

## DEVELOPMENT OF A SOCIAL SKILLS CHECKLIST FOR ADULTS AND EXAMINATION OF ITS PSYCHOMETRIC PROPERTIES

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### Abstract

Social skills are mostly studied in children and adolescents. However, social skill problems are also seen in adults, but there are few studies on the subject in this group. It is considered that the source of this problem is the scarcity of measurement tools for adults. In this regard, this study aimed to develop a social skills checklist for the adult group. A three-stage study was planned, including the creation of the item pool, item selection, and validity procedures. First, an item pool containing 115 items was created. This item pool was applied to a total of 778 people, 398 men and 380 women, between the ages of 18-65. At this stage, 45 items were selected using item response theory and item analysis. At this stage, the study data was divided into two parts, and explanatory and confirmatory factor analysis was applied to each. It was observed that the two sub-dimensions of the scale, created from the selected items, named "Affective Components" and "Cognitive Components", explained 34.808% of the total variance. Confirmatory factor analysis results revealed that the two-dimensional structure showed model fit. In this study, the internal consistency reliability coefficient was found to be .935 for the whole scale, .910 for the Affective Components sub-dimension, and .881 for the Cognitive Components sub-dimension. The third stage and the second application were made for the test-retest process. A total of 60 people, 24 men and 26 women, between the ages of 18-57, participated in this application. The test-retest reliability coefficient was .825 for the whole scale,  $r = .782$  for the Affective Components sub-dimension, and  $r = .833$  for the Cognitive Components sub-dimension. The results obtained showed that the initial validity and reliability values of the developed checklist were at an acceptable level.

**Keywords:** Social skill, adult, affective component, cognitive component, check list.

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### 1. Introduction

Most definitions of social skills are quite abstract and do not fully specify concrete behaviors (Heinrichs et al., 2006). Social skills include four components that include knowledge about verbal, nonverbal, situational, and situational needs. It also includes the ability to perceive social or interpersonal cues, integrate these cues with existing motivations, produce reactions, and implement reactions that will satisfy motives / goals (Grover et al., 2020; Heinrichs et al., 2006; Norton & Hope, 2001). In other words, social skills are the correct way to comply with social rules and social-emotional skills used to correctly select useful information or services and to initiate and/or maintain good social relationships with others (Beauchamp & Anderson, 2010; Gillis & Butler, 2007; Liberman, 1982; Sharma et al., 2016). Individuals take into account the consequences of their social behavior to minimize negative consequences and maximize positive consequences in social situations. In this respect, social skill, which expresses social performance, refers only to objectively observable behavior and is distinguished from social competence (Heinrichs et al., 2006).

Although there are many scales in Turkish form for assessing social skills in children and adolescents, a scale with 80 items called A Social Skills Scale-80 is observed for adults (Tatar, 2023; Tatar et al., 2018). For this reason, this study was considered to develop a scale that allows short and quick answers in cross-sectional / survey-type studies to evaluate social skills in the adult group. The scale was planned to include cognitive sub-dimensions, consisting of attention and executive functions, and affective sub-dimensions, consisting of communication and socio-emotional skills (Beauchamp & Anderson, 2010; de Boo & Prins, 2007). Considering the relevant literature, it was aimed to develop a social skills scale that includes a structure with two interrelated sub-dimensions and is based on a check list.

## 2. Methods

This study was carried out in three stages: the creation of the item pool and two separate data collection studies, one containing one application and the other containing two applications.

### 2.1. Item Pool

The study started by creating the item pool with the relevant literature and covering the two determined sub-dimensions (Angélico et al., 2013; Beauchamp & Anderson, 2010; Cook et al., 2008; Del Prette & Del Prette, 2021; Grover et al., 2020; Gunning et al., 2019; Little et al., 2017; Lynch & Simpson, 2010; Matson et al., 2007; Matson & Wilkins, 2007; Moody & Laugeson, 2020; Rao et al., 2008; Segrin, 2000; Spence, 2003; Wilkins & Matson, 2007). In this regard, 115 items were written describing affective (e.g., being able to communicate verbally, being able to act comfortably in front of society) and cognitive (e.g., being aware, accepting criticism) social skill components.

### 2.2. Participants

A total of 778 people, 398 men (51.2%) and 380 women (48.8%) between the ages of 18-65 ( $M = 29.15 \pm 10.34$ ), participated in the first study. A total of 60 people, 24 men (52.0%) and 26 women (48.0%), aged 18-57 ( $M = 30.88 \pm 10.711$ ), participated in both applications of the second study.

### 2.3. Materials

The first application of the study was conducted with an item pool containing 115 items, nine of which were reverse-scored, with a five-point Likert-type answer option. Both applications of the second study were conducted with the new / developed form called “A Social Skills Checklist-45”, which consists of 45 items selected in the first application. In both applications of the second study, A Social Skills Scale-80 and Big Five-50 Personality Test were also administered for validity procedures.

### 2.4. Procedure and data analysis

The applications of this study were carried out online with a web-based form. In applications, access to the form was provided after preliminary information in which the study and its purpose were explained, and permission was given to continue on condition of voluntary participation. Applications were completed in a single session and no identification information was obtained.

To this study data, two-parameter logistic item response theory model and item analysis with classical theory, explanatory and confirmatory factor analyses for the selected and developed scale form, descriptive statistics for total scores, calculation of Cronbach alpha internal consistency reliability coefficients, two-half test, Pearson correlation analysis, and paired-sample t-test were performed.

### 2.5. Results

In the first study, the item pool data consisting of 115 items were analyzed using the two-parameter logistic item response theory model and item analysis based on classical theory, and item selection procedures were carried out. It was observed that the item discrimination of the item pool items was between .004 and 2.361 ( $M = 1.073 \pm .518$ ), and the item difficulties were between -5.324 and 2.457 ( $M = -1.287 \pm .863$ ). According to the item analysis results, item-scale total score correlations were between .081 and .662. In item selection, firstly, items with low item discrimination and similar contents were taken into consideration, and as a result of these processes, 70 items were eliminated, and 45 items were selected. Item discrimination of the selected items was found to be between .755 and 2.519 ( $M = 1.263 \pm .423$ ), and item difficulties were found to be between -2.764 and -.856 ( $M = -1.764 \pm .470$ ). When item and reliability analysis was conducted for the selected items using classical theory, item-scale total score correlations were between .348 and .686, according to the item analysis results. A correlation coefficient of .970 ( $p < .001$ ) was calculated between the total scores of the item pool items and the total scores of the selected items.

To conduct explanatory and confirmatory factor analyses to examine the structure of the developed scale, the first study data was divided into odd and even-numbered participants and two separate data sets with  $n_1 = 389$ ,  $n_2 = 389$  were obtained.

In the results of the principal components analysis conducted with the Varimax rotation method, it was seen that the two sub-dimensions of the developed scale, named “Affective Components” (eigenvalue = 12.605) and “Cognitive Components” (eigenvalue = 3.059), explained 34.808% of the total variance. The Affective Components sub-dimension consists of 23 items with factor loading values ranging from .350 to .709, and the Cognitive Components sub-dimension consists of 22 items with factor loading values ranging from .333 to .691.

For the two-factor model determined by the results of explanatory factor analysis using odd-numbered participant data, a confirmatory factor analysis was conducted using even-numbered participant data. According to the results, chi-square / df = 1370.461 / 911 = 1.504, RMR = .221, GFI = .850, AGFI = .814, NFI = .335, CFI = .531, RMSEA = .036.

The internal consistency reliability coefficient of the scale in the entire first study data was determined as .935. The internal consistency reliability coefficient was determined as .910 for the Affective Components sub-dimension and .881 for the Cognitive Components sub-dimension.

After item selection, construct validity, and reliability analyses were carried out with the first study data, and the second study data was examined. In this data, the internal consistency reliability coefficient of A Social Skills Checklist-45 was determined as .939 for the pre-test application and .950 for the retest application. In this study, the total score averages of the A Social Skills Checklist-45 pre-test and retest applications were compared for the paired-sample t-test, and no statistically significant difference was observed between the total scores of the two application scales ( $t(59) = -1.370$ ;  $p > .05$ ). Additionally,  $r = .825$  ( $p < .001$ ) was determined between these two total scores. When the level of correlation between subscale total scores was examined, correlation coefficients of  $r = .782$  ( $p < .001$ ) were obtained between the Affective Components subscale total scores and  $r = .833$  ( $p < .001$ ) correlation coefficients were obtained between the Cognitive Components subscale total scores.

In addition, criterion-related validity procedures were carried out. It was determined that the total score of A Social Skills Checklist-45 showed a correlation with the total score of A Social Skills Scale-80 at the level of  $r = .707$  in the pre-test data and  $r = .750$  in the retest data. In the same direction, in the pre-test and retest data, respectively, there were .438 and .458 between the developed scale total score and the Extraversion factor total score of the Big Five-50 Personality Test, .666 and .720 between the Agreeableness factor total score, and .409 and .528 between the Conscientiousness factor total score. Also, relations were calculated between the Emotional Stability factor total score at the level of .248 and .341, and between the Intelligence / Imagination factor total score at the level of .531 and .653.

### 3. Discussion

Concepts such as prosocial behavior, social adaptation, prosocial behavior, social competence, and social skills are often used interchangeably. This uncertainty negatively affects comparisons between studies, the effectiveness of intervention programs or treatments for problems observed within the framework of social functioning, and the evaluation of the quality of measurement tools developed to measure these phenomena (Cordier et al., 2015). Therefore, operational definitions and improved measurement tools for these phenomena are needed. People must cope with a variety of challenges every day, and successful management of the social world requires a developed repertoire of social skills and interpersonal problem-solving capacity. The purpose of measuring or evaluating social skills is to provide information about the nature of the problems / difficulties in terms of the phenomenon, to identify those experiencing these problems / difficulties, and to determine the effectiveness of possible intervention programs for these people (Spence, 2003). In this study, it was planned to develop a two-dimensional checklist focused on cognitive functions and affective processes (Beauchamp & Anderson, 2010) to evaluate social skills for the adult group.

In this study, item analysis and item selection were conducted using item response theory. In particular, the difficulty parameter of the two-parameter logistic item response theory model made it possible to determine the items that were functional at different levels in the field of social skill variance, and the item discrimination parameter made it possible to determine the items that were most functional in distinguishing individuals with different social skill levels.

Two aspects of social skills are emphasized: interrelated cognitive functions and affective processes (Beauchamp & Anderson, 2010). As a result of exploratory factor analysis, it reflected a two-factor structure, and confirmatory factor analysis results confirmed this finding. The developed scale was examined with factor analysis and presented with a two-dimensional structure consisting of Affective Components and Cognitive Components sub-dimensions.

It was observed that the scale reliability results were quite good, and its internal consistency was high. Another finding of the scale developed in the study is the criterion-related validity results. Validity results comparing personality measurements and social skills are given both for the other Turkish form for adults (Tatar, 2023; Tatar et al., 2018) and are observed in other studies in the literature (Morgeson et al., 2005; Nader-Grosbois & Mazzone, 2014; Wolf et al., 2009).

Supporting the developed scale with other validity studies is also a necessity for scale development processes. However, when the study results are evaluated, the presented scale shows that an alternative measurement tool has been developed for the adult group. Therefore, it was assumed that the initial validity and reliability findings obtained from the study showed that the psychometric properties of the developed scale were at an acceptable level.

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