



Turkish Adaptation of the Spirit at Work Scale in Production Sector Employees

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Abstract

The purpose of workplace spirituality is to enable individuals to realize the potential or their personal spirituality, develop a positive attitude and be able to create positive connections with their environment. The Spirit at Work Scale (SAWS) developed by Kinjerski and Skrypnek stands out as it conceptualizes and evaluates workplace spirituality. This study was organized methodologically in order to assess the validity and reliability of the Turkish adaptation of the Spirit at Work Scale in production businesses in a Turkish metropolitan center. The population of the study was drawn from businesses with ten or more employees in an industrial zone. The study involved a convenience sample of 188 participants. Considering the results of exploratory factor analysis (EFA), it was seen that the items in the scale were grouped around three different factors. According to the results from confirmatory factor analysis (CFA), three-factor SAWS-TR was confirmed as a model. Consequently, it was seen that spirituality at work combined three elements, namely Engaging Work, Mystical Experience and Spiritual and Social Connection, for workers in the production sector in this study.

Keywords Spirit at work scale · Validity · Reliability · Production sector · Turkey

Introduction

Following an increase in market competition and the number of dynamic work environments, businesses have been striving for sustainability (Cinnioğlu, 2018). In modern organizations, the fact that functionality is accepted as the only supreme value, individuals are guided to become atomized (Baykal, 2019). This fact has forced employees in almost every sector to endure longer and more difficult working

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conditions, to experience the pressure of working overtime, to take fewer breaks and off days with expectations of more work with fewer resources (Altaf & Awan, 2011; Cinnioğlu, 2018; Örgen & Günelan, 2011). Such situations, which create both psychological and physical pressure on employees, may be the result of intrinsic factors such as being unable to reject a work overload when they are newly employed or extrinsic factors such as being forcibly assigned by directors to perform tasks (Altaf & Awan, 2011).

Such working conditions may cause the health of employees to deteriorate or even cause psychological problems. In a study conducted between 1995 and 2005 using data from fifteen European countries, it was shown that mental health disorders are significantly related to the working conditions of employees working under negative labor demands (such as working in shifts, being required to accomplish complex and demanding tasks, and having limited work autonomy). It was found that negative work demands caused far more than sleeping disorders or anxiety for employees (Cottini & Lucifora, 2013). In this large-scale study (with 5,829 employees), while work load and performance control were found to be strongly related to the general health of middle-aged employees, work demands were reported as being more significantly related to mental health (Laaksonen et al., 2006). In another study (with 3,672 employees), low occupational safety was found to double the possibility of mental health symptoms and disorders of employees. Such employees would display risks of mental disorder at rates 3 to 5 times higher than those employed in jobs more suitable to those employees (ten Have et al., 2015).

One of the critical aspects of a business is the attention to be given to the mental health of employees. In this respect, the awareness of workplace spirituality has increased to support employees in their search for deeper meaning and commitment in today's modern business life (Fry, 2003). It is necessary to understand spirituality itself before dealing with spirituality in the workplace. Hungelmann et al. (1985) defined spirituality in three categories as transpersonal (relationship with God), interpersonal (with friends and family, etc.) and intrapersonal (with the inner self). According to Fry (2003), spirituality is a concept that is concerned with the positive qualities of the human spirit such as love, which bring happiness to both self and others, in addition to compassion, patience, tolerance, forgiveness, contentment, sense of responsibility and harmony. Streib and Klein (2016) emphasized that spirituality should not be presented as a scientific concept that could compete with or replace "religion." The common bridge between spirituality and religion is devotion and altruistic love toward others and in this respect, spiritual teachings and the teachings of the great religions are remarkably similar (Fry, 2003). The common ground of all these aspects is that spirituality has a two-dimensional structure which could be defined as "horizontal and vertical." The horizontal dimension is an emotional bond that emphasizes interaction with others. The vertical dimension is the deep, one-way relationship of an individual with his creator (Altaf & Awan, 2011; Avci, 2019).

Workplace spirituality is the form of spirituality that encompasses the limits of a business (Altaf & Awan, 2011). The main purpose of workplace spirituality is the realization of the potential of employees in their respective spiritual worlds, developing positive attitudes and the ability to create positive relationships with their

surroundings (Baykal, 2018; Cinnioğlu, 2018). It is necessary for businesses to nurture the souls, feelings of purpose, emotions and meaningful experiences of those employees with a spiritual awareness (Ahmadi et al., 2014; Çakıroğlu et al., 2018). The definition of workplace spirituality is also present in separate aspects at the individual, group and organizational levels. While spirituality is defined as having a meaningful job at an individual level, at the group level it is to have group awareness and a feeling of belonging to the group. At the organizational level, spirituality means being able to work in harmony with organizational values and to adopt the mission and vision of the organization (Chen & Yang, 2012; Milliman et al., 2003). Workplace spirituality is related to ethics (Pawar, 2009). Örg ev and Günalan (2011) claimed that it is not ethical for businesses to regard the power of employees' inner worlds as an asset that could be exploited while already benefiting from their physical attributes. Mitroff (2003) stated that there are no ethical issues in encouraging workplace spirituality to improve employee commitment and organizational performance so long as the intervention is respectful toward personal dignity.

For both researchers and professionals, workplace spirituality is an interesting topic as an instrument to solve business related problems (Pawar, 2009; Baykal, 2018; Cinnioğlu, 2018). This is due to factors such as workplace spirituality being the inner conflicts of employees, self-control, motivation and workplace spirituality being used as a tool to realize employees' personal development (Jurkiewicz & Giacalone, 2004; Örg ev & Günalan, 2011). Applications of spirituality not only increase the satisfaction of employees, they also lead to high productivity, increased morale and greater competitiveness (Cinnioğlu, 2018). This means an increase in business performance, participation in work, greater profit, institutional commitment and as a result success. During the institutionalization process, realizing applications that contribute to employees' inner journey increases in their proficiency and performance and positively influencing their attitudes is encouraged at all levels (Örg ev & Günalan, 2011; Tourish & Tourish, 2010). In order to realize workplace spirituality at the individual level, training sessions and seminars can be organized (including meditations, collective worship, spiritual seminars, spirituality oriented programs, etc.), and to develop spirituality at the organizational level, an organization may focus on spiritual values and use these as a base to organize events, develop strategies and guide human resources policies, that is, the integration of spirituality into the daily operations of an organization (Altaf & Awan, 2011; Pawar, 2009). On the other hand, it was reported that a number of businesses would avoid integrating spirituality, fearing that it may become an object of ridicule or fear. It was stated that some businesses attempted to conceal it by renaming it as "search for meaning" with some considering such endeavors to be "fruitless" applications. (Jurkiewicz & Giacalone, 2004).

Considering the results of the study, it was shown that spirituality acts as a moderator in the relationship between workload and job satisfaction (Altaf & Awan, 2011), as well as between the workplace spirituality of organizational commitment and organizational citizenship behavior (Kazempour & Amin, 2012). Afsar et al. (2016) stated that workplace spirituality increases inner motivation and environmentally friendly behavior. Petchsawang and McLean (2017) determined that workplace spirituality and organizational identification are higher in organizations where

meditation applications are allowed. Additionally, it was found that workplace spirituality decreases employees' negative behavior (Chawla, 2014), stress (Daniel, 2015) and intentions to resign (Gatling et al., 2016). It was shown that workplace spirituality and self-esteem (Awan & Sitwat, 2014); workplace spirituality and mindfulness (Jnaneswar & Sulphey, 2021); workplace spirituality; and organizational justice (Sharma & Kumra, 2020) are the precursors of the mental well-being of employees. Furthermore, it was shown that workplace spirituality and the interaction between work roles and family roles which may positively influence the mental health of the employees have a significantly positive relationship (Hassan et al., 2020).

The Spirit at Work Scale (SAWS), which was developed by Kinjerski and Skrypnek (2006), is a remarkable tool for the conceptualization and evaluation of workplace spirituality. This scale conceptualizes spirituality in four subdimensions each, respectively, with cognitive, interpersonal, spiritual and mystical properties. The methodological results of SAWS from three studies conducted in different fields in Turkey were accessed. The scale was adapted into Turkish by Ünal and Turgut (2015) in a study with the participation of academic personnel. The measurement results in their study proved that the scale were a highly reliable and valid tool. However, the accuracy of the measurement model was not tested in this study. Kökalan (2017) studied the four-dimensional structure on employees of the banking sector in Turkey as a measurement model without testing the factor structure. Regarding the fit indices conducted in our study, the results indicated that the model was an acceptable fit for the measurement model. Furthermore, Kanbur and Kavuklu (2018) reported that the scale had a four-dimensional structure and was a valid and reliable tool in a study they conducted on textile factory employees. However, accuracy was not tested as a measurement model in this mentioned study.

In this study, from the point of utilizing SAWS in the production sector fields other than those mentioned above, critical procedures suggested in the cultural adaptation of measurement tools were re-implemented and the measurement results were presented. In this respect, this study was planned methodologically in order to determine the validity and reliability of the Turkish adaptation of the Spirit at Work Scale in production businesses in a Turkish metropolitan city.

Methodology

Sample and Procedures

The data were collected during February 2020 and August 2020 and obtained through production facilities in the industrial zone of a metropolitan city in Turkey. In this industrial area, there are a total of 42,000 people employed in 613 businesses functioning in 40 different sectors, including construction, plastics, food, packaging, furniture and wood products, especially focusing on the production of automotive spare parts, metal casting, metals, machines, agricultural machinery and equipment. Two-thirds of the businesses have at least 10 employees with the study universe being approximately 25,000 individuals. In order to reach a confidence level of 95% and an acceptable error rate of 7%, we calculated that the participation

of 189 employees was sufficient. In line with the employee and business-related data obtained from the industrial zone, an appropriate sample of employees was gathered from an overall sample of approximately 25,000 in total. Additionally, in the literature, recommendations have been made to work with samples of 5 to 10 times the number of items in the scale in order to conduct factor analysis in validity and reliability studies (Büyüköztürk, 2008). Considering this suggestion, we planned to recruit a convenience sample of at least 180 employees, which is 10 times the number of 18 items in the scale. The study was completed with 188 employees.

Measures

We asked participants about their socio-demographic characteristics, job-related characteristics and their spirituality and religiosity. The perception of religiosity was evaluated through a visual analogue scale on which the participant marks a value ranging from 0 to 10.

Spirit at Work Scale (SAWS)

The scale was developed by Kinjerski and Skrypnik (2006) in order to determine spirituality in the workplace. In the development phase of the scale, where it was applied to 332 participants working at university under various titles, Cronbach's alpha coefficient was found to be 0.93 (and between 0.86 and 0.91 for the subdimensions). The four factors of scale structure were named Engaging Work, Sense of Community, Spiritual Connection and Mystical Experience. The scale is a 6-point Likert scales ranges from 1: I do not agree at all, to 6: I totally agree. High scores from the scale and its subdimensions mean spirituality at work is at a high level.

The Engaging Work subdimension encompasses the state of intense well-being, the sense of having meaningful work that emphasizes a divine purpose and the harmony between an individual's values and beliefs. Mystical Experience includes positive energy and a state of liveliness, sense of perfection, joy and transcendence while working. Spiritual Connection consists of an individual's feeling of being connected to a higher power/being. Finally, Sense of Community involves characteristics related to interpersonal relationships along with the common purpose and sense of commitment that an individual shares with others. All these cognitive characteristics are externalized by the spirituality of the individuals during their work, although not all directly but some in an indirect manner.

Ethical Issues

Permission for use of the scale was obtained from the developer of the scale, Val Kinjerski, via email and the study was conducted according to the instructional steps for the scale adaptation she provided. Written permissions were obtained from the institutions where the study was conducted. The objectives of the study were

explained to the participants, who signed the consent forms. All participation was on a voluntary basis.

Data Analysis

The data were assessed with the IBM SPSS 22.0 and IBM SPSS AMOS 22.0 statistics software packages. Continuous variables related to the defining characteristics were given in median \pm standard deviation and categorical variables were shown in numbers and percentages. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed on data collected to determine construct validity. The varimax rotation method was used to obtain Kaiser–Meyer–Olkin (KMO) and Bartlett sphericity test results, common variance values for the items, an eigenvalue line graph, principal component analysis results and interpretable factors. The validity of the model for the sample was tested through CFA. To test the reliability of the scale, item-total score correlation and the Cronbach's alpha reliability coefficient were calculated. The time invariance of the scale was assessed through the correlation of a four-week period test retest the scores. The relationship between the constant variables and the SAWS-TR scores was evaluated through Mann–Whitney U and the Kruskal–Wallis Test. The Pearson correlation test was used to determine the relations among the averages. The result of $p < 0.05$ was accepted as statistically meaningful.

Results

Results on the Socio-demographic and Workplace Characteristics of the Employees

With the average age of 34.05 ± 7.36 , 78.2% of the participants were male, 67.4% married, 29% had an associate's degree and 49.7% were workers. In terms of working time, 33% have been working in the same business for 1 to 3 years. Of all the participants, 45.8% have been working in this sector for more than 10 years. The average income of the participants was $3,743 \pm 2,087$ Turkish Liras (TL) (Table 1).

Results Related to the Spiritual Characteristics of Employees

When employees were asked about the aspects that help them find meaning and purpose in their lives, 83.5% stated "family relationships," 69.1% responded "Allah" and 64.4% replied "friendships." As coping mechanisms in difficult situations, 74.5% stated "family/friend support," 69.7% replied "Allah/belief in a higher power," and 43.1% stated "salah" as their support. The rate of employees who believe in "Allah/a higher power" is 88.8%. The most common spiritual acts were found to be reading the "Qur'an" and "praying" at 68.6%, and "salah" at 64.4%. The perceived religiosity level was 6.24 ± 2.63 (min–max: 0–10) (Table 2).

Table 1 Distribution of findings related to the socio-demographic and workplace characteristics of employees

Characteristics	<i>N</i> or mean	%
<i>Gender</i>		
Female	41	21.8
Male	147	78.2
<i>Age, years</i>	34.05 ± 7.36 (Min.- Max. = 18–54)	
<i>Marital status</i>		
Married	126	67.4
Single	61	32.6
<i>Education</i>		
Primary–secondary education	53	28.5
High school	38	20.4
Associate's degree	54	29.0
Bachelor's degree	37	19.9
Master's/PhD	4	2.2
<i>Job title</i>		
Manager	43	23.5
Engineer/chief/shift supervisor	35	19.1
Foreman/senior foreman	14	7.7
Worker	91	49.7
<i>Working time in the enterprise</i>		
1 year or less	27	15.0
1–3 years	59	33.0
4–6 years	34	19.0
7–10 years	22	12.3
10 years or more	37	20.7
<i>Working time in the sector</i>		
1 year or less	10	6.5
1–3 years	23	14.8
4–6 years	26	16.8
7–10 years	25	16.1
10 years or more	71	45.8
<i>Number of employees</i>		
10–49	71	39.4
50–149	87	48.3
150–249	16	8.9
250 and over	6	3.3
<i>Form of Business Ownership</i>		
Family/private sole proprietorship	158	84.9
Domestic capital partnership	17	9.1
Foreign capital partnership	11	5.9
<i>Income (TL)</i>	3,743 ± 2,087 (Min. Max. = 2,300– 15,000)	

Table 2 Distributions of findings related to the spiritual characteristics of employees

Characteristics	N or mean	%
<i>Aspects that help them find meaning and purpose in their lives*</i>		
Family relations	157	83.5
Friendships	121	64.4
Relations with the world and environment	81	43.1
Job	91	48.4
Allah	130	69.1
<i>Coping mechanisms in difficult situations*</i>		
Family/friend support	140	74.5
Allah/belief in a higher power	131	69.7
Salah	81	43.1
Meditation	10	5.3
Belief in the basic goodness of life	24	12.8
Art	37	19.7
<i>Allah/belief in a higher power</i>		
Yes	167	88.8
No	21	11.2
<i>Spiritual acts that they perform*</i>		
Worship	94	50.0
Salah	121	64.4
Reading Qur'an/prayer	129	68.6
<i>Level of perceived religiosity</i>	6.24 ± 2.63 (Min.- Max. = 0–10)	

*More than one option is specified

Results Related to the Validity and Reliability of the Scale

For the content validity of the scale, expert opinions were sought and the EFA and CFA were conducted for the construct validity. Internal consistency reliability and test retest methods were utilized for reliability.

Content Validity

The scale was translated into Turkish by two instructors (from Management Science) who spoke both Turkish and English. The scale was back translated into English by another language specialist. The original and back translated versions were compared by researchers and a consensus was reached. The original items and translations that were decided upon were evaluated by 9 researchers (3 Management, 1 Sociology, 1 Philosophy, 2 Healthcare Management, 1 Educational Sciences and 1 Public Health Nursing). The content validity index (CVI) was used for expert review. Using a 4-point Likert scale, the experts labeled them as “suitable (a),” “requires a

slight review (b),” “requires a serious review (c)” and “not suitable (d).” The CVI value was obtained by dividing the total number of experts by the number of experts that marked the items as “suitable” and “requires a slight review” (Polit & Beck, 2006). The CVI value of the scale was found to be 0.94. It was also determined that the CVI values for the scale items ranged between 0.80 and 1.00.

Internal Consistency

Cronbach’s alpha reliability coefficient and item-total score correlations were studied for the internal consistency of the scale. Cronbach’s alpha was calculated as 0.91. The item-total score correlations ranged between 0.36 and 0.67. As there were no items with an item-total score correlation lower than 0.30, every item was included in the EFA.

Test Retest Reliability

The test retest method was applied on 64 participants after 4 weeks in order to determine time invariances. The correlation coefficient for the test retest was found to be 0.96.

Construct Validity

EFA and CFA were conducted to determine the construct validity of the scale in this study. EFA is used to determine and group those items measuring the same characteristics; it is a type of analysis that gives clues related to the validity of the items and the scale. Through the use of CFA, it is possible to verify the model designed with EFA on a particular sample (Yaşlıoğlu, 2017).

Exploratory Factor Analysis

In order to determine the factor construct of the scale, principal component analysis was conducted by implementing the varimax rotation method. As a result of the analysis, the KMO value was found to be 0.88, which proved that the data set was suitable for factor analysis. Bartlett sphericity is a test that may be used to check whether the data originates from a multivariate normal distribution. Chi-square test statistics obtained from Bartlett sphericity are an indication that the data have been generated from a multivariate normal distribution. The Bartlett test conducted in the study was found to be significant ($X^2 = 2372.97$; $p < 0.00$) (Yaşar, 2014). According to the results from the EFA, it was observed that the items gathered under three factors. The rate of the explained variance, item distribution and factor loads are given in Table 3. According to the results of the EFA, a scree plot of eigenvalues proved that the most distinct spike was in the third factor (Fig. 1).

As a result of the factor analysis, items 1, 18, 4, 14, 7, 11 and 9, belonging to the Engaging Work subdimension, formed Factor 1. It was observed that the item factor loads ranged between 0.59 and 0.73. This factor explained 19.78% of the total variance. Items 16, 8, 2, 5 and 12 under the Mystical Experience subdimension

Table 3 SAWS-TR factor loads and item-total correlations

Factors	Items	Factor loads	Proportion of variance explained	Eigenvalue	Item-total correlation scores
Factor 1	≠ 1. I experience a match between the requirements of my work and my values, beliefs, and behaviors	0.733	19.776	1.497	0.582
	≠ 18. At the moment, I am right where I want to be at work	0.668			0.409
	≠ 4. I am able to find meaning or purpose at work	0.656			0.480
	≠ 14. I feel grateful to be involved in work like mine	0.636			0.595
	≠ 7. I am passionate about my work	0.617			0.592
Factor 2	≠ 11. I have a sense of personal mission in life, which my work helps me to fulfill	0.614			0.599
	≠ 9. I am fulfilling my calling through my work	0.594			0.567
	≠ 16. I experience moments at work where everything is blissful	0.819	20.090	3.126	0.632
	≠ 8. At times, I experience an energy or vitality at work that is difficult to describe	0.808			0.510
	≠ 2. At times, I experience a “high” at my work	0.800			0.361
Factor 3	≠ 5. At moments, I experience complete joy and ecstasy at work	0.796			0.634
	≠ 12. I have moments at work in which I have no sense of time or space	0.771			0.459
	≠ 6. I experience a connection with a greater source that has a positive effect on my work	0.883	26.516	7.326	0.665
	≠ 17. I feel like I am part of “a community” at work	0.880			0.642
	≠ 13. I share a strong sense of purpose and meaning with my coworkers about our work	0.873			0.653
	≠ 3. I experience a real sense of trust and personal connection with my coworkers	0.856			0.668
	≠ 15. I receive inspiration or guidance from a Higher Power about my work	0.855			0.664
	≠ 10. My spiritual beliefs play an important role in everyday decisions that I make at work	0.811			0.629
Total			66.382		

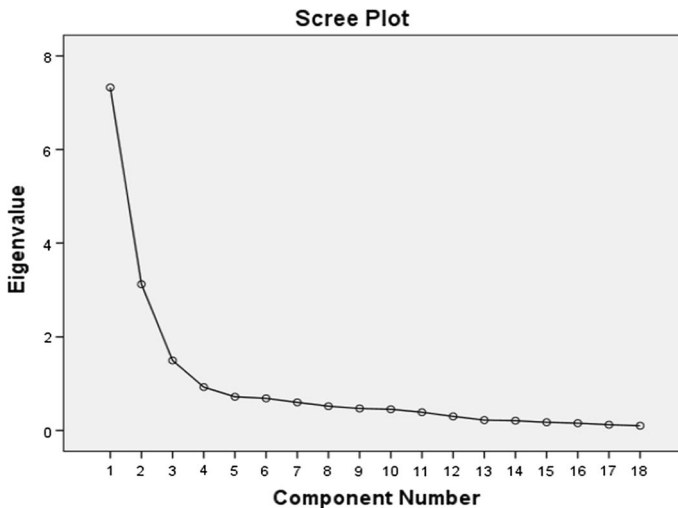


Fig. 1 Line graph of eigenvalues

constituted Factor 2. The factor loads for the items under this subdimension varied between 0.77 and 0.82 and explained 20.09% of the total variance. Items 6, 17, 13, 3, 15 and 10 belonging to the Spiritual Connection and Sense of Community subdimensions combined to form Factor 3 with factor loads between 0.81 and 0.88. The total variance explained by this factor was found to be 26.52%. The Cronbach's alpha internal consistency coefficients for these three factors were calculated, respectively, as 0.83, 0.89 and 0.95 (Table 3).

Confirmatory Factor Analysis

A first order CFA, where three factors structured in the first phase are given as latent variables and the statements forming these factors are shown as indicator variables, is shown in Fig. 2. In the second phase, the purpose was to estimate the parameters for the regression coefficients related to the lines drawn toward observed variables from latent variables and the variance of the latent variables by using the maximum likelihood method.

According to the CFA results of SAWS-TR, the GFI was found to be 0.86, TLI 0.92, CFI 0.93, RMSEA 0.08, RMR 0.08 and IFI was found to be 0.93. It was observed that these values fell within the "acceptable" fit values. While the AGFI index value was not within the acceptable range as it was lower than 0.85, the χ^2/df value indicated a "good fit" at 2.25 (Byrne, 2010; Schermelleh-Engel et al., 2003) (Table 4). For the model to have better fit values, modification index (MI) covariance values among disturbance terms under the same factors were studied (Yaşloğlu, 2017). Some changes were made according to the disturbance covariance between items 2 and 8 and between items 2 and 12 as the software suggested. Based on the data obtained as a result of the CFA, it is safe to assume that 3-factor SAWS-TR is confirmed as a model.

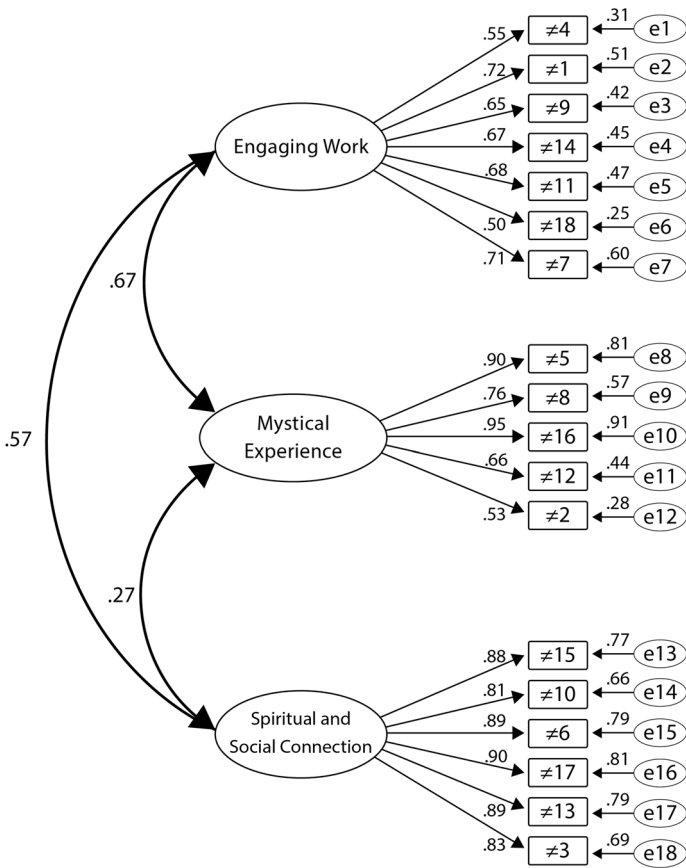


Fig. 2 SAWS-TR with subdimensions first-order DFA model

Table 4 Goodness of fit indices used for SAWS-TR and acceptable value ranges

Indices	Good fit	Acceptable fit	SAWS-TR
χ^2/df	$0 \leq \chi^2/df \leq 3$	$3 \leq \chi^2/df \leq 5$	2.25
GFI	$0.90 \leq GFI \leq 1$	$0.85 \leq GFI \leq 0.90$	0.86
AGFI	$0.90 \leq AGFI \leq 1$	$0.85 \leq AGFI \leq 0.90$	0.82
TLI	$0.95 \leq TLI \leq 1$	$0.90 \leq TLI \leq 0.95$	0.92
CFI	$0.95 \leq CFI \leq 1$	$0.90 \leq CFI \leq 0.95$	0.93
IFI	$0.95 \leq IFI \leq 1$	$0.90 \leq IFI \leq 0.95$	0.93
RMSEA	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$	0.08
RMR	$0 \leq RMR \leq 0.05$	$0.05 \leq RMR \leq 0.08$	0.08

χ^2/df Chi-Square/Degree of Freedom, Goodness of Fit Index, *AGFI* Adjusted Goodness of Fit Index, *TLI-NNFI* Non-normed Fit Index, *CFI* Comparative Fit Index, *IFI* Incremental Fit Index, *RMSEA* Root Mean Square Error of Approximation, *RMR* Root Mean Square Residual

SAWS-TR Total and Subscale Score Correlates

When we compared the SAWS-TR total and subdimension scores of the employees from the perspective of a number of variables, no significant differences were found between gender, job positions or number of employees in the establishment ($p > 0.05$). There is a very weak negative correlation between the age and Mystical Experience subdimensions (-0.167 ; 0.022). Engaging Work (7.417 ; 0.025), Mystical Experience (11.278 ; 0.004) and the SAWS-TR total scores (8.278 ; 0.016) from foreign capital partnerships were found to be significantly lower than family/private businesses and domestic capital partnerships. Between the level of perceived religiosity and Engaging Work (7.417 ; 0.025) and the Mystical Experience subdimensions (0.215 ; 0.003), a positive weak correlation was observed, while a positive moderate significance was observed between the Spiritual and Social Connection subdimensions (0.476 ; 0.000) and the SAWS-TR total score (0.350 ; 0.000). The Spiritual and Social Connection (-3.025 ; 0.002) and SAWS-TR total scores (-2.223 ; 0.026) of participants who would take part in prayer services were significantly higher compared those who would not. In addition, the Spiritual and Social Connection scores of the participants performing salah (-2.401 ; 0.016) were found to be significantly higher than those who do not (Table 5).

Discussion

This study shows the methodological results related to the validity and reliability of SAWS-TR, which could be used to determine the effect of workplace spirituality on employees of production businesses in a metropolitan city. The conceptual framework of SAWS focuses on employees' finding purpose, meaning and joy in their work, and not particularly on an individual religious belief or spirituality. According to a widely held common religious belief in Turkish society, "to work is to pray." In line with this teaching, spirituality in the workplace is an opportunity for individuals to express their spirituality. In this respect, the primary motivation behind this study was the need for measurement tools tailored for Turkish society.

It was expected that the methodological results would vary for the employees in the production sector due to the fact that both the original study and the study adapted for Turkish conditions were conducted on university employees. Content validity of the scale returned a high value (0.94) considering the suggested base level of 0.80 CVI in the literature (Polit & Beck, 2006). Cronbach's alpha coefficient, which proved internal consistency within $0.80 \leq \alpha \leq 1.00$ for both the total and factor subdimensions, reinforced the reliability of the scale (Eroğlu, 2009). Item-total correlations ranging between 0.36 and 0.67 met the required criteria at a sufficient level (> 0.30) (Büyüköztürk, 2008). The test retest correlation coefficient was found to be 0.96 . As the correlation coefficient was higher than 0.70 , the scale was found to be consistent (Karakoç & Dönmez, 2014). Internal consistency and the test retest results proved SAWS-TR to be a reliable measurement tool.

While the factor construct of the original scale has four dimensions (Engaging Work, Sense of Community, Spiritual Connection and Mystical Experience), as a

Table 5 Comparison of SAWS-TR total and subdimensions for some variables

Variables	SAWS-TR			
	Engaging work	Mystical experience	Spiritual and social connection	Total
<i>Gender</i>				
Female	30.78 ± 6.23	20.37 ± 5.73	25.90 ± 4.23	77.05 ± 13.41
Male	32.20 ± 6.89	18.46 ± 6.59	27.03 ± 5.70	77.69 ± 14.82
Test ^a	1.717	2.300	3.120	0.207
<i>p</i>	0.190	0.129	0.077	0.649
<i>Age</i>				
Test ^b	0.030	− 0,167	0.000	− 0,060
<i>p</i>	0.682	0.022	0.998	0.413
<i>Job title</i>				
Manager	33.79 ± 5.97	18.56 ± 6.90	27.65 ± 4.88	80.00 ± 12.49
Engineer/chief	31.71 ± 6.56	17.71 ± 6.59	25.46 ± 4.99	74.89 ± 14.01
Foreman/senior foreman	34.86 ± 5.45	18.86 ± 5.44	27.57 ± 7.63	81.29 ± 12.70
Worker	30.63 ± 7.17	19.39 ± 6.36	26.73 ± 5.49	76.74 ± 15.87
Test ^c	3.240	7.443	2.089	4.776
<i>p</i>	0.356	0.059	0.554	0.189
<i>Number of employees</i>				
10–49	32.35 ± 7.13	18.64 ± 6.14	27.21 ± 5.84	78.20 ± 15.30
50–149	31.48 ± 6.10	19.71 ± 6.23	26.37 ± 5.04	77.56 ± 14.10
150–249	31.50 ± 8.63	14.06 ± 7.79	27.75 ± 6.43	73.31 ± 14.40
250 and over	35.00 ± 8.56	16.67 ± 6.06	26.00 ± 5.59	77.67 ± 16.54
Test ^c	4.497	0.915	5.100	0.675
<i>p</i>	0.343	0.922	0.277	0.954
<i>Form of business ownership</i>				
Family/private	32.09 ± 6.60	19.06 ± 6.46	26.91 ± 5.39	78.06 ± 14.31
Domestic capital	34.00 ± 7.83	17.35 ± 7.02	28.18 ± 5.32	79.53 ± 16.24
Foreign capital (1,2)	26.36 ± 5.39	17.82 ± 5.78	22.91 ± 5.34	67.09 ± 12.54
Test ^c	7.417	11.278	1.713	8.278
<i>p</i>	0.025	0.004	0.425	0.016
<i>Religiosity level</i>				
Test ^b	0.165	0.215	0.476	0.350
<i>p</i>	0.024	0.003	0.000	0.000
<i>Worship</i>				
Yes	32.82 ± 6.14	19.47 ± 5.98	27.86 ± 5.21	80.15 ± 13.17
No	30.97 ± 7.24	18.28 ± 6.86	25.71 ± 5.44	74.96 ± 15.34
Test ^a	− 1.642	− 0.989	− 3.025	− 2.223
<i>p</i>	0.101	0.323	0.002	0.026
<i>Salah</i>				
Yes	31.87 ± 6.78	18.36 ± 6.65	27.40 ± 5.60	77.62 ± 14.55
No	31.94 ± 6.76	19.81 ± 6.00	25.69 ± 4.93	77.43 ± 14.50
Test ^a	− 0.140	− 1,539	− 2.401	− 0.102
<i>p</i>	0.889	0.124	0.016	0.919

Table 5 (continued)

 Bold values indicate statistical significance $p < 0.05$

^a Mann–Whitney U^b Pearson Correlation, Yates Chi-Square^c Kruskal–Wallis Test

result of the factor analysis in this study, the adaptation produced a three-dimensional structure. In factor analysis, it is necessary for an item factor load to be at least 0.30 and the difference between the factor loads of an item in more than one factor has to be at least 0.1 (Karaman et al., 2017). This 18-item scale met the criteria for factor loads (0.59–0.88) without overlapping items. Total variance explained by the three-factor construct is 66.38%. Accordingly, while the Factor 3 subdimension is able to represent the construct, the other two factor subdimensions have a lower potential of representation (Yaşlıoğlu, 2017).

Items belonging to the Engaging Work subdimension were grouped under Factor 1, items of Mystical Experience formed Factor 2, and the items of Spiritual Connection and Sense of Community together constituted Factor 3. This dimension was renamed Spiritual and Social Connection. GFI, TLI, RMSEA, RMR and IFI fitting the indices calculated in CFA proved to be an “acceptable” fit. While the AGFI index was not at an acceptable level, χ^2/df indicated a “good fit” (Byrne, 2010; Schermelleh-Engel et al., 2003). In Ünal and Turgut’s (2015) study conducted on academics in Turkey, EFA analysis of SAWS gave a four-factor structure and this was evaluated as consistent with the original four-dimensional conceptual structure of the scale. The Cronbach’s alpha levels of the scale’s total scores and subdimensions (<0.80) returned high. Kökalan (2017) tested SAWS through CFA analysis on employees in the banking sector in Turkey. In this mentioned study, the values of the χ^2/df , RMSEA, CFI, GFI and AGFI indices proved the model to be an acceptable fit as a measurement tool. Kanbur and Kavuklu (2018) found that the scale has a four-dimensional structure with factor loads ranging between 0.43 and 0.86 in the study they conducted on textile factory employees. As a result of the reliability analysis, the Cronbach’s Alpha coefficient for the workplace spirituality total score and subdimensions were found to exceed the acceptable levels (0.70).

As a consequence, this study has shown that workplace spirituality combines three dimensions, namely Engaging Work, Mystical Experience, and Spiritual and Social Connection, for employees in the production sector.

Engaging Work emphasizes the harmony between values and beliefs as well as individuality and positive emotions. In fact, the concept of engaging work in Turkish culture is associated with vigor, commitment, concentration, high motivation, enthusiasm, glory, focus and exemplary behavior. Mystical experience involves physiological arousal and liveliness while working, a sense of perfection and complete joy and transcendence. According to the common religious teaching in Turkey, “Working is worship” and it is believed that working is a good deed and sins are forgiven by it. The third dimension, Spiritual and Social Connection, combines Sense of Community, which includes the common purpose and the

sense of commitment which the individual shares with others, and items under the Spiritual Connection subdimension, which includes the sense of being connected to something larger than self. As a matter of fact, communal worship is more valuable in Turkish culture than individual worship, and thus, spiritual applications such as salah, fasting, festivities and prayers are performed as a community. The combination of these two dimensions emphasizes the importance of social relationships of the individual with others while making spiritual connections. In this study, ownership of a business has proved to be one of the factors that influence many of the dimensions of the workplace spirituality of the employees. Workplace spirituality of businesses, which are family/private ownerships and domestic capital partnerships, especially substantiate a positive atmosphere. The organizational culture of foreign capital partnerships may have resulted in a less positive environment due to spiritual expressions from employees belonging to various cultures. The level of perceived religiosity supported significant relationships, especially with the Spiritual and Social Connection subdimension and the SAWS-TR total score levels. According to Fry (2003), spirituality is a necessity for religion; however, religion is not a prerequisite for spirituality. As a matter of fact, spiritual teachings have much in common with the teachings of common religions. In this sense, the relationship is not surprising. While participation in prayer services has proved effective on the Spiritual and Social Connection and SAWS-TR total scores, performing salah was effective on the Spiritual and Social Connection score. Mass prayers are factors that reinforce employees' connection with their "spiritual love" and also their sense of being a part of society. Having the opportunity to experience their spirituality in their workplace will strengthen employees' commitment and belonging to the institution and result in dedicated work (Baykal, 2018).

The only significant limitation of the study is that it was conducted with a relatively small sample, including businesses in only one metropolitan area. Therefore, the results obtained from this study are limited and cannot be generalized to every individual and institution. However, the process of scale adaptation was applied without reserve and SAWS-TR with three subdimensions was confirmed as a model. Testing the three subdimensional structures of SAWS-TR revealed in this study as well as revealing its methodological results in the production sector and other sectors will be beneficial in terms of the comparable results. Future research should focus on the detailed study of relations between spirituality at work and employee behavior, using qualitative methods such as case studies. Experimental studies where the effects of various spiritual applications on employees are tested are also possible. In addition, the generalizability of the study can be increased through research conducted by obtaining data from as many employees as possible from different centers.

Conclusion

The study has shown that SAWS-TR is a valid and reliable tool to determine spirituality in businesses. The fact that this study was conducted on employees working in the manufacturing sector has led to different results from the previous three

methodological studies in terms of the conceptual framework of SAWS, because the production sector, unlike other sectors, is an area where the physical and mental limits of the employee are challenged. Only Kökalan (2017) examined SAWS in a manner similar to the analytical methods of our study; however, the fact that the sample of his study was the service sector caused the difference in the participants in this study. As a matter of fact, the developers of SAWS declared to the researcher a readaptation for this study and the implementation of the proposed procedure. Unlike the original scale, in SAWS-TR, the Sense of Community and Spiritual Connection dimensions were seen to be combined. Moreover, this dimension is called the Spiritual and Social Connection. Spirituality at work is a novel concept in Turkey, and thus, the use of SAWS-TR will make it possible to obtain comparable data nationally and internationally.

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References

- Afsar, B., Badir, Y., & Kiani, U. S. (2016). Linking spiritual leadership and employee pro-environmental behavior: The influence of workplace spirituality, intrinsic motivation, and environmental passion. *Journal of Environmental Psychology, 45*, 79–88. <https://doi.org/10.1016/j.jenvp.2015.11.011>
- Ahmadi, S., Nami, Y., & Barvarz, R. (2014). The relationship between spirituality in the workplace and organizational citizenship behavior. *Procedia-Social and Behavioral Sciences, 114*, 262–264. <https://doi.org/10.1016/j.sbspro.2013.12.695>
- Altaf, A., & Awan, M. A. (2011). Moderating effect of workplace spirituality on the relationship of job overload and job satisfaction. *Journal of Business Ethics, 104*, 93–99. <https://doi.org/10.1007/s10551-011-0891-0>
- Avcı, N. (2019). A study on the relationship between workplace spirituality and employee performance. *e-Journal of New Media, 3*(3), 213–225. Doi: <https://doi.org/10.17932/IAU.EJNM.25480200.2019.3/3.213-225>.
- Awan, S., & Sitwat, A. (2014). Workplace spirituality, self-esteem, and psychological well-being among mental health professionals. *Pakistan Journal of Psychological Research, 29*(1), 125–149.
- Baykal, E. (2018). Spirituality and search for meaning in the workplace. *Alanya Academic Review Journal, 2*(1), 11–25.
- Baykal, E. (2019). Improving in-role and extra-role performance through workplace spirituality. *International Journal of Law and Social Science Research, 1*(1), 15–25.
- Byrne, B.M. (2010). *Structural Equation Modeling with AMOS: basic concepts, applications and programming*. Routledge Taylor and Francis Group.
- Büyükoztürk, Ş. (2008). *Handbook of data analyses for social sciences*. Pegem A Publishing.
- Chawla, V. (2014). The effect of workplace spirituality on salespeople's organizational deviant behaviours: Research propositions and practical implications. *Journal of Business and Industrial Marketing, 29*(3), 199–208. <https://doi.org/10.1108/JBIM-08-2012-0134>
- Chen, C. Y., & Yang, C. F. (2012). The impact of spiritual leadership on organizational citizenship behavior: A multi-sample analysis. *Journal of Business Ethics, 105*(1), 107–114. <https://doi.org/10.1007/s10551-011-0953-3>
- Cinnioğlu, H. (2018). The impact of spiritual leadership perceptions on job satisfaction levels of employees working in food and beverage businesses: İstanbul sample. *Journal of Tourism and Gastronomy Studies, 6*(4), 113–131. Doi: <https://doi.org/10.21325/jotags.2018.300>.

- Cottini, E., & Lucifora, C. (2013). Mental health and working conditions in Europe. *Industrial and Labor Relations Review*, 66(4), 958–988. <https://doi.org/10.1177/001979391306600409>
- Çakıroğlu, D., Aydoğan, E., Altınöz, M., & Yılmaz Işıkan, S. (2018). Perceptions of organizational spirituality of public and private sector employees: A field study. *Atlas International Refereed Journal on Social Sciences*, 4(13), 1065–1073.
- Daniel, J. L. (2015). Workplace spirituality and stress: Evidence from Mexico and US. *Management Research Review*, 38(1), 29–43. <https://doi.org/10.1108/MRR-07-2013-0169>
- Eroğlu, A. (2009). Factor analyses. In Ş Kalaycı (Ed.), *SPSS Applied Multivariate Statistical Techniques* (pp. 321–331). Asil Publishing.
- Fry, L.W. (2003). Toward a theory of spiritual leadership. *The Leadership Quarterly*, 14(6), 693–727.
- Gatling, A., Kim, J., & Milliman, J. (2016). The relationship between workplace spirituality and hospitality supervisors' work attitudes: A self-determination theory perspective. *International Journal of Contemporary Hospitality Management*, 28(3), 471–489. <https://doi.org/10.1108/IJCHM-08-2014-0404>
- Hassan, Z., Tnay, J.S., Sukardi Yososudarmo, S.M., & Sabil, S. (2020). The relationship between workplace spirituality and work-to-family enrichment in selected public sector organizations in Malaysia. *Journal of Religion and Health*, Pub Date: 2020–01–04. Doi: <https://doi.org/10.1007/s10943-019-00971-y>.
- Hungelmann, J., Kenkel-Rossi, E., Klassen, L., & Stollenwerk, R. (1985). Spiritual well-being in older adults: Harmonious interconnectedness. *Journal of Religion and Health*, 24(2), 147–153. <https://doi.org/10.1007/BF01532258>
- Jnaneswar, K., & Sulphay, M. (2021). A study on the relationship between workplace spirituality, mental wellbeing and mindfulness. *Management Science Letters*, 11(3), 1045–1054. <https://doi.org/10.5267/j.msl.2020.9.038>
- Jurkiewicz, C. L., & Giacalone, R. A. (2004). A values framework for measuring the impact of workplace spirituality on organizational performance. *Journal of Business Ethics*, 49(2), 129–142. <https://doi.org/10.1023/B:BUSI.0000015843.22195.b9>
- Kanbur, A., & Kavuklu, H. (2018). The role of the workplace spirituality in the prediction of psychological capital. *Business & Management Studies: An International Journal*, 6(3), 17–35. Doi: <https://doi.org/10.15295/bmij.v6i3.316>.
- Karakoç, F. Y., & Dönmez, L. (2014). Basic principles of scale development. *Medical Education World*, 40, 39–49.
- Karaman, H., Atar, B., & Çobanoğlu Aktan, D. (2017). The comparison of factor extraction methods used in exploratory factor analysis. *Gazi University Journal of Education Faculty*, 37(3), 1173–1193. Doi: <https://doi.org/10.17152/gefad.309356>.
- Kazemipour, F., & Amin, S. M. (2012). The impact of workplace spirituality dimensions on organizational citizenship behaviour among nurses with the mediating effect of affective organizational commitment. *Journal of Nursing Management*, 20(8), 1039–1048. <https://doi.org/10.1111/jonm.12025>
- Kinjerski, V. M., & Skrypnik, B. (2004). Defining spirit at work: Finding common ground. *Journal of Organizational Change Management*, 17(1), 26–42. <https://doi.org/10.1108/09534810410511288>
- Kökalan, Ö. (2017). The effects of workplace spirituality on organizational trust and work alienation. *Dicle University Social Sciences Institute Journal*, 9(18), 37–51.
- Laaksonen, M., Rahkonen, O., Martikainen, P., & Lahelma, E. (2006). Associations of psychosocial working conditions with self-rated general health and mental health among municipal employees. *International Archives of Occupational and Environmental Health*, 79(3), 205–212. <https://doi.org/10.1007/s00420-005-0054-7>
- Milliman, J., Czaplewski, A. J., & Ferguson, J. (2003). Workplace spirituality and employee work attitudes: An exploratory empirical assessment. *Journal of Organizational Change Management*, 16(4), 426–447. <https://doi.org/10.1108/09534810310484172>
- Mitroff, I. I. (2003). Do not promote religion under the guise of spirituality. *Organization*, 10(2), 375–382. <https://doi.org/10.1177/1350508403010002011>
- Örgev, M., & Günalan, M. (2011). A critical assessment on workplace spirituality. *Journal of Kahramanmaraş Sütçü İmam University Faculty of Economics and Administrative Sciences*, 1(2), 51–64.
- Pawar, B. S. (2009). Individual spirituality, workplace spirituality and work attitudes (an empirical test of direct and interaction effects). *Leadership and Organization Development Journal*, 30(8), 759–777. <https://doi.org/10.1108/01437730911003911>

- Petchsawang, P., & McLean, G. N. (2017). Workplace spirituality, mindfulness meditation, and work engagement. *Journal of Management, Spirituality & Religion*, 14(3), 216–244. <https://doi.org/10.1080/14766086.2017.1291360>
- Polit, D. E., & Beck, C. T. (2006). *Essentials of nursing research*. Lippincott Williams & Wilkins.
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, 8(2), 23–74.
- Sharma, P. K., & Kumra, R. (2020). Relationship between workplace spirituality, organizational justice and mental health: Mediation role of employee engagement. *Journal of Advances in Management Research*, 17(5), 627–650. <https://doi.org/10.1108/JAMR-01-2020-0007>
- Streib, H., & Klein, C. (2016). Religion and spirituality. In M. Stausberg & S. Engler (Eds.), *The Oxford Handbook of the Study of Religion* (pp. 73–83). Oxford University Press.
- ten Have, M., van Dorsselaer, S., & de Graaf, R. (2015). The association between type and number of adverse working conditions and mental health during a time of economic crisis (2010–2012). *Social Psychiatry and Psychiatric Epidemiology*, 50, 899–907. <https://doi.org/10.1007/s00127-015-1009-2>
- Tourish, D., & Tourish, N. (2010). Spirituality at work, and its implications for leadership and followership: A post-structuralist perspective. *Leadership*, 6(2), 207–224. <https://doi.org/10.1177/1742715010363210>
- Ünal, Z.M., & Turgut, T. (2015, November 6–7). The contribution of organizational culture on spirituality at work. 3rd Organizational Behavior Congress, Tokat, Turkey. Doi: <https://doi.org/10.13140/RG.2.1.2535.4648>.
- Yaşar, M. (2014). Attitudes Toward Statistics Scale: Validity and reliability study. *Pamukkale University Journal of Education*, 36, 59–75. <https://doi.org/10.9779/PUJE640>
- Yaşloğlu, M.M. (2017). Factor analysis and validity in social sciences: application of exploratory and confirmatory factor analyses. *Istanbul University Journal of the School of Business*, 46 (Special Issue), pp. 74–85.

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