



# Validation of the Turkish Parent Supervision Attributes Profile Questionnaire

Anne Babaların Gözetimsel Davranış Profili Ölçeği'nin Türkçeye uyarlanması

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## The known about this topic

Accidents/injuries are one of the preventable causes of morbidity and mortality. Children are in the risk group in terms of accident/injury. Inadequate supervision is among the main factors that cause injuries in children and there is no valid and reliable instrument for measuring parents' supervision attributes in Turkey.

## Contribution of the study

This study is the first to adapt a scale developed to measure parents' supervision attributes to the Turkish language. It will shed light for new studies to determine current status related to parents' supervision attributes. A contribution will be made to planning necessary interventions by specifying the status of supervision attributes.

## Abstract

**Aim:** The most common cause of death in childhood is unintentional injury. Most childhood injuries occur when children are under the supervision of caregivers. There is no valid and reliable instrument for measuring the parents' supervision attributes in Turkey. The aim of this study was to adapt the Parent Supervision Attributes Profile Questionnaire to Turkish.

**Material and Methods:** This research was methodological. The data were collected through a questionnaire that consisted of 11 questions about the demographic and socioeconomic characteristics of the family and the Turkish Parent Supervision Attributes Profile Questionnaire. The Questionnaire, developed by Morrongoello and House, is a 5-point Likert-type scale and consists of 29 items. High scores obtained from the scale, which has no cut-off, indicate a high supervisory behavior. The language adaptation and content validity of the scale were completed by experts. Confirmatory factor analysis was used for construct validity. Reliability was tested by internal consistency coefficients.

**Results:** Five hundred sixty people participated in the study, 81.9% of whom were mothers. The mean age of the mothers was 33.8±4.6 years and the mean age of the fathers was 37.2±5.1 years. The percentage of uni-

## Öz

**Amaç:** Çocukluk çağındaki ölümlerin en sık nedeni dışsal yaralanmalardır. Çocuk yaralanmalarının çoğu onları gözetleyen birinin bakımı sırasında meydana gelmektedir. Türkiye'de anne babaların gözetimsel davranışlarını ölçmeye yönelik geçerli ve güvenilir bir araç bulunmamaktadır. Bu çalışmanın amacı, Anne Babaların Gözetimsel Davranış Profili Ölçeği'nin Türkçeye uyarlanmasıdır.

**Gereç ve Yöntemler:** Araştırma metodolojik tiptedir. Veriler, ailenin demografik ve sosyoekonomik özellikleri ile ilgili 11 soru ve Anne Babaların Gözetimsel Davranış Profili Ölçeği'nden oluşan anket formu ile toplanmıştır. Morrongoello ve House tarafından geliştirilmiş olan Ölçek, 5'li likert türünde olup 29 maddeden oluşmaktadır. Kesme noktası bulunmayan ölçekten alınan yüksek puanlar gözetimsel davranışın yüksek olduğunu göstermektedir. Ölçeğin dil uyarlaması ve kapsam geçerliliği uzmanlarca tamamlanmıştır. Yapı geçerliliği için doğrulayıcı faktör analizi kullanılmıştır. Güvenilirlik ise iç tutarlılık katsayıları ile sınanmıştır.

**Bulgular:** Araştırmaya 560 anne ya da baba katılmıştır. Katılımcıların %81,9'u annedir. Annelerin yaş ortalaması 33,8±4,6 yıl, babaların yaş ortalaması 37,2±5,1 yıldır. Annelerin %56,8'i, babaların ise %53,9'u üniversite mezunudur. Doğrulayıcı faktör analizine göre uyum indeksi değerleri

Cont. ➔

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versity graduates was 56.8% among mothers and 53.9% among fathers. According to the confirmatory factor analysis, the fit index values were as follows: Standardized Root Mean Square Residual =0.097, Goodness of Fit Index =0.80, Root Mean Square Error of Approximation =0.089, Comparative Fit Index =0.88, Non-Normed Fit Index =0.87. The fit index values were moderate and confirmed 4-factor structure. It was found that the internal consistency coefficient calculated for reliability was 0.75 for the whole scale and ranged between 0.57 and 0.79 for the subscales.

**Conclusion:** The Turkish Parent Supervision Attributes Profile Questionnaire is a valid and reliable measurement tool. Further research is needed to determine the current situation regarding supervisory behaviors.

**Keywords:** Behavior, parent, reliability, supervision, validity

## Introduction

Accident/injury is a health problem that occurs with the transformation of energy in the triangle of individual, factor, and environment, emerges suddenly in opposition to the individual's desire, leads to mechanical and biochemical damage in the organism, and may cause death or disablement in humans and other living creatures and loss of wealth. The World Health Organization (WHO) defines an accident as "an unexpected event that occurs unwillingly and causes physical and mental damage by a sudden external force" (1–3).

While deaths due to diseases decrease, accidents/injuries, which constitute one of the most important causes of preventable morbidity and mortality, remain as a significant public health problem independent of countries' levels of development. Children are in the risk group in terms of accident/injury. According to the World Report on Child Injury Prevention (WHO-2008), more than 875 000 children and adolescents aged 18 years and below die as a result of injuries throughout the world each year, and injuries lead to 13% of disabilities in individuals aged 15 years and below (3). According to the Turkish Statistical Institute (TSI) 2018 statistics, the most common causes of death in the 1–17-year age group were external injuries and poisonings (4).

Most injuries affecting young children occur in the care of individuals who supervise/inspect them. The main factor among the factors causing injuries in children is inadequate supervision (5). The main determinant of the risks of accident/injury affecting preschool children is the knowledge of the individuals who are responsible for childcare, especially mothers, about the prevention of accidents. In studies conducted in Turkey, families' knowledge about the prevention of accidents and risk perception were found to be insufficient and children's risk in terms of having an accident was found to be high (6–15). Injuries constitute a serious threat to children's health and safety (16). The Parent Supervision Attributes Profile

Standardize Edilmiş Artık Ortalamaların Karekökü=0,097; İyilik Uyum İndeksi=0,80; Yaklaşık Hataların Ortalama Karekökü=0,089; Karşılaştırmalı Uyum İndeksi=0,88; Normlaştırılmamış Uyum İndeksi=0,87 olarak saptanmıştır. Uyum indeksleri orta düzeyde olup dört faktörlü yapıyı doğrulamaktadır. Güvenilirlik için hesaplanan iç tutarlılık katsayılarının tüm ölçek için 0,75 olduğu ve alt ölçekler için 0,57 ile 0,79 arasında değişim gösterdiği bulunmuştur.

**Çıkarımlar:** Anne Babaların Gözetimsel Davranış Profili Ölçeği geçerli ve güvenilir bir ölçüm aracıdır. Gözetimsel davranışlar ile ilgili mevcut durumun belirlenebilmesi için yeni araştırmalara gereksinim vardır.

**Anahtar sözcükler:** Anne, baba, davranış, geçerlilik, gözetim, güvenilirlik

Questionnaire (PSAPQ) was developed by Canadian researchers Morrongiello and House (5) to evaluate parents' supervision attributes. In Turkey, there is no valid and reliable tool to measure parents' supervision attributes.

Systematic preparation studies conducted to apply a scale developed in a certain culture and language to other cultures and languages are defined as scale adaptation (17). The aim of this study was to adapt the Parent Supervision Attributes Profile Questionnaire to the Turkish language.

## Material and Methods

The population of this methodologic study comprised parents of children aged between 2 and 5 years who attended kindergarten in the 2018–2019 period in the Denizli provincial center. Different recommendations were found for specifying sample size in scale adaptation studies. Comrey and Lee (18) emphasized that 50 was very weak, 100 was weak, 200 was moderate, 300 was good, and 500 was very good. Kline (19) reported that it would be appropriate to have a sample size 10 times greater than the number of items, and Bryman and Cramer (20) reported that it should be 5 or 10 times greater. In our study, three of 27 kindergartens found in Denizli provincial center were specified using simple random sampling, and all parents whose children attended one of these three kindergartens constituted the study population. The study was completed with a total of 560 mothers/fathers who accepted to participate in the study. The questionnaire form used for data collection included 11 questions about the family's demographic and socioeconomic characteristics and the Parent Supervision Attributes Profile Questionnaire (PSAPQ), which included 29 items.

The PSAPQ is a 5-point Likert type (1- Never, 2- rarely, 3- Half of the time, 4-Usually, 5- Always) continuous scale which was developed by Morrongiello and House (5) and is composed of 29 items. The scale has no cut-off point. High scores obtained from the scale indicate high supervision attributes. The PSAPQ is composed of four subscales including protectiveness (9 items), supervision

requirements (9 items), risk tolerance (8 items) and the belief that childrens' health is controlled by fate (3 items). The Cronbach alpha internal consistency coefficient of the original scale is 0.70. The data were collected in the November-December 2018 period. The questionnaire forms were handed out to the children by their teachers and they were asked to give these forms to their parents. Returning of the forms to the teachers in the desired period was considered participant's consent.

Ethics committee approval was obtained from Pamukkale University Faculty of Medicine non-interventional clinical research ethics committee for the study (Date: 30.10.2018, Number: 20), and the necessary institutional permissions were obtained from Denizli Provincial Directorate for National Education. This study was conducted in accordance with the Helsinki Declaration. We communicated with the researchers who developed the scale by e-mail and obtained the necessary approval for adaptation of the scale to the Turkish language. The scale was translated to Turkish by two experts who had very good command of English and worked in the area of health related to the subject, independently from each other. These two separate translations were commonized by the researchers. The commonized text was translated back to the original language (English) by two experts who had a good command of Turkish and English, and this translation was compared with the original form of the scale. At this stage, it was determined that there was no change in meanings according to the original statements of the scale, and modification was not needed.

For content validity, five individuals who were working at different institutions and who were specialized in their areas, were specified and consulted. Expert opinions related to the content appropriateness of the questions included in the Turkish form were collected using an expert assessment form. The expert assessment form included a brief information letter introducing the study and explaining the expectations from the expert, theoretical summary information about the scale's structure, and an assessment part including assessments related to the compatibility of each item to the factors in terms of content. The content validity index (CVI) was used to evaluate expert opinions accurately. The CVI is obtained by dividing the number of experts stating the opinions "quite relevant" and "very relevant" related to any item (NG) by the total number of experts presenting an opinion related to the item (N) (CVI=NG/N). The experts were asked to specify the responses related to the relevance of the items to the factor in which they were included in the scale on a 4-point Likert type scale (1=not relevant, 2=a little relevant, 3=quite relevant, 4=very relevant). The lowest acceptable

value for the PSAPQ scale content validity index for which five experts made assessments, was 0.99 (21).

The scale was finalized by making the necessary modifications in accordance with the experts' recommendations.

### Statistical Analysis

The SPSS and LISREL programs were used for statistical analysis. Descriptive statistics were expressed as number, percentage, mean and standard deviations. Confirmatory factor analysis (CFA) was used for structure validity. The  $\chi^2$  p-value,  $\chi^2$ /SD, Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Non-Normed Fit Index (NNFI) were reported as fit indexes. Reliability was tested using Cronbach alpha internal consistency coefficients, item analyses, and the test-retest method. A p-value of <0.05 was considered statistically significant.

### Results

The mean age of the children whose mothers or fathers participated in the study was 4.42±0.60 years and 51.5% of these children were female. Mothers constituted 81.7% of the participants. The mean age was found as 33.84±4.61 years in the mothers and 37.18±5.10 years in the fathers. University graduates constituted 56.8% of the mothers and 53.9% of the fathers. In 84.8% of the families, the provincial center was the place of residence for the longest period, and 63.4% had incomes equal to expenditures. Almost half (49.5%) of the families had two children, and 59.7% of the children were the first child in the family. Some demographic and socioeconomic characteristics of the families are shown in Table 1.

### Findings related to the adaptation of the Parent Supervision Attributes Profile Questionnaire to the Turkish language

#### Findings related to validity

##### *Findings related to content validity*

The CVI value for each item included in the PSAPQ according to the Davis technique was found as 1.00. As this value was higher than 0.99, it was determined that there was compatibility between the experts and it was decided not to make modifications in the items.

#### Findings related to structure validity

##### *Results of confirmatory factor analysis*

Confirmatory factor analysis was performed according to the 4-factor model specified in the original scale and fit statistics were examined. As a result of the analysis, the

**Table 1. The children's and parents' demographic and socioeconomic features**

Variables	n	%
Age of the child (Mean±SD)	4.42±0.60	
Sex of the child		
Female	286	51.5
Male	269	48.5
Connection with the child		
Mother	456	81.7
Father	101	18.1
Maternal age (Mean±SD)	33.84±4.60	
Paternal age (Mean±SD)	37.18±5.10	
Maternal education status		
Primary school and below	39	7.2
Secondary school	38	6.8
High school	163	29.2
University/postgraduate/doctorate	317	56.8
Paternal education status		
Primary school and below	44	7.9
Secondary school	46	8.3
High school	166	29.9
University/postgraduate/doctorate	299	53.9
Number of children		
1	188	33.7
2	276	49.5
3	74	13.3
4 and above	20	3.6
Which child		
First	334	59.7
Second and after	225	40.3
Residence site where the family has lived for the longest duration		
Provincial center	470	84.8
County town	42	7.6
Small town	20	3.6
Village	22	4.0
Perceived income status		
Less income compared to expenditure	85	15.7
Income equal to expenditure	343	63.4
More income compared to expenditure	113	20.9

SD: Standard deviation

Chi-square value ( $\chi^2=2003.49$ ,  $SD=371$ ,  $p<0.001$ ) was found to be statistically significant, the  $\chi^2/SD$  ratio was found as 5.40, and the other fit index values were found as follows: SRMR=0.097, GFI=0.80, RMSEA=0.089, CFI=0.88, NNFI=0.87.

Second level factor analysis of the original scale was performed following first level CFA. As a result of the analysis, the i-square value ( $\chi^2=2004.82$ ,  $SD=373$ ,  $p<0.001$ ) was found to be statistically significant, the  $\chi^2/SD$  ratio was found as 5.37, and the other fit index values were: SRMR=0.097, GFI=0.80, RMSEA=0.088, CFI=0.88, NNFI=0.87.

The fit index values obtained from the original scale's first and second level CFA and the borderline values accepted for the fit indexes are summarized in Table 2. It was found that the scale's fit index values were at a moderate or excellent level.

#### Findings related to reliability

According to the subscales of the original scale, the adjusted item-total correlation coefficients of the items ranged between 0.60 and 0.74. The internal consistency coefficients of the subscales ranged between 0.57 and 0.84; the internal consistency coefficient of the whole scale was found as 0.75. The internal consistency coefficients of the PSAPQ are shown in Table 3.

Test-retest application of the PSAPQ was conducted with 35 participants. No statistically significant correlation was found between the mean PSAPQ scores obtained with an interval of two weeks (3730.36 and 3690.37, respectively) ( $p=0.362$ ). In addition, a positive strong relationship was found between the scale scores obtained at the first and second measurements ( $r=0.72$ ,  $p<0.001$ ).

#### Discussion

The Turkish PSAPQ form was found to be a valid and reliable measurement tool in measuring parents' supervision attributes. According to the first level CFA of the 5-factor model, the fit index values were at a moderate level.

In the first level CFA of the 5-factor model in the original scale, the  $\chi^2/SD$  value was found to be 5.40. A  $\chi^2/SD$  ratio below 3 indicates excellent fit, and a ratio below 5 indicates good fit (22, 23). The model showed a moderate level of fit. The other fit indexes that are recommended to be used according to the medical literature include CFI and RMSEA; indexes that are sensitive to sample size such as GFI are not preferred very often (24). The model's other fit index values were as follows: RMSEA=0.089, SRMR=0.097, GFI=0.80, CFI=0.88, and NNFI=0.87. RMSEA and SRMR were between 0 and 1; values equal to or below 0.05 indicate excellent fit (22, 25–27), and the values below 0.10 are considered moderate fit (28–32). The 5-factor model showed a moderate level of fit according to the RMSEA (0.089) and SRMR (0.097) values.

**Table 2. The Parent Supervision Attributes Profile Questionnaire’s fit index values and borderline values for the fit indexes**

Fit index*	1 <sup>st</sup> level CFA	2 <sup>nd</sup> level CFA	Good fit values	Excellent fit values	Conclusion
$\chi^2$ p-value	<0.001	<0.001	-	<0.05	Excellent fit
$\chi^2/SD$	5.40	5.37	≤5.00	≤3.00	Moderate level of fit
RMSEA	0.089	0.088	≤0.08	≤0.05	Moderate level of fit
SRMR	0.097	0.097	≤0.08	≤0.05	Moderate level of fit
GFI	0.80	0.80	≥0.90	≥0.95	Moderate level of fit
CFI	0.88	0.88	≥0.90	≥0.95	Moderate level of fit
NNFI	0.87	0.87	≥0.90	≥0.95	Moderate level of fit

\*RMSEA: Root mean square error of approximation; SRMR: Standardized root mean square residual; GFI: Goodness of Fit Index; CFI: Comparative Fit Index; NNFI: Non-Normed Fit Index

**Table 3. The internal consistency coefficients of the Parent Supervision Attributes Profile Questionnaire and Subscales**

Subscale	Internal consistency coefficient
Protectiveness	0.79
Supervision requirements	0.71
Risk tolerance	0.76
BCHCF <sup>a</sup>	0.57
General	0.75

a: The belief that children’s health is controlled by fate

Among absolute fit indexes, a GFI value of 0.95 and above indicates excellent fit (22, 33), and a GFI value of 0.90–0.95 indicates good fit. In addition, a GFI value above 0.80 has also been reported to be acceptable (34). The GFI value (0.80) found for the 5-factor model indicates a moderate level of fit.

Among incremental fit indexes, CFI and NNFI values above 0.95 indicate excellent fit, and values between 0.90 and 0.95 indicate good fit (22, 26, 28, 30, 35, 36). The CFI (0.88) and NNFI (0.87) values calculated for the 5-factor model were at a moderate level.

The second-level CFA results of the 5-factor model were as follows:  $\chi^2/SD=5.37$ , RMSEA=0.088, SRMR=0.097, GFI=0.80, CFI=0.88, and NNFI=0.87; the fit indexes were at a moderate level. Sufficiency of second-level factor analysis is considered evidence for extraction of a total score in addition to the factor scores obtained from the measurement tool used (23).

The internal consistency coefficients calculated for the subscales in the context of reliability were as follows: Protectiveness=0.79, Supervision requirements=0.71, Risk tolerance=0.84, the Belief that Children’s Health is Controlled by Fate=0.57; the internal consistency for the whole scale was found as 0.75. The internal consistency

coefficient of the original scale was 0.70. The internal consistency coefficients of the subscales were as follows: Protectiveness=0.78, Supervision requirements=0.77, Risk tolerance=0.79, the Belief that Children’s Health is Controlled by Fate=0.78 (5). The internal consistency coefficients of the Turkish scale and risk tolerance subscale were found to be higher compared with the original scale and the internal consistency coefficients of the subscales “Belief that Children’s Health is Controlled by Fate” and “supervision requirements” were found to be lower compared with the original scale. The internal consistency coefficient of the subscale “Protectiveness” was found to be similar to the original scale.

The fact that a statistically significant difference was not found between the mean supervision attributes profile scores obtained with an interval of two weeks from 35 participants for test-retest reliability and a positive strong relationship was found between the scores obtained, indicates that the scale does not show variability by time.

This study is the first in which a scale that was developed to measure parents’ supervision attributes, was adapted to the Turkish language. A scale for which validity and reliability were proven in another society, was used for the study. Following appropriate completion of the language adaptation of the scale, its psychometric properties were tested using multiple methods. The fact that the study sample did not include parents who lived in rural areas because it was planned in a provincial center, was a limitation of the study. The fact that the reliability of the subscale “Belief that Children’s Health is Controlled by Fate” was close to the acceptable lower borderline can be considered a second limitation. It was decided to conserve the subscale “Belief that Children’s Health is Controlled by Fate” because the validity analyses of the whole scale were positive. It will be appropriate to interpret studies that follow our study in view of this information.

It was shown that the PSAPQ was a valid and reliable measurement tool in measuring parents' supervision attributes. Retesting the scale in different samples will enable generalization. Further studies are needed to determine the current status related to supervision attributes.

**Ethics Committee Approval:** The study protocol was approved by the Ethics Committee of Pamukkale University (date: 30.10.2018, decision number: 20).

**Informed Consent:** Written informed consent was obtained.

**Peer-review:** Externally peer-reviewed.

**Author Contributions:** Concept - A.E., S.U.B.; Design - A.E., S.U.B., C.Ö.; Supervision - A.E., S.U.B.; Data Collection and/or Processing - C.Ö., C.O., B.B.Y.; Analysis and/or Interpretation - C.Ö., A.E., S.U.B., C.O., B.B.Y.; Literature Review - C.Ö., C.O., B.B.Y.; Writing - C.Ö.; Critical Review - A.E., S.U.B.

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