# Comprehensive Development and Validation of the Autism Spectrum Disorder-Therapeutic Recreation Scale (ASD-TR): A Specialized Tool for Assessing Behavioral and Developmental Outcomes in Recreational Contexts

**İbrahim RESULOĞLU[1], Ezgi ERTÜZÜN[2]**

**To cite this article:**

**[1]**Selçuklu Belediyesi Secondary School, ibrahimresuloglu@gmail.com,
https://orcid.org/0000-0002-5225-3005

**[2]**Selçuk University, Faculty of Sport Sciences, Department of Recreation. ezgiertuzun@gmail.com,
https://orcid.org/0000-000_2-6986-0143

# Comprehensive Development and Validation of the Autism Spectrum Disorder-Therapeutic Recreation Scale (ASD-TR): A Specialized Tool for Assessing Behavioral and Developmental Outcomes in Recreational Contexts

**İbrahim Resuloğlu[1], Ezgi Ertüzün[2]**

**ABSTRACT**

Scientific studies indicate that recreational activities positively influence children with mild Autism Spectrum Disorder (ASD). Enhancing the participation of children with ASD in therapeutic recreation necessitates strategic planning for entertainment. This study aims to develop a measurement tool to evaluate the impact of recreational activities within therapeutic contexts on the behaviors of children with mild ASD. The scale development process involved a comprehensive literature review, leading to the creation of an item pool based on the Autism Behavior Checklist and the Health Protection/Health Promotion Model within therapeutic recreation. Content validity of the item pool was assessed by experts in the field. Data collected from parents of children with mild autism underwent KMO and Bartlett's tests, followed by Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The findings resulted in the development of a valid and reliable Autism Spectrum Disorder-Therapeutic Recreation Scale (ASD-TR).

# INTRODUCTION

Therapeutic recreation is based on development and entertainment for disadvantaged groups. The fun of an event or activity is decisive in maintaining participation and continuity. When planning activities children with ASD and their families need to have a perspective based on entertainment focus in terms of participation and continuity in activities (Eversole et al., 2016).

It is essential in many respects to determine the behavior of children with ASD towards fun activities within the scope of therapeutic recreation. Therapeutic recreation programs (TRP) are a practical approach to address problems in many areas such as autism-related social behavior (Pan, 2010), communication skills (Hameury, 2010), and sensory and social skills (Bass, 2009). This study aims to develop the Autism Spectrum Disorder-Therapeutic Recreation Scale (ASD-TR) to learn the behaviors of children with autism spectrum disorder regarding fun activities.

Since ASD-TR measures the autism-specific behaviors of children with ASD within the scope of therapeutic recreation within the scope of their cognitive, physical, and emotional tendencies, the evaluation of the diagnosis of ASD and the health protection function of therapeutic recreation should be well understood. For this reason, Health Protection/Health Promotion and Autism Behavior Checklist (ABC) models were used when developing the measurement tool.

## Autism Behavior Checklist (ABC)

One of the scales developed in recent years to evaluate and screen autism is the Autism Behavior Checklist (ABC). The scale, which was developed by Krug et al. (1993) and called ABC for short, is among the frequently used scales for the evaluation of screening and education in autism in many countries (Bildt et al., 2005; Eaves et al., 2000; Sevin et al., 1991). This measurement tool was taken as a basis for creating the framework of the current measurement tool and determining its sub-dimensions.

## Health Protection/Health Promotion Model

Therapeutic recreation advocates helping individuals recover from health threats (health preservation) and achieve as high a level of health as possible (health promotion) (Austin, 1997). According to this model, the mission of therapeutic recreation is to help people cope with health barriers and reach their highest levels of health and wellness using activity, recreation, and leisure time.

To summarize, in the sample of children with ASD, this model explains the effect of fun activities on improving behaviors specific to the ASD diagnosis.

# METHOD

## Research Model

This study used the descriptive survey model (Fraenkel et al., 2012). Ethics Commission approval (E-40990478-050.99-766596) and consent forms from all participants were obtained from Selcuk University for this research, which was conducted in the 2023-2024 academic year.

## Participants

In this study, the guideline that at least 10 participants are needed for each item in scale development (Akgül, 2005; Alpar, 2016) was adhered to when forming the research group. Consequently, the sample size for the Exploratory Factor Analysis (EFA) was set at 343

participants. For the Confirmatory Factor Analysis (CFA), the research group comprised 397 parents of children with autism spectrum disorders who had not participated in the EFA. The inclusion criterion specified that only responses from parents of children aged 7-11 with a mild diagnosis of autism spectrum disorder were considered.

**Table 1**

*Information on Demographic Characteristics of Parents Participating in the Exlamantory Factor Analysis study*

| Variable | Group | Frequency (f) | Percent (%) |
|---|---|---|---|
| **Person who answered the form** | Mother | 223 | 65.0 |
| | Father | 117 | 34.1 |
| | Stepfather | 3 | 0.9 |
| **Age** | 26-35 | 77 | 22.4 |
| | 36-45 | 202 | 55.4 |
| | 46-55 | 46 | 13.5 |
| | 56+ | 18 | 5.2 |
| **Mother's Education Level** | Primary school | 35 | 10.2 |
| | Secondary school | 64 | 18.7 |
| | High school | 101 | 29.5 |
| | University | 109 | 31.8 |
| | Master's degree | 24 | 7.0 |
| | Illiterate | 10 | 2.9 |
| **Father's Education Level** | Primary school | 34 | 10.0 |
| | Secondary school | 77 | 22.4 |
| | High school | 91 | 26.5 |
| | University | 104 | 30.3 |
| | Master's degree | 31 | 9.0 |
| | Illiterate | 6 | 1.8 |
| **Income Status** | Below minimum wage | 14 | 4.1 |
| | Minimum wage | 24 | 7.0 |
| | 8,506-10,000 | 37 | 10.8 |
| | 10,001-15,000 | 58 | 16.9 |
| | 15,001-20,000 | 74 | 21.6 |
| | 20,001 and more | 136 | 39.7 |
| **Number of Children** | 1 | 55 | 16.0 |
| | 2 | 170 | 49.5 |
| | 3 | 86 | 25.0 |
| | 4 | 27 | 7.9 |
| | 5 and more | 5 | 1.5 |

**Table 2**

*Demographic Characteristics of Parents Participating in the Confirmatory Factor Analysis Study*

| Variable | Group | Frequency (f) | Percent (%) |
|---|---|---|---|
| **Person who answered the form** | Mother | 229 | 57.6 |
| | Father | 166 | 41.8 |
| | Stepfather | 2 | 0.8 |
| **Age** | 26-35 | 89 | 22.4 |
| | 36-45 | 220 | 55.4 |
| | 46-55 | 78 | 19.6 |
| | 56+ | 10 | 2.5 |
| **Mother's Education Level** | Primary school | 55 | 13.9 |
| | Secondary school | 77 | 19.4 |
| | High school | 109 | 27.5 |
| | University | 114 | 28.7 |
| | Master's degree | 36 | 9.1 |
| | Illiterate | 6 | 1.5 |
| **Father's Education Level** | Primary school | 55 | 13.9 |
| | Secondary school | 77 | 19.4 |
| | High school | 109 | 27.5 |
| | University | 114 | 28.7 |
| | Master's degree | 36 | 9.1 |
| | Illiterate | 6 | 1.5 |
| **Income Status** | Below minimum wage | 15 | 3.8 |
| | Minimum wage | 55 | 13.9 |
| | 8,506-10,000 | 50 | 12.6 |
| | 10,001-15,000 | 78 | 19.6 |
| | 15,001-20,000 | 73 | 18.4 |
| | 20,001 and more | 126 | 31.7 |
| **Number of Children** | 1 | 55 | 13.9 |
| | 2 | 190 | 47.9 |
| | 3 | 106 | 26.7 |
| | 4 | 37 | 9.3 |
| | 5 and more | 9 | 2.3 |

**Table 3**

*Number and Percentage of Demographic Characteristics of Participating Parents' Children (n=343)*

| Variable | Group | Frequency (f) | Percent (%) |
|---|---|---|---|
| **Gender** | Female | 93 | 27.1 |
| | Male | 250 | 72.9 |
| **General Education Level** | Primary school | 73 | 21.3 |
| | Secondary school | 239 | 69.7 |
| | High school | 31 | 9.0 |

| Variable | Group | Frequency (f) | Percent (%) |
|---|---|---|---|
| **Level of Autism** | Mild | 208 | 60.7 |
| | Moderate | 81 | 23.6 |
| | Severe | 54 | 15.7 |
| **Type of Autism** | Atypical | 151 | 44.0 |
| | Pervasive developmental disorder | 103 | 30.0 |
| | Asperger | 80 | 23.3 |
| | Rett | 9 | 2.6 |

- **Average Age of Children with Autism:** 9.55±1.25 years
- **Average Age of Parents:** 39.06±7.20 years
- **Parents' Budget Average:** 20,000±8,500 TL

**Table 4**

*Number and Percentage of Demographic Characteristics of Children of Participating Parents (n=397)*

| Variable | Group | Frequency (f) | Percent (%) |
|---|---|---|---|
| **Gender** | Female | 98 | 24.7 |
| | Male | 299 | 75.3 |
| **General Education Level** | Primary school | 52 | 13.1 |
| | Secondary school | 282 | 71.0 |
| | High school | 63 | 15.9 |
| **Level of Autism** | Mild | 259 | 65.3 |
| | Moderate | 100 | 25.2 |
| | Severe | 38 | 9.5 |
| **Type of Autism** | Atypical | 164 | 41.3 |
| | Pervasive developmental disorder | 116 | 29.2 |
| | Asperger | 97 | 24.5 |
| | Rett | 20 | 5.0 |

- **Average Age of Children with Autism:** 10.35±1.25 years
- **Average Age of Parents:** 43.54±7.20 years
- **Parents' Budget Average:** 20,000±8,500 TL

## Data Collection Tools

The data were collected from the mothers of children with autism spectrum disorder through Google Form, Personal Information Form, and Draft ASD-TR Scale. The process step suggested by Creswell (2017) was followed while developing the Autism Spectrum Disorder-Therapeutic Recreation Scale (ASD-TR) for children with autism spectrum disorder.

## Item Pool

In the first step, the scope of the scale is defined. At the point of defining the scope using the literature studies, one of the appropriate social science theories should be preferred to explain the subject in detail and clearly (DeVellis, 2003). In this direction, an item pool was created within the health protection/health promotion model framework and the autism behavior checklist. The pool consisted of 34 items, with five removed in line with expert opinions.

**The content validity**

The content validity of the measurement tool (Yeşilyurt & Cross, 2018) and the relevance of the items were assessed by professionals and academicians working in the fields of Recreation, Sports Sciences, and Special Education, who have experience in social work with disabled individuals. Additionally, the preliminary version of the measurement tool was evaluated by ten mothers of children with ASD to ensure its practicality and comprehensibility.

**Factor Analysis (EFA-DFA)**

In order to evaluate the suitability of the data set for factor analysis, The authors assessed the Kaiser-Meyer-Olkin (KMO) value to evaluate the suitability of the data set for factor analysis. The Bartlett test was conducted and found to be statistically significant, confirming the data set's appropriateness for Exploratory Factor Analysis (EFA). Using the principal component technique, the explanatory factor analysis was applied to all factors. Factors were identified based on the distribution percentage, considering only those with an eigenvalue above 1.

This study calculated the Cronbach's Alpha coefficient for internal consistency analyses. The authors conducted a confirmatory factor analysis to test the suitability of factors obtained from EFA, and factor structure that were determined by hypothesis testing (Auerbach & Beckerman, 2011; Aytaç & Öngen, 2012).

## FINDINGS

In evaluating the factor structures within the data set, factors with eigenvalues greater than one were deemed significant. To ensure the robustness of the factor analysis, the correlation matrix was examined, and items were required to have a minimum correlation value of 0.40. Consequently, 18 items that did not meet this threshold were excluded from the analysis.

**Table 5**
*Exploratory Factor Analysis of Autism Spectrum Disorder-Therapeutic Recreation Attitude Scale*

| Factor | Item | Factor Load | Cronbach's Alpha Value | Explained Variance (%) |
|---|---|---|---|---|
| **Sensory** | **Overall** | **.925** | **30.93** | |
| | Decrease in motor stereotypic behaviours (e.g., clapping, rocking) after fun activities | .85 | | |
| | Decrease in visual stereotypic behaviours (e.g., looking at light, finger movements) after fun activities | .82 | | |
| | Decrease in auditory stereotypic behaviours (e.g., plugging ears) after fun activities | .80 | | |
| | Decrease in tactile stereotypic behaviours (e.g., rubbing, scratching) after fun activities | .79 | | |
| | Decrease in vocal stereotypic behaviours (e.g., singing, mumbling) after playful activities | .76 | | |

| Factor | Item | Factor Load | Cronbach's Alpha Value | Explained Variance (%) |
|---|---|---|---|---|
| | Decrease in object twisting and bumping behaviours after fun activities | .71 | | |
| | Decrease in tantrums during the day after fun activities | .60 | | |
| **Social** | **Overall** | **.903** | **22.22** | |
| | Increased eagerness to socialise in new environments after fun activities | .87 | | |
| | Increased eagerness to socialise with new people after fun activities | .85 | | |
| | Increased use of expressive language skills after fun activities | .82 | | |
| | Use of appropriate gestures and facial expressions in communication after fun activities | .70 | | |
| **Language and Communication** | **Overall** | **.791** | **15.24** | |
| | Waiting 3-5 seconds for needs to be met during fun activities | .82 | | |
| | Reduced reaction to unrelated sounds during fun activities | .66 | | |
| | Reduced contact with unrelated objects during fun activities | .59 | | |
| | Fulfillment of simple instructions once told after fun activities | .56 | | |
| | No problem behaviour around new people during fun activities | .43 | | |
| **TOTAL** | | **.93** | **68.4** | |

**Notes:** N=343, KMO=0.932, Bartlett's Test of Sphericity p<0.001. The items and sub-dimensions determined by exploratory factor analysis were subsequently tested by confirmatory factor analysis.

**Table 6**
*Findings on Reference Fit Indices and Measurement Tool*

| Fit Indexes | Acceptable Range | Findings | Source |
|---|---|---|---|
| $\chi^2/df$ | $0 \leq \chi^2/df \leq 5$ | 2.958 | Tabachnick & Fidell (2007) |
| RMSEA | $0 \leq RMSEA \leq 0.07$ | 0.070 | Steiger (2007) |
| RMR | $0 \leq RMR \leq 0.10$ | 0.040 | Hu & Bentler (1999), Kline (2011) |
| AGFI | $0.85 \leq AGFI \leq 0.90$ | 0.883 | Hu & Bentler (1999), Kline (2011) |
| NFI | $0.90 \leq NFI \leq 1.00$ | 0.941 | Steiger (2007) |
| CFI | $0.90 \leq CFI \leq 1.00$ | 0.960 | Raykov & Marcoulides (2000) |
| GFI | $0.90 \leq GFI \leq 1.00$ | 0.917 | Hooper, Coughlan, & Mullen (2008) |

All relationships between the scale sub-dimensions are positive. Kline (2011) stated that the correlation coefficient should not exceed 0.85 to ensure discriminant validity of the correlations between sub-dimensions.

**Table 7**

*Correlations Between Sub-Dimensions*

| Sub-Dimensions | Sensory | Social | Language and Communication |
|---|---|---|---|
| Sensory | 1 | .549 | .434 |
| Social | .549 | 1 | .028 |
| Language and Communication | .434 | .028 | 1 |

This table displays the correlation coefficients between the sub-dimensions Sensory, Social, and Language and Communication. Values close to 1 indicate a strong positive correlation, whereas values close to 0 indicate a lack of correlation.

**Figure 1**

*Diagram of the three-factor measurement model*
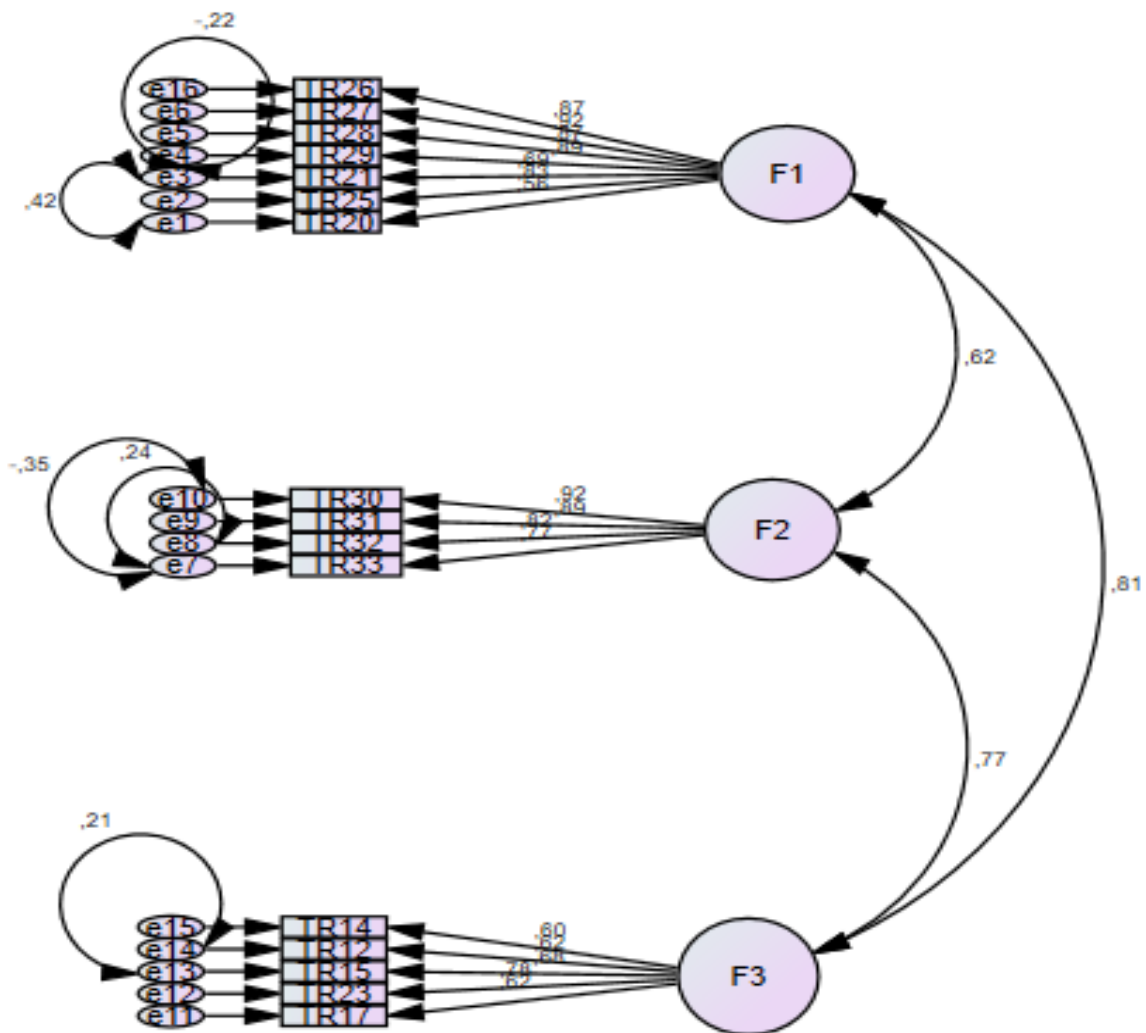


**Findings Regarding the Reliability Study**

The reliability values of the sub-dimensions calculated according to the Cronbach Alpha coefficient were determined as .93 for the Sensory Sub-Dimension, .90 for the Social Sub-Dimension, .79 for the Language and Communication Sub-Dimension, and generally .94.

## DISCUSSION

This work aimed to develop the Autism Spectrum Disorder-Therapeutic Recreation Scale (ASD-TR) to determine the behaviors of children with autism spectrum disorder (ASD) regarding recreational activities. In preparing the scale items and determining the content and face validity, opinions were solicited from faculty members and special education teachers who are experts in autism spectrum disorder special education and recreation. Exploratory and confirmatory factor analyses were conducted to determine the construct validity of the measurement tool, which was finalized following pilot testing for comprehensibility. The three-factor structure, with an eigenvalue above one, consisting of 16 items, explained 68.4% of the total variance, a sufficient level according to the literature (Scherer, 1988). Item factor loadings ranged between 0.43 and 0.87, meeting the criterion of greater than 0.40 (Field, 2009). The resulting sub-dimensions were named Sensory (7 items), Social (4 items), and Language and Communication (5 items). The comparative and absolute fit indices met the reference values found in the literature, confirming the construct validity of the ASD-TR. The reliability values, calculated with the internal consistency coefficient, were sufficient for each sub-dimension. As a result of these analyses, a valid and reliable Autism Spectrum Disorder-Therapeutic Recreation Scale, containing 16 items and three sub-dimensions, was created.

A critical component of leisure activity participation is assessing a child's recreational and leisure interests (King et al., 2007). Assessment tools are essential for observing and evaluating the development of children with ASD (Burtner et al., 2002). Evaluations made with valid and reliable measurement tools will provide essential data in determining the interests and needs of disadvantaged groups and indirectly supporting participation in fun activities (Pollock et al., 2017; Chein & Brown, 2017). These measurement tools are also crucial for researchers in determining the direction of the experimental studies and the impact value.

Brown and Thyer (2020) found that entertainment is essential in evaluating children's leisure time. The Children's Assessment of Participation and Enjoyment Questionnaire (CAPE) is a measurement tool developed by Swedish researchers that evaluates the enjoyment children get while participating in activities and the socialcontext created by participation in activities. Adaptation studies in different cultures of the CAPE measurement tool also evaluate enjoyment and participation. The uniqueness of this measurement tool lies in its ability to evaluate participation and enjoyment among disadvantaged individuals, considering the importance of entertainment and participation emphasized in the literature. This measurement tool is thought to contribute to the field by evaluating the development of children with ASD, specific to their diagnosis regarding recreational activities, on a global scale through experimental studies. While the CAPE-PAC scale was used to determine enjoyable activities, no measurement tool was found to evaluate the development of children with ASD, specific to their diagnosis, regarding fun activities. In this sense, the ASD-TR will serve as a global measurement tool, addressing this critical gap in the field.

### Conclusion

Based on the validity and reliability values obtained, the Autism Spectrum Disorder-Therapeutic Recreation Scale (ASD-TR) can be used validly and reliably, particularly in intervention studies, to observe the development of Sensory, Social, and Communication sub-dimensions in children aged 7-11 diagnosed with mild autism spectrum disorder.

The methodological limitations of this study, in which the Autism Spectrum Disorder Therapeutic Recreation scale was developed, should be considered. However, it is essential to consider the methodological limitations of this study. For instance, examining the reliability value using different techniques, such as the test-retest method, may yield more robust results. Future studies should evaluate the effects of intervention programs adapted to sports branches

of recreational activities on children with autism spectrum disorder to provide further validation and application of the ASD-TR.

# REFERENCES

Akarçay Ulutaş, D., Akın, E., & Ayhan, D. (2016). *Adaptation of the Mattison Affluenza Scale into Turkish*. *Electronic Turkish Studies, 11*(21). https://doi.org/10.7827/TurkishStudies.11197

Akgül, A. (2005). *Statistical analysis techniques in medical research: SPSS applications*. Ankara: Emek Ofset.

Alpar, R. (2016). *Applied statistics and validity-reliability with examples from sports, health, and educational sciences*. Detay Yayıncılık.

Auerbach, C., & Beckerman, N. L. (2011). What social workers in health care should know about lupus: A structural equation model. *Health & Social Work, 36*(4), 269–278. https://doi.org/10.1093/hsw/36.4.269

Austin, D. R. (1997). *Therapeutic recreation processes and techniques* (3rd ed.). Champaign, IL: Sagamore Publishing.

Austin, D. R. (1998). The health protection/health promotion model. *Therapeutic Recreation Journal, 32*, 109–117.

Aytaç, M., & Öngen, B. (2012). Examining the construct validity of the New Environmental Paradigm Scale with confirmatory factor analysis. *Journal of Statisticians: Statistics and Actuarial Sciences, 5*(1), 14–22.

Bass, M. M., Duchowny, C. A., & Llabre, M. M. (2009). The effect of therapeutic horseback riding on social functioning in children with autism. *Journal of Autism and Developmental Disorders, 39*, 1261–1267. https://doi.org/10.1007/s10803-009-0734-3

Bildt, C., Nordström, L., & Holm, A. (2005). Construct and convergent validity of the Autism Behavior Checklist in a sample of Swedish children. *Autism, 9*(5), 409–423.

Burtner, P. A., Qualls, C., Ortega, C., Morris, C., & Scott, K. (2002). Test-retest reliability of the Pediatric Evaluation of Disability Inventory (PEDI). *American Journal of Occupational Therapy, 56*(1), 61–65.

Brown, T., & Thyer, L. (2020). The convergent validity of the Children's Leisure Assessment Scale (CLASS) and Children's Assessment of Participation and Enjoyment and Preferences for Activities of Children (CAPE/PAC). *Scandinavian Journal of Occupational Therapy, 27*(5), 349–363. https://doi.org/10.1080/11038128.2019.1672784

Chien, C.-W., & Brown, T. (2017). Assessing children's occupations and participation. In S. Rodger & A. Kennedy-Behr (Eds.), *Occupation-centred practice with children: A practical guide for occupational therapists* (pp. 133–164). Wiley Blackwell. https://doi.org/10.1002/9781394323449.ch7

Creswell, J. W. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage Publications.

DeVellis, R. F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Eaves, L. C., Wingert, H. D., & Ho, H. H. (2000). Screening for autism with the Social Communication Questionnaire (SCQ). *Journal of Developmental and Behavioral Pediatrics, 21*(5), 390–396.

Eriksson, L., Welander, J., & Granlund, M. (2007). Participation in everyday school activities for children with and without disabilities. *Journal of Developmental and Physical Disabilities, 19*, 485–502. https://doi.org/10.1007/s10882-007-9065-5

Eversole, M., Collins, D. M., Karmarkar, A., Colton, L., Quinn, J. P., Karsbaek, R., … Hilton, C. L. (2016). Leisure activity enjoyment of children with autism spectrum disorders.

*Journal of Autism and Developmental Disorders, 46*, 10–20. https://doi.org/10.1007/s10803-015-2529-z

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). Sage Publications.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill.

Hameury, L., Delavous, P., Teste, B., Leroy, C., Gaboriau, J.-C., & Berthier, A. (2010). Equine assisted therapy and autism. *Annales Médico-Psychologiques, 168*, 655–659. https://doi.org/10.1016/j.amp.2009.12.019

Irmak, T. Y., Sütçü, S. T., Aydın, A., & Sorias, O. (2007). *The validity and reliability of the Autism Behavior Checklist (ABC)*.

King, G. A., Law, M., King, S., Hurley, P., Hanna, S., Kertoy, M., & Rosenbaum, P. (2007). Measuring children's participation in recreation and leisure activities: Construct validation of the CAPE and PAC. *Child: Care, Health and Development, 33*(1), 28–39. https://doi.org/10.1111/j.1365-2214.2006.00613.x

King, G., Petrenchik, T., Law, M., & Hurley, P. (2009). The enjoyment of formal and informal recreation and leisure activities. *International Journal of Disability, Development and Education, 56*(2), 109–130. https://doi.org/10.1080/10349120902868558

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.

Krug, D. A., Arick, J., & Almond, P. (1993). *Autism Screening Instrument for Educational Planning*. Austin, TX: Pro-Ed.

Pajares, M. F. (1992). Teachers' beliefs and educational research. *Review of Educational Research, 62*(3), 307–322. https://doi.org/10.2307/1170741

Pan, C. Y. (2010). Effects of a water exercise swimming program on aquatic skills and social behaviors. *Autism, 14*(1), 9–28. https://doi.org/10.1177/1362361309339496

Pollock, N., Missiuna, C., & Jones, J. (2017). Occupational goal setting with children and families. In S. Rodger & A. Kennedy-Behr (Eds.), *Occupation-centred practice with children* (pp. 91–110). https://doi.org/10.1002/9781394323449.ch5

Sanches-Ferreira, M., Alves, S., Silveira-Maia, M., Gomes, M., & Santos, B. (2019). *Participation in leisure activities as an indicator of inclusion. European Journal of Educational Research, 8*(1), 221–232. https://doi.org/10.12973/eu-jer.8.1.221

Scherer, K. R. (1988). *Criteria for emotion-antecedent appraisal*. In *Cognitive perspectives on emotion and motivation* (pp. 89–126). Springer. https://doi.org/10.1007/978-94-009-2792-6_4

Sevin, J. A., Matson, J. L., Coe, D. A., Fee, V. E., & Sevin, B. M. (1991). A comparison and evaluation of three autism scales. *Journal of Autism and Developmental Disorders, 21*, 417–432. https://doi.org/10.1007/BF02206868

Ullenhag, A., Almqvist, L., Granlund, M., & Krumlinde-Sundholm, L. (2012). Cultural validity of the CAPE/PAC. *Scandinavian Journal of Occupational Therapy, 19*(5), 428–438. https://doi.org/10.3109/11038128.2011.631218

Yeşilyurt, S., & Çapraz, C. (2018). A roadmap for content validity. *Erzincan University Journal of Education Faculty, 20*(1), 251–264. https://doi.org/10.17556/erziefd.297741