

# Validity and Reliability of the Turkish Version of the Scale for Measuring Well-Being of Children in Lockdown

## Abstract

**Background:** Due to the COVID-19 pandemic, millions of people, including children, have been confined to their homes to maintain social distance. It would be beneficial to evaluate the well-being of children from a holistic perspective under the difficult conditions experienced during that period.






**Aim:** This study was conducted to evaluate the validity and reliability of the Turkish version of the Well-Being of Children in Lockdown Scale (WCLS).

**Methods:** This methodological, descriptive, correlational study was conducted with 406 parents with children aged 3–14 years between January 2022 and April 2022. Study data were collected with a sociodemographic data collection form and the WCLS using the online survey technique. Factor analysis, Cronbach's alpha, and item-total score analysis were used in the evaluation of the data.

**Results:** It was determined that the scale consisted of 22 items and six dimensions and that six dimensions explained 61.02% of the total variance. In both exploratory and confirmatory factor analysis (CFA), it was determined that all factor loads were  $>0.30$ . In the CFA, all of the fit indices were found to be  $>0.85$ , and the root mean square errors of approximate was  $<0.080$ . Cronbach's alpha coefficient was found as 0.89 for the total scale and  $>0.70$  for all of the dimensions.

**Conclusion:** As a result of the analyses and evaluations conducted in this study, it was found that the WCLS was a valid and reliable measurement tool for the Turkish sample. The Scale for Measuring Well-being of Children in Lockdown can help evaluate the well-being of children during lockdown holistically, considering physical, mental, and social aspects, and facilitates the timely performance of interventions.

**Keywords:** Child, covid-19, lockdown, reliability, validity, well-being

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## Introduction

Although the COVID-19 pandemic, which has impacted the whole world, has affected children less than adults, a large number of child cases and child deaths due to COVID-19 have been reported since the beginning of the pandemic.<sup>1,2</sup> According to age-classified cases reported to the World Health Organization (WHO) from December 30, 2019, to September 13, 2021 during the pandemic, children under the age of 5 account for 1.8% of worldwide cases (1,695,265), 0.1% of worldwide deaths (1,721), children and adolescents aged 5–14 years account for 6.3% (6,020,084) of worldwide cases, 0.1% (1245) of worldwide deaths, adolescents, and adults aged 15–24 account for 14.5% (13,647,211) of worldwide cases, and 0.4% (6436) of worldwide deaths.<sup>3</sup> Approximately 1.6 billion students in 199 countries have been directly affected by school closures globally as of April 20, 2020.<sup>4</sup>

To prevent the spread of the pandemic and reduce deaths, protective restrictions such as compulsory closure of schools and lockdowns during the pandemic process have caused many psychological, social, and economic problems, as well as affecting the physical health of children.<sup>5-7</sup> Anxiety about the disease, lockdowns, reduced socialization, disruption of education processes, and economic difficulties have negatively affected the psychological well-being of children and adults.<sup>4,6,8,9</sup> From a holistic perspective, well-being has been defined as “a multidimensional construct that includes mental/psychological, physical, and social dimensions”.<sup>10,11</sup> The concept of well-being mostly consists of

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subjective judgments of individuals toward their life and expresses a lifestyle that will make the individual feel good.<sup>11,12</sup>

The WHO defines health as a state of complete physical, mental, and social well-being, not only a state of lack of diseases.<sup>13</sup> In this definition, it is seen that health is evaluated as a multidimensional phenomenon and that well-being is highlighted. Physical well-being generally includes the elements of a healthy lifestyle related to performing behaviors for physical health, such as having balanced and healthy eating habits, leading a physically active life, and regular sleep.<sup>12,14</sup> The cognitive well-being dimension includes features such as enjoying being intellectually active, being open to learning, and problem-solving.<sup>12,14</sup> Psychological/emotional well-being involves characteristics, such as an individual's recognition of his/her emotions, capability to control them, and having a realistic, positive, and formative perspective of himself/herself, life situations, and conflicts. Making sense of life and goal-oriented well-being include seeking the purpose and meaning of life, goal setting, and striving for the goal.<sup>12,14</sup> Social well-being indicates the quality and degree of interaction between individuals. In addition, this dimension includes the social support that the individual perceives he/she has been given by important others in his/her life.<sup>12,14</sup>

Regarding the physical grade, studies conducted in China have found that children aged 3–18 during the shutdown are less physically active, longer time spent in front of the screen, show irregular sleep patterns, consume unhealthy food, are exposed to insufficient sunlight, and these conditions increase the risk of obesity.<sup>15–20</sup> At the psychological level, studies in China have found that closure leads to feelings of fear, anxiety, sadness, loneliness or stress, insomnia, child abuse, and domestic violence in children aged 3–18 years.<sup>8,9,15,21–25</sup> At the academic and social level, social isolation and lockdowns have prevented children and adolescents in pre-school, elementary, middle, and high schools from going to school for a long time and thus limited their social interactions.<sup>15</sup> Significant decrease in opportunities to socialize and play with peers,<sup>17</sup> being alone longer, anxiety caused by the pandemic, fear of getting sick, increased attention to dangerous situations, and being affected by false information sources have led to an increase in stress responses, such as anxiety, helplessness, horror, and depression, in children and adolescents in this period.<sup>15,26,27</sup> The fact that the control measures of the pandemic period require staying at home, providing education remotely, and preventing socialization also increases the risks of addiction.<sup>28,29</sup> In addition, the pandemic has negatively affected the academic life of children and adolescents.<sup>30,31</sup>

As a result, it has been observed that the COVID-19 global epidemic negatively affects the well-being of children in terms of physical, psycho-social, and mental health.<sup>10</sup> However, although there are few studies in the international literature on scales evaluating the well-being of children under closure conditions, no study on this subject has been found in our country. The review of studies measuring the well-being of children in lockdown in Turkey indicated that there were no standard scales with validity and reliability. This study aimed to adapt The Well-Being of Children in Lockdown Scale (WCLS) from English to Turkish and to conduct its psychometric studies.

### Questions of the Study

1. Is the WCLS a valid measurement tool?
2. Is the WCLS a reliable measurement tool?

## Materials and Methods

### Study Design and Participants

The research was carried out methodologically, cross-sectional, and correlational between January 2022 and April 2022. The study population consisted of parents with children aged 3–14 years, who lived in three provinces that are located in the eastern, occident, and centrum regions of Turkey. The convenience sampling method was used to select the study sample.

In the field, the limits of sample sizes for scale improving, validity, and reliability studies have been defined as follows: Insufficient up to 100; moderate between 101 and 200; good between 201 and 300; very good between 301 and 500; and perfect between 501 and 1000.<sup>32–34</sup> In studies in which explanatory and confirmatory factor analyses are carried out, the sample size is recommended to include 200 individuals for each of the analyses. In addition, it is stated that recruiting 10–20 individuals per item will be adequate in scale studies.<sup>32–34</sup> Therefore, it was planned to recruit 400 parents in the sample of this study. After the study, it was observed that there were missing data in 10 forms, the age stated in the 20 forms was below 3 years and in the 12 forms, the stated age was over 14 years old, and a total of 42 forms were not evaluated. Thus, data collection was completed with 406 participants. Parents who have children between the ages of 3–14, who voluntarily accept to participate in the research, who can read and write in Turkish, and who have a technological device and internet connection to access the form were included in the study. Parents who did not volunteer to participate in the study, filled in the forms incompletely, or wanted to quit the study were excluded from the study.

### Data Collection Tools

The study data were collected through a Socio-demographic Information Form and the WCLS using the online survey technique. In this context, the link to the online survey of the study was shared with the parents on the social media platforms (Facebook, WhatsApp, and Instagram) of the researchers involved in the study. Detailed knowledge about the study was given in the relevant link, and parents with children aged 3–14 were invited to participate in the study. Participants in the study were also asked to share the study link with other parents who had children between the ages of 3–14 on their own social media accounts.

### Socio-Demographic Information Form

The socio-demographic information form was created by the researchers and consisted of a total of 12 questions about the age of the child, gender, school attendance, age of the mother and father, training status, job and economic status, number of children, and the person filling out the questionnaire.<sup>10</sup>

### The Well-Being of Children in Lockdown Scale

The WCLS was devised by Berasatagi et al.<sup>10</sup> to assess the well-being of children aged 3–14 years under closure conditions. The scale is in 4-point Likert type. In addition, the scale comprises 22 items and six dimensions. Items 8, 9, 10, 11, 14, 15, 16, and 17 in the scale were adverse coded. The factor loading values of the scale vary between 0.70 and 0.82. It was specified that the scale comprised six dimensions: "Emotions," "playful and creative activities," "academic," "addiction," "routine," and "physical. The total variance of the six dimensions

is 62.7%. The Cronbach's alpha for the overall scale was found to be 0.80, and the Cronbach's alpha values of the dimensions ranged from 0.62 to 0.87. The scale was answered by the parents.

### Procedure

The International Test Commission (ITC) guide steps were used in the Turkish version of the scale (ITC, 2018).<sup>35</sup> Written permission was obtained from the scale owner to perform the research. The scale was interpreted to Turkish by three philologists. The interpretation was checked and commented by the investigators. Then, the scale was reviewed again by a Turkish philologist expert. Content validity evaluates whether the measurement tool adequately represents the construct it measures or whether it exemplifies the universe well.<sup>32</sup> To determine the content validity of the scales, that is, to determine the equivalence of the translated scales with the original scale, it is recommended to get opinions from at least three experts.<sup>32,36</sup> To evaluate the content validity of the scale, specialist opinions were obtained from ten faculty membership in the pediatric nursing department, two faculty membership in the nutrition and dietetics department, and three faculty membership in the psychiatric nursing department. The original and the interpreted form of the scale was given to the specialists together, and they were asked to give a score between 1 and 4 (1=irrelevant, 4=very appropriate) to evaluate the suitability of the items of the scale. Scores were evaluated with the Davis content validity index (CVI). The CVI at the item level and the CVI at the scale level were calculated for each item in the scale and the overall scale. For the overall scale, the I-CVI at the item level was 0.97–0.99 and the CVI (S-CVI) at the scale level was 0.98. It is accepted that I-CVI and S-CVI values >0.80 are sufficient for content validity. A pilot study was conducted with 20 parents to evaluate the intelligibility and usability of the revised draft scale following expert opinions. The data of the study were gathered online by the investigators using the Google Forms application. The form created was sent to 20 parents, and they were asked to fill the form and give feedback about whether there were any problems with items. Since there was no negative feedback about the form and the items, it was decided to use the form in the main study. Parents included in the pilot study were not included in the master sample. Filling out the forms took about 10–15 min for the participants. No personal data and e-mails were collected from the participants during the application of the online questionnaire.

### Statistical Analysis

The Statistical Package for the Social Sciences 24.0 (IBM SPSS Corp.; Armonk, NY, USA) and Analysis of Moment Structures 25 (Chicago, IL: Amos Development Corporation) statistical programs were used in the analysis of the data. Descriptive statistics on sociodemographic information were analyzed with percentages and averages. The Shapiro–Wilk Test was used to evaluate whether the data conformed to the normal dispersion. To determine the validity of WCLS, CVI (Davis technique), for validity analysis, the database was divided into two: Exploratory factor analysis with 203 parents and confirmatory factor analysis (CFA) with 203 parents. Reliability analysis was performed with the whole group (n=406). Explanatory (principle axis factoring method and promax rotation technique) and confirmatory factor analyzes were performed. Before performing CFA, multicorrelation variance was examined with inflation factor and tolerance value. It was determined that there was no multicollinearity. In CFA, Degree of Free ( $\chi^2$ ), Root Mean Square Error of Approximation (df), Ratio of Chi-square Statistics to Degrees of Freedom ( $\chi^2$ /df), goodness of fit

index (GFI), comparative fit index (CFI), incremental fit index (IFI), relative fit index, normed fit index (NFI), Trucker–Lewis index (TLI), and root mean square errors of approximate (RMSEA) values were calculated. To define the reliability of the scale, Cronbach's alpha coefficient, division into two halves, and item-total score correlation were calculated,<sup>32-34</sup> whether the scale could distinguish between children with high well-being and those without it was examined by comparing the upper-lower group with 27%. The significance level was accepted as 0.05.

### Ethical Considerations

This study was conducted in line with the principles of the Declaration of Helsinki. Ethics approval was received for this study from the Scientific Research and Publication Ethics Committee of Hakkari University (Approval Number: IRB: 2022/03-1, Date: January 07, 2022). To perform the research, necessary permit was obtained from the scale owner who developed the scale through e-mail.<sup>10</sup> The aim of the study was explained to the parents of the children included in the study, and their assent was acquired. Data were collected using the Google Forms, and no personal data or e-mail addresses of participants were collected.

## Results

### Description of the Sample

The average age of the parents is  $39.05 \pm 6.25$  and the average age of the children is  $8.62 \pm 3.88$ . The average number of children of the parents is  $1.78 \pm 0.655$  (min=1 and max=3) children. 49.8% (n=202) of the children in the study were girls and 50.2% (n=204) were boys. 48.5% (n=100) of mothers and 47.5% (n=95) of fathers are high school graduates. Fifty percent (n=103) of the mothers are working and 26.2% (n=54) are housewives. On the other hand, 51.0% (n=102) of the fathers are working. More than half of the parents (64.0%) stated that their income is equal to their expenses and 27.8% (n=113) stated that their income is less than their expenses. In addition, 41.1% (n=167) of the children were pre-school students, 23.9% (n=97) were elementary school students, 26.4% (n=107) were middle school students, and 8.6% (n=35) were high school students. Those who answered the survey 50.7% (n=206) are mothers, and 49.7% (n=200) are fathers (Table 1). In addition, explanatory factor analysis (n=203) was performed with half of the sample and CFA was performed with half (n=203).

### Validity Results

In this study, the validity analysis of the scale was evaluated using content and construct validity.

#### Content validity

The opinions of these experts were evaluated with the CVI, and the CVI on item basis was between 0.97 and 0.99 and on the scale basis, the CVI was determined as 0.98.

#### Construct validity

The construct validity of the Turkish version of WCLS was evaluated using Explanatory Factor Analysis (EFA) and CFA. As a result of EFA, Kaiser–Meyer–Olkin (KMO) coefficient was determined as 0.846, and Bartlett test  $\chi^2$  value was determined as 3004.732 and  $P=0.000$ . Six dimensions with eigenvalues >1 were determined. The first dimension of the scale accounted for 32.18% of the total variance,

**Table 1.** Descriptive characteristics of the participants (n=406)

Characteristic	Mean±SD	Min.-Max.
Parent age*	39.05±6.25	19–50
Child age*	8.62±3.88	3–14
Number of children*	1.78±0.655	1–3
	n	%
Child gender		
Female	202	49.8
Male	204	50.2
Mother education		
High school	100	48.5
Associate degree	40	19.4
Undergraduate	60	29.2
Postgraduate	6	2.9
Father education		
High school	95	47.5
Associate degree	46	23.0
Undergraduate	54	27.0
Postgraduate	5	2.5
Mother working status		
Working	103	50.0
Retired	49	23.8
Housewife	54	26.2
Father working status		
Working	102	51.0
Retired	33	16.5
Not working	65	32.5
Economic situation		
Income equals expense	260	64.0
Income higher than expenses	33	8.2
Income less than expenses	113	27.8
Children's school attendance		
Pre-school	167	41.1
Primary school	97	23.9
Middle school	107	26.4
High school	35	8.6

\*Mean: Mean, SD: Standard deviation, Min.-Max: Minimum and maximum values.

the second dimension 9.53% of the total variance, the third dimension 6.623% of the total variance, the fourth dimension 4.97% of the total variance, and the fifth dimension 4.405% of the total variance.

Moreover, the sixth dimension explains 3.30% of the total variance. Six dimensions explain 61.02% of the total variance. The factor loads of the scale are between 0.46 and 0.86 for the first dimension, between 0.55 and 0.94 for the second dimension, between 0.68 and 0.95 for the third dimension, between 0.52 and 0.79 for the fourth dimension, between 0.77 and 0.84 for the fifth dimension, and between 0.77 and 0.84 for the sixth dimension, for the size ranges from 0.42 to 0.64 (Table 2).

As a result of WCLS, CFA, model fit indices were determined as  $\chi^2=414.032$ ,  $df=188$ ,  $P=0.000$ ,  $\chi^2/df=2.202$ ,  $RMSEA=0.077$ ,  $GFI=0.90$ ,  $CFI=0.92$ ,  $IFI=0.92$ ,  $NFI=0.87$ , and  $TLI=0.87$  (Table 3).

As a result of CFA, the factor loads of the scale were between 0.48 and 0.84 for the first dimension, between 0.73 and 0.88 for the second dimension, between 0.45 and 0.80 for the third dimension, between 0.57 and 0.76 for the fourth dimension, and between 0.85 and 0.90 for the fifth dimension; for the sixth dimension, it was found to be between 0.63 and 0.92 (Figure 1).

### Reliability Results

The total Cronbach's alpha value of the scale was determined as 0.89, 0.83 for the 1<sup>st</sup> dimension (emotions), 0.86 for the 2<sup>nd</sup> dimension (playful and creative activities), 0.83 for the 3<sup>rd</sup> dimension (academic), 0.80 for the 4<sup>th</sup> dimension (addiction), 0.87 for the 5<sup>th</sup> dimension (routine), and 0.78 for the 6<sup>th</sup> dimension (physical) (Table 4). As a result of the split-half analysis, the Cronbach's alpha value of the first half was determined as 0.81 and the Cronbach's alpha value of the second half was determined as 0.79. As a result of the analysis, the Spearman-Brown coefficient was found to be 0.94, the Guttman split-half coefficient was 0.94, and the correlation between the two halves was 0.89. Whether there was a response bias in the scale was examined with the Hotelling's  $T^2$  value was found to be 877.161,  $F=39.707$ , and  $P=0.000$ . As a result of the analysis, it was determined that there was no response bias in the scale. It was determined that the inter-item correlation ranged between -0.089 and 0.784 (Table 4).

It was determined that the scale item-total score correlation ranged from 0.20 to 0.66, and the correlation between item-subscale total scores ranged from 0.51 to 0.80 ( $P < 0.001$ ) (Table 5),

whether the scale distinguishes that children with high well-being and children with low well-being were examined with a 27% upper-lower group comparison.<sup>32,34</sup> It was determined that the scale total score of the children in the upper group was  $72.69 \pm 5.28$  and the total scale score of the children in the lower group was  $50.91 \pm 4.83$ . In this study, a statistically significant difference was found between the scale scores of the children in the 27% upper and 27% lower groups ( $P < 0.01$ ). These results show that the scale has a good discriminatory power, can adequately measure the area to be measured, and can distinguish the upper and lower groups of 27% from each other.

### Discussion

In this section of the study, the validity and reliability features of the Turkish Version of the Scale for Measuring Well-Being of Children in Lockdowns were discussed. In the field, it is reported that if the I-CVI and S-CVI values are above 0.80, the expert opinions are compatible with each other and the scale is sufficient in terms of item content validity.<sup>37,38</sup> In our study, it was seen that the scale met this condition

**Table 2.** Factor loads of the six-factor structure of the Turkish version of the well-being of children in lockdown scale (n=203)

Items	Factor Loads					
	Emotions	Activities	Academic	Routine	Physical activity	Addiction
I1			0.68			
I2			0.95			
I3				0.52		
I4				0.79		
I5					0.84	
I6					0.77	
I7				0.74		
I8	0.68					
I9	0.86					
I10	0.68					
I11	0.81					
I12	0.46					
I13				0.56		
I14						0.42
I15						0.60
I16						0.57
I17						0.69
I18		0.55				
I19		0.59				
I20			0.95			
I21		0.94				
I22		0.88				
(%)	32.18	9.53	6.62	4.97	4.40	3.30
Total explained variance (%)			61.02			
Eigenvalues	7.425	2.356	1.915	1.541	1.328	1.037

(I-CVI: 0.97–0.99; S-CVI: 0.98). In this respect, it can be said that the content validity of the scale was ensured.

In this study, whether the data were suitable and sufficient for factor analysis was utilized with the Bartlett’s Sphericity test and KMO, when we look at the field, the Bartlett’s Sphericity test should be significant for factor analysis, and the KMO value should be at least 0.60.<sup>32,37,38</sup> In this study, Bartlett’s Sphericity test was determined to be significant. In this study, the Bartlett test of sphericity was found to be

significant. The KMO value was found to be >0.60. These results show that the sample is sufficient and the correlation matrix is suitable for factor analysis. Accordingly, the results obtained from our study show that the scale, database, and sample magnitude are appropriate for factor analysis. In the original scale, the KMO value was found to be 0.799 and the Bartlett test result (8325.42 [df=231; P < 0.000]) was found to be statistically important. In the exploratory factor analysis, six factors with an eigenvalue >1 were determined, and accordingly, it was decided that the scale would consist of six dimensions.

**Table 3.** Model fit indices of the well-being of children in lockdown scale (n=203)

Models	$\chi^2$	df <sup>a</sup>	P	$\chi^2/df$	RMSEA <sup>b</sup>	GFI <sup>c</sup>	CFI <sup>d</sup>	IFI <sup>e</sup>	RFI <sup>f</sup>	NFI <sup>g</sup>	TLI <sup>h</sup>
Six dimensional model	414.032	188	0.000	2.202	0.077	0.90	0.92	0.92	0.92	0.87	0.90

a=Degree of free; b=Root mean square error of approximation (mean square root of errors); c=Goodness of fit index; d=Comparative fit index; e=Incremental fit index; f= Relative fit index; g=Normed fit index; TLI=Trucker-Lewis index (Unnormalized fit index).

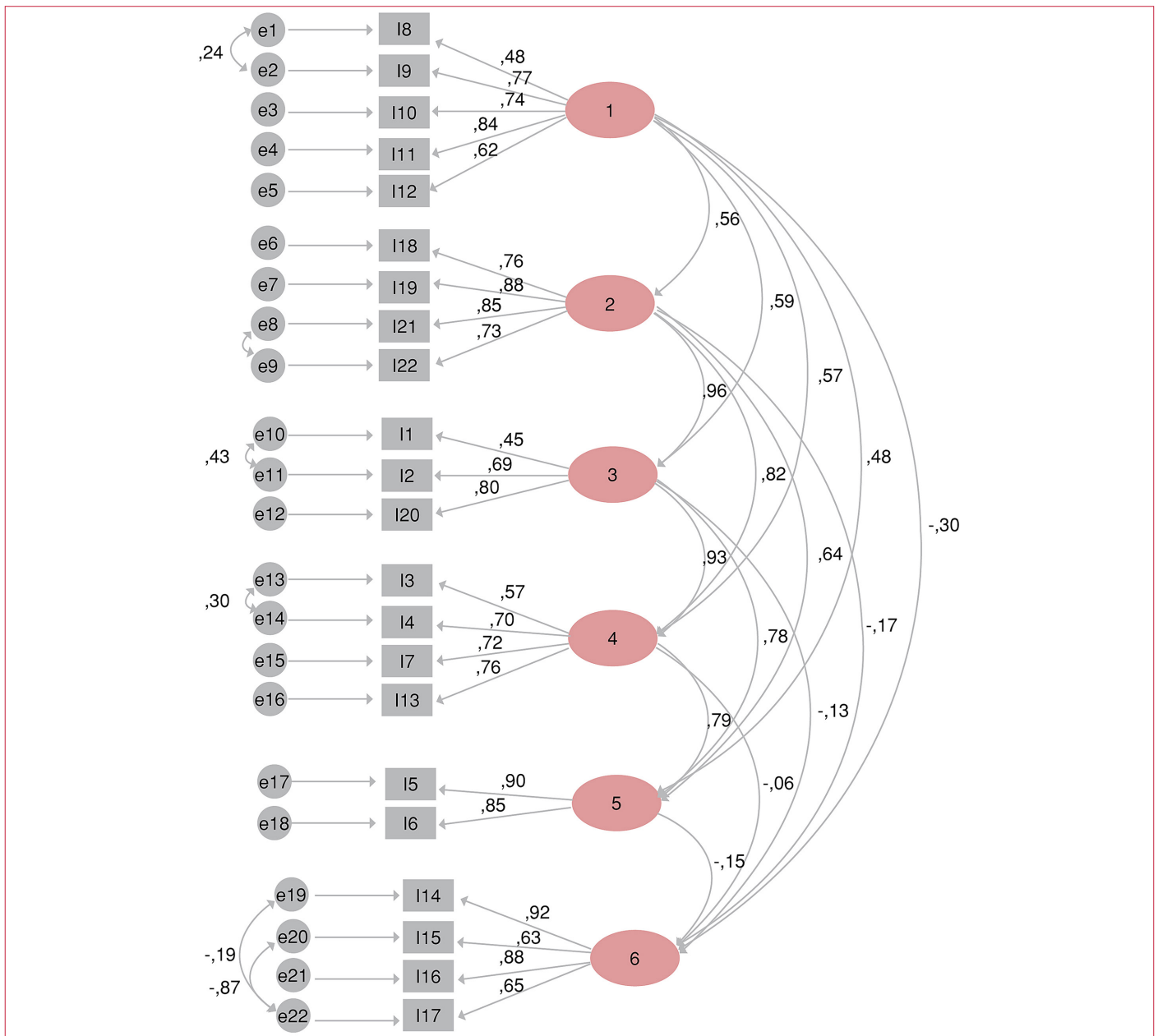


Figure 1. Confirmatory factor analysis of the well-being of children in lockdown scale (n=203).

In the field, it is reported that the variance explained in multi-factor designs is more than 50%. It is emphasized that the higher the total variance explained, more powerful the construct validity of the scale.<sup>32,34,36,37</sup> It was specified that the total variance acquired in this study was above 50%, and the scale had the variance explained above the recommended level. These results show that the construct validity of the scale is good. In the original study, it was specified that the total variance explained was 62.7%. The results of the original scale and the results of the Turkish version show parallel characteristics.

In the field, it is stated in the field that factor loads >0.30 in multidimensional scales are sufficient.<sup>32,34,36,37</sup> In this study, all factor loads were higher than 0.30, showing that the scale had a powerful

construct validity. In the original study, it was determined that the factor loads of the items ranged between 0.35 and 0.89. The results of the original scale and the results of the Turkish version are similar to each other.

In the field, CFA model fit indicators >0.85,  $\chi^2/df$  quotient <5, and RMSEA <0.08 are accepted to be well fit indicators.<sup>33,36,37</sup> As a result of the CFA in this study, it was stated that the model fit indicators were >0.90, the  $\chi^2/df$  ratio was <5, and the RMSEA was <0.08. It was stated that factor loads in all dimensions were >0.30, fit indices were above 0.85, and RMSEA was below 0.08. The CFA results in this study pointed out that the data were appropriate for the model, verified the six-factor structure, the dimensions were related to the scale, and the

**Table 4.** Reliability analysis results of the well-being of children in lockdown scale and its dimensions (n=406)

Dimensions	Cronbach's $\alpha$	Split-Half				
		Cronbach's $\alpha$ for the first half	Cronbach's $\alpha$ for the second half	Spearman-Brown	Guttman split-half	Correlation between the two halves
Total scale	0.89	0.81	0.79	0.94	0.94	0.89
Emotions	0.83					
Activities	0.86					
Academic	0.83					
Routine	0.80					
Physical activity	0.87					
Addiction	0.78					

**Table 5.** Item-total dimension score and item test-retest score correlations (n=406)

Items	Corrected item-total dimension score correlations						Corrected item-total score correlations
	Emotions	Activities	Academic	Routine	Physical activity	Addiction	
I1			0.60				0.35
I2			0.80				0.60
I3				0.55			0.47
I4				0.68			0.54
I5					0.78		0.66
I6					0.78		0.57
I7				0.63			0.55
I8	0.51						0.37
I9	0.71						0.57
I10	0.65						0.59
I11	0.75						0.61
I12	0.51						0.59
I13				0.59			0.65
I14						0.55	0.29
I15						0.66	0.36
I16						0.53	0.20
I17						0.62	0.20
I18		0.65					0.62
I19		0.74					0.66
I20			0.70				0.59
I21		0.76					0.61
I22		0.71					0.59

items in each dimension adequately described their own factor. In the original study, it was stated that CFA was performed in the analysis section, but the results could not be compared because they were not given clearly.

The Cronbach's alpha coefficient shows if the items are interested in the subject to be evaluated and whether they measure the same subject. The fact that this rate is between 0.60 and 0.80 in the scales demonstrates that the scale is dependable and that it is between 0.80

and 1.00 which shows that the scale is extreme dependable.<sup>33,36,37</sup> In the study, while a high level of reliability was achieved for the overall scale, it was stated that the scale was quite dependable in the dimensions. The findings obtained from the study showed that the items measured the desired subject adequately, that the items were sufficiently related to the dimensions, and that the scale and dimensions had a very fine level of reliability. In addition, our study is parallel with the original scale structure.

In the evaluation of reliability, the method of splitting into two halves was also used. In the split-half analysis, it is desired that the Cronbach's alpha values of both parts should be above 0.70, there is a high and important connection between the two halves, and both the Spearman-Brown and Guttman Split-Half coefficients are above 0.80.<sup>33,36,37</sup> In our study, consequently split-half analysis, it was determined that the Cronbach's alpha value of both halves and the Spearman-Brown and Guttman Split-Half coefficients were above 0.75. These findings showed that the scale had a high grade of reliability and that the items were related to each other and sufficiently symbolized the structure to be measured. Since split-half analysis was not performed in the original study version, it could not be compared with the study results.

It is advised to use item-scale total score and item-subscale total score correlations to state the connection of the items with the scale and dimensions and to what extent the items measure the structure that the scale intends to measure. In the field, it is emphasized that a correlation value above 0.20 indicates that the item measures the structure adequately.<sup>32,33,36,37</sup> In this study, it was stated that the correlations of the items with both the total score and the subscale total score were above 0.20. This result indicated that the items sufficiently measured the quality to be measured and the scale had a high grade of reliability. Since the item-total score correlation analysis of the scale and its dimensions was not given in the original study, they could not be compared. The values of the intra-group correlation coefficient in this study and the correlation values between the items in the original scale were found to be similar.

One of the methods advised to be used for testing the reliability and validity of scales in the field is the 27% upper-lower group cross-check.<sup>32,34,36</sup> In this study, a statistically important distinction was found between the average scores of the students in the upper 27% group and the students in the lower 27% group. These results indicated that the scale had a good discriminating power, could measure the intended area sufficiently, and could recognize 27% upper-lower groups from each other. The results show that this is a valid and reliable scale that can be used to evaluate the well-being of children in lockdown.

#### Limitations of Research

The research has some limitations. The first limitation is that the convenience sampling method was chosen, which may affect generalizability. The second limitation is the collection of data by online survey method. In addition, since this study was conducted on children aged 3–14, it is not suitable for use in children aged 0–2.

In addition, the fact that the test-retest method was not used in the study is also a limitation of the study. Another limitation of the study is that the data were collected when the schools were open. It is

recommended that this situation be taken into account when evaluating the results.

#### Conclusion

As a result of the validity and reliability analyses carried out in this research, it was determined that the WCLS was an appropriate measurement tool for the Turkish sample. This scale can be used to holistically evaluate the well-being of children during lockdowns, considering physical, mental, and social aspects, and facilitate timely interventions. Cross-cultural comparative studies can also be conducted by using the scale.

**Ethics Committee Approval:** Ethics approval was received for this study from the Scientific Research and Publication Ethics Committee of Hakkari University (Approval Number: IRB: 2022/03-1, Date: 07.01.2022).

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

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