Development of Selçuk Sexual Development Scale (36-72 Months) *

Ayşe ALPTEKİN ** Kezban TEPELİ ***

Abstract
This study aimed to develop valid and reliable measurement tools aiming to obtain information from the child and family to determine the sexual identity and gender behaviors of children with normal development at 36-72 months. The research was designed in the general screening model of quantitative research methods. The validity and reliability analyses of three different subscales, namely the Sexual Identity Sub-scale of the Selçuk Sexual Development Scale (SSDS, 36-72 Months), the child form, the Gender-Related Behavior Sub-Scale, the child form, and the Sexual Identity and Gender-Behavior Sub-Scale were conducted. SPSS 20, LISREL 8.80 and FACTOR software were used to analyze the data. The target population of the study consists of 36-72 months of normal development children living in the central districts of Konya between 2017-2018. As a result of the Exploratory Factor Analysis, the eight-item two-factor structure for the SSDS Sexual Identity Sub-scale child form, the eight-item single-factor structure for the Child Form of the Gender-Behavior Sub-Scale, the eight-item two-factor structure for the family form of the Sexual Identity and Gender-Behavior Scale were obtained. The results of the Confirmatory Factor Analysis of these structures showed the compatibility of the structures to the model. The reliability coefficients of the scales were calculated as .61 for the Sexual Identity Sub-Scale child form, .66 for the Child Behavior Sub-Scale, and .85 for the Sexual Identity and Gender Behavior Sub-Scale family form.

Key Words: Sexual identity, sexual development, sexual behavior, sexual development scale.

INTRODUCTION
Sexual development encompasses the growth and development of the reproductive organs of the individual’s own sex and the problems and behavior changes related to this development (Ministry of National Education [Milli Eğitim Bakanlığı-MEB], 2013). Sexual development is not only related to changes in anatomical structures, but also related to emotional and cognitive developments (Tuzcuoğlu & Tuzcuoğlu, 2004). In this respect, when determining the sexual development, the situations in which the child is involved in the emotional and cognitive process should be observed.

Every child comes to the world with the anatomical structure and sexual identity that determines whether it is biologically male / female. However, the difference between the gender difference of the child is not with birth, but later in life (Gürşimşek & Güney, 2005). The acquisition of the skills required by the gender, the behavioral and self-concept of individual characteristics is defined as the process of gender discrimination (Başal & Kahrman, 2011). This is possible with the sexual education that can be given to the child and the right model in life.

The roles of men and women are considered to be defined by biological sex, although they are actually defined by the societies themselves. This view is the basis for the formation of judgments that women are different from men, that they should take different roles and that they should continue their lives in a different world than men. Hence, gender roles emphasize the qualities created by the society

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related to masculinity and femininity, not physical characteristics that cause men or women to be separated from each other (Altunova & Duyan, 2013).

The Equal Opportunity Commission answers the question about what variables are the determinants of sexual identity: The word gender refers to the social character rather than the biological character. And social-cultural differences between men and women are learned over time (Skelton and Hall, 2001). The Equal Opportunity Commission emphasizes that sexual identity is based on social development and social and social perception rather than biological diversity. The child may clearly know that the gender is male or female but may feel different or may want to be a member of the opposite sex group (Zucker et al., 1993). In addition to knowing that the child is a man and a woman, being aware of the gender differences brought about by social and social perceptions is important in determining sexual development.

Childhood, which constitutes the first years of life, is gaining importance because all of this information is a period that must be acquired in a healthy way (Yurdakul, 2012). 3-6 years is one of the important periods for sexual development. It is a period in which the children’s sexual curiosity is at the highest level, they acquire their own sexual identity and they acquire their sexual roles by identifying with their own gender. The social aim of sexual education in this period is to educate sexually healthy individuals. Through sexual education, children can acquire positive feelings and behaviors by learning the necessary information about sexuality (Yılmaz, 2011). Questions arise about sexuality in the age of 3-6 years. Parents cannot be sure what, how much, when and how they will give (Cole, 1998). If the child does not learn about birth and gender differences from his parents, he will start to look for answers from other sources. Then the result may not be as desired. If a person does not meet the curiosity of the child cannot be said that the problems can be solved completely (Yavuzer, 2000). Acquisition of non-age-appropriate sexual information is often claimed to be a proof indicator of sexual abuse. But very few people can define what their children know (Volbert, 2000). The questions that children ask us to help us to understand their level of knowledge. When they are not ready, the information presented is useless to confuse children (Bayrak, Başgül & Gündüz, 2011).

Children’s questions about sexuality should be answered in accordance with age and developmental characteristics. If the child is not informed about sexuality and the curiosity is not resolved, the child will try to satisfy this curiosity in other ways. Sexual curiosity, which is the most innocent tool to overcome this curiosity, is likely to be used by children of later ages for their own purposes, although it is healthy (Bozer, 2009). This information emphasizes the importance of what children know, what they are curious about and what information to give, but also the necessity of measurement tools to determine these situations in order to provide healthy sexual education to children.

**Purpose of the Study**

When the studies examining the sexual development of children are examined, it is seen that there are many studies but the subject and scales used are generally aimed at examining gender stereotypes (see Aksoy, 1990; Aydilek-Çiftçi, 2011; Baran, 1995; Barutçu, 2002; Başal & Kahraman, 2011; Edelbrock & Sugara, 1978; Gündüz-Sentürk, 2015; Güney, 2012; Köseler, 2009; Lamb & Roopnarine, 1979; Langlois & Downs, 1980; Lobue & DeLoache, 2011; Özdemir, 2006; Özkan, 2009; Şivmg, 2015; Şirvanli-Özen, 1992). Considering that sexual development is related to cognitive and emotional domains, it is not sufficient to measure only gender stereotypes. Knowing whether or not the child is aware of gender roles and perceptions is not sufficient to determine the child’s sexual development. Ignoring the child’s emotional feelings, curiosity, and whether he / she sees the situation as a taboo makes sexual abuse possible. In the literature, the fact that the majority of the scales and sexual development are only intended to measure stereotypes, the lack of measurement tools to measure the components of sexual development, or the presence of measurement tools that provide information only from adults, is a scale that aims to obtain information from a child that includes all the components of sexual development but also provides information from an adult. the need to gain. In addition, in this study, an assessment tool consisting of child and parent forms was developed to evaluate the sexual identity and gender behaviors of children with normal development (SSDS Sexual Identity Sub-Scale
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Child Form, SSSDS Gender Behavior Sub-Scale Child Form, SSSS Sexual Form). Identity and Gender Behavior Subscale Family Form).

METHOD

The research was designed in the general screening model of quantitative research methods. In order to determine the indicators of sexual development during the development of the scale, theories and theories explaining sexual development were examined. Kohlberg is influenced by Piaget’s views in Cognitive-Developmental Theory. Measurement tools were formed by grouping them as sexual identity based on Kohlberg, Bem and Bandura’s views and gender-based behaviors based on Freud’s views.

Participants

As the research group was formed to develop the Selcuk Sexual Development Scale (36-72 Months), children and their families who agreed to participate in the study were sampled and non-probability sampling methods were used. In addition, for multivariate analysis according to Kline (2013), Coşkun, Altunışık and Yıldırım (2017), attention should be paid that the number of variables used in the study is at least 10 times or more. Moreover, according to Çapık (2014), 63% of the studies in the Psych INFO database used this criterion. For sample counts, the distribution of data, the number of items, the complexity of the model should be taken into consideration criteria such as (Çapık, 2014) evaluated the opinions of 36-48 monthly 102, 49-60 monthly 113, 61-72 Children 101 per month in total 316 Children and parents of these children (the person who spends most of the time with children) were included in the study Group. In order to determine the criterion-related validity of this group, 90 children and their families whose selected gender were used were applied.

Data Collection Instruments

In the study, the development of the SESG Sexual Identity Sub-Scale Child Form, the SESG Sexual Behavior Sub-Scale Child Form, and the SESG Sexual Identity and Gender Behavior Sub-Scale Family Form were developed. In addition, in order to determine the criterion-related validity of these forms, the Gender Mold Questionnaire developed by Williams, Bennett and Deborah (1975) and adapted to Turkish by Şirvanlı-Özen (1992) was applied.

SDSS sexual identity subscale development of child form

In order to develop the scale, firstly the national and international literature on the subject was scanned, and the reference books on sexual development activities prepared for children and the gender invariance scale developed by Taylor (2004) and adapted to Turkish by Zembat and Keleş (2011). Williams et al. (1975) developed by Şirvanlı-Özen (1992) adapted to Turkish Gender Stereotype Scale, Gender Roles stereotyping Scale developed by Eren (1986), Bem Gender Role Inventory, which was developed by Bem (1974) and adapted to Turkish by Kavuncu (1987), Preschool Activity Inventory, adapted to Turkish by Ünlü (2012), developed by Golombok and Rust (1993), The Gender Role Learning Index developed by Edelbrock and Sugara (1978), the Gender Judicial Scale developed by Altınoz and Duyan (2013), the Sexual Identification Scale developed by Artan (1987), the Gender Measurement Tool developed by Şivgin (2015) were analyzed.

After forming the items in the light of literature, six experts specialized in preschool, child development, psychological counseling and assessment in education were presented. After the necessary corrections were made at the end of the expert opinion, identical cards were created for each item, and the pictures expressing the situation for the items were drawn by an illustrator specialized in the field of children’s books illustration. At each stage of the drafting of the drawings and at the final stage, the opinions of the experts who examined the substances were consulted. After the necessary
corrections, a pilot study was conducted to determine whether the drawings were understood as intended by the children. Children were asked what happened in the paintings and what the children in the paintings did. One male and one female child of each age group (36-48 months, 49-60 months, 61-72 months) answered the questions. The final version of the scale was presented to the opinion of 10 experts who are experts in preschool, child development, psychological counseling and assessment in education fields, which are experts in the creation of items and pictures.

**SDSS gender behavior subscale development of child form**

In order to develop the scale, national and international literature was searched, and Child Sexual Behavior Inventory developed by Friedrich, Fisher, Broughton, Houston and Shafran (1997) was examined. In addition, eight preschool teachers were asked to list the sexual behaviors of their children and ten parents. Preschool teachers’ behaviors indicated by their students about sexual behaviors are as follows; Trying to look at your friend entering the toilet, drawing or making sexual organs while painting or making figures with dough, addressing each other with the words of my love, darling, playing a doctor’s game, playing a house game, saying that they will marry a person he knows.

Parents’ sexual behaviors of their children are as follows; liking nudity while changing their tops, examining themselves naked in front of the mirror, removing dolls, trying to make up like the mother of daughters, trying to shave like the father of men, jealous of the opposite sex parent and the parent. These behaviors are accepted as sexual behavior (Friedrich et al., 1997; Kandır, 2004).

In the light of this information, an item pool was created, and two or three sentences were written for each item. Instead of asking children directly, it was found appropriate to be asked through another person who is a projective way. The statements in the direct tests allow the person performing the test to give the expected answers and mislead the test as he wishes, whereas in the indirect tests there is no possibility of such a mistake. The individual does not know the meaning and importance of his answers (Güney & Çarkıç, 2019). Considering that the subject of sexuality is shown as a taboo to children, the indirect method is preferred to prevent the child from giving the desired and taught answer and not the situation he feels, wants and thinks, and to obtain correct results. The heroes of the stories were created from children’s characters. Separate story characters were selected to facilitate identification with boys and girls. The story characters of girls are designed as girls and the story characters of boys are designed as boys. Preschool, child development, psychological counseling and assessment in education were presented to the expert opinion of six people, necessary arrangements were made in line with the opinions. Illustrations suitable for the stories were drawn by an illustrator specialized in the field of children’s books illustration. At each stage of the drafting of the drawings and at the final stage, the opinion of the experts who examined the substances was sought. A pilot study was conducted to determine whether the children understood these pictures in the way they wanted to be told, and in this pilot study, children were asked what was in the pictures and what the children in the pictures were doing. One male and one female child of each age group answered the questions. The two children who participated in the study perceived the mirror in the child's picture as a door and window. The other children perceived the entire picture as intended. After these results, the pictures of children examining themselves in front of the mirror were reviewed and corrected in a way to eliminate misunderstanding. The same children were shown the pictures again and it was seen that the children perceived as they wanted to be told. At the end of these studies, the final version of the scale was presented to the opinion of 10 experts who were experts in preschool, child development, psychological counseling and assessment in education.

**SDSS sexual identity and gender behavior subscale development of the family form**

National and international literature was searched for the development of the scale. The 28-item family form, which was designed as a likert type including the items of the children’s forms, was presented to the opinion of 10 experts specialized in preschool, child development, psychological counseling and assessment in education.
Data Collection Procedure

Sexual identity subscale of SDSS child form, gender behavior sub-scale for the implementation of the children’s form was interviewed individually with the families of children of 36-72 months, the scale was shown to the family and the family was approved after the approval of the family At a time when he saw a researcher in the home environment and the child was applied to the child by the researcher. Peer cards were shown to the child, questions were asked, and the child’s answers were recorded. First, the Sexual Identity Sub-Scale was administered, and the correct answer was scored as 1 and the wrong answer as 0. After that, the expected response from 36-72 months old children was scored as 1 and the other was 0. After the application of the child was completed, the family was asked to fill in the family form. The Likert-type scale was scored between 1-5 questions about sexual identity and 1-3 questions about sexual behavior. At the end of the study, 316 children and their families (the mother or father who spent more time with the child were preferred) were reached.

Data Analysis

While analyzing the collected data; Internal reliability coefficient KR-20 was used for the reliability analysis of the SDSS Sexual Identity Sub-Scale child form and the SRSG Sex-Related Behavior Sub-Scale child form. The Lawshe Scope Validity Index was calculated for the scope validity. The reliability and validity of the SRSG was developed by Williams et al. (1975). In construct validity, exploratory and confirmatory factor analyzes were performed. The Kaiser-Meyer-Olkin test and Bartlett’s sphericity test were used to investigate the suitability of the data for factor analysis. As the scale was scored as 1-0, tetrachoric factor analysis was used and FACTOR software developed by Rovira Virgili University was preferred (Aybek, 2017). As a result of the analysis, Chi-square ($\chi^2$), $\chi^2$/sd, RMSEA, RMR, GFI, NNFI, NFI and AGFI goodness of fit indices were examined. The Cronbach’s Alpha Coefficient was used to calculate the reliability of the family form of the SRSG Sexual Identity and Gender-Behavior Sub-Scale. Lawshe Scope Validity Index was calculated for scope validity and exploratory and confirmatory factor analysis was performed for construct validity. SPSS 20 software was used for exploratory factor analysis and LISREL 8.80 software was used for confirmatory factor analysis.

RESULTS

In this section, the validity and reliability analyses of SDSS sex identity subscale child form, SDSS sex behaviour subscale child form, SDSS sexual identity and sex behaviour subscale Family form were made and the findings were studied to be explained.

Validity Analysis Result

Results on scope validity analysis

Developed SDSS sexual identity subscale child form, SDSS gender-related behavior subscale child form, SDSS sexual identity and Sexual Behavior subscale for expert evaluation of family form preschool, child development, counseling, assessment and evaluation in education expert opinion of 10 faculty members has been applied. According to Lawshe (1975) .05 coverage validity rates at the level of significance the lowest values are examined and the lowest values that the items of the tests can receive as a result of the ten expert reviews. It was determined that it was 62 and it was appropriate to eliminate test items with lower value than this. The child form, the child form of the SDSS gender-related behavior subscale, the family form of the SDSS sexual identity and Sexual Behavior subscale has been applied to the views of ten experts. SDSS sex identity sub-scale child form article when the Scope Validity Rate (SVR) of the scope of expert opinions is calculated 5, 6, 11, 12, 13, 17, 18 coverage SVR .8, other substances 1; SDSS gender-related behavior subscale child form item 1, 3, 5, 6, 7, 8, 11, 12 scope validity rate .8 and the other items were calculated as 1. As a result of the analysis,
the SSDS of no substance for child forms. Since it was not below 62, all substances were in the substance pool. It also calculated the Scope Validity Index (SVI) for all of the children’s forms. SSDS sex identity subscale = child form SVI. 86, SSDS gender-related behavior subscale = child form SVI .92 have been found. The lowest scope of these values is the validity criterion (SVR = .62) was determined to be greater than the value determined for, and the scope validity of the tests was found to be statistically significant. (SVI > SVR). SSDS sex identity and gender behaviour sub-scale Family form, article when the SVR for expert opinions is calculated 5, 6, 11, 12, 13, 14, 17, 18, 19, 20, 21 coverage SVR .8, item nine .2, item ten .4 other items were calculated as 1. As a result of the analyses, the SVR of articles nine and ten. Since it remains below 62, it has been removed from the substance pool and all other substances have been placed in the substance pool. The scope validity index was also calculated for the entire test (SVI = .87). The lowest scope of this value is the validity criterion (SVR = .62) was determined to be higher than the value determined for, and the validity of the test was found to be statistically significant (SVI > SVR).

Results on criterion-related validity analyses

SSDS and, Williams et al. (1975) developed by Şirvanlı-Özen (1992) adapted to Turkish gender stereotyping scale and criteria related validity were examined and the results were explained by Table 1.

Table 1. Results on The Validity of SDSS on The Scale of Sexual Stereotyping and Criteria

<table>
<thead>
<tr>
<th>Gender Stereotype Scale</th>
<th>36-48 month</th>
<th>49-60 month</th>
<th>61-72 month</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>r</td>
<td>n</td>
</tr>
<tr>
<td>SDSS sex identity sub-scale child form</td>
<td>30</td>
<td>.61</td>
<td>30</td>
</tr>
<tr>
<td>SDSS sex identity sub-scale child form sexual balance sub-size</td>
<td>30</td>
<td>.74</td>
<td>30</td>
</tr>
<tr>
<td>SDSS sex identity subtype child form sexual role subtype</td>
<td>30</td>
<td>.50</td>
<td>30</td>
</tr>
<tr>
<td>SDSS child form of sexual behavior subscale</td>
<td>30</td>
<td>.30</td>
<td>30</td>
</tr>
<tr>
<td>SDSS gender identity and Sexual Behavior subcategory Family form</td>
<td>30</td>
<td>.47</td>
<td>30</td>
</tr>
<tr>
<td>SDSS sex identity and Sexual Behavior subscale family Form sex identity subscale</td>
<td>30</td>
<td>.76</td>
<td>30</td>
</tr>
<tr>
<td>SDSS sex identity and Sexual Behavior subscale family Form gender-related behavior subtype</td>
<td>30</td>
<td>.20</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 1 examined the SSDS sexual behaviour subscale between the child form and the gender stereotyping scale; SSDS sexual identity and sexual SSDS sexual identity and gender behaviour subscale family form between the gender behaviour subscale and the gender stereotyping scale of 36-48, 49-60, 61-72 months, it was determined that the correlations were not significant but there was a low level of correlation. While it can be said that there are positively significant relationships between other sub-dimensions and that there is criterion-dependent validity, this sub-scale provides low criterion-dependent validity as there is a low positive correlation between the child form and the sexual identity and sex-related behavior sub-scale of the family form and the gender-related behavior sub-dimension.

Results on construct validity analysis

Analysis of the construct validity of the scales has been made and tried to explain. The KMO value of the SSDS sex identity subscale .69 and Bartlett’s globality test was p < .05. Hence the value of KMO. Because there is a relationship between variables greater than .60, the variables are suitable for factor analysis according to both test results.
In this study, the elimination of substances that do not measure the same construct and the
determination of the number of important factors in determining Çokluk, Şekerçioğlu and
Büyüköztürk (2016), Kline (2013) with Coşkun et al. (2017) is based on the opinions of.

After the first factor analysis, it was seen that there were eight sub-dimensions, i.e. factors with
eigenvalues above 1, and these factors explained 63.67% of the total variance. Varimax vertical
rotation technique is used to explain the sub-dimensions better. Varimax rotation technique is used
mostly because it can be rotated in such a way that factor variances are maximum with fewer variables
(Tavşancıl, 2005). After the analysis, items that did not reach a factor load of .30, received a high load
value (overlapping) at least two factors, or were found to form a subdimension alone were excluded
from the scale. After the exclusion of these items from the scale, exploratory factor analysis was
performed and two sub-dimensions of eight items were obtained. After the second factor analysis, it
was seen that there were two subconstruct with eigenvalues above 1 and these factors explained
43.89% of the total variance.

Table 2. SDSS Sex Identity Sub-Scale Hungry Factor Analysis Results of Two-Factor Construct
Factor Load Distribution According to Varimax Rotation

<table>
<thead>
<tr>
<th>Item</th>
<th>1.Load Values For The Factor</th>
<th>2.Load Values For The Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Balance 1</td>
<td>.99</td>
<td></td>
</tr>
<tr>
<td>Sexual Balance 2</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>Sexual Balance 3</td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td>Sexual Role 4</td>
<td></td>
<td>.83</td>
</tr>
<tr>
<td>Sexual Role 7</td>
<td></td>
<td>.51</td>
</tr>
<tr>
<td>Sexual Role 8</td>
<td></td>
<td>.63</td>
</tr>
<tr>
<td>Sexual Role 9</td>
<td></td>
<td>.40</td>
</tr>
<tr>
<td>Sexual Role 10</td>
<td></td>
<td>.64</td>
</tr>
<tr>
<td>Self-worth</td>
<td>3.03</td>
<td>1.35</td>
</tr>
<tr>
<td>Described Variance Ratio</td>
<td>%23</td>
<td>%20</td>
</tr>
</tbody>
</table>

As can be seen in Table 2, the load values of the substances in the first construct vary between .99 and
.68, while the load values of the substances in the second construct vary between .83 and .40. The first
construct explains 23.73% of the variance, while the second factor explains 20.15%. All 8 items in the
scale explain 43.89% of the total variance.

In the naming of the two sub-dimensions, the contents of the items in the sub-dimensions were taken
into consideration. When the contents of the factors were examined, it was found that the items in the
first factor (1, 2, 3) were related to the basic sexuality personality and sexual balance of the children
and this factor was called sexual balance. The items in the second factor (4, 7, 8, 9, 10) were identified
as expressing sexual role gains of children and therefore the factor was called sexual role.

The SDSS sex identity sub-scale is based on the results of the Two-Factor Model Verifier Factor
Analysis p = .026, X² / sd = 3.44, RMSEA = .09, RMR = .02, GFI = .98, AGFI = .96, CFI = .99, NFI
= .92, NNFI = .90 found. RMSEA is not within the generally accepted limits when other parameters
are examined. Schermelleh-Engel and Moosbrugger (2003, p. 36), although the values between .08
and .10 are low, accept that the model is compatible. Based on this, the value of RMSEA (.09) is
thought to adapt to the model even if it is bad. NFI, NNFI values were acceptable while the rest of the
values were found to be at an excellent level. All values submitted for compliance goodness to the
generally accepted criteria in the relevant field summer (Erdem, 2013; Çokluk et al., 2016; Şecer,
2015; Şimşek, 2007) is perfect and acceptable according to. From this point of view, it can be said that
the alignment of the two-dimensional model to the data is confirmed.

SDSS gender-related behavior subscale predictive factor analysis KMO and Bartlett test results KMO
value .75 and Bartlett’s globality test result is p < determined as .05. The zero hypothesis at the level
of .05 significance is rejected. In other words, there is a relationship between the variables in the main
mass. Because there is a relationship between variables greater than .60, the variables are suitable for
factor analysis according to both test results. The criteria used in the development of the child form of
the SSDS sex identity sub-scale were taken into consideration when analyzing the factor of explicative in the development of the scale.

After the first EFA, it was determined that there was a total of five construct with eigenvalues above 1, explaining 57.22% of the total variance of these construct. Factor load after Varimax upright rotation technique, which is used to better explain the resulting structures. Those who did not reach .30 were eliminated from the boarding and two-dimensional construct was obtained. Although the construct with two lower dimensions was obtained, these substances were removed from the scale because two substances remained in the second factor. Again, the factor analysis was performed and the seven-point single-factor construct was obtained.

Table 3. SDSS Gender-Related Behavior Sub-Scale Hungry Factor Analysis Factor Load Distribution Results for Single Factor Construct

<table>
<thead>
<tr>
<th>Item No</th>
<th>Load Values For The Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 2</td>
<td>.71</td>
</tr>
<tr>
<td>Item 4</td>
<td>.71</td>
</tr>
<tr>
<td>Item 5</td>
<td>.66</td>
</tr>
<tr>
<td>Item 7</td>
<td>.30</td>
</tr>
<tr>
<td>Item 8</td>
<td>.54</td>
</tr>
<tr>
<td>Item 9</td>
<td>.34</td>
</tr>
<tr>
<td>Item 12</td>
<td>.71</td>
</tr>
</tbody>
</table>

As shown in Table 3, the load values of the items in the first factor vary between .71 and .30. The single factor explained 32.79% of the variance. SDSS gender-related behavior subscale according to single-factor model verifier factor analysis results $p = .02$, $X^2/ sd = 1.78$, RMSEA = .06, RMR = .05, GFI = .94, AGFI = .92, CFI = .98, NFI = .92, NNFI = .98 found. When the parameters are examined, they also indicate that RMSEA (.06) while expressing that it is within acceptable limits. GFI, NFI, AGFI values are acceptable and other values are found to be excellent. From this point of view, it can be said that the alignment of the one-dimensional model to the data is confirmed.

SDSS sex identity and gender behavior subscale family form explicative factor analysis KMO and Bartlett test results KMO value .84 and Bartlett’s test was $p < .05$. Since there is no relation between variables greater than .60, it is observed that variables are suitable for factor analysis according to both test results.

After the first factor analysis, it was seen that there were eight infraconstruct with eigenvalues above 1 and these infraconstruct explained 61.51% of the total variance. After the Varimax vertical rotation technique, which was used to better explain the resulting infraconstruct, the items, which had an overlapping factor, and whose factor load could not reach .30, were removed from the scale. Re-exploratory factor analysis was performed, and a two-factor construct of 18 items was obtained. After the second factor analysis, it was found that there were five factors with an eigenvalue of more than 1 and these factors explained 60.21% of the total variance. However, it was thought that the two-factor construct would be more appropriate as the five-factor construct had difficulty in naming the factors and the variables in the factors could not fully adapt to the theoretical construct. The content of the items included in the sub-dimensions was taken into account in the naming of the two sub-dimensions obtained as a result of EFA. When the contents of the sub-dimensions were examined, it was seen that the items in the first factor (2, 4, 5, 6, 7, 12, 14, 16, 20) expressed opinions about the sexual behaviors of children and this factor was called gender-related behavior. The items in the second factor (17, 19, 22, 23, 24, 25, 26, 27, 28) express the child’s sexual identity acquisition and thus the factor is called sexual identity.
Table 4. SDSS Sex Identity and Gender Behavior Subscale Family Form Hungry Factor Analysis Results of Two-Factor Construct Factor Load Distribution According to Varimax Rotation

<table>
<thead>
<tr>
<th></th>
<th>1. Load Values for The Factor</th>
<th>2. Load Values for The Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior 2</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Behavior 4</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>Behavior 5</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td>Behavior 6</td>
<td>.61</td>
<td></td>
</tr>
<tr>
<td>Behavior 7</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>Behavior 12</td>
<td>.40</td>
<td></td>
</tr>
<tr>
<td>Behavior 14</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td>Behavior 16</td>
<td>.34</td>
<td></td>
</tr>
<tr>
<td>Behavior 20</td>
<td>.31</td>
<td></td>
</tr>
<tr>
<td>ID 17</td>
<td></td>
<td>.35</td>
</tr>
<tr>
<td>ID 19</td>
<td></td>
<td>.40</td>
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<tr>
<td>ID 22</td>
<td></td>
<td>.71</td>
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<tr>
<td>ID 23</td>
<td></td>
<td>.71</td>
</tr>
<tr>
<td>ID 24</td>
<td></td>
<td>.77</td>
</tr>
<tr>
<td>ID 25</td>
<td></td>
<td>.83</td>
</tr>
<tr>
<td>ID 26</td>
<td></td>
<td>.85</td>
</tr>
<tr>
<td>ID 27</td>
<td></td>
<td>.77</td>
</tr>
<tr>
<td>ID 28</td>
<td></td>
<td>.82</td>
</tr>
<tr>
<td>Self-worth</td>
<td>5.26</td>
<td>2.10</td>
</tr>
<tr>
<td>Described Variance Ratio (%)</td>
<td>29.22</td>
<td>11.69</td>
</tr>
</tbody>
</table>

As can be seen in Table 4, the load values of the items in the first factor vary between “.68” and “.31, and the load values of the items in the second factor vary between .85 and .35. All 18 items in the scale explain 40.91% of the total variance.

SDSS sex identity and gender behavior subscale family form two-factor model according to verifier factor analysis results p = .01, X²/sd= 2.98, RMSEA = .08, GFI = .87, AGFI = .85, CFI = .92, NFI = .90, NNFI = .91 found. When the parameters are examined, it is also possible that RMSEA (.08) while expressing that it is within acceptable limits. All values except GFI values were deemed acceptable. All values submitted for compliance goodness (except GFI) can be deemed perfect and acceptable by adhering to generally accepted criteria in the relevant field. From this point of view, it can be said that the alignment of the two-dimensional model to the data is confirmed.

When the standardized path values were examined in Figure 1, the first factor and the variables between .56-.31, the second factor and the variables between .30-.90, the standardized path values were obtained. All t values as a result of CFA .05 it has been determined that it shows values at the level of significance and is meaningful.

To be able to use the total score of the developed scale, a second level CFA is required (Seçer, 2015). SDSS sexual identity and gender Behaviour Scale family form second level DFA compliance indices p = .01, X²/sd= 2.58, RMSEA = .08, GFI = .87, AGFI = .84, CFI = .92, NFI = .89, NNFI = .91 found. According to the of all of the values (Büyüköztürk, Akgün, Özkahveci & Demirel, 2004; Erkorkmaz, Etikan, Demir, Özdamar & Sanisoğlu, 2013; Çokluk et al, 2016; Korucu & Usta, 2017) appears to be within acceptable limits. These values indicate that the total points of the two-dimensional model can be used and adapt to the model.

Results on Reliability Analysis

Cronbach’s alpha coefficient was calculated because the Child Forms were scored between 0-1 and KR-20 was scored, and the family form was scored between 0-5 and 0-3. When the change in the KR-20 reliability coefficient was examined, the lowest value was found to be .43 and the highest value was .53 and the total value was .61. In the Sexual Balance sub-dimension, the KR-20 Reliability coefficient was .58 and .53 in the Sexual Role sub-dimension. When the change in the reliability coefficient of the KR-20 was examined, the lowest value was .57 and the highest value was .65 and the total value was .66. When the Cronbach Alpha reliability coefficient change was examined, the
lowest value was .82 and the highest value was .85 and the total value was .85. The Cronbach’s alpha reliability coefficient was .65 in the Gender Related Behavior sub-dimension and .88 in the Sexual Identity sub-dimension.

Figure 1. SDSS Sex Identity and Gender Behaviour Sub-Scale Family Form Standardized Path Diagram

DISCUSSION and CONCLUSION

If it is decided to develop a scale, the scale development process starts with the step of creating an item pool after steps such as determination of the construct to be measured, literature review, and interviews with experts (Erkuş, 2014). In this research, a pool was created, the necessary pictures were drawn, 10 experts who were experts in preschool, child development, psychological counseling, measurement and evaluation in education were presented to the opinion and then the content validity rates and content validity indices were calculated. The scale was found to provide validity.

SSDS’s, Williams et al. (1975) developed by Şirvanlı-Özen (1992) Gender stereotyping scale adapted to Turkish by examined the validity of the criteria, gender stereotyping scale and SDSS sex identity subscale the child form and its sub-dimensions, sexual identity and gender Behavior Scale the family form and sexual identity sub-dimension were found to have a positive correlation between the child form and sexual identity and gender behavior subscale the family form Sexual identity; the acceptance of the individual to the gender to which he belongs, the perception of himself within this gender, is that emotions and behaviors are appropriate to it (Baruçu, 2002). Gender stereotyping includes behaviors, attitudes, values, ways of thinking, talking, sitting or walking, dressing, and decorating one’s own body (Gander and Gardiner, 2005). This information is thought to parallel sexual identity and gender stereotyping and explain the meaningful correlation. But it is assumed that gender-related behavior is not meaningful, although there is a correlation between them, as it is not very closely related to gender stereotyping. Furthermore, a scale measuring gender-related behavior adapted to Turkish has not been found in the literature.
Factor analysis can be applied to reveal the construct of the scale and many more for various purposes (Çokluk et al., 2016). In this research it has been used to determine the structure of the scale, i.e. construct validity. If the collected data is categorically scored as 1-0 and it is desired to perform an explicative factor analysis on this data, then the correlation matrix to which it should refer must be the tetrachoric correlation matrix. (Aybek, 2017; Çokluk et al., 2016; Sandal, 2015). Tetrachoric factor analysis method was preferred as SDSS sexual identity sub-scale was scored as 0-1.

Çokluk’s et al. (2016), Kline’s (2013), Coşkun’s et al. (2017) based on reviews; If a substance is in two subconstruct, the difference between the values of these two factors is at least .10 that factors have a high variance of the common factor they explain in a substance, Kaiser criterion: the eigenvalue of each factor is at least 1, the ratio of the total variance explained by the substances on the scale .30 and more, based on the criteria for determining the number of factors according to the number of points above the point where rapid declines occur, the analysis obtained an eight-item and two-factor construct for the children’s form of SDSS sex identity sub-scale and the total variance described was 43.89%. SDSS gender Behaviour Scale seven-item single-factor construct was obtained for the child form, explaining 32.79% of the variance. SDSS sex identity and gender behaviour subscale this 18-item two-factor construct was obtained for the family form, explaining 40.91% of the variance. For multi-factor scales in the Social Sciences, this ratio is expected to be between 40-60% (Çokluk et al., 2016). 30% and more of the variance described in single factor scales can be seen enough (Şekercioğlu, 2009). Therefore, it can be said that the contribution of constructs to total variance is sufficient.

With classical methods, the researcher looks at the relationship between only a few variables, and these relationships may not be sufficient to obtain a complex theory. The analyses CFA uses are advanced and advanced and can produce just one but more results (Çapık, 2014).

All the values presented on the CFA compliance goodness of the three different sub-scales developed in the study were examined and described as excellent and acceptable. The GFI value of the family Form Two-Factor Structure was found to be .87. Büyüköztürk et al. (2004) a study of the value of GFI. They said that being equal to or greater than .80 showed that the structure was appropriate. The work of Korucu and Usta (2017), Erkorkmaz et al. (2013) also confirms this knowledge.

Büyüköztürk et al. (2004), of the reliability coefficient for a psychological test. They have stated that being .70 and over is enough. The SDSS sex identity and gender-related behavior subscale family form (Crombach alpha = .85) according to Büyüköztürk et al. (2004), it can be concluded that it is a reliable scale. However, the number of substances and the type of measuring instrument is an important factor for the coefficient of reliability, and the SSDS sexual identity sub-scale developed (KR-20 = .61) out of 8 items, the sex-related behavior subscale (KR-20 = .66) consists of 7 articles. Alpar (2014) of the value of KR-20 in measuring instruments consisting of 10-15 items. He stated that even having a value as low as 50 indicates that the test is reliable. In the light of this information, it is thought that child forms of the scales developed in the study are reliable scales.

When the findings of this study are evaluated, the norm studies of SDSS sub-scales can be performed and the sexual development levels of 36-72 months old children can be determined. When the accessible literature was examined, it was found that there was no gender-related behavioral scale directly applied to children. With this scale developed, it can be suggested that research conducted in the literature with information from families before can be repeated.

REFERENCES


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Journal of Measurement and Evaluation in Education and Psychology


Appendix A. SSDS Sexual Identity Sub-Scale Child Form Sample Item

 Büyüdüğün zaman hangisi olacaksın? Anne mi, Baba mı?
Appendix B. SDSS Gender Behavior Sub-Scale Child Form Sample Item (Girl)

Seda oyun oynarken banyonun kapısının açık olduğunu gördü. Annesi banyoda idi. Seda annesinin vücudunu merak ediyordu. Sence Seda oyununa mı devam eder yoksa annesinin nasıl yıkandığını mı izler?
Appendix C. SDSS Gender Behavior Sub-Scale Child Form Sample Item (Boy)

Can oyun oynamarken banyonun kapısının açık olduğunu gördü. Babası banyoda idi. Can annesinin vücudunu merak ediyordu. Sence Can oyununa mi devam eder yoksa annesinin nasıl yıkandığını mı izler?
## Appendix D. Sexual Identity and Gender Behavior Sub-Scale Family Form Sample Items

<table>
<thead>
<tr>
<th>Maddeler</th>
<th>Hiçbir Zaman</th>
<th>Nadiren</th>
<th>Bazen</th>
<th>Çoğu Zaman</th>
<th>Her Zaman</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Çıplak kişiye bakmaya çalışır.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Ayna karşısında vücudunu inceler.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>22. Büyüdüğü zaman anne ya da baba olacağıni bildiğini davranış ve konuşmaları ile gösterir (Evcilik oynarken baba/anne olma, geleceğe yönelik konuşmalarında anne/baba olacağı ile ilgili düşüncelerini söyleme, ilerde babası ya da annesi gibi olacağı söyleme.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Büyüdüğü zaman gelin ya da damat olacağıni bildiğini davranışları ve konuşmaları ile gösterir (oyunlarında gelin/damat olma, geleceğe yönelik hayallerinde gelin/damat olacağı söyleme).</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>24. Bıyık ve sakalın erkeğe özgü olduğunu konuşmalarda ve oyunlarında ifade eder.</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>