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Original Article

Determination of Work–Life Balance in Healthcare Professionals: Validity and Reliability of the New Work–Life Balance Scale

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ABSTRACT

Objective: To make a due diligence on the work–life balance of healthcare professionals and to provide an up-to-date measurement tool for work–life balance in Turkish as a result of a methodological study.

Methods: The research was carried out on 431 healthcare workers in 9 public hospitals and 4 foundation/private hospitals in Istanbul. The New Work–Life Balance Scale consists of 15 items and 3 sub-dimensions. One sworn translator and 5 academicians were used for language validity. Item Analysis, Explanatory Factor Analysis, Confirmatory Factor Analysis, Intergroup Differences Validity, Convergent Validity, and Divergent Validity are used in the construct validity phase. Cronbach Alpha and test–retest were used for reliability analysis.

Results: As a result of the research, the validity and reliability study of the New Work–Life Balance Scale was completed and it was brought to the Turkish literature. Due to the structure of this scale, which is applied to healthcare workers, it has a design that can be used in other areas as well.

Conclusion: In the study, it was determined that physicians and nurses had lower Personal Life scores than health technicians. Dietitians have higher Personal Life scores than physicians. Those who work more than 9 hours have a lower work–life balance score than those who work under 9 hours. While there was a moderately positive relationship between work–life balance and happiness at work, a moderately negative relationship was found with burnout.

Keywords: Health workers, scale adaptation, work–life balance

Introduction

Work–life balance can be defined as a concept that deals with employees' carrying out their work and personal life roles in a balanced manner by being affected for various reasons by their activities, responsibilities, and duties in their work and personal lives. The concept of work–life balance, which is the subject of examination of areas such as organizational behavior and organizational psychology, is an abstract phenomenon that refers to the extent to which employees' work-related expectations and personal demands are compatible without conflict.[1] Although the concept began to be discussed in the 1930s, it is stated that it was first approached by Rapoport and Rapoport[2] as a scientific concept.[3] Rapoport and Rapoport[2] examined how the work–life balance in the USA is and how the family lives of individuals can be affected badly by their business lives. According to some sources, Kanter is the first researcher to examine this area in detail and in terms of business and family life. The work–life balance was discussed in Kanter's book "Work and Family" in 1977.[4] Today, the work–life balance has become an issue that is frequently addressed by politicians, business managers, and various organizations, as well as researchers.[5]

If the individual who has problems either in his/her work or personal life is able to stick to the role in the other, it will be easier to overcome the problem, depending on the nature of the problem. For example, while problems experienced at work can be overcome more easily with success in personal life, problems experienced in personal life can be overcome more easily with success in work life. However, the most important point here is that the two roles have a high balance by separating them from each other. All these reasons are important as they affect the satisfaction, mental well-being, and productivity of the individual both personally and organizationally.[6]

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People with a high work–life balance experience less problems at the intersection of work and personal life. For this reason, it is expected that a high level of happiness at work will show a positive relationship in people with a high work–life balance. Adnan Bataineh[7] also investigated the relationship between work–life balance and happiness at work and stated that there was indeed a positive correlation between them. Altan and Turunç,[8] in their study that examined organizational support, work–life balance, and happiness, found a moderate-positive relationship with work–life balance in sub-dimensions related to happiness. According to this information, it is expected that work–life balance and happiness levels act together in the research. On the other hand, there are studies showing that work–life balance is negatively related to some concepts such as burnout.[9] When the work–life balance increases, the burnout levels of the individuals decrease and some characteristics related to burnout are less experienced. Because individuals' motivation decreases and their actions related to responsibility and duty weaken in the face of depersonalization.[10] In addition, when a balance is established between work and life, problems that may be experienced in personal life or work life can be fixed thanks to this balance and both areas can improve each other together.[11]

With the COVID-19 outbreak that emerged in 2019 and became a pandemic, global, and local measures were taken, and whether the systems such as working from home, curfews, and flexible working order were ready or not, many businesses had to become acquainted with these systems with the prohibitions and regulations introduced at that time. Thus, the boundaries of the work–life balance were once again abstracted and complicated. All these developments have shown that the work–life balance is a concept that is constantly updated.[12]

In the service sector, health is a field in which intense expertise is required and the human factor is important despite the intense technology. In addition, it is an area that is risky, urgent, has information asymmetry compared to other sectors and can be directly and critically affected by the behavioral actions of its employees due to its irrecusable characteristics. For these reasons, ensuring work–life balance in healthcare professionals is very important for healthcare professionals and institutions. If the person's work affects his/her personal life negatively and his/her personal life also affects his/her business life negatively, it is a form of relationship that cannot be sustained for a long time. This situation can lead to many negative situations to occur in the worker. On the other hand, work life and personal life can strengthen and improve each other. In line with this information, the work–life balance levels of healthcare professionals were examined in the study and it was aimed to bring an up-to-date work–life balance scale into Turkish.

Methods

The research is a quantitative study with methodological and cross-sectional features. It was carried out in 9 public hospitals and 4 private/foundation hospitals in Istanbul. The research was completed between the dates May 5, 2020, and January 20, 2022. Ethics committee approval was obtained from the Ethics Committee of Istanbul Okan University with the meeting and decision number 128-5 on November 11, 2020.

Population was determined as all healthcare professionals working in hospitals in Istanbul. The formula proposed in the literature to be used in determining the number of samples for explanatory and confirmatory factor analysis among the construct validity stages is as follows[13,14]:

- 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)

Since the number of items (observed variable) is less than 20 231 valid questionnaires were reached in order to conduct the Explanatory Factor analysis to be used in the pre-test by planning to reach at least 200 people at both stages. In order to perform the Confirmatory Factor Analysis to be used in the post-test, 200 valid questionnaires were reached. The research was completed with a total of 431 healthcare professionals.

Scale Permissions

The Work–Life Balance Scale developed by Agha et al[15] was desired to be adapted to Turkish. For this, Dr. Permissions for scale adaptation (April 24, 2020), arranging scale scoring and EFA (Exploratory Factor Analysis) were obtained from Kakul Agha (January 8, 2021).

Structure and Scoring of the Scale

The New Work–Life Balance Scale consists of 15 items. There are 3 sub-dimensions in the scale. The first sub-dimension (M1-M7), which covers the first 7 items, constitutes the Personal Life sub-dimension (PL), the next sub-dimension constitutes the Work Life sub-dimension (WL) with 4 questions (M8-M11), and the last 4 questions (M12-M15) constitute the enhancement (GOOD) sub-dimension. Personal Life sub-dimension evaluates whether personal life is damaged due to work life. The WL dimension evaluates whether work life caused by personal life is damaged. The enhancement dimension evaluates whether work life and personal life provide enhancement by benefiting each other. The items (M1-M11) representing the PL and WL sub-dimensions are reverse coded. The aim here is to calculate the overall evaluation score. After the scores of the PL and WL sub-dimensions are reverse coded, as the high score is obtained, they become sub-factors that show the satisfaction of the person and that they are not negatively affected by the other from the situation of that sub-dimension. The items representing the enhancement sub-dimension are directly evaluated because they include positive expressions. In the study, it was agreed to make the evaluation on the basis of the average score. In addition, it was deemed suitable to determine a general score and to carry out a general evaluation of the work–life balance. Evaluation is carried out on the 5-point Likert scale (1: Strongly Disagree-5: Strongly Agree).

Relationships with Other Scales

Convergent validity and divergent validity confirmatory methods were used in the relations with the scales. The scale, originally developed by Singh and Aggarwal,[16] adapted to Turkish by Özdemir et al.,[17] the Happiness at Work Scale; the Short Version of the Burnout Scale, created by Pines[18] and adapted to Turkish by Tümkaya et al.[19] the Empathic Anger Scale, developed by Vitaglione and Barnett[20] and adapted to Turkish by Okutan,[21] and the Duwas Workaholism Scale, developed by Schaufeli et al.[22] and adapted to Turkish by Doğan et al.[23] are the scales used in this context. The scales used for Convergent Validity are expected to have a positive relationship with the Happiness at Work Scale and a negative relationship with the Burnout Scale. Empathic Anger Scale and Duwas Workaholism Scale are the scales used for Divergent Validity and no significant relationship was expected.

Language Validity Studies

The scale was sent to 2 language experts who were proficient in the original language and it was translated into Turkish. These people are completely independent of each other, one is an academician familiar with the field and the subject, and one is a sworn translator who is not familiar with the subject. These choices were made deliberately. The translation was sent to 2 separate academicians who work in the same field in order to evaluate and rate the terminological/semantic suitability of the translation. The feedbacks were completed on September 25, 2020. The translation was compared and reduced to a single form by the researchers. The following steps were followed for reducing it to a single form:

1. Using personal links, 15 experts were consulted through Hambleton and Patsula's[24] Guide to Language/Cultural Competence. In this context, the intra-class correlation coefficient was calculated in Statistical Package for the Social Sciences (SPSS) 22.0. For this, the one-way model from the reliability analysis was evaluated at 95% CI. The Cronbach alpha coefficient was 0.780, and the average measures were 0.911. This shows that the intra-class correlation values of the scale are appropriate according to the language validity guide of Beaton.
2. The form coded as 5= fully suitable, 1= not suitable at all was sent to 5 academics and the average of the responses received was taken. In this average, the item with the highest score was 5.00 (full score) and the item with the lowest score was 3.80 (suitable). The overall evaluation score of the scales is 4.42 out of 5 on average.
3. There are open-ended questions in the form. Accordingly, expert suggestions were seized upon. An item with a low score was revised in line with the suggestions and this situation was reported to the experts. Thanks to the experts whose opinions were asked again, the item with the lowest score increased to 4.20 on average. Then, the scale form was reduced to a single form.

The document, which was reduced to a single form, was evaluated by 2 expert Turkish language experts for its validity in Turkish. Full scores were obtained from the evaluations. Therefore, it got ready for pilot implementation without the need for researchers to re-evaluate.

Pilot Study

The form proposed by Byrne et al[25] for the pilot study was used in language/culture validity. According to Seçer,[26] it is recommended to reach at least 50 people in language validity for pilot implementation. In this context, the form was delivered to 50 healthcare professionals and language validity was completed. Of the 50 healthcare professionals, 27 (54.0%) were physicians; 15 (30.0%) were nurses; 4 (8.0%) were dieticians; and 4 (8.0%) were physiotherapists. As a result of the evaluations, the lowest item (M7) score was 4.30 ± 0.76 and the highest item (M15) score was 4.68 ± 0.55. The language or culture suitability score of the scale, which was obtained from an average of 15 items, was 4.46 ± 0.16 out of 5, and the part of the language validity of the scale before the construct validity was completed.

Statistical Analysis

MS Excel 2016, SPSS 22.0 and LISREL 8.51 programs were used to analyze the data. In item analysis, intraclass correlations through SPSS 22.0, Cronbach alpha coefficient and 1-way analysis of variance (ANOVA) were used in internal consistency calculations in general score calculation. In the exploratory factor analysis, since the scale has a multidimensional structure, direct oblimin was preferred instead of varimax rotation. The iteration was completed in 3 rotations. For confirmatory factor analysis, the factors were examined through Lisrel 8.51 program and Structural Equation Modeling was used. The results of the program were examined in terms of fit indices and modifications were conducted where necessary. Before the significance tests, the normal distribution was examined with the values of skewness and kurtosis (−1 to +1). Hereunder, independent sample *t*-test, ANOVA, Tukey HSD post-hoc, and Pearson correlation were used in parametric analyzes, and Mann–Whitney *U* test, Kruskal–Wallis H, Dunn's test post-hoc and spearman correlation were used in non-parametric analyzes. They were evaluated with 99% CI and 1% margin of error for Divergent Validity; 95% CI and 5% margin of error in other analyses.

Pretest Studies

As a result of the data collected from 231 healthcare professionals in the questionnaire used in the Turkish adaptation of the Work/Life Balance Scale, while the internal consistency was assured by Alpha and ANOVA was used in intraclass correlation calculations in item analysis. In the item analysis, it was accepted that the item analysis was successfully completed in 1 step for the reasons of that there was no item below 0.15 in the total score correlation calculation, the single measurement in intraclass correlation was above 0.3, the average measurement in intraclass correlation was highly reliable (0.884) and the ANOVA statistical value was significant (*F*: 171,213; *P* = .000<05) (Table 1).

Table 1. Item Analysis Results

Item	$\bar{x} \pm \sigma$	Total Score Correlation	Square of Multiple Correlations
M1	2.58 ± 1.12	0.754	0.744
M2	2.51 ± 1.09	0.787	0.785
M3	2.38 ± 1.00	0.726	0.748
M4	2.32 ± 1.02	0.721	0.768
M5	2.29 ± 0.99	0.721	0.742
M6	2.80 ± 1.06	0.726	0.626
M7	2.37 ± 1.02	0.662	0.592
M8	3.69 ± 1.05	0.429	0.454
M9	3.99 ± 0.90	0.335	0.595
M10	4.08 ± 0.81	0.359	0.606
M11	4.14 ± 0.86	0.238	0.470
M12	3.38 ± 0.93	0.320	0.311
M13	2.38 ± 0.96	0.537	0.466
M14	3.27 ± 0.94	0.320	0.327
M15	2.77 ± 1.09	0.454	0.411

F=171.213; *P* = .000<0.05; single measurement intra-class correlation: 0.337; average measurement intra-class correlation: 0.884.

Kaiser Meier Olkin and Bartlett sphericity test was used to measure the suitability of the sample adequacy of the exploratory factor analysis for factor analysis. The sample adequacy result applied in 231 healthcare professionals was found to be significant and suitable for factor analysis (χ^2: 2174.793; KMO=0.894; *df* = 105; *P* = .000<0.05). In the exploratory factor analysis, the principal axis factoring analysis method was preferred and used as the oblique rotation method, assuming that the factors may be related to each other. The total variance explained was 69.155%. Rotation was allowed up to 25 but it was already completed in 4 iterations. As a result of the factor analysis, it was seen that there were 3 factors formed in the pattern matrix. In the common variance correlations, it was found that no item remained below 0.20. When the loads of the items were examined, it was determined that there was no item with a load below 0.30 and that there was no item loaded on both factors with a difference of less than 0.10. Accordingly, the exploratory factor analysis was completed without the need to remove any item (Table 2).

The internal consistency coefficient Cronbach alpha value was 0.871 in factor 1; 0.848 in factor 2; 0.660 in factor 3. The overall reliability of all items of the scale is 0.884. The values show that it is highly reliable in factors 1 and 2 and moderately reliable in factor 3. The scale in overall is highly reliable. According to these findings, the reliability analysis of the pretest was completed (Table 3).

Results

Among the participants who in the post test of study, 150 (75.0%) work in public; 50 (25.0%) work in private/foundation institutions. Marital status: 104 (52.0%) of them were married; 96 (48.0%) were single. When asked who they live with, 105 (52.5%) answered with my wife/partner/children; 40 (20.0%) stated that they live alone; 34 (17.0%) stated that they live with their parents; 14 (7.0%) stated that they live with their friends; 7 (3.5%) stated that they live with their cousin or

Table 2. Exploratory Factor Analysis Results

Items	Total Eigenv.	Factor 1	Factor 2	Factor 3	Common Variance Correlation (Extractions)
M1	6.182	0.867			0.739
M2	2.775	0.890			0.789
M3	1.415	0.875			0.713
M4	0.845	0.910			0.766
M5	0.548	0.906			0.755
M6	0.528	0.806			0.635
M7	0.485	0.791			0.570
M8	0.409		0.723		0.481
M9	0.384		0.862		0.698
M10	0.365		0.860		0.715
M11	0.281		0.819		0.545
M12	0.254			0.822	0.445
M13	0.222			0.413	0.443
M14	0.158			0.814	0.464
M15	0.148			0.395	0.379

Eigenvalue: Factor 1: 6.182 Factor 2: 2.775; Factor 3: 1.415
Variance: Factor 1: 41.215; Factor 2: 59.718; Factor 3:69.155
TVE: 69.155

$\chi^2 = 2174.793$; KMO = 0.894; $df = 105$; $P = 0.000$.
TVE, total variance explored.

Table 3. Reliability Analysis Results

	Number of Items	Cronbach Alpha Coefficient
Factor 1	7	0.871
Factor 2	4	0.848
Factor 3	4	0.660
Overall Score	15	0.884

brother or sister by marking the other option. The average duration of work in the profession is 10.41 ± 9.74 years, 91 (45.5%) of the people working for 5 years or less and 109 (54.5%) of the people working for more than 5 years. The average duration of work in the current institution is 6.56 ± 8.49 years, 96 (48.0%) of the people working for 3 years or less and 104 (52.0%) of the people working for more than 3 years. The average daily working time is 9.37 ± 2.07, 94 (47.0%) of the people working under 9 hours and 106 (53.0%) of the people working for 9 hours or more. Among the factors of the New Work–Life Balance Scale, healthcare professionals scored 3.45 ± 11 on average in the PL sub-dimension; 2.15 ± 0.95 on average in the WL sub-dimension; 2.94 ± 0.86 on average in the Balance sub-dimension. They got an average of 2.86 ± 0.54 points from the New Work–Life Balance Scale.

In the path diagram, it is mandatory for each item to have a path above the minimum $t = 1.96$ (high significance: 2.33; very high significance: 3.23) statistical value in terms of significance. Accordingly, it was determined that all paths were very highly significant since even the lowest path in the t statistic value was $t = 5.30$. In addition, the general model of the diagram is statistically significant ($P = .00005 < 0.05$). Error relations generating negative imputed value were not applied while performing modifications. In addition, the fact that all error relations are related to the items between the sub-dimensions is also another point that strengthens the accuracy of the scale. As a result of the chi-squared difference analysis, a decrease of 159.36 points occurred in the modification of 5 *df* and it was concluded that the difference was statistically significant ($P = .0 < 0.05$). Modifications were completed in one shot iteration (Figure 1). Of the result fit indices, 4 were acceptable; 2 gave good result fit. Accordingly, as a result of the confirmatory factor analysis, it was determined that the scale was suitable (Table 4).

When the scores obtained from the New Work–Life Balance Scale were compared according to the characteristics of the healthcare professionals, statistically significant differences were found in terms of duration of work and their daily working hours ($P < .05$). Physicians and nurses have lower PL scores than health technicians. In addition, physicians have lower PL scores than dieticians. In terms of daily working hours, work–life balance scores and PL scores are higher in those who work less than 9 hours than the ones who work more than 9 hours. In terms of the enhancement sub-dimension, workers working under 9 hours have a higher enhancement score than those working for 9 hours or more (Table 5).

A statistically significant relationship was found between the scores obtained from the New Work–Life Balance Scale and its sub-dimensions and the scores obtained from the Happiness at Work Scale and the scores obtained from the Burnout Scale at 95% CI except for the work life sub-dimension and the Happiness at Work Scale. A positive-moderate significant relationship was found between the PL subscale and the Happiness at Work Scale ($r = 0.449$; $P = .000 < 0.05$). A negative moderate significant relationship was found between the Personal Life subscale and the Burnout Scale ($r = -0.500$; $P = .000 < 0.05$). No significant relationship was found between the Work Life subscale and the Happiness at Work Scale ($P > .05$). A weakly negative significant relationship was found between the Work Life subscale and the Burnout Scale ($r = -0.265$; $P = .000 < 0.05$). A positive-moderate significant relationship was found between the Enhancement subscale and the Happiness at Work Scale ($r = 0.413$; $P = .000 < 0.05$). A negative-moderate significant relationship was found between the Enhancement subscale and the Burnout Scale ($r = -0.462$; $P = .000 < 0.05$).A positive moderate significant relationship was found between the Work–Life Balance Scale and the Happiness at Work Scale ($r = 0.444$; $P = .000 < 0.05$). A negative moderate significant relationship was found between the Work Life Balance Scale and the Burnout Scale ($r = -0.551$; $P = .000 < 0.05$). The relationships between the scores obtained from the New Work Life Balance Scale and its sub-dimensions and the scores obtained from the Duwas Workaholism Scale and the scores obtained from the Empathic

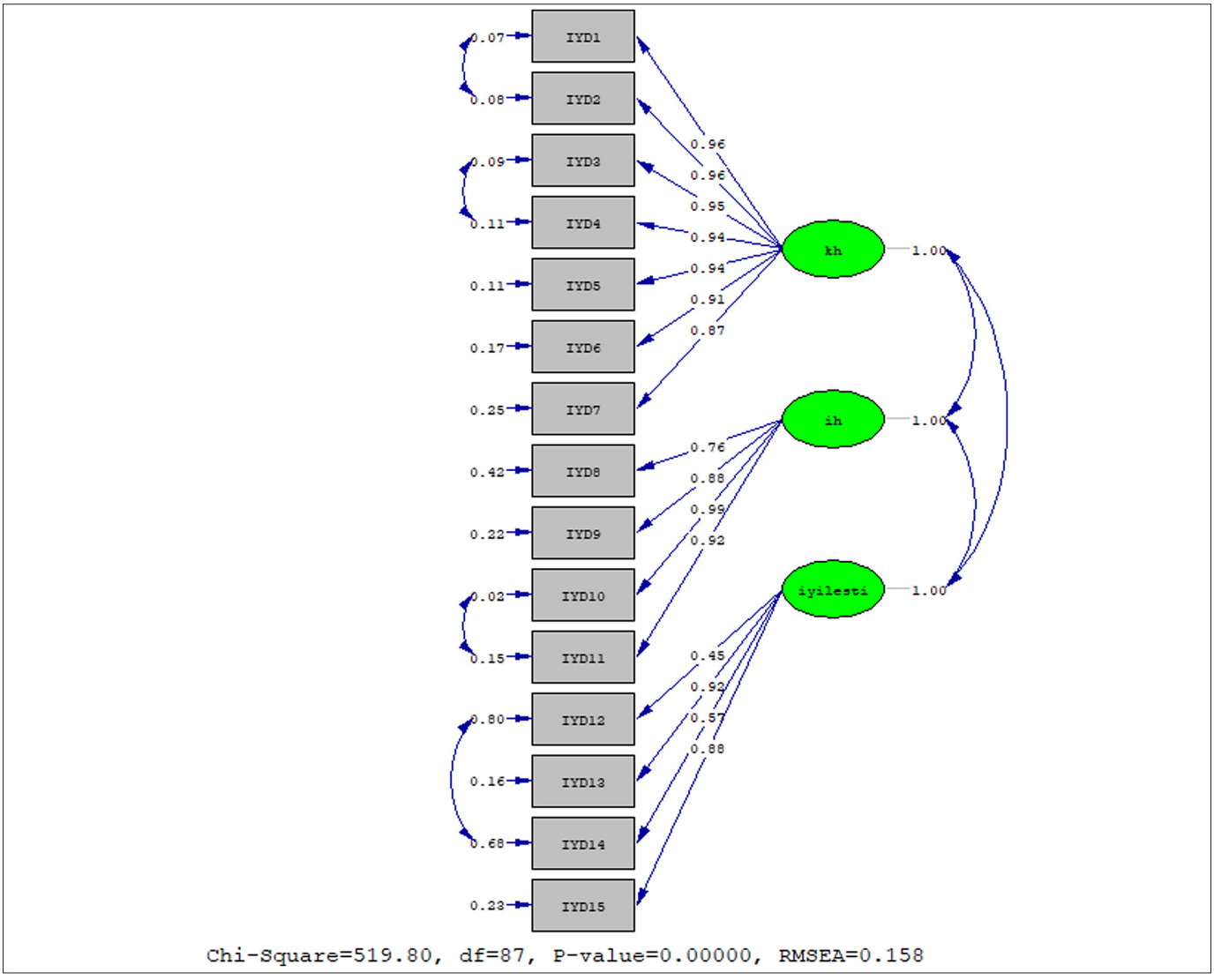

Figure 1. Path diagram standardized solution chart.

Anger Scale were examined and it was found that there was no statistically significant relationship at 99% confidence level ($P > .01$) (Table 6).

Test-retest was used in the final test phase of the reliability analysis. The test was performed on 103 healthcare professionals who agreed to participate in the repetition. Weak ($r = 0.220$) in the PL sub-dimension, moderate ($r = 0.315$) in the work–life sub-dimension, high ($r = 0.741$) in the Enhancement sub-dimension, moderate ($r = 0.592$) in the General score of Work–Life Balance, and positive significant relationships in all dimensions were found ($P < .05$) (Table 7).

Table 4. Fit Indices of Confirmatory Factor Analysis Results

Fit Indices	Fit Indices' Criteria	Acceptable Cohesion Criteria	Result Values	Result Compliance
χ^2/df	$0 \leq \chi^2/SD \leq 2$	$2 \leq \chi^2/SD \leq 5$	1.72	Good
RMSEA	.00 ≤ RMSEA ≤ .05	.05 ≤ RMSEA ≤ .08	0.060	Acceptable
SRMR	.00 ≤ SRMR ≤ .05	05 ≤ SRMR ≤ .08	0.058	Acceptable
GFI	95 ≤ GFI ≤ 1.00	90 ≤ GFI ≤ 95	0.91	Acceptable
AGFI	.90 ≤ AGFI ≤ 1.00	.85 ≤ AGFI ≤ .90	0.87	Acceptable
CFI	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤ .95	0.98	Good

χ^2/df: ratio of chi-square and degree of freedom.
RMSEA, Root Mean Square Error of Approximation; sRMR, Standardized Root Mean Square Residual, GFI: Goodness of fit index; AGFI: Adjusted Goodness of Fit Index; CFI, Comparative Fit Index

The New Work–Life Balance Scale was conducted on healthcare professionals. However, it has a design that can be used in other areas. As the scale adaptors, we recommend that the average scale score (total score/number of items) be used in both its sub-dimensions and its overall score in order for the scale to provide a simpler indicator of the person's work–life balance. If performed accordingly, the scoring ranges from 1 to 5 and the result can be interpreted on this score (Appendix 1).

When we accept healthcare professionals, employers and society as a different party for each, the general expectations of all parties can be met if they meet on a common ground. However, short-term interests differ in terms of parties. For this reason, we believe that with a strategic approach, a good working environment and a workplace where the expectations of employees are met as much as possible, the institution will reach its goals and objectives more easily. Because, as well as the skill, ability, and success of the worker, in an field where the human factor plays an important role, such as the field of health, the quality of health service provision can be ensured by meeting the

Table 5. Validity Results of Differences Between Groups

		PL	WL	Enhancement	WLBS
	n	Avg. ± Std. S.	Median (Q1-Q3)	Avg. ± Std.S.	Median (Q1-Q3)
Position					
Physician	44	2.92 ± 0.83	2.00 (1.50-2.50)	2.75 ± 0.77	2.67 (1.69-2.75)
Nurse	98	2.86 ± 1.16	2.00 (1.50-2.50)	2.96 ± 078	2.67 (2.40-3.13)
Health technician	30	3.55 ± 1.09	2.00 (1.19-3.06)	3.22 ± 1.01	2.88 (2.55-3.17)
Dietitian	5	3.78 ± 0.84	2.25 (1.00-2.25)	2.95 ± 1.13	2.85 (2.61-3.08)
Administrative Staff	14	3.46 ± 0.82	1.63 (1.25-2.25)	2.89 ± 1.05	2.77 (2.47-3.08)
Other (Dentist, pharmacist, psychologist)	9	3.53 ± 1.38	2.00 (1.50-3.38)	2.69 ± 0.93	3.00 (2.37-3.54)
Test		**4.510**[F]	2.598[χ²]	1.266[F]	4.572[χ²]
P		.001**	.627	.280	.334
Post-hoc		c>a.b d>a			
Daily Working Time (hours)					
Below 9 hours	94	3.89 ± 0.92	2.00 (1.43-2.31)	3.11 ± 0.89	2.91 (2.59-3.21)
9 hours and more	106	3.01 ± 1.08	2.00 (1.50-2.75)	2.79 ± 0.80	2.72 (2.33-2.99)
Test		**6.248**[t]	**−0.788**[z]	**2.657**[t]	**3.236**[z]
P		.000**	.430	.009**	.001**

[t]Independent sample *t*-test.
[F]ANOVA test.
[z]Mann–Whitney *U* test.
[χ²]Kruskal–Wallis H test;
PL, Personal Life sub-dimension; WL, Work Life sub-dimension; WLBS, Work–Life Balance Scale score.
$_{Q1}$, 25. Percentile; $_{Q3}$, 75 percentile; *$P < .05$; **$P < .01$.

Table 6. Convergent and Divergent Validity Results

	Convergent validity				Divergent Validity			
	Happiness at Work		Burnout		Duwas Workaholism		Empathic Anger	
	r	*P*[a]	*r*	*P*[a]	*r*	*P*[b]	*r*	*P*[b]
Personal Life	0.449pe	.000*	−0.500sp	.000*	−0.154pe	.020	−0.143pe	.030
Work Life	0.032sp	.631	−0.265sp	.000*	0.027sp	.688	0.092sp	.166
Enhancement	0.413pe	.000*	−0.462sp	.000*	0.044pe	.508	−0.076pe	.247
WORK - LIFE BALANCE	0.444sp	.000*	−0.551sp	.000*	−0.047sp	.476	−0.077sp	.247

N = 231.
*$P < .01$
[a]95% CI assessment.
[b]99% CI assessment.
pe, Pearson correlation coefficient; sp, spearman correlation coefficient.

Table 7. Test–Retest Results

	Test–Retest Results	
	r	*P*
Personal Life	0.220sp	.000*
Work Life	0.315sp	.000*
Enhancement	0.741pe	.000*
Work-Life Balance General	0.592sp	.000*

N = 103.
*$P < .01$
sp, Spearman correlation coefficient.

worker's expectations about work life as much as possible. When the opposite happens, workers will not be able to establish a sufficient work–life balance and will create a reluctant and error-prone working environment. After a while, in the institution where health service is provided, neither the employer side nor the employee side nor the patient side will be able to get what they want. In order to prevent employees from such behaviors, an environment should be created in which employees can establish work–life balance through issues such as the investigation of managerial measures, planned working hours, employee expectations, internal and external satisfaction, the most effective arrangement of working hours, shifts, and the availability of sufficient personnel.

Discussion

In line with the data collected from healthcare professionals in the study, the validity and reliability of the New Work–Life Balance Scale were completed. It was determined that the general work–life balance average of the participants was 3.11; their personal life average was 2,46, their work–life average was 3.97, and their enhancement average was 2.91. While healthcare professionals are negatively affected by their work in their personal lives, it can be interpreted that they believe that their personal lives do not negatively affect their work life. In general, it was comprehended that they were able to establish work–life balances at a moderate level. In his study that he conducted on academicians, Arar[27] found that academicians had a work–life balance of 4.68 on the Work–Life Balance Scale, which is a 7-point Likert scale. Accordingly, the average work–life balance of the healthcare professionals included in our study can be evaluated as lower. On the other hand, Babacan,[28] in his study investigating the work–life balance in intensive care nurses, determined the average work–life balance of the participants as 2.60. In line with these findings, it is thought that the work–life balance of healthcare professionals cannot be established in a sufficient level.

Similarly, Ejlertsso et al[29] stated that nurses have a lower work–life balance than other healthcare professionals except for midwives. Mache

et al.[30] in their study, in which 563 clinician doctors participated, stated that the participants were in work–family conflict due to the effect of work conditions. In the study by Dudutienė et al.[31] it was observed that physicians had lower work–life balance scores than healthcare professionals with administrative staff status. In our study, health technicians have a higher PL score than physicians and nurses. In addition, dieticians have higher PL scores than physicians. It is thought that this may be related to the workload of the physician and nurse and the fact that they check more patients.

In his study, Adnan Bataineh[7] found that the effect of work–life balance on employee performance was 57.3% and there was a positive correlation of 35.6% with happiness in the workplace. Otken and Erben[32] found a moderate negative correlation (37.8%) between the negative effect of work life on personal life and happiness. As expected, the moderate positive correlation between the PL subdimension of the New Work–Life Balance and Happiness at Work was similar to the literature. One result that may be relatively surprising is that there is no relationship between work life affected by personal life and happiness at work. It is thought that this situation may be that individuals are skeptical about the fact that the contexts in their personal life affect their work life and that they keep their sources of happiness separate from it. In a study conducted with oncology nurses, it was stated that nurses' burnout levels were high and similarly their work–life balance was deteriorating.[33] In his research book on work–life balance and burnout in women, Umutlu[34] emphasized that establishing a work–life balance is negatively related to burnout and that work–life balance has a significant effect on burnout. Duong et al[35] emphasized in their study that the burnout caused by the pandemic can be solved with breakthroughs to establish a good work–life balance in healthcare professionals. Palma[36] stated that women may be more prone to burnout in family conflicts and working lives with the responsibilities imposed by the society and that establishing a healthier work–life balance, especially with the arrangements they will make in their personal lives, may be helpful in preventing them from feeling burnout. When all these findings were evaluated, the scale's expected negative correlation with burnout was also a supported result in terms of the literature.

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Informed Consent: Written informed consent was obtained from all participants who participated in this study.

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References

1. Akın A, Ulukök E, Arar T. İş-Yaşam Dengesi: Türkiye'de Yapılan Çalışmalara Yönelik Teorik Bir İnceleme. *Afyon Kocatepe Univ İktisadi İdari Bilimler Fak Derg*. 2017;19(1):113-124. [CrossRef]
2. Rapoport R, Rapoport R. Work and family in contemporary society. *Am Sociol Rev*. 1965;30:381-394. [CrossRef]
3. Nizam İ, Kam C. The determinants of work-life; balance in the event industry of Malaysia. International Journal of Management. *J Acc Econ*. 2018;5(3):141-168.
4. Lockwood NR. Work/life balance. Challenges and solutions. *HR Mag*. 2003:1-12.
5. Achour M, Grine F, Roslan Mohd Nor M. Work-Family Conflict and Coping Strategies: qualitative study of Muslim Female Academicians in Malaysia. *Ment Health Relig Cult*. 2014;17(10):1002-1014. [CrossRef]
6. Kaushalya RKN, Perera GDN. The impact of work life balance on employee turnover intention in selected private banks in Colombo District, Sri Lanka. *Hum Resour Manag J*. 2018;6(1).
7. Bataineh Ka. Impact of work-life balance, happiness at work, on employee performance. *Int Bus Res*. 2019;12(2):99-112. [CrossRef]
8. Altan S, Turunç Ö. Algılanan Örgütsel Destek ile İş Yaşamında Mutluluk İlişkisinde Yaş ve İş Yaşam Dengesinin Rolü. *İşletme Araştırmaları Derg*. 2021;13(3):2552-2570.
9. Schwartz SP, Adair KC, Bae J, et al. Work-life balance behaviors cluster in work settings and relate to burnout and safety culture: a cross-sectional Survey Analysis. *BMJ Qual Saf*. 2019;28(2):142-150. [CrossRef]
10. Özutku H. Tükenmişliğin İş Yaşam Dengesi ve Çalışan Sağlığı Üzerindeki Etkisi: Banka Çalışanları Üzerine bir Araştırma. *Pamukkale Univ Sosyal Bilimler Enstitüsü Derg*. 2019;36:165-182.
11. Delecta P. Work life balance. *Int J Curr Res*. 2011;3(4):186-189.
12. COVID AÖ E. *19 Pandemisinde Aktif Görev Alan Sağlık Hizmeti Çalışanlarının Okupasyonel Performans, Kaygı Düzeyi ve İş-Yaşam Dengesinin İncelenmesi* [Master's Thesis]. Ankara: Hacettepe University Department of Ergotherapy; 2019.
13. Thompson B. *Exploratory and Confirmatory Factor Analysis*. American Psychological Association; New Orleans, 2004.
14. Marsh HW, Morin AJ, Parker PD, Kaur G. Exploratory structural equation modeling: an integration of the best features of exploratory and confirmatory factor analysis. *Annu Rev Clin Psychol*. 2014;10:85-110. [CrossRef]
15. Agha K, Azmi FT, Khan SA. Work-life balance: scale development and validation. In: Heras ML, Chinchilla N, Grau M, eds.. *The Work-Family Balance in Light of Globalization and Technology*. Newcastle upon Tyne, UK: Cambridge Scholars Publishing; 2017:109-130.
16. Singh S, Aggarwal Y. Happiness at work scale: construction and psychometric validation of a measure using a mixed method approach. *J Happiness Stud*. 2018;19(5):1439-1463. [CrossRef]
17. Özdemir S, Sever M, Acar OK. İş'te Mutluluk Ölçeğinin geçerlik ve güvenirlik Çalışması. *Yönetim Ekon Araştırmaları Derg*. 2020;18(2):1-10.
18. Pines AM. The burnout measure short version (BMS). *Int J Stress Manag*. 2005;12(1):78-88.
19. Tümkaya S, Çam S, Çavuşoğlu İ. Tükenmişlik Ölçeği Kısa Versiyonu'nun Türkçe'ye Uyarlama Geçerlik ve Güvenirlik Çalışması. *Çukurova Univ Sosyal Bilimler Enstitüsü Derg*. 2009;18(1):387-398.
20. Vitaglione GD, Barnett MA. Assessing a new dimension of empathy: empathic Anger as a predictor of helping and punishing desires. *Motiv Emot*. 2003;27(4):301-325. [CrossRef]
21. Okutan N, Ölçeği'nin Türkçe EÖ. (Özellik) Empatik Öfke Ölçeği'nin Türkçe Geçerlik ve Güvenirlik Çalışması. *Yaşam Becerileri Psikhol Derg*. 2019;3(6):237-250. [CrossRef]
22. Schaufeli WB, Taris TW, Bakker A. On the differences Between work engagement and workaholism. In: Burke R, ed.: *Research Companion to Working Time and Work Addiction*. Northampton, MA: Edward Elgar; 2006:193-217.
23. Doğan T, Tel FD. Duwas İşkoliklik Ölçeği Türkçe Formunun (DUWASTR) Geçerlik ve Güvenirliğinin İncelenmesi. *Abant İzzet Baysal University Eğitim Fakültesi Dergisi*. 2011;11(1):61-69.
24. Hambleton RK, Patsula L. Increasing the Validity of Adapted Tests: Myths to Be Avoided an Guideline for Improving Test Adaptation Practices. *JATT*. 1999; 1(1).
25. Byrne BM, Oakland T, Leong FTL, et al. A critical analysis of cross-cultural research and testing practices: implications for improved education and training in psychology. *Train Educ Prof Psychol*. 2009;3(2):94-105. [CrossRef]
26. Seçer İ. *Psikolojik Test G el iştirme ve Uyarlama Süreci*: SPSS ve LIS REL Uygulamaları (1. Edition). Anı Yayıncılık, Ankara, 2015.
27. Arar T. *Akademide İş Yeri Mutluluğu Ile Performans Arasındaki İlişkide İş Yaşam Dengesi ve Duygusal Zekanın Rolü* [Doctoral Thesis]. Kırıkkale: Kırıkkale University Institute of Social Sciences; 2020.
28. Babacan B. *Yoğun Bakım Hemşirelerinin İş Yaşam Dengesinin İncelenmesi* [Master's Thesis]. Izmir: Ege University Institute of Health Sciences; 2020.
29. Ejlertsson L, Heijbel B, Ejlertsson G, Andersson I. Recovery, work-life balance and work experiences are important to self-rated health: a

questionnaire study on Salutogenic work factors among Swedish primary health care workers. *Work*. 2018;59(1):155-163. [CrossRef]
30. Mache S, Bernburg M, Groneberg DA, Klapp BF, Danzer G. Work family conflict in its relations to perceived working situation and work engagement. *Work (Reading Mass)*. 2016;53(4):859-869. [CrossRef]
31. Dudutienė D, Juodaitė-Račkauskienė A, Stukas R. Developing stress management programs in a public primary healthcare institution: should we consider health workers' sociodemographic groups? *Medicina (Kaunas)*. 2020;56(4):162. [CrossRef]
32. Otken AB, Erben GS. The relationship Between work-life balance and happiness from the perspectives of generation x and Y. *Humanit Soc Sci Rev*. 2013;2(4):45-53.
33. Influenza L, Semple CJ. Factors contributing to burnout and work-life balance in adult oncology nursing: an integrative review. *Eur J Oncol Nurs*. 2021;50.
34. Umutlu S. *Kadınlarda İş-Aile-Yaşam Dengesi ve Tükenmişlik* (1 Edition). Ankara: Astana Yayınları, 2021.
35. Duong N, Bollipo S, Repaka A, Sebastian S, Tennyson C, Charabaty A. When burn-out reaches a pandemic level in gastroenterology: a call for a more sustainable work-life balance. *Frontline Gastroenterol*. 2021;12(5):440-443. [CrossRef]
36. Palma CV. Work-Life Balance and Avoiding Burnout. *Women in Ophthalmol*, 2021:299-307.

Appendix 1. New Work–Life Balance Scale

İş ve Yaşam Dengeniz ile ilgili sorular yer almaktadır. Sorulara göre kendinize en yakın bulduğunuz alanı işaretleyin.

		Hiç katılmıyorum	Katılmıyorum	Ne katılıyorum ne katılmıyorum	Katılıyorum	Tamamen Katılıyorum
1	Kişisel hayatım, işim yüzünden zarar görüyor*					
2	İşim kişisel hayatımı zorlaştırıyor*					
3	İşim yüzünden kişisel ihtiyaçlarımı aksatıyorum*					
4	İşim için kişisel hayatımı ertelemek zorunda kalıyorum*					
5	İşim yüzünden kişisel hayatımdaki aktiviteleri kaçırıyorum*					
6	İş ve kişisel hayatımdaki dengeyi kurmakta zorlanıyorum*					
7	İş harici aktivitelere ayırdığım zaman yetmediği için mutsuzum*					
8	Kişisel hayatım, iş enerjimi sömürüyor*					
9	Kişisel hayatımdan ötürü öyle yorgunum ki iş yerinde verimli olamıyorum*					
10	Kişisel hayatım yüzünden işimde problem yaşıyorum*					
11	İşim, kişisel hayatım yüzünden zarar görüyor*					
12	Kişisel hayatım, bana işim için enerji veriyor					
13	İşim, kişisel aktiviteleri takip edebilmem için bana enerji veriyor					
14	Kişisel hayatım nedeniyle iş yerinde daha iyi bir ruh halim var					
15	İşim sayesinde daha iyi bir ruh halim var					

*Reverse coding