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# Reliability and validity of the Turkish version of ladd and profilet child behavior scale victimization scale and picture sociometry scale to measure peer relations of 5-6 years- old turkish children\*

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## Abstract

The purpose of this study is to test the linguistic equivalence, reliability, validity of the Turkish version of “Ladd and Profilet Child Behavior Scale, Victimization Scale and Picture Sociometry Scale”.

Statistics of arithmetic average, standard deviation, internal consistency coefficients (Cronbach Alpha), item-total and item-remainder analysis, test-retest reliability were calculated for reliability of Ladd and Profilet Child Behavior Scale, Victimization Scale and Picture Sociometry Scale. Statistics of content validity, construct validity, criterion-related validity, discriminative strength of scales were tested to assess the validity of Ladd and Profilet Child Behavior Scale, Victimization Scale and Picture Sociometry Scale. Those analysis indicated that The Turkish version of Ladd and Profilet Child Behavior Scale, Victimization Scale and Picture Sociometry Scale were accepted as reliable and valid.

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*Keywords:* Peer relationships; victimization; sociometric status; aggression; prosocial behavior.

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## 1. Introduction

Changes in living conditions have caused some changes in social life as much as other areas. The changes which were occurred within the structure of the family are important in terms of their influences. Thus there are various effects of growing nuclear families, women’s working more effectively in business, increasing in the number of one-parent families due to higher rate of divorce. Some other changes related to those mentioned above are growing number of children’s attending preschools and declining in the age of children who start preschools.

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Because development of children is rapid and it's effects are longlasting during preschool period, the importance of preschool education is increasing (Wood, Cowan, & Baker, 2002). In addition, preschools are also important because children are having their first experiences with peers (Wood, Cowan, & Baker, 2002).

Children's peers whom they interact with at preschools contribute to their mental (Doll, Murphy, & Song, 2003; Ladd, Kochenderfer, & Coleman, 1997), social (Beyazkürk, Anliak, & Dinçer, 2007; Szewczyk- Sokolowski, Bost, & Wainwright, 2005), emotional (Çetin, Bilbay, & Kaymak, 2002; Mendez, Fantuzzo, & Cicchetti, 2002), psychological (Ladd, & Burgess, 1999; Prinstein, Cheah, & Guyer, 2005) and physical (Çetin, Bilbay, & Kaymak, 2002). Preschool period is significant both in terms of being the years in which fundamentals of children's peer relations have been established and being the shortterm and longterm influences of peer relations take place. When the shortterm influences of peer relations are taken into consideration, one can notice that successful peer relations can effect the adaptation to school. (Ladd, & Price, 1987). On the other hand unsuccessful peer relations were found to be related to depression, loneliness, anxiety etc. (Prinstein, Cheah, & Guyer, 2005) emotional and social discomfort and academic failure (Birch, & Ladd, 1997). Peer relations at preschools were also found to be related to commit a crime in middle childhood and adolescence, communication problems and problems experienced with peers, introvert and extrovert problem behavior, social adaptation (Evans, 2002; Hay, Payne, & Chadwick, 2004; Ladd, 2006). Children who are aggressive and refused by their peers in preschool period are being refused by their peers during the middle childhood too (Evans, 2002; Hay, Payne, & Chadwick, 2004; Ladd, 2006). Children's acquisition of peer-centered social competency occur during preschool periode. When children experience problems and failure in this periode they will be at risk in terms of behavioral and social adaptations in later years. Their risks of facing mental retardation and behavior problems are increasing. (Brown, Odom, & Conray, 2001). Positive peer relations were determined as supporting children's development while interactional problems in peer relations were documented as the determinators of social competency problems in later years (Brown, Odom, & Conray, 2001).

Although there are research and scales for peer relations at primary, high school and university education in Turkey (Akgün, 2005; Bilgiç, & Yurtal, 2008; Can, & Akdoğan, 2007; Çakır, & Yazıcıoğlu, 2007; Dölek, 2002; Ertokuş Delikara 2000; Gültekin, 2003; Önder, & Gülay, 2005; Önder, & Gülay, 2008; Önder, & Gülay Duman, 2006; Pekel, 2004; Topçu, & Erdur-Baker, 2007) scales for measuring peer relations of preschool children were rather limited and this limits the research in this field. Because it is necessary to investigate social relations of preschool children as much as their mental abilities, the number of measurement instruments in this field need to be increased.

From the basis of this argument, the aim of this study is to test the lingual equivalence, reliability and validity of the Turkish version of Ladd and Profilet Child Behavior Scale, Victimization Scale and Picture Sociometry Scale for preschool children.

## **2. 2. Method (study 1- ladd and profilet child behavior scale)**

### *2.1. The design of research*

The reasarch is a survey for scales adaptation to measures language equivalence, reliability and validity of Ladd and Profilet Child Behavior Scale in Turkish.

### *2.2. The sample*

The language equivalence working group of the research consisted of 120 children (60 girls, 60 boys) of 5-6 years old children who were living and attending preschools in Istanbul. The mean age of children was 5 years, 4 months, 2 days (minimum; 3 years, 9 months, 29 days; maximum; 6 years, 4 months, 4 days).

The reliability and validity working group of the research consisted of 746 children (369 girls, 377 boys) of 5-6 years old who were attending preschools in Istanbul and their preschool teachers (35 women). The mean age of children was; 5 years, 2 months, 20 days (minimum; 3 years, 2 days; maximum; 3 years, 3 months, 10 days).

The socio-economic status of the parents were determined in terms of professions of parents on the basis of information gathered from the teachers and administrators of the preschools.

### 2.3. Instruments

Personal Information Form and Ladd and Profilet Child Behavior Scale were used as instruments in this research. Personal Information Form was prepared by researchers. There were some questions about children, mother and father such as age and gender of children, mother's /father's educational level, mother's /father's job, family socioeconomic level etc.

**Personal Information Form**, was prepared by researchers. There were some questions about children, mother and father such as age and gender of children, mother's /father's educational level, mother's /father's job, family socioeconomic level etc.

**Ladd and Profilet Child Behavior Scale**, is a teacher report instrument which was developed in 1996 designed to evaluate preschool children's peer relationships. Scale included 44 items and 6 subscales (aggressive with peers, prosocial with peers, asocial with peers, excluded by peers, anxious-fearful, hyperactive-distractible) (Ladd, & Profilet, 1996). Each item of the scale were evaluated with the three points likert described as, "doesn't apply", "applies sometimes", "certainly applies".

### 2.4. Procedure

Personal Information Form and Ladd and Profilet Child Behavior Scale were filled out by teachers of children. Teachers were informed about research by researchers before they started to response to the items.

#### **Scale language equivalence**

Scale language equivalence contained translation process and statistical calculations.

### 2.5. Translation process

Ladd and Profilet Child Behavior Scale was translated into Turkish by 5 experts who were competent in both languages, English and Turkish. Translations made by the experts were compared and some changes were made in terms of cultural meaning and lingual rules. Another expert who was competent in Turkish and English languages translated the scale back to english. The original and the turkish translation of the scale were compared by the researchers and the final form of the turkish version was completed.

### 2.6. Statistical process

**Table 1. Working groups of Ladd and Profilet Child Behavior Scale's language equivalence study**

	First application		Time interval	Second application	
	Language of form	N		Language of form	N
1. Group	English	30			
2. Group	Turkish	30			
3. Group	English	30	1 week	Turkish	30
4. Group	Turkish	30	1 week	English	30

Table 1. shows that each study group contained 30 preschool children (total 120 children). Teachers who were competent in English and Turkish joined in language equivalence study. English form was filled out by the teachers for the first group. Turkish form which was completed after translation study was filled out by the teachers for the second group. The original form of the scale was filled out and after one week Turkish form was filled out by the teachers for the third group. Turkish form of the scale was filled out and after one week original form was filled out by the teachers for the forth group.

### 2.7. Analysis of data

The data which were gathered were analyzed with SPSS 13.0 package programme. Distributions of frequencies and percentages were calculated in order to analyze data obtained from personal information form. Analysis of one way

anova was used to measure the difference between the first and the second groups' means related to second application and the third and the fourth groups' means related to second application to test language equivalence. Paired samples T test technique was used to measure difference between the third and the fourth groups' means of first application. And to determine the difference between the third and the fourth groups' means related to first application.

Statistics of arithmetic average, standart deviation, internal consistency coefficients (Cronbach Alpha), item-total and item-remainder analysis, test- retest reliability were calculated for reliability of Ladd and Profilet Child Behavior Scale as whole scale and its subscales. For the validity of Ladd and Profilet Child Behavior Scale, whole scale and its subscales, statistics of content validity, construct validity, criterion-related validity, discriminative strength of scales were tested.

### 3. Results (study 1- ladd and profilet child behavior scale )

#### 3.1. Scale language equivalence

Paired Sample T test results of Ladd and Profilet Child Behavior Scale Turkish and English applications

There was not any significant difference between the means of the two forms related to the applications of first Turkish and then English forms ( $t(29) = ,329; p > .05$ ). Language equivalence correlation coefficient is ,998 ( $p < .001$ ) between the two forms.

Paired Sample T test results of Ladd and Profilet Child Behavior Scale English and Turkish applications

There was not any significant difference between the means of the two forms related to the applications of first English and then Turkish forms ( $t(29) = 1, 140; p > .05$ ). Language equivalence correlation coefficient is ,996 ( $p < .001$ ) between the two forms.

Table 2. The ANOVA results for the four different working groups' Ladd and Profilet Child Behavior Scale

Source of variance	Sum of Squares	df	mean squares	f	p
Between group	23,100	3	7,700	,175	,913
Within group	5090,600	116	43,884		
Total	5113,700	119			

Table 2. shows that there was not significant difference between working groups [ $F(3,116) = ,175; p > .05$ ]. This result indicates that Ladd and Profilet Child Behavior Scale has language equivalence.

#### 3.2. Scale reliability

Ladd and Profilet Child Behavior Scale's internal consistency coefficients

Internal reliability of the scale of Ladd and Profilet Child Behavior Scale was tested with the technique of Cronbach Alpha (Cronbach Alpha: .81  $p < .001$ ). According to this results, internal reliability of the scale was found to be relatively high.

Table 3. Results of Ladd and Profilet Child Behavior Scale subscales internal consistency coefficients

Aggressive with peers	n	r	p	Excluded by peers	n	r	p
Cronbach Alpha	746	.87	$p < .001$	Cronbach Alpha	746	.89	$p < .001$
Prosocial with peers	n	r	p	Anxious-fearful	n	r	p
Cronbach Alpha	746	.88	$p < .001$	Cronbach Alpha	746	.78	$p < .001$
Asocial with peers	n	r	p	Hyperactive-distractible	n	r	p
Cronbach Alpha	746	.84	$p < .001$	Cronbach Alpha	746	.83	$p < .001$

Table 4. Results of Ladd and Profilet Child Behavior Scale test- retest reliability analysis

Scale	n	$\bar{\chi}$	sd	r	p
Test	30	25,1000	9,0071	,990	$p < .001$
Re-Test	30	24,9667	8,8842		

Test-retest reliability of the Turkish version of the scale was tested through the two applications of the Turkish version of the scale with two weeks of interval and the Pearson correlation coefficient was presented in Table 4. Table 4. shows that there is a strong and significant relation between scale test- retest reliability procedure ( $r = .99$   $p < .001$ ). The result shows that scale test- retest reliability is acceptable.

Table 5. Results of Ladd and Profilet Child Behavior Scale subscales test re-test reliability analysis

Subscales					
	n	$\bar{\chi}$	sd	r	p
Aggressive with peers					
Test	30	3,1333	3,6173	,999	$p < .001$
Re-test	30	3,1000	3,6137		
Prosocial with peers					
Test	30	14,3667	3,3680	,997	$p < .001$
Re-test	30	14,3000	3,3026		

Table 5. Results of Ladd and Profilet Child Behavior Scale subscales test re-test reliability analysis(Continued)

Asocial with peers					
Test	30	1,2333	1,1943	1,000	$p < .001$
Re-test	30	1,2333	1,1943		
Excluded by peers					
Test	30	1,1333	2,7384	,998	$p < .001$
Re-test	30	1,1000	2,6438		
Anxious-fearful					
Test	30	3,1667	2,9837	1,000	$p < .001$
Re-test	30	3,1667	2,9837		
Hyperactive-distractible					
Test	30	2,0667	2,2733	1,000	$p < .001$
Re-test	30	2,0667	2,2733		

Table 5. shows that there are strong and significant relations between subscales' test- retest reliability procedures. The results show that subscales' test- retest reliabilities are acceptable.

Table 6. Comparison of internal consistency coefficients's of Ladd and Profilet Child Behavior Scale and it's subscales in Original and Turkish forms

Original form		Turkish form	
Subscales	Cronbach Alpha	Subscales	Cronbach Alpha
Aggressive with peers	.92	Aggressive with peers	.87
Anxious-fearful	.79	Anxious-fearful	.78
Asocial with peers	.88	Asocial with peers	.84
Excluded by peers	.96	Excluded by peers	.89
Hyperactive-distractible	.93	Hyperactive-distractible	.83
Prosocial with peers	.88	Prosocial with peers	.91

Table 6. shows that subscales of the Original and the Turkish version of Ladd and Profilet Child Behavior Scale have similar internal consistency coefficients.

### 3.3. Scale validity

The content validity of Ladd and Profilet Child Behavior Scale was evaluated by means of experts' opinions. The qualitative evaluations of the 6 academics whose their main working subject was preschool education, a psychologist and two experienced preschool teachers were taken into consideration.

The factor analysis of the Turkish version was not tested because this was an adaptation of test to another language and the original test's factor structure should not be changed. To test the structural validity of the Turkish version, the correlations between the whole scale and it's subscales were calculated.

Table 7. The analysis of correlation coefficients between the whole scale of Ladd and Profilet Child Behavior and it's subscales

Subscales	n	r	p
Aggressive with peers	746	,648	$p < .001$
Prosocial with peers	746	-,166	$p < .05$
Asocial with peers	746	,664	$p < .001$
Anxious-fearful	746	,790	$p < .001$
Excluded by peers	746	,738	$p < .001$
Hyperactive-distractible	746	,638	$p < .001$

Table 7. shows that correlation coefficients between the whole scale of Ladd and Profilet Child Behavior and it's subscales were rather high and significant (level of significance are .05 and .01). The correlations between the whole scale and "aggressive with peers" ( $r = ,648$ ), "asocial with peers" ( $r = ,664$ ), "anxious-fearful" ( $r = ,790$ ), "excluded by peers" ( $r = ,738$ ), and "hyperactive-distractible" ( $r = ,638$ ) are high and positive. On the other hand correlation between the whole scale and "prosocial with peers" is low and negative ( $r = -,166$ )

According to these results, all subscales but the subscale of prosocial with peers are related to the whole structure of Ladd and Profilet Child Behavior Scale.

The Social Skills Scanning List (Kapıkıran, İvrendi, & Adak, 2006) and The Test of Perspective Taking (Şener, 1996) were taken as criteria to evaluate the criterion validity of Ladd and Profilet Child Behavior Scale.

Table 8. The relation between Ladd and Profilet Child Behavior Scale and The Social Skills Scanning List

Scales	n	r	p
Ladd and Profilet Child Behavior Scale - The Social Skills Scanning List	30	-,378	$p < .05$

Table 8. indicates that there is a significant correlation  $r: -,378, p < .05$  between The Social Skills Scanning List and Ladd and Profilet Child Behavior Scale. This means that Ladd and Profilet Child Behavior Scale has criterion validity.

Table 9. The relation between Ladd and Profilet Child Behavior Scale and The Test of Perspective Taking

Scales	n	r	p
Ladd and Profilet Child Behavior Scale - The Test of Perspective Taking	30	-,649	$p < .001$

Table 9. shows that there is a significant correlation  $r: -,649, p < .001$  between The Test of Perspective Taking and Ladd and Profilet Child Behavior Scale. This can be accepted as a second evidence indicating that Ladd and Profilet Child Behavior Scale has criterion validity.

## 4. Method (study 2- victimization scale )

### 4.1. The design of research

The reasarch is a survey for scales adaptation to measures language equivalence, reliability and validity of Victimization Scale in Turkish.

### 4.2. The sample

The language equivalence working group of the research consisted of 120 children (60 girls, 60 boys) of 5-6 years old children who were living and attending preschools in Istanbul. The mean age of children was 5 years, 4 months, 2 days (minimum; 3 years, 9 months, 29 days; maximum; 6 years, 4 months, 4 days).

The reliability and validity working group of the research consisted of 746 children (369 girls, 377 boys) of 5-6 years old who were attending preschools in Istanbul and their preschool teachers (35 women). The mean age of children was; 5 years, 2 months, 20 days (minimum; 3 years, 2 days; maximum; 3 years, 3 months, 10 days).

The socio-economic status of the parents were determined in terms of professions of parents on the basis of information gathered from the teachers and administrators of the preschools.

### 4.3. Instruments

Personal Information Form and Victimization Scale were used as instruments in this research. Personal Information Form was prepared by researchers. There were some questions about children, mother and father such as age and gender of children, mother's /father's educational level, mother's /father's job, family socioeconomic level etc.

**Personal Information Form**, was prepared by researchers. There were some questions about children, mother and father such as age and gender of children, mother's /father's educational level, mother's /father's job, family socioeconomic level etc.

**Victimization Scale**, was developed in 2002 to measure to be victimized by peers. It includes four types of peer aggression (physical, indirect, direct and general) with one item for each type of aggression. Each item is being evaluated with the expressions of "never", "sometime" ,"always" (Ladd, & Kochenderfer-Ladd, 2002).

### 4.4. Procedure

Personal Information Form and Victimization Scale were filled out by teachers of children. Teachers were informed about research by researchers before they started to response to the items.

#### **Scale language equivalence**

Scale language equivalence contained translation process and statistical calculations.

#### **Translation process**

Victimization Scale was translated into Turkish by 5 experts who were competent in both languages, English and Turkish. Translations made by the experts were compared and some changes were made in terms of cultural meaning and lingual rules. Another expert who was competent in Turkish and English languages translated the scale back to english. The Original and the Turkish translation of the scale were compared by the researchers and the final form of the Turkish version was completed.

#### **Statistical process**

Table 1. (in second page) shows that each study group contained 30 preschool children (total 120 children). Teachers who were competent in English and Turkish joined in language equivalence study. English form was filled out by the teachers for the first group. Turkish form which was completed after translation study was filled out by the teachers for the second group. The original form of the scale was filled out and after one week Turkish form was filled out by the teachers for the third group. Turkish form of the scale was filled out and after one week original form was filled out by the teachers for the forth group.

#### 4.5. Analysis of data

The data which were gathered were analyzed with SPSS 13.0 package programme. Distributions of frequencies and percentages were calculated in order to analyze data obtained from personal information form. Analysis of one way anova was used to measure the difference between the first and the second groups' means related to second application and the third and the fourth groups' means related to second application to test language equivalence. Paired samples T test technique was used to measure difference between the third and the fourth groups' means of first application. And to determine the difference between the third and the fourth groups' means related to first application.

Statistics of arithmetic average, standart deviation, internal consistency coefficients (Cronbach Alpha), item-total and item-remainder analysis, test- retest reliability were calculated for reliability of Victimization Scale. For the validity of Victimization Scale, statistics of content validity, criterion-related validity, discriminative strength of scales were tested.

### 5. Results (study 2- victimization scale)

#### 5.1. Scale language equivalence

Paired Sample T test results of Victimization Scale Turkish and English applications

There was not any significant difference between the means of the two forms related to the applications of first Turkish and then English forms ( $t(29) = 1,000$ ;  $p > .05$ ). Language equivalence correlation coefficient is ,998 ( $p < .001$ ) between the two forms.

Paired Sample T test results of Victimization Scale English and Turkish applications

There was not any significant difference between the means of the two forms related to the applications of first English and then Turkish forms ( $t(29) = ,226$ ;  $p > .05$ ). Language equivalence correlation coefficient is ,338 ( $p < .05$ ) between the two forms.

Table 10. The ANOVA results for the four different working groups' Victimization Scale

Source of variance	Sum of Squares	df	mean squares	f	p
Between group	,467	3	,156	,622	,602
Within group	29,000	116	,250		
Total	29,467	119			

Table 10. shows that there was not significant difference between working groups [ $F(3,116) = ,622$ ;  $p > .05$ ]. This result indicates that Victimization Scale has language equivalence.

#### 5.2. Scale reliability

Victimization Scale's internal consistency coefficients

Internal reliability of the scale of Victimization Scale was tested with the technique of Cronbach Alpha (Cronbach Alpha: ,72  $p < .001$ ). According to this results, internal reliability of the scale was found to be relatively high.

Table 11. Results of Victimization Scale test- retest reliability analysis

Scale	n	$\bar{\chi}$	sd	r	p
Test	30	25,1000	9,0071	,990	$p < .001$
Re-Test	30	24,9667	8,8842		

Test-retest reliability of the Turkish version of the scale was tested through the two applications of the Turkish version of the scale with two weeks of interval and the pearson correlation coefficient was presented in Table 11. Table 11. shows that there is a strong and significant relation between scale test- retest reliability procedure ( $r = .990$   $p < .001$ ). The result show that scale test- retest reliability is acceptable.



Table 12. Comparison of internal consistency coefficients's of Victimization Scale in Original and Turkish forms

Original Form	Cronbach Alpha	Turkish Form	Cronbach Alpha
	.73		.72

Table 12. shows Original and the Turkish version of Victimization Scale have similar internal consistency coefficients.

### 5.3. Scale validity

The content validity of Victimization Scale was evaluated by means of experts' opinions. The qualitative evaluations of the 6 academics whose their main working subject was preschool education, a psychologist and two experienced preschool teachers were taken into consideration.

The factor analysis of the Turkish version was not tested because this was an adaptation of test to another language and the original test's factor structure should not be changed. To test the structural validity of the Turkish version, the correlations between the whole scale and it's subscales were calculated. Victimization Scale has any subscales. For this reason, the structural validity of the scale calculating could not was done fort his scale.

The test of Perspective Taking (Şener, 1996) was taken as criteria to evaluate the criterion validity of Victimization Scale.

Table 13. The relation between Victimization Scale and Test of Perspective Taking

Scales	n	r	p
Victimization Scale –The Test of Perspective Taking	30	-.405	p < .05

Table. 13 shows that there is a significant correlation r: -.405, p< .05 between The Test of Perspective Taking and Victimization Scale. This means that Victimization Scale has criterion validity.

## 6. Method (study 3- picture sociometry scale)

### 6.1. The design of research

The reasarch is a survey for scales adaptation to measure reliability and validity of Picture Sociometry Scale in Turkish.

### 6.2. The sample

The reliability and validity working group of the research consisted of 100 children (50 girls, 50 boys) of 5-6 years old who were attending preschools in Istanbul. The mean age of children was; 5 years, 7 months, 4 days (minimum; 4 years, 2 months, 10 days; maximum; 6 years, 4 months, 20 days).

The socio-economic status of the parents were determined in terms of professions of parents on the basis of information gathered from the teachers and administrators of the preschools.

### 6.3. Instruments

Personal Information Form and Picture Sociometry Scale were used as instruments in this research.

**Personal Information Form**, was prepared by researchers. There were some questions about children, mother and father such as age and gender of children, mother's /father's educational level, mother's /father's job, family socioeconomic level etc.

**Picture Sociometry Scale**, was developed by Asher, Singleton, Tinsley and Hymel in 1979. A child in the class is presented a photograph of each child in that group one by one and is asked how much he/she likes the peer in the Picture. The child puts the picture in one of the three box on the basis of his/her preference. The first box has a smiling

face meaning “I like very much”. The second box has a neutral (unexpressional) face meaning “I like little”. The third box has a sad face meaning “I don’t like at all” (Asher, Singleton, Tinsley, & Hymel, 1979). The three more questions were added to the Picture Sociometry Scale in this study. Thus the original scale was changed to the four-items scale.

#### 6.4. Procedure

Personal Information Form and Picture Sociometry Scale were filled out by researcher.

#### 6.5. Analysis of Data

The data which were gathered were analyzed with SPSS 13.0 package programme. Distributions of frequencies and percentages were calculated in order to analyze data obtained from personal information form. Statistics of arithmetic average, standart deviation, internal consistency coefficients (Cronbach Alpha), item-total and item-remainder analysis, test- retest reliability were calculated for reliability of Picture Sociometry Scale. For the validity of Picture Sociometry Scale, statistics of content validity, criterion-related validity, discriminative strength of scale were tested.

### 7. Results (study 3 - picture sociometry scale )

#### 7.1. Scale reliability

Picture Sociometry Scale’s internal consistency coefficients

Internal reliability of the scale of Victimization Scale was tested with the technique of Cronbach Alpha (Cronbach Alpha: .91  $p < .001$ ). According to this results, internal reliability of the scale was found to be relatively high.

Table 14. Results of Picture Sociometry Scale test- retest reliability analysis

Scale	n	$\bar{\chi}$	sd	r	p
Test	30	10,4333	2,7753	,981	$p < .001$
Re-Test	30	10,2333	2,4450		

Test-retest reliability of the Turkish version of the scale was tested through the two applications of the Turkish version of the scale with two weeks of interval and the pearson correlation coefficient was presented in Table 14. Table 14. shows that there is a strong and significant relation between scale test- retest reliability procedure ( $r = .981$   $p < .001$ ). The result show that scale test- retest reliability is acceptable.

#### 7.2. Scale validity

The content validity of Picture Sociometry Scale was evaluated by means of experts’ opinions. The qualitative evaluations of the 6 academics whose their main working subject was preschool education, a psychologist and two experienced preschool teachers were taken into consideration.

Question of “Peers much liked in the class” was taken as criteria to evaluate the criterion validity of Picture Sociometry Scale.

Table 15. The relation between Picture Sociometry Scale and peers much liked in the class

Scales	n	r	p
Picture Sociometry Scale			
“Peers much liked in the class”	41	,312	$p < .05$

Table 15. shows that there is a significant correlation between Picture Sociometry Scale and “Peers much liked in the class” ( $r: ,312$ ,  $p < .05$ ). This relation can be accepted as a criterion validity of Picture Sociometry Scale.

## 8. General Discussion

Significant results were found in terms of language equivalence of the Turkish and English versions of Ladd and Profilet Child Behavior Scale. Some other statistical analysis indicated that whole scale and it's subscales could be accepted as reliable and valid for the Turkish version.

Testing language equivalence of the Turkish and English versions of Victimization Scale showed that those two forms of the same scale has similar meanings in both language. Statistical analysis which were done proved that the Turkish version of Victimization Scale has acceptable reliability and validity.

Picture Sociometry Scale was also translated into Turkish. Since it has only one question, a language equivalence testing was not done for this scale. The results of statistical analysis indicated that the Turkish version of Picture Sociometry Scale had also good reliability and validity.

As a result it can be said that Turkish language has gained three useful measurement tools to evaluate peer relations of 5-6 years- old Turkish children. Those instruments with their good psychometric qualities can be used effectively to scan the peer relations of the young children. Thus the social life of the children can be monitored and supported if there is a need as much as their mental development and skills.

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