Turkish Adaptation of Test of Pretended Play[*]

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Abstract

The objective of present research is to conduct validity and reliability analysis of the verbal section of Test of Pretended Play that will measure pretended play behaviors of pre-school age children (3-6 years of age). Test of Pretended Play was first developed by Vicky Lewis and Jill Boucher in 1997. This test aimed to measure pretended play behavioral development of normal children between ages 1 to 6 besides children with mental developmental problems till the age 8. The test consists of two parts; verbal and nonverbal. Verbal part is composed of four subsections which are daily objects, toys and non-representative materials, one-symbol toy, playing pretended play alone. Reliability analysis demonstrated that test-retest correlation is ,933 (p←,001). In present research, at the end of statistical analyses conducted to detect the validity analysis of scale, a statistically meaningful positive relationship on level ,001 has been detected between Pretended Play Total Scores and Raven Progressive Matrix Test (RAVEN) total; a statistically meaningful positive relationship on level ,001 with Ankara Developmental Screening Inventory (ADSI) and a statistically meaningful positive relationship on level, 001 with Language Use Scale. In order to compare with respect to pretended play normally developing children and children with autism and mental disability, abstract thinking, development and language use skills as the differences between total average scores are analyzed, it surfaces that score average of normally developing children is higher than children with autism and mental disability; score average of children with mental disability is on the other hand significantly higher than autistic group.

Key Words
Pretended Play, Autistic, Mentally Disabled, Abstract Thinking, Language.

During the adaptation process into the world they meet for the first time, children enter in a stage of interaction with their surroundings to hold a place in life. While building up interactions with their surrounding during this process, children also start to get familiar and further experienced with the world they live in. Preschool period in particular is the stage children are most adaptive to physical, mental and social learning. Throughout this stage children can now express their knowledge more clearly and exhibit through their actions as well. As stated by Tsao (2002), children gain knowledge acquisition, use this knowledge in new situations and abstract thinking skills through personal experiences. The greatest share in these experiences belongs to plays.

The positive effect of plays in a variety of developmental aspects of children throughout early childhood stage is well known (Ahioğlu, 1999; Baron-Cohen, Leslie, & Frith, 1985; Jobling, Virji-Babul, & Nichols, 2006; Maguire & Dunn, 1997; Nielsen & Dissanayake, 2000; Saracho, 1999; Sarimski & Suss-Burghart, 1991; Shim, Herwig, & Shelly, 2001; Sigafoos, Roberts-Pennell, & Graves, 1999; Stanley, 2003; Stanley & Konstantareas, 2007; Swindells & Stegnitti, 2006). Piaget similarly argues that plays are the bridges existing in the gap between concrete experience and abstract thinking. It is this process when the significance of pretended play takes one step ahead (cited in Casby, 1997). According to

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Vygotsky, real play takes stage at around age three with "pretended" play that is intertwined with socio-dramatic plays. In his words, play is, at all times, a socially symbolic activity (cited in Nicolopoulou, 1993). Aside from playing with toys in line with their functions, pretended play is- by attributing a function or quality to a particular object- reusing this object in a symbolic manner like "as if it were…" which also corresponds to one of the stages in cognitive development of a child (Jordan, 2003). Pretended Play improves symbolic comprehension. The child can now understand that toys are symbolic representations of reality. By making use of these symbols s/he can grasp how to build interactions with real world and surrounding and form the structures required by language (Moor, 2005).

Pretended Play is a noteworthy mental process in the transition of a baby from sensory-motor period into symbolic thinking stage. The child, throughout the process of changing possessed knowledge into symbolic forms, takes grips of what is real, what is symbolic and the differences between two (Segal, 2006). Pretended Play is acknowledged to be the starting point when small children's early symbolization skills emerge for the first time (Acarlar, 2001). It is through pretended play that children get familiar with the uses and functions as well as qualities of objects (Stanley, 2004).

Lessie (1987) describes pretended play in three different ways; using an object in place of a different one (using a stone in place of soap), attributing a different quality (like pretending as if the baby were sick) and treating a non-existing object as if it were present (like driving a truck over an invisible bridge) (cited in Libby, Powell, Messer, & Jardon, 1998).

Children can learn the ways to communicate with others through pretended play in addition to learning how to share their ideas, make plans, overcome the conflicts and enhance their enthusiasm, enjoyment and creativity. Likewise these skills enhance social adaptation of children next to their self-trust and preschool preparation skills (Segal, 2006). Since there is parallelism between language and play in the development of child too, plays bear role as a main process getting a child ready for symbolic forms (Bigelow, Mac Lean, & Proctor¸ 2004). O'Reilly, Painter, and Bornstein (1997) has reported that there is a meaningful relationship between pretended play and understanding the meaning of a word in children at the ages 4 and 5.

It is considered that inadequacies that might be present in pretended play behaviors are connected to the deficiencies in both general development and abstract thinking and language skills of preschool children. A measurement tool was required to identify these relations and evaluate pretended play behaviors of children. The research problem of present study is, due to the necessity explained above, adapting into Turkish a scale measuring pretended play behaviors of preschool children.

Objective

The objective of present research is adapting the verbal section of Test of Pretended Play into Turkish aiming to measure pretended play behaviors of preschoolers (3-6 years of age).

Method

To conduct Turkish adaptation of Pretended Play Test's verbal section, linguistic equivalence, reliability, and validity procedures have respectively been implemented.

Sampling Related to the Adaptation of Test of Pretended Play

To select the sampling for the adaptation of the Test of Pretended Play, amidst Ministry of National Education- affiliated preschool educational institutions within the city of Istanbul, totally 254 students selected amongst 14 preschool educational institutions detected via random cluster sampling method, besides eight rehabilitation centers and foundations have been reached. The sampling consists of 128 girls and 126 boys. Additionally in order to enable a comparison amidst different groups, 30 mentally disabled and 30 autistic children have also been included in the research. The majority of mentally disabled children are medium level (11 are mild, 19 are medium level mentally disabled), the majority of autistic children are medium level (20 children are medium level, 7 are mild and 3 are severe).

In cluster sampling, cosmos is divided into groups named clusters; each cluster is handled as a sampling unit. Sampling is formed by combining the randomly selected clusters (Çömlekçi, 2001). Gökçe (1988) advocated that in cluster sampling the first step should be listing the clusters in cosmos then- as a principle- to count the total inventory of all these clusters, to prepare a list for each cluster group and finally to select the clusters via random sampling method from the lists pertaining to each group.

Data Gathering Tools

Test of Pretend Play: was first developed by Vicky Lewis and Jill Boucher in 1997 and then was standardized. The test has been prepared to measure pretended play developments of normally developing children between ages 1- 6 and children with developmental problems till age 8. The standardization of Test of Pretended Play has been conducted over 513 children ranging from age 1 to age 6, weeks 6. Structure validity is 0,266 and 0,930 ($p<0.001$). Content validity has been measured via Preschool Language Scale. Pretended Play test-retest reliability is 0,868 and item correlation is between 0,548 and 0,942 (Maltz, 2003). The test has two parts; verbal and nonverbal. Nonverbal section mostly contains plays, modeling and less numbers of verbal instructions. In current research, verbal section of Test of Pretended Play has been used after adaptation. Verbal section of Test of Pretended Play consists of four subsections and pretended play behavior of the child is measured through the scores received from these subsections. Test of Pretended Play's 1st part measures a child's ability of representing nonexistent objects by using *daily objects* (bowl and spoon). 2nd part measures a child's ability of functionally using *toys and non-representative materials*. In the 3rd part a child's ability of using *one-symbol toy* using skill is examined. 4th part of Pretended Play Scale measures a child's Pretended Play acting *alone*. During evaluation, in the 1st and 2nd parts, the child is initially asked "What can you do with these things?" and "What can a baby do with these things?" and the child gets 2 points if s/he responds and plays. Given that the child fails to respond then s/he is then given instructions ("show us how the baby wears its hat" etc.). If the child responds to the instruction, s/he receives 1 point. The highest score that the child can receive from the 1st part is 2, the highest score to receive from the 2nd part is 8. In the 3rd part the child is given a teddy bear and in each subsection a model is presented. Given that the child takes the model or plays upon hearing the instructions, s/he receives 1 point but if s/he plays spontaneously when asked "what else can it do?", "what else can take place now?" s/he receives 2 points. The highest score that can be received from 3rd part is 12. Similar to the 3rd part, in the 4th part too a model is presented to the child at first. Given that the child takes the model or plays upon hearing the instructions s/he receives 1 point but if s/he plays spontaneously when asked "Can you be something else?" , "Can you play any different story?" s/he receives 2 points. The highest score that can be received from 4th part is 12. Raw scores are converged to Pretended Play's age equities. The highest score that can be received from the total scale is 34.

Test of Pretended Play not only evaluates pretended (symbolic) plays of children but also their conceptual developments, use of symbols, power of imagination, creativity and emotional states. Furthermore it can be employed by teachers and instructors to detect the needs of children with developmental deficiencies (receptive and sender language problems, learning disabilities, emotional problems and autism etc.) (Lewis & Boucher, 1997).

Language Use Scale: Developed by Sevinç and Eskinazi in 2003. To detect the reliability of scale 176 students between ages 5;(0)-7;(12) have been reached. The scale consists of total eighth sub-dimensions respectively naming, pointing the function, making connections-associations, grouping, similarities, differences, multiple meanings, qualities. At the end of reliability analysis of scale, Cronbach's alpha values of factors have been found to be ranging between.78 and .96. As manifested by factor analysis process conducted to detect structure validity of Language Use Scale, on the basis of eighth sub-dimensions, variance percentages ranged from 15,04% to 36,40%.

Ankara Developmental Screening Inventory (ADSI): This is an evaluation tool providing in-depth and systematic information on the development of babies and children. This inventory evaluates current development and skills of the babies and children between ages 0-6 on the basis of information received from mothers (aside from moms; dads, babysitters and teachers who closely monitor the child's development and knows the child closely). The inventory has been prepared with respect to different age groups and responded by mothers as 'Yes, No, I do not know'. In normative study 168-item form of the inventory has been conducted over 860 mothers. At the end of conducted item analysis, the items which failed to rise parallel to age increase have been eliminated and the inventory has been finalized to contain 154 items. The questions have been arranged to represent interrelated yet dissimilar domains of development (Language-Cognitive, Fine Motor, Unrefined Motor, Social Skill-Self-care). Internal consistency of the inventory and subtests (L-C, FM, UM, SS-SC) is between Cronbach Alpha Coefficients .37 and .97. Ankara Developmental Screening Inventory is applicable for 1-3 months old and age 5 12 months children in addition to children above age 6 with develop-

mental disability (Savaşır, Sezgin, & Erol, 1994)

Raven Standard Progressive Matrices Test (RSPM): One of the three subtests of Raven Progressive Matrices (RPM: Raven Progressive Matrices) *Raven Standard Progressive Matrices Test* was developed in 1938, in years 1947 and 1956 some small modifications were made in the subtest. Other than general capability of the child, RSPM also measures visual-spatial perception, judgment, mental flexibility, abstract thinking and analytic thinking or in other words fluid intelligence (Raven et al., 1993 cited in Kiriş & Karakaş 2004). In RSPM test booklet, there are 5 sets (A, B, C, D and E) each of which consists of 12 items and total 60 items. Test items are composed of meaningless shapes. In each single item, there is a problem shape with a missing part and other shapes filling the missing part. In RSPM, there is an individual score for each set and a total score taken from the sum of all scores. The highest possible score to receive from the test is 60 (Kiriş & Karakaş 2004). RSPM's standardization over 2277 Turkish students has been conducted by Şahin and Düzen (1994), test's two half reliability has been detected as .91 for the total sampling. The correlation between RSPM and WISC-R Total Intelligence Section is 0.71, the correlation with Verbal ZB is .54, with Performance ZB is .70 (Raven et al. 1993 cited in Kiriş & Karakaş 2004). RSPM test is applicable on a wide range of individuals from early childhood period to the elderly (Raven, 2000)**.**

Procedures

The procedures to adapt Test of Pretended Play into Turkish have been conducted by the researcher personally on 254 children in the sampling. To that end required licenses have been received from the administrators of preschool educational institutions selected via random cluster sampling method, directors of private education institutes and foundations upon rendering information on the objective of research. During the interviews conducted amidst preschool institutions, the physical conditions (a room to implement the test) required to perform the research have been explained. By visiting fourteen preschool institutions of which conditions are satisfactory and allowed the implementation of research, at first teachers have been informed about the objective of research, the things to use during research. Then teachers have enlightened the students and brought the students to the research room. Subsequently the researcher interviewed each child face to face and applied the tests used in research. For the mentally disabled

and autistic children too, the accessed private educational institutions were interviewed and the qualities of the children that could respond to tests were explained. These qualities are; age of children between (3-6), ability to comprehend verbal instructions and language skills to express minimum two words of statement. Two foundations and six rehabilitation centers that possessed children with these qualities were also visited by the researcher to conduct on-site applications.

Data Analysis

In present research adapting Test of Pretended Play into Turkish, with the aim of detecting the normality of total scores of English and Turkish forms, Interrelated Group "t" test Kolmogorow-Smirnov; for Test of Pretended Play's total scores of English and Turkish forms and English and Turkish form item scores Interrelated Group "t" test has been used**.** To detect reliability; Test of Pretended Play Test-Retest Correlations have been calculated and internal consistency of the test has been reached by calculating Pearson Product Moments Correlation Coefficients. To detect validity, Pearson Product Moments Correlation Coefficients have been calculated to determine the relationship with the whole group and each group's Test of Pretended Play total and sub- dimensions and Raven Progressive Matrices total scores, ADSI Total scores, Language Use Scale total scores. With respect to Diagnosis Group Variable, One-Way Variance Analysis (ANOVA) has been conducted to make comparisons between Raven Standard Progressive Matrices Test, Ankara Developmental Screening Inventory and Language Use Scale**.** Upon obtaining a statistically meaningful difference in variance analysis, in order to detect from which dual comparisons this total difference originated, variance analysis complementary accounts (post-hoc) have been used. Scheffe and Tamhane's T2 Test have been used to that end.

Results

To adapt Test of Pretended Play into Turkish, at first two special educators using languages (English and Turkish), one psychologist, one preschool specialist and one translator and interpreter totaling five people have translated English into Turkish, three weeks afterwards Turkish translations were translated into English by five specialists from Boğaziçi University Department of Preschool Teaching. At the end of translation of Test of Pretended Play, the views of an expert on Turkish Language have been

taken to give the test its final form. In order to statistically test linguistic equivalence of English and Turkish forms, 20 preschool students familiar with both English and Turkish received English form of Test of Pretended Play at first and Turkish form one week later. To detect the normality of distribution on application findings, Kolmogorov-Smirnov test has been conducted; it has been detected that both for English form ($z=1,435$; $p>,05$) and Turkish form ($z=1,045$; $p>,05$) the distribution did not differ significantly from normal distribution. Based on this finding it has been determined that use of parametric techniques has no reservations. To determine whether there is a meaningful differentiation with respect to answers given on Turkish and English forms, matched groups t test has been employed. At the end of interrelated group t test conducted to find out whether there is a meaningful differentiation between arithmetical averages of scores obtained from Test of Pretended Play's Turkish and English adaptations, no statistically meaningful differentiation has been detected with respect to each item and total score. This finding has been interpreted that Turkish and English meanings are matching or in other terms linguistically equivalent.

Findings Related to Reliability Analysis

Reliability can be defined as the consistency amidst the answers given to test items and the level of measurement accuracy of the test. It is used to determine to what extent personal differences are related to the correlation test scores calculated as the reliability coefficient of test are actual and to what extent they depend on error factor. Two main criteria sought in the reliability of a measurement tool are "consistency between scores obtained in different times" and "consistency between the answers obtained at the same interval" (Büyüköztürk, 2005). A sufficiently high correlation coefficient indicates the consistency in the test measurements and also the consistency in the measured quality which does not change greatly during the time interval between two implementations (Baykul, 2000). In the original handbook of the test too it has been stated that two separate methods have been conducted for reliability analysis. The first one is calculating test-retest reliability coefficient which is based on the correlation between scores obtained by implementing the test to the same group of students twice for a certain period of time and the second one is exploring the internal consistency of the test.

The first part of the test (Daily objects) consists of one question. Second part consists of (toy and non-representative materials) four questions yet no total score can be obtained from individual summations. On that account, internal-consistency based reliability of the first and second parts of the test cannot be determined. The third and fourth parts of the test is made of separate questions and by taking the summation of each, total raw scores of each part are obtained. In line with this quality, internal consistency of the parts has been analyzed by determining the correlations within each part between each item and total scores and inter-item correlations.

As regards reliability analysis of Turkey version of the test; the correlation between third part items and third part total scores has been meaningful on $p<,001$ level, the correlation between fourth part items and fourth part total scores has been meaningful on $p<,001$ level, the correlation between parts and total scores of parts has been meaningful on $p<,001$ level.

At the end of statistical analysis covering Test of Pretended Play Test- Retest Correlations maximum reliability has been achieved in Part 1. In this part all children have obtained maximum score from test retest application. Pretest- posttest correlation of the overall test has been detected as ,933. With a figure of ,659 the lowest test-retest correlation has been derived from second part.

Findings Related to Validity Analysis

To analyze criteria validity of scale, Raven Standard Progressive Matrices Test (RSPM) considered to be related to Pretended Play and analyzing abstract thinking skills -since it is connected with Pretended Play and language skills- the relations amidst Language Use Scale (LUS) analyzing language skills and Ankara Developmental Screening Inventory (ADSI) analyzing general development and verbal section of Test of Pretended Play have been examined. Subsequently, by applying Test of Pretended Play over normal, mentally disabled and autistic children the differences amongst all have been detected.

Validity indicates the applicability of scale into its objective of use. In a different saying, it is a concept related to the extent that a test measures the aimed quality to measure in any individual (Altunışık, Coşkun, Bayraktaroğlu, & Yıldırım, 2005; Büyüköztürk, 2005; Tan, 2008; Yıldırım, 1999). In validity analysis, the correlation of the test of which validity is aimed to measure with the other test or criteria is examined.

Within the scope of criteria validity of Test of Pretended Play, at the end of Pearson analysis conducted to determine Test of Pretended Play's Sub Dimensions' relations with RSPM, ADSI and LUS scores; positive meaningful relationship has been determined between RSPM total scores and toy and non-representative materials sub-dimension (*r=,472; p<,001*), one-symbol toy sub-dimension (*r=,688; p<,001*), alone sub-dimension (*r=,713; p<,001*) and Pretended Play total score (*r=,716; p<,001*). Besides the relationships between ADSI total scores and toy and non-representative materials sub-dimension (*r=,501; p<,001*), one-symbol toy sub-dimension (*r=,510; p<,001*), alone sub-dimension (*r=,570; p<,001*) and Pretended Play total score (*r=,586; p<,001*) are also positive and meaningful. Finally the relationships between LUS total scores and toy and non-representative materials sub-dimension (*r=,574; p<,001*), one-symbol toy sub-dimension (*r=,837; p<,001*), alone sub-dimension (*r=,834; p<,001*) and Pretended Play total score (*r=,857; p<,001*) are also positive and meaningful. These values all together indicate that the criteria validity of scale is high.

One of the methods applied in detecting structure validity is "group differences". Test is divided into two groups which are dissimilar with respect to measured structure. Obtaining low correlation between the scores of both groups or finding an expected differentiation between these two groups is accepted as an indicator of the structure validity of test (Baykul, 2000).

Test of Pretended Play's first part, in the part of making reference to existing daily objects/nonexistent daily objects, all children received the maximum potential score from all parts so variance value equaled to zero and therefore no statistical procedure has been performed. In this part the child is demonstrated familiar objects from daily life (like bowl and spoon). Since almost all children knew what to do with all these objects they received full score from this part. It may be considered that since children in mentally disabled and autistic group are on mild and medium level of sickness, they also knew well what to do with these objects and could demonstrate their functions through acts. The highest average in toys and non-representative materials part belongs to the normal group with $\square$=6,80 which is proceeded by mentally disabled group with an average of $\square$=5,77. The last row belongs to children diagnosed with autism ($\square$ =4,53). Of the three groups, a statistically meaningful relationship on *p<,05* level has been detected

amidst score variances of second parts. Variances of autistic children's group have been more heterogeneous than the rest of groups. In one-symbol toy part the highest average belongs to the normal group with $\square$=9,00 which is proceeded by mentally disabled group with an average of $\square$=5,70. The last row belongs to children diagnosed with autism ($\square$ = 2,77). No statistically meaningful relationship has been detected between score variances of third parts of all three groups. The variances of three groups are equal. In Alone Part of Test of Pretended Play the highest average belongs to normal group with $\square$=8,43 which is proceeded by mentally disabled group with an average of $\square$ =5,20. The last row belongs to children diagnosed with autism ($\square$=2,20). Amidst score variances of the fourth parts of three groups a statistically meaningful differentiation on level *p<,,001* has been detected. Variances of normal children are more heterogeneous than the rest of groups. In the total scores of Test of Pretended Play the highest average belongs to normal group with $\square$=26,23 which is proceeded by mentally disabled group with an average of $\square$=18,70. The last row belongs to children diagnosed with autism ($\square$=11,40). No statistically meaningful relationship has been detected between Pretended Play Scale Total score variances of the three groups (*p>,05*). The variances of three groups are equal.

At the end of one-way variance analysis(ANOVA) conducted to detect if Test of Pretended Play parts and total scores of the children constituting sampling group varied with respect to disabled group variable, with respect to toy and non-representative materials part (*F=11,605; p<,001*), one-symbol toy part (*F=41,496; p<,001*), alone part (*F=44,424; p<,001*) and scale total score (*F=46,214; p<,001*), the difference amidst arithmetic averages of normal, autistic and mentally disabled children has been found to be statistically meaningful. On the other hand it has been found out that group variable explained 21,1% of the variances for toy and non-representative materials part; 48,8% of the variances for one-symbol toy part; 50,5% of the variances for alone sub-dimension; 51,5% of the variances for total score. Following these procedures, variance analysis complementary accounts (post-hoc) have been used to detect from which groups the meaningfulness found via ANOVA originated. Since in total of One-Symbol Toy part and total of Test of Pretended Play the variances are homogenous, Scheffe test-one of the complementary accounts- has been selected. Nonetheless since the variances in toy and non-representative materi-

als part and Alone part, the variances are heterogonous, Tamhane's T2 statistics technique has been used as post-hoc technique.

As the Scheffe and Tamhane's Test results conducted for total score of Test of Pretended Play and score averages of parts with respect to group variable are examined it can be detected that in toy and non-representative materials parts, the average of normally developing children is meaningfully higher than the average of autistic group (*p*<,001) and mentally disabled group (*p*<,05). With respect to second part, no meaningful differentiation has been detected between autistic group and mentally disabled group.

As the differences amidst Total of Test of Pretended Play and third and fourth parts are analyzed it surfaces that the score average of normally developing children is meaningfully higher than the average of autistic and mentally disabled group (*p*<,001). Once again the averages of mentally disabled group are meaningfully higher than autistic group (*p*<,001).

Discussion

In current research the aim has been to adapt The Test of Pretend Play developed by Vicky Lewis and Jill Boucher in 1997 into Turkish. To that end initially the scale's linguistic equivalence then reliability and validity analyses have been conducted.

In reliability analysis, internal consistency of the test has been investigated. The first part of the test (daily objects) consists of one question. Second part (toy and non-representative materials) is composed of four questions; however no total score can be obtained through individual summation of each item. On that account internal consistency based reliability of the first and second parts of the test cannot be determined. The third and fourth dimensions of the test consist of separate questions and by taking their summations part total raw scores are obtained. In line with this quality, internal consistency of the parts has been analyzed by determining the correlations within each part between each item and total scores and inter-item correlations.

As regards reliability analysis of Turkey version of the test; the correlation between third part items and third part total scores has been meaningful on *p*<,001 level, the correlation between fourth part items and fourth part total scores has been meaningful on *p*<,001 level, the correlation between parts and total scores of parts has been meaningful on *p*<,001 level. These findings are exactly consistent with the original of the test and points to the reliability of scale. Afterwards, to conduct reliability analysis, by applying the test to the same student group within a certain period of time twice, test-retest correlation of the overall test has been detected as ,933 (*p*<,001). The lowest test-retest correlation has been determined in the second part with a value of ,659. This finding indicates that the scale is reliable with respect to test-retest findings. At the end of reliability analysis conducted in the original test too, test-retest correlation was found to be 0,868 (*p*<,001). The high test-retest scores obtained from original and adapted scale are supportive of one another.

In the validity analysis of the test in current research, since there is no other test measuring one-to-one pretended play- the tests which measure the same qualities (abstract thinking) and developmental domains which are considered to be interrelated have been employed. In the original test too, three tests have been used for validity analysis. These are The Symbolic Play Test, Preschool Language Scale and an intelligence test called Leiter International Performance Test. At the end of conducted statistical analyses too, there has been a statistically meaningful relationship on level .001 between Test of Pretended Play and other tests (Lewis & Boucher, 1997). In current research, by taking notice of the relevant literature arguing that Pretended Play and abstract thinking skills can basically evaluate the same domains, Raven Progressive Matrices Test has been implemented. At the end of statistical analyses amidst One-Symbol Toy, Alone and Test of Pretended Play total scores and Raven Progressive Matrices Test total scores with statistically meaningful positive relations on level ,001 have been detected. This finding has been interpreted to indicate that in all groups, parallel to rise of children's Raven Progressive Matrices Test scores, Pretended Play scores increased in the same manner. This finding is supported via Church's (2005) view as well. Similarly Church argued that children start learning how to use symbols and start abstract thinking when using objects in place of something else, use their gestures to show a nonexistent object or perform an act through their behaviors. According to Piaget, symbolic schemes are needed to form a pretended play and parallel to the increase in the number of such schemes the plays of a child differentiate from common repetitive acts and turn into representative forms of events (Stanley, 2004). In other terms, when children are able to play pretended (symbolic) plays, they actually develop their abstract thoughts as well and both affect each other

reciprocally. In the validity analysis conducted within the scope of research, the relationship between Test of Pretended Play and ADSI (Ankara Developmental Screening Inventory) has demonstrated that between Pretended Play total scores and ADSI total scores a statistically meaningful positive relationship on level ,001 exists. This finding can be interpreted in a way that in all groups, parallel to the rise of children's ADSI scores Test of Pretended Play scores also increase. Maguire and Dunn (1997) too in their longitudinal study covering 41 children ranging from 33 months to 6-7 years have determined that children performing Pretended Play behaviors are good at grasping the feelings of their friends and familiar with the close friendship relations they can establish in future. This finding may drive one to consider that development of Pretended Play is not restricted to intelligence alone but overall developmental domains as well. No statistically meaningful relations have been detected between the correlation coefficients calculated for mentally disabled group's Pretended Play Test total and sub-dimensions and ADSI Total and sub-dimensions and this was an unexpected research finding. Nonetheless this finding exhibits similarities with Nehring (1989)'s research. In the study of Nehring that built a comparison with respect to Pretended Play behaviors between children with down syndrome and normal children no statistically meaningful differentiation has been detected between play behavior of children with down syndrome and normal children. These findings may be explained with the fact that children with down syndrome are highly sociable and the mentally disabled children covered in our research are mild or medium level patients.

The meaningful relationship between pretended play behaviors and ADSI of autistic children is parallel to the research finding of Stanley (2004). At the end of his research Stanley has demonstrated that there is a substantially powerful relationship between pretended play behaviors and nonverbal cognitive capabilities of autistic children. It has also been ascertained that a negative relationship exists between autism and pretended play. Stanley and Konstantareas (2007) also analyzed the relationship between pretended play and autism, nonverbal cognitive capability, receptive language, expressive language and social development. In the research although a meaningful relationship has been detected between nonverbal cognitive capabilities of children, expressive language skills and pretended play no meaningful relationship between receptive language skills and pretended plays. As the

relationship between social development of autistic children and their pretended plays is analyzed it has been determined that once again children with high nonverbal cognitive capabilities have, compared to children with low nonverbal cognitive capabilities, meaningful relationships between their social development and pretended plays. Research findings have been interpreted such: development of pretended play skills of children is not associated with one developmental domain alone but with the interaction amidst several developmental domains. Hence it is noteworthy that there exists a correlation between general developmental test used in this research and pretended play.

Between all groups' total and subsections of Test of Pretended Play and total and sub-dimensions of Language Use Scale, there have been positive meaningful relationships on minimum ,001 statistical level. In all groups parallel to the rise of children's Language Use Scale scores, Pretended Play scores in turn increase. This finding is consistent with the original scale as well. Furthermore the arguments of numerous researchers claiming that play and language are interrelated (Lewis, 2003) and pretended play is connected to early language development word combinations and grammar refinement (McCune, 1995; Ogura, 1991; Veneziano, 1981) are parallel to the findings of current research. The researchers have reported that language is a cluster of unsocialised symbols (Jersild, 1983), symbol systems in play and language improve the exact representation capability (Leslie, 1987). Kelly and Dale (1989) have also demonstrated that children who cannot yet speak perform badly in pretended plays whereas the ones playing presymbolic plays or playing symbolic with the self or others speak with single words. Likewise Clift, Stagnitti and DeMello (1998) have also detected that there is a correlation between pretended plays and receptive language skills of preschool children. Many other research findings also support the relationship between pretended play and language development (Ahioğlu, 1999; Lyytinen, Poikkeus, & Laakso, 1997; Lyytinen, Poikkeus, Laakso, Eklund, & Lyytinen, 2001; McCune, 1995; O'Reilly et al., 1997; Rescorla & Goossens, 1992; Sarimski & Suss-Burghart, 1991; Spencer, 1996; Stanley, 2004; Synder & Scherer, 2004; Udwin & Yule, 1982; Zercher, Hunt, Schuler, & Webster, 2001).

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