaiser Meyer Olkin, Bartlett tests, confirmatory and explanatory factor analysis (EFA), stability, and Cronbach's alpha reliability analyses were tested.

RESULTS: The content validity index of the scale was .92. Two items that have correlation values below .40 were removed from the Turkish form. Cronbach's alpha internal consistency coefficient was .762. The structure of the four-item and single-factor Turkish form was confirmed.

CONCLUSION: Stanford Presenteeism Scale-Short Form is a valid and reliable tool for the nurses in Turkey. It is recommended to be used among nurses in different studies. Hospital and nursing care service managers should deal with "presenteeism," since it is becoming a critical health human resource workforce issue. Health care managers may use this tool to evaluate the presenteeism level of their employees.

Keywords: Nursing, presenteeism, psychometrics, reliability, validity

Introduction

"Presenteeism," which is one of those behaviors, is the fact that the employees feel compelled to be present at work, even if they are not able to continue to work or there is a real problem that prevents them from continuing to work (Cooper & Lou, 2016; Lohaus & Habermann, 2019). Two basic approaches draw attention when the definitions in the literature about the concept of "presenteeism" are examined. In the first approach, presenteeism is considered the fact that employees must work for long hours. On the other hand, in the second approach, it is emphasized that the employee should be at the workplace despite having a disease or health problem that would prevent him from going to work (Çoban & Harman, 2012; Johns, 2015). Johns (2015) describes presenteeism as "attending work even though one is ill." The definition of "presenteeism" in the second approach was adopted in this study.

It is stated that presenteeism is most frequently seen in the service sector, especially in health and education (Rosen et al., 2018; Yıldız et al., 2015). Even though presenteeism is a topic that is being increasingly emphasized in international literature, it can be stated that there are limited studies in Turkey dealing with this concept (Yıldız et al., 2015). The reason why the

concept of presenteeism is not addressed adequately in Turkey in the area of health services may be due to lack of valid and eliable data collection tool to measure presenteeism in Turkish.

Many tools are used to evaluate the concept of "presenteeism" in the international literature (Ospina et al., 2015; Roy et al., 2011). Stanford Presenteeism Scale-Short Form (SPS-SF), which had been developed by Koopman et al. (2002), was preferred to test validity and reliability in Turkish in this study. It has been studied in different cultures before. The psychometrics of the tool have been researched in Japanese (Yamashita & Arakida, 2008), Italian (Cicolini et al., 2016), Portuguese (Laranjeira, 2013), and Brazilian Portuguese languages (Paschoalin et al., 2013). The study aimed to adapt the SPS-SF into Turkish.

Method

Study Design
It was a methodological study.

Research Questions
1. Is the SPS-SF valid in Turkish?
2. Is the SPS-SF reliable in Turkish?

Sample
The study was conducted in two training and research hospitals in Istanbul. Both hospitals were public hospitals and located in the same district of the city.

Setting and Characteristics: The study was conducted in two training and research hospitals in Istanbul. Both hospitals were public hospitals and located in the same district of the city.

Study Sample: Totally 1150 nurses were working in two hospitals. Nurses working in inpatient medical, surgical, and intensive care units for at least 1 year were included in the sample. A total of 300 nurses were reached out (165 nurses from the first hospital and 135 from the second hospital). Ten participants' forms were removed because of missing data. The study collected data from 290 nurses. Thus, the requirement for studying with a sample size of at least ten times the number of draft scale items in the validity and reliability studies was met (Boswell & Canon, 2018).

Data Collection Tools
The study used a survey consisting of two parts to collect data.

In the first part, a questionnaire to determine nurses' personal and professional characteristics (e.g., age, gender, education, marital status, number of children, professional, and institutional experience).

In the second part, SPS-SF was used to collect data (Koopman et al., 2002). The original SPS-SF was a five-point Likert scale that consisted of six items and asked to rate participants' working experiences over the previous month. The scoring of the scale ranged from 1 to 5. The Cronbach's alpha internal consistency coefficient of the scale was .80 in the original study. The minimum score was 6, and the maximum score was 30. While items 2, 5, and 6 were scored as "1=Strongly agree and 5=Strongly disagree"; the items 1, 3, and 4 were reverse-scored. As the total score increased, the level of presenteeism increased.

Data Collection
Data were collected between November 2016 and April 2017. One of the researchers visited the hospitals and asked nurses if they would participate in the study. Nurses who would participate in the study signed the informed consent and then filled in the surveys.

The study collected data for the test-retest from 33 nurses working in the outpatient clinics in the second hospital in May 2017.

Statistical Analysis
The study used the Davis Technique for the content validity. In Davis technique, expert panel members evaluate each item between 1 (not clear-relevant) and 4 (very clear-relevant). To obtain each item's content validity ratio for relevancy and clarity, the number of those judging the item as relevant or clear (rating 3 or 4) is divided by the number of content experts. Finally, a mean value of the items' content validity ratios is calculated as the content validity index (CVI) of the scale.

The study also used Kaiser Meyer Olkin and Bartlett tests, confirmatory factor analysis (CFA) and EFA, total item correlation analyses, and Cronbach's alpha reliability and test-retest stability test for data analyzing. Accepted and good fit indices for the CFA and accepted values for the EFA (Yaşlıoğlu, 2017).

Ethical Consideration
The authors got written permission from Cheryl Koopman by e-mail before performing the study. A written ethical approval was obtained from Şişli Hamidiye Etfal Training and Research Hospital's clinical research ethics committee (16.08.2016-1254). Formal written permissions were obtained from the administrations of the hospitals. Nurses who agreed to participate in the study signed an "Informed Consent Form."

Results

Nurses who participated in the study were primarily women (86.2%). Their average age was 30.29 (*SD* = 8.08) years and average professional experience was 8.56 (*SD* = 8.54) years. They mostly had a bachelor's degree in nursing (71.4%) and worked in intensive care units (27.9%).

Language Validity: Scale items were translated for the adaptation by a professional translation company. After the translated statements were submitted to expert opinion, two academicians who mastered Turkish and English were made reverse translation process.

Content Validity: The form was submitted to 14 experts, and the CVI was calculated as a result of the experts' evaluations (Table 1). The content validity ratios of the items ranged from .85 to 1.00. The CVI of the draft scale was calculated as .92.

Pilot Study: After testing the scale's content validity, the clarity of the items was evaluated as a pilot scheme on 33 people with similar characteristics with the sample.

Construct Validity: The construct validity of the scale was evaluated with CFA and EFA. First, Kaiser-Meyer-Olkin (KMO) and Barlett's tests were performed. KMO was .763, and the *p*-value for Barlett's test was <.001.

Then CFA was performed. The goodness-of-fit indices are presented in Table 2.

At the initial CFA of six items, the root mean square error of approximation (RMSEA), adjusted goodness-of-fit index (AGFI), and goodness-of-fit index (GFI) adaptive values were not at the expected level. As a result of the second CFA performed with four items, the RMSEA, AGFI, and GFI adaptive values were acceptable.

Then EFA was performed to confirm the scale's construct validity. It was found that the factor loads of four statements ranged between .631 and .839, and the one-factor structure explained 59.006 of the total variance.

Table 1.
Experts Views Related to Scale Items According to Davis Technique

Experts	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
E1	A	A	B	B	A	A
E2	B	A	B	A	A	A
E3	A	B	B	B	A	A
E4	A	A	C	B	B	A
E5	A	A	A	C	A	B
E6	B	A	B	B	B	A
E7	A	A	B	A	A	A
E8	A	A	B	C	B	A
E9	B	B	B	B	B	B
E10	A	A	A	A	B	B
E11	B	B	B	B	B	B
E12	B	B	C	B	A	A
E13	C	C	A	B	B	A
A+B	12	12	11	11	13	13
CVR*	.92	.92	.85	.85	1	1
CVI**				.923		
CVI***				.905		

Note: "A= Very clear-relevant"; "B=Clear but needs minor revision"; "C= Clear but needs revision"; "D= Not clear-relevant."
CVR*=Content Validity Ratio of each item; CVI** = Content Validity Index of the scale with six items; CVI***=Content Validity Index of the scale with four items.

Correlation Analysis: The correlation values obtained from the item total score correlation analyses of the Stanford SPS-SF are given in Table 3.

Item-total score correlation coefficients of the six items varied between $r=.128$ and $.563$. After removing two items whose item-total score correlation coefficients were below .40, the analyses were repeated with four items. The item-total score correlation coefficient values varied between $r=.424$ and $.656$.

Internal Consistency Analysis: Cronbach's alpha internal consistency coefficients were calculated to evaluate the draft scale's internal consistency. It was .693 with 6 items and .762 after removing 2 items with low item-total correlations.

Test-Retest Analysis: A test-retest test was applied to a group of 33 nurses with a 2-week interval to test the scale's stability. There was no statistically significant difference between the participants' mean scores in two applications ($t=.219$, $p=.828$; $t=193$, $p=848$) and there were statistically significant, strong, and positive correlations between the two measurements ($r=898$, $p<.001$; $t=193$, $p=848$) for both six- and four-item versions.

Discussion

This study aimed to adapt the SPS-SF, one of the scales widely used in the international literature to evaluate presenteeism

(Ospina et al., 2015; Rainbow et al., 2020; Roy et al., 2011) to Turkish. The results were discussed in the "Discussion of Validity Results" and "Discussion of Reliability Results" sections.

Language and Content Validity
The SPS-SF was analyzed according to Davis Technique (Table 1) and the CVI was calculated. Since .80 was a limit value for CVI (Davis, 1992), and CVI value of the scale was .92, it was evaluated as a valid tool.

Construct Validity
Before the construct validity, the study performed KMO and Barlett's tests and the results showed that data was appropriate for factor analysis (Çapık et al., 2018). According to the studies which adapted the same scale to other cultures, KMO value was .83 (Laranjeira, 2013), .69 (Cicolini et al., 2016), and .67 (Paschoalin et al., 2013), respectively.

Confirmatory Factor Analysis: Confirmatory factor analysis is preferred for adapting a scale from one culture to another (Orcan, 2018). However, except Laranjeira (2013), CFA was not used by the researchers who adapted the same tool to different cultures in previous studies (Cicolini et al., 2016; Paschoalin et al., 2013).

The authors performed both CFA and EFA in this study. There are various goodness-of-fit indices used in evaluating model fit and the statistical functions of these indices in CFA. In this study, the chi-square ratio to a degree of freedom is less than 2 with ".12." As Erkorkmaz et al. (2013) stated, this ratio is below "2" which shows a good fit. Laranjeira (2013) reported the chi-square/level of freedom as 1.42. Since the GFI, one of the CFA indices, is found as 1.0 in this study, this is a sign of perfect fit (Erkorkmaz et al., 2013). It was found to be .85 in the study of Laranjeira (2013).

The AGFI also takes a value between 0 and 1 and is interpreted as an improvement of fit as the value approaches 1. The AGFI value showed a perfect fit of 1.00 (Erkorkmaz et al., 2013) in this study, which was .83 in the study of Laranjeira (2013).

Another harmonization criterion often referred to in the literature is RMR and the SMRM, the standardized version of this value (Erkorkmaz et al., 2013). RMR indicates a good fit as it takes a value between 0 and 1. RMR was .015 in this study.

NFI is another value used in evaluating the relevant model (Orcan, 2018). The index is in the range of 0-1 (Ekorkmaz et al., 2013). In this study, the value demonstrated a perfect fit with 1.

For RMSEA, which is known as a poor fit index, it is stated that the values equal to or less than .05 correspond to a perfect fit, values from .08 to .10 correspond to an acceptable fit, and values greater than .10 correspond to poor fit (Erkorkmaz et al., 2013). In this study, the RMSEA value matched the perfect fit with 0.00. Laranjeira (2013) reported the RMSEA value as .082 in his study.

Finally, the comparative fit index (CFI) is a test that evaluates the sample size and the degree of freedom in the model. In this study, the CFI value shows a perfect fit with 1.00

Table 2.
Fit Indices for Exploratory and Confirmatory Factor Analyses (N = 290)

Items	Factor Loadings	Total	Percentage of Variance	Cumulative Percentage	Acceptable Values
1	.795	2.360	59.006	59.006	Variance > .50
2	.839	.728	18.254	77.184	Factor loadings ≥ .40
3	.790	.505	12.637	89.821	
4	.631	.407	10.179	100.00	

CFA Goodness of Fit Statistics	Results (Four Items)	Acceptable Fit Level	Good Fit Level
Chi-squared test	.48		
p-value	.79		
Degree of freedom	2		
Chi-squared test/Degree of freedom	.38/2 = 0.19	< 5	< 3
RMSEA (root mean square error of approximation)	.00	< .80	< .50
The *p*-value for a goodness-of-fit test	.89	≤ .05	> .05
SRMR (standardized root mean square residual)	.007	< .80	< .50
NFI (normed fit index)	1.00	> .90	> .95
NNFI (non-normed fit index)	1.02	> .90	> .95
CFI (comparatice fit index)	1.00	> .90	> .95
GFI (goodness of fit index)	1.00	> .90	> .95
AGFI (adjusted goodness of fit index)	1.00		

(Erkorkmaz et al., 2013). Laranjeira (2013) reported the same value as .91 in his study.

All indices were sufficient in the CFA performed in this study. The items are in perfect fit with each other (Erkorkmaz et al., 2013).

Exploratory Factor Analysis: The study also performed the exploratory factor analysis (EFA). The base value for factor load was .40 in the EFA, and the factor loads of four statements ranged between .631 and .839. Thus, one-factor scale explained 59.002 of the total variance.

Both CFA and EFA findings and reliability results improved after removing two items from the scale. The cultural factor may be the reason at that point. While the nurses expressed that they worked although they were sick, they responded positively to questions in the scale on whether their performance at work decreased, contrary to expectations in the original construct. In other words, they stated that they worked with normal performance even if they were sick. Participants' unwillingness to express that their performance decreased may be related to their concern. That culturally, it might be interpreted that they avoided doing business because they were ill and were lazing away by using their illness as an excuse.

Evaluation of Intraclass Correlation Coefficients of the Items
A large number of expressions are included in the scales to measure a specific concept. By looking at the correlation values between the statements, it is evaluated whether the items are compatible (Coulacoglou & Saklofske, 2017). It was determined that the correlation coefficients of the items ranged between

r =.128 and *r*=.563 for six items form in the study. Since it is recommended to reduce the defects that occurred due to psycholinguistic and cultural differences during the translation of a scale into another language, making some changes in the original form might be necessary to adapt the scale following the target culture (Coulacoglou & Saklofske, 2017). Thus two items with weaker correlation values (2nd item *r*=.128 vs 5th item *r*=.345) were excluded. The remaining four items' correlation values ranged from *r*=.424 to *r*=.656.

Two items were removed in this study, while all six items could pass the validity and reliability phases in other studies that adapted this scale (Cicolini et al., 2016; Laranjeira, 2013; Paschoalin et al., 2013, Yamashita & Arakida 2008). It is possibly because of the typical business culture in the health care services environment in Turkey. One of these two items, namely "Despite my health problem, I was able to overcome the difficult tasks in my workplace," was answered positively by individuals. It is thought that the individuals who mentioned that they go to work when they are sick (i.e., individuals experiencing presenteeism) evaluated the item in this way with the concern that they could be judged because they accepted that their performance has fallen. Similarly, the expression "Despite my health problem, I was able to focus on reaching my goals at work" is also answered differently from the original scale. And this resulted in a contradiction between the two items and the other items. When the removed items are evaluated together with the other items of the scale, it is clear that the participants perceived them as favorable as others. Participants respond to the items thinking that they have completed their work regularly unless the decline in performance, even if they are sick. It could be attributed to

Table 3.
Psychometrics of the Turkish Form of Stanford Presenteeism Cale Short Form (n = 290)

Item Number	Corrected Item–Total Correlation	Cronbach's Alpha if the Item Is Deleted	Cronbach's Alpha	Factor/Factor Loadings
1. Because of my (health problem), the stresses of my job were much harder to handle	.476	.634	.693	1/.625
2. Despite having my (health problem), I was able to finish complex tasks in my work	*.130**	.730		2/.457
3. My (health problem) distracted me from taking pleasure in my work.	.511	.622		1/.708
4. I felt hopeless about finishing specific work tasks due to my (health problem)	.503	.624		2/.356
5. At work, I was able to focus on achieving my goals despite my (health problem)	*.346**	.675		1/.573
6. Despite having my (health problem), I felt energetic enough to complete all my work	.562	.601		2/.735
1. Because of my (health problem), the stresses of my job were much harder to handle	.592	.686	.761	1/.795
3. My (health problem) distracted me from taking pleasure in my work	.654	.654		1/.838
4. I felt hopeless about finishing specific work tasks due to my (health problem)	.584	.691		1/.792
6. Despite having my (health problem), I felt energetic enough to complete all my work	.421	.779		1/.629

Stability test results (n = 33)	First Test Mean (SD)	Second Test Mean (SD)	*t*	*p*	*r*	*p*
SPS-SF (Turkish version-6 item)	18.06 (5.41)	17.97 (4.67)	.219	828	.898	<.001
SPS-SF (Turkish version-4 item)	10.82 (4.25)	10.76 (3.98)	.193	.848	.906	<.001

Note: *r < .40; **Bold items were scored reversed; Item 2-5-6 are related to the "completing work" dimension; Item 1-3-4 are related to the "avoiding distraction" dimension.

their concern that they could face problems in the organization and business culture they work in, resulting in not being able to do their job properly although they are sick.

It is thought that the cultural factor is effective because two items of the original scale do not work in the Turkish form. In Turkey, nurses stated that they needed to be at work although they were sick. However, they also answered the items as they worked with full performance contrary to the expectations in the original construct. Participants who could not express their performance decreased due to disease. It affected the correlations of the two items, which were designed as a reverse expression with the other statements and caused a decrease in the values.

Internal Consistency Analysis
While Cronbach's α = .693 at the scale's six-item version, the measured level increased to .762 with the remaining four items after item-total score correlation analysis. Taber (2018) states that it is sufficient if the Cronbach's alpha value is more than .70. In Lranjeira's (2013) study, Cronbach's α = .83, and in the study of Paschoalin et al. (2013), it was .71, and it was .72 in Rainbow et al.'s (2020) recent study.

Stability
The test-retest results showed that the scale was stable and it produced similar results when administered repeatedly. Furthermore, the values obtained from the two applications performed on the same participants with 15-day intervals were highly related. Although many tools aimed to measure presenteeism in the literature, limited evidence existed on the test-retest reliability of those scales (Roy et al., 2011). This study was the first one that performed a test-retest stability test for the SPS-SF, and it was the second one after Durand et al.'s (2004) The Work Role Functioning Questionnaire for the other presenteeism scales.

Confirmatory factor analysis is commonly recommended to determine the factor structure in the adaptation studies from other languages (Orcan, 2018). Both the confirmatory and the EFA were performed on the same data in this study.

Decision-makers and health policy developers of countries with severe nursing shortages should consider making the nursing job more attractive for the next generation. Presenteeism is a significant threat because it blocks the attraction of younger people to the profession, causes a

productive nursing workforce to lose, and negatively affects patient safety. Thus, hospital and nursing care service managers should deal with "presenteeism," which is becoming a critical health human resource workforce issue. Health care managers may use this tool to evaluate the presenteeism level of their employees.

Conclusion and Recommendation

The four-item scale, whose validity and reliability are demonstrated in Turkish on a nurse sample, may be used in different studies and tested. Therefore, it is recommended for nursing researchers, nurse managers, hospital administrators, and policymakers in the relevant field to improve working conditions.

Ethics Committee Approval: The study was approved by the Clinical Research Ethics Committee of the University of Health Sciences, Şişli Hamidiye Etfal Training and Research Hospital (Approval date: August 16, 2016, Protocol no: 1254).

Informed Consent: Nurses who would participate in the study signed the informed consent and then filled in the surveys.

Peer-review: Externally peer-reviewed.

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