
Reliability and Validity of the Children's Leisure Assessment Scale

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KEY WORDS

- leisure activities
- pediatrics
- play and playthings
- questionnaires
- reproducibility of results

OBJECTIVE. We examined the internal consistency and construct validity of the Children's Leisure Assessment Scale (CLASS), which measures multidimensional participation in children's and adolescents' leisure activities.

METHOD. The questionnaire's content and face validity were first established, followed by a factor analysis of the CLASS's frequency domain of the responses of 249 children and adolescents. Internal consistency was evaluated for each of the factors, and construct validity was established by examining gender differences.

RESULTS. The factors showed acceptable levels of internal reliability (Cronbach's α ranged from .57 to .83). We found that girls participated in significantly more self-enrichment activities and instrumental indoor activities, with greater preference. However, boys participated in significantly more games and sports activities.

CONCLUSION. The CLASS shows good internal reliability and may be useful in the future as a clinical and research tool in occupational therapy for evaluating leisure activities among typically developing children and adolescents.

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Leisure is driven by internal motivation, involves freedom of choice, and promotes personal well-being (Coleman & Iso-Ahola, 1993; Neistadt & Crepeau, 1998). Children engage in leisure activities that are similar to and different from adult leisure activities (Ben-Arieh & Ofir, 2002). Hofferth and Sandberg (2001) showed that during an average week, typically developing children spend 55% of their time engaged in sleeping, eating, and personal care and 15% in school activities, leaving 30% of their time as discretionary. Because time is a limited resource, the frequency with which children spend their time in some activities means less time spent in others. Various leisure or play activities provide them with opportunities for enjoyment, relaxation, recreation, and goal achievement. Moreover, leisure is of central importance for building children's competence and self-determination and for social and personality development (Couch, Deitz, & Kanny, 1997).

Leisure is a core concept in the *Occupational Therapy Practice Framework: Domain and Process, 2nd Edition* (American Occupational Therapy Association, 2008; Parham & Fazio, 1997). Client- and family-centered approaches in occupational therapy emphasize the importance of gathering information on children's performance and participation in leisure activities (Hanna & Rodger, 2002). This knowledge is required for occupational therapists when implementing interventions at both the individual and the collective levels for several reasons. At the individual level, knowledge about children's time use and daily activities, especially from the child-focused perspective outside school, is required for a better understanding of children's strengths, lives, and well-being

(Ben-Arieh & Ofir, 2002; Farnworth, 2003). Moreover, this knowledge is required to develop appropriate and meaningful intervention plans, including skills that may be acquired in daily contexts (Larson & Verma, 1999), while at the same time improving family well-being (Freysinger, 1994; Reynolds, 1997).

In the communal context, knowledge about children's leisure and recreational activities around the world will allow cross-cultural comparisons of children's participation in leisure activities. Considering that children are major consumers, such knowledge may also guide policy-makers; service providers; and urban, environmental, and leisure specialists. As for the impact on occupational therapy practice, this information may help define the role of professionals involved in school health promotion programs and in community-based intervention programs (Ziviani, Scott, & Wadley, 2004). In cases in which the stated goal of occupational therapy intervention is to enhance children's participation, prior evaluation is required to adapt the intervention to each child's needs. However, leisure participation assessment is complicated because of the complexity of the concept, hence the need for multidimensionality (Reynolds, 1997).

Despite consensus on the importance of leisure performance and participation and the meaning of leisure activities from children's point of view, assessment tools for this purpose are surprisingly scarce (Ben-Arieh & Ofir, 2002). Connolly, Law, and MacGuire (2005) described and reviewed the strengths and weaknesses of the available tools for leisure performance evaluation among children, including the Pediatric Activity Card Sort (Bowman, 1999), the Pediatric Interest Profile (Henry, 2000), and the Children's Assessment of Participation and Enjoyment and Preferences for Activities of Children (King et al., 2004). All of these tools were established in North America and include activities that are typical to that cultural context and environment. At the same time, however, they lack some other meaningful dimensions.

Although the available tools have several advantages, they are not found to be in widespread use among clinicians (Burtner, McMains, & Crowe, 2002). After a survey conducted among occupational therapists, Burtner et al. (2002) found that although occupational performance, including leisure, is covered in the occupational therapy evaluation process, therapists rely more on interview methods than on standardized tools. Consequently, studies are implementing mostly qualitative methods to gather information about children's leisure participation (e.g., Hackett, 2003; leisure among children with juvenile arthritis). Indeed, King et al. (2006) noted that the lack of

adequate means to measure children's performance and participation in leisure activities is limiting our knowledge in that area.

Unlike other areas in which efforts have been made to establish databases of typical children, almost no knowledge exists about the leisure and recreational participation of children in varied cultures, including which activities they prefer, with whom they are doing them (i.e., parent, friend), and how much they enjoy doing them. Several authors have emphasized the significance of such information for establishing community-based intervention programs.

We developed the Children's Leisure Assessment Scale (CLASS) after pilot studies we conducted with most of the available tools described earlier. We adapted the CLASS to address multicultural and multidimensional needs such as reflecting various activities done by typically developing school-age children from a wide age range, from various backgrounds and environments. In addition, it requires a short time to complete. Furthermore, the instrument is designed to document children's perceptions about their time investment in leisure activities and their ambitions regarding certain activities that they would like to undertake but have not for a variety of reasons.

The preliminary CLASS contains 50 items or activities belonging to six dimensions of leisure participation: variety (which activities), frequency (how often), sociability (with whom), preference (how much he or she likes the activity), time consumption (how much time is invested), and desired activities (which activities are desired but not currently undertaken). To enable cultural diversity, the tool includes the most common activities engaged in by children from the various subcultures of Israel's society of immigrants. In addition, children are asked to list other activities and to rate them on the four dimensions of frequency, sociability, preference, and time consumption.

The purpose of this article is to describe the development process of the CLASS and to examine its internal reliability and validity among typically developing children and adolescents. The two main bodies of knowledge that informed the process of choosing appropriate activities for inclusion in the CLASS were the literature and client interviews, which revealed the variety of leisure activities found among children and adolescents (e.g., Hofferth & Sandberg, 2001; King et al., 2004; Mahoney & Stattin, 2000; Passmore & French, 2003). Moreover, the relative freedom of adolescents to choose and to control leisure activities provides them rich interactions with their social and physical environments. They

experience a variety of social roles, tasks, and behaviors, which serve as an important socialization agent (Mahoney, Larson, & Eccles, 2005). Hence, we also took into account the typical shift from engaging in social activities with parents, siblings, and other family members at a younger age to participating in more activities with peers at an older age (Zeijl, Te Poel, Du Bois-Reymond, Ravesloot, & Meulman, 2000).

Further aspects considered were the distinction between spending time in active engagement versus more passive activities or rest (Bona, 2000); activities and chores that one must do versus a subjective choice that indicates the real meaning and value of the leisure activity for the individual (Bona, 2000; Mahoney et al., 2005); and the distinction between structured and unstructured activities (Hofferth & Sandberg, 2001; Mahoney et al., 2005). The CLASS items were not chosen on the basis of a preliminary division into certain categories.

Besides establishing the CLASS's internal reliability, we examined the tool's construct validity while comparing the leisure performance of boys and girls. On the basis of previous studies of gender differences among typically developing children, we predicted that boys would be more engaged in active physical activities and would be more enthusiastic about them, and girls would be more engaged in skill-based, social, and self-improvement activities and would be more enthusiastic about those activities (Colley, Griffiths, Hugh, Landers, & Jaggli, 1996; Garton & Pratt, 1991; King et al., 2007; Larson & Verma, 1999; Medrich, Rozien, Rubin, & Buckley, 1982; Offord, Lipman, & Duku, 1998).

Phase 1: Construction of the Questionnaire

The process of the questionnaire's construction encompassed several phases, which are described in the sections that follow.

Selection of Questionnaire Items and Structure

The questionnaire was originally developed in Hebrew but has since undergone a standardized translation process into English. The construction phase began with selection of the questionnaire items, which was based on three main resources: (1) interviewing children and adolescents about their leisure activities, (2) interviewing parents about their children's leisure activities, and (3) comparing the items with those appearing in existing scales. Moreover, the input received from the multicultural population of the occupational therapy students in our program facilitated this process.

From these sources, the tool's developer (Rosenblum) selected 50 items encompassing the main leisure activities

engaged in by children and adolescents in varied environments. After consolidation of the items, the six dimensions of leisure participation and their scoring scale were established.

Variety was defined as the number of activities in which the child was engaged. The score is the sum of participation on the list of activities (0 = *not doing the activity at all*, 1 = *doing the activity*). *Frequency* was measured on a 4-point Likert-type scale (1 = *once in a few months*, 2 = *once a month*, 3 = *twice a week*, and 4 = *every day*). *Sociability* was defined by who performed the activity with the child, rated on a 4-point Likert-type scale (1 = *alone*, 2 = *with a relative* [e.g., parent, sibling], 3 = *with one friend*, and 4 = *with friends*). For the statistics over groups, the highest score for each item was considered (e.g., if a child was doing the activity alone [1] but also with friends [4], his score would be 4). *Preference* was rated on a 10-point scale ranging from 1 (*not like at all*) to 10 (*like very much*).

Additional information was collected for clinical and educational purposes. After completing the questionnaire, respondents were asked to choose five activities in which they invested considerable time during the week and to write beside each activity how many hours per week they invested in it. Finally, respondents were asked to choose from among the activities or to add up to five activities in which they wanted to participate but were not currently doing so. The questionnaire was therefore constructed so that part of its scores would provide data at the group level and part could be used by therapists for intervention purposes at the individual level.

Content and Face Validity

The original 50-item questionnaire was reviewed by five expert consultants and five experienced pediatric occupational therapists. We used this process to determine whether the questionnaire items and dimensions adequately reflected the instrument's prescribed objectives and were consistent with the establishment of content validity and face validity, as described by Benson and Clark (1982). After the content validation process, five parents of school-age children performed a secondary qualitative evaluation process and reported that the items were clearly written. The questionnaire was then administered to five children, ages 8–9, who filled out the questionnaire with adult guidance within 15 min.

Determination of Final Items

Once approval for the research protocol was obtained from the Israeli Ministry of Education and the ethics committee at the University of Haifa, questionnaires were

administered to 249 children and adolescents in Israel whose parents had signed an informed consent. (A detailed description of the study population is presented in the Phase 3 section.)

The findings showed that 10 activities were performed by <20% of the children. On the basis of input from 10 children about the frequency and importance of those activities, we decided to delete the 10 items and shorten the questionnaire accordingly, leaving the remaining 40 items for data analysis.

Phase 2: Analysis of Validity and Reliability

Once the final version of the questionnaire was established, consisting of the 40 remaining items and 5 open-ended items, the next phase of tool development involved the preliminary determination of the questionnaire's validity and reliability.

Method

A stratified snowball sample was established to ensure diverse participants. The data were gathered by eight trained research assistants (RAs), each one living in a different place in the country (town, village, a communal settlement) and a member of a community that represents the Israel's diverse population with certain environmental and cultural contexts, such as urban or rural; Jewish, Arab, Druze, or Circassian; and orthodox, observant, or secular. Within that context, the RAs investigated familiar children without disabilities in their communities who further helped to recruit friends to participate, a snowball method. During the data collection, the RAs were directed to search in their communities for participants stratified by age and gender. Further demographic details were gathered, demonstrating the diverse representation by self-definition of nationality, socioeconomic status (low, medium, and high), and cultural and religious background. Before data collection and a meeting at the participant's home, a phone call was scheduled. Ultimately, these steps occurred after parents provided informed consent.

The inclusion criteria were attendance at regular public school and absence of any disability that affected participation in activities. Participants were 249 male and female children and adolescents (114 boys [46%] and 135 girls [54%]; mean age = 13.91 yr, standard deviation = 2.08, range = 10–18) enrolled in regular schools. Most participants (210 [85%]) were right-hand dominant, and 37 (15%) were left-hand dominant. Of the entire sample, 180 participants were Jewish, and 69 were Arab.

Results

Internal Consistency. We determined the CLASS's internal consistency by using two different analytical approaches. First, we calculated Cronbach's coefficient α for all 40 items across the domain of frequency of engaging in activities by the 249 participants, with .70 previously stipulated as an acceptable level. On the basis of the results obtained from the 249 questionnaires, we determined the α coefficient for the CLASS frequency domains to be .71.

Factor Analysis. Factor analysis is an important procedure used to determine whether the underlying factors of a multivariate data set also reflect the underlying constructs of an assessment (Altman, 1991). In the current study, we performed principal factor extraction with varimax rotation to assist with determining the domains of the questionnaires, as demonstrated by the data. We performed the factor analysis on the frequency domain data.

Results of the analysis of the CLASS questionnaire revealed four distinct factors with eigenvalues >1, made up of 30 items (Table 1). The first factor accounted for 12.70% of the variance; the second factor, 8.99%; the third factor, 5.58%; and the fourth factor, 5.45%. Overall, the four principal factors resulting from the analysis of the frequency domain of the CLASS questionnaire were found to explain 32.73% of the total variance. The first factor was Instrumental Indoor Activities (eight items), the second was Outdoor Activities usually done with friends or family members (nine items), the third was Self-Enrichment Activities (eight items), and the fourth was Games and Sports Activities (five items). Table 1 provides in detail the specific activities in each of the four categories together with their internal reliabilities, presented as α values. As a result of low loading values (<.40), the other 10 activities were eliminated from the questionnaire and hence do not appear in the table.

Phase 3: Further Study of the Questionnaire's Validity

On the basis of the factor analysis's results, we examined the construct validity of the 30-item questionnaire by determining its ability to distinguish between girls and boys.

Method

To establish construct validity, two age-matched groups of 114 boys and 114 girls, respectively, were formed from the sample described previously. The two groups had no significant differences between them with respect to age

Table 1. Factor Loading for Each of the 30 Questionnaire Items Regarding the Activity Frequency Dimension

Items	Factor 1: Instrumental Indoor Activities	Factor 2: Outdoor Activities	Factor 3: Self-Enrichment Activities	Factor 4: Games and Sports Activities
1. Watching television	.718	-.195	-.216	.146
45. Prolonged phone conversations	.713	-.72	.145	-1.01
6. Internet surfing	.626	-.385	-.159	.244
9. Listening to music	.612	-.458	.026	.109
11. Helping at home	.590	-.236	.182	.244
7. Internet correspondence	.536	-.386	-.092	.147
13. Cooking or baking	.538	.220	.405	-.051
5. Keyboarding	.443	-.152	.258	.164
47. Active in youth movements	.238	.427	.050	-.116
40. Hiking	-.008	.593	.309	-.029
33. Going to a restaurant	-.064	.570	-.028	-.104
50. Volunteering or helping others	-.049	.500	.075	-.043
3. Going to the movies	.013	.505	-.087	-.078
39. Picnic	-.266	.483	.120	.039
38. Relatives' visit	-.095	.463	-.022	-.036
29. Swimming pool/sea	-.020	.413	.105	.231
48. Hanging out	.336	.410	.005	.085
12. Arts and crafts	.065	.064	.595	.011
16. Drawing	.096	-.044	.553	.156
41. Library	-.157	.111	.580	.033
21. Puzzles	-.111	-.012	.539	.140
18. Singing	.128	-.072	.469	-.216
17. Dancing	.191	-.239	.477	-.244
49. Shopping at malls	.065	.178	.450	-.133
23. Rollerblades, skates	-.221	-.007	.414	.221
25. Playground	-.229	.067	.109	.652
27. Team ball games	.031	-.045	-.117	.608
24. Bicycle	.035	-.019	.049	.551
4. Playing computer games	.269	-.316	-.099	.579
20. Playing board games	.063	.341	.267	.399
Eigenvalue	10.16	7.19	4.47	4.36
% of variance	12.70	8.99	5.58	5.45
Internal consistency (α)	.833	.570	.650	.572

Note. **Boldface** indicates items belonging to the factor.

(boys: mean = 172.12 mo, standard deviation = 22.88; girls: mean = 169.17 mo, standard deviation = 23.02; $t[226] = 0.98, p = .32$).

Results

To compare the participation of girls and boys, we first calculated a mean score for the four dimensions (variety, frequency, sociability, and preference) across all activities for each child. Then we calculated a mean score for each of those dimensions for each factor separately (Instrumental Indoor Activities, Outdoor Activities, Self-Enrichment Activities, and Games and Sports Activities).

As presented in Table 2, we performed t tests to compare the two groups (boys and girls) for the four dimensions over all 30 activities. Results yielded significant differences between the two groups for the variety ($t[226] = -0.50, p < .001$), frequency ($t[226] = -3.56$

$p < .001$), and preference ($t[226] = -3.15, p = .002$) dimensions. We found no significant differences for the sociability dimension ($t[226] = -0.804, p = .42$). The girls participated in significantly more activities than the boys (65% and 56%, respectively), with greater frequency and with greater preference (see Table 2). We then used multivariate analysis of variance (MANOVA) to test for group differences (boys vs. girls) across the four dimensions for each of the four factors.

Instrumental Indoor Activities

Results of the MANOVA for instrumental indoor activities yielded a statistically significant result ($F[4, 223] = 6.86, p < .001, \eta^2 = 0.081$) between the two groups. To examine the source of the significance, we subjected each factor to univariate analyses of variance (ANOVAs). As presented in Table 3, the results showed that the girls

Table 2. Means and Standard Deviations of the Children's Leisure Assessment Scale (CLASS) Four Dimensions Across All 30 Activities: Comparison Between Boys and Girls

CLASS Four Dimensions	Boys (<i>n</i> = 114)		Girls (<i>n</i> = 114)		<i>t</i> (226)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Variety (scale = 0–1)	0.56	0.12	0.65	0.14	–5.064	<.001
Frequency (scale = 1–4)	1.47	0.35	1.66	0.43	–3.56	<.001
Sociability (scale = 1–4)	2.23	0.48	2.28	0.48	–0.80	.42
Preference (scale = 1–10)	6.93	1.72	7.60	1.47	–3.15	.002

Note. *M* = mean; *SD* = standard deviation.

engaged in significantly more instrumental indoor activities, with greater frequency and with significantly greater preference, than the boys.

Outdoor Activities

Results of the MANOVA for outdoor activities yielded significant differences between the groups ($F[4, 223] = 1,701.29, p < .001, \eta^2 = 0.97$).

When examining the source of the significance, we found that girls participated in outdoor activities significantly more frequently and with significantly greater preference than boys (see Table 3).

Self-Enrichment Activities

Results of the MANOVA for self-enrichment activities yielded significant differences between the groups ($F[4, 223] = 9.46, p < .001, \eta^2 = 0.165$). When examining the source of the significance, we found that girls engaged

in significantly more self-enrichment activities, with a significantly higher frequency and sociability and significantly greater preference than the boys (see Table 3).

Games and Sports Activities

Results of the MANOVA for games and sports activities yielded significant differences between the groups ($F[4, 223] = 13.59, p < .001, \eta^2 = 0.19$). When examining the source of the significance, we found that boys participated in significantly more games and sports activities than girls, with significantly greater frequency and with more friends. Surprisingly, however, boys reported significantly lower preference for these activities than girls (see Table 3).

Discussion

The development of the CLASS addresses the perception of participation as an indicator of function and health, reflected by the ability to engage in appropriate social roles (World Health Organization, 2001). The CLASS follows King et al. (2006) and Henry's (2000) critical reviews of the research and available tools in the area of leisure activities. It further addresses the lack of reliable and valid tools for measuring a multidimensional concept of leisure in diverse cultural backgrounds, especially among typically developing children (Ben-Arieh & Ofir, 2002; Connolly, Law, & MacGuire, 2005; Gill & Persson, 2008).

Table 3. Comparison Between Boys and Girls Across the Four Dimensions

Factor and Dimension	Boys (<i>n</i> = 114)		Girls (<i>n</i> = 114)		<i>F</i>	<i>p</i>	η^2
	<i>M</i>	(<i>SD</i>)	<i>M</i>	(<i>SD</i>)			
Instrumental Indoor Activities							
Variety	0.74	(0.17)	0.84	(0.16)	19.800	<.001	0.081
Frequency	2.17	(0.82)	2.39	(0.99)	3.280	.071	0.014
Sociability	1.75	(0.59)	1.85	(0.57)	1.588	.209	0.007
Preference	6.83	(1.47)	7.46	(1.38)	11.049	.001	0.047
Outdoor Activities							
Variety	0.67	(0.25)	0.73	(0.24)	2.880	.091	0.013
Frequency	1.42	(1.42)	1.61	(0.64)	4.989	.026	0.013
Sociability	2.80	(0.63)	2.76	(0.61)	0.377	.540	0.002
Preference	6.96	(2.09)	7.90	(1.71)	13.580	<.001	0.057
Self-Enrichment Activities							
Variety	0.32	(0.18)	0.47	(0.24)	23.420	<.001	0.108
Frequency	0.74	(0.46)	1.15	(0.64)	23.517	<.001	0.108
Sociability	2.68	(1.04)	2.81	(0.84)	0.871	.035	0.004
Preference	6.59	(2.68)	7.69	(2.14)	10.103	.002	0.049
Games and Sports Activities							
Variety	0.69	(0.26)	0.53	(0.30)	18.428	<.001	0.076
Frequency	1.91	(0.39)	1.22	(0.80)	36.021	<.001	0.138
Sociability	2.64	(0.94)	2.04	(1.10)	19.916	<.001	0.081
Preference	6.83	(1.47)	7.49	(1.35)	12.310	.001	0.052

Note. *M* = mean; *SD* = standard deviation.

The validity and reliability findings of the current study indicate that the measures of variety, frequency, sociability, and preference can be used to describe typically developing children's participation patterns in leisure activities. The findings also show that the CLASS leisure activities, chosen with multicultural and gender sensitivity, have an acceptable internal validity for measuring the leisure concept ($\alpha = .71$). The four principal factors resulting from the analysis of the frequency domain of the CLASS questionnaire explain 32.73% of the total variance, and their internal reliability values are acceptable (Cronbach's α ranged from .83 to .57).

The CLASS activities differ from each other in their extent of structure; their physical, cognitive, sensory, and social demands; and their level of interaction with the environment. Therefore, they provide varied developmental opportunities. Variety of activities explain the child's richness of opportunities, resources, and organization and his or her supportive environment (Larson, Hansen, & Moneta, 2006).

Our findings follow the three types of activities identified by Passmore and French (2003): instrumental indoor activities, self-enrichment activities, and games and sports that reflect the competitive and challenging age. Whereas Passmore and French combined self-enrichment activities and sports and games into one construct called *achievement activities*, we separated them into two different constructs, which are quite distinct between girls and boys. Our distinction between these two types of activities may correspond with and contribute to the literature on structured and unstructured activities (Hofferth & Sandberg, 2001; Mahoney & Stattin, 2000).

The fourth social factor, which portrays outdoor activities mostly done with others, agrees with the concept of social activities addressed in many studies, describing a gradual shift from family to peer group (Passmore & French, 2003; Zeijl et al., 2000). *Preference* refers to the perception of leisure that goes beyond the objective definition of "spending time" in activities or rest to the subjective choice indicating the real meaning and value of leisure activities for the individual (Bona, 2000). Engaging in leisure activities from internal motivation for enjoyment and self-satisfaction promotes personal well-being and expands social networks (Passmore, 2003). These factors go along with King et al.'s (2006) review of tools, which found that intensity, enjoyment, and preference are distinct measures of participation in leisure.

Nevertheless, researchers have acknowledged parents' involvement (mostly mothers) in directing their children to participate in leisure activities by allocating resources of money, time, and transportation, as found mainly in

the middle and upper classes (Mahoney & Stattin, 2000; Zeijl et al., 2000). Thus, the self-report of leisure preference is most relevant when investigating the constraints on leisure participation (Nadirova & Jackson, 2000). The inability to participate in a leisure activity as frequently as desired is related to the preference concept and is addressed by the CLASS questionnaire's measure of open-ended activities that a child wishes to do more often. Preferences can be especially relevant to children with disabilities or living in poverty for which the social, cultural, and physical environment can provide many barriers to the involvement in activities of interest.

Gender Differences

The content and structure validity described earlier follow the literature and demonstrate that the CLASS covers the major domains of participation in leisure activities. Further construct validity of the CLASS is evident from the gender distinction found across the domains measured by the CLASS—variety, frequency, and preference (by *t* test) and sociability (by ANOVA).

A comparison of two age-matched groups of 114 boys and 114 girls showed that as a whole, girls participated in significantly more activities than boys, with greater frequency and greater preference than boys. Specifically, the findings demonstrated that girls engaged in significantly more instrumental indoor activities, with greater frequency and with significantly greater preference than boys. They also engaged in significantly more self-enrichment activities, more frequently and with significantly greater sociability and preference than boys.

King et al.'s (2006) finding that girls prefer skill-based activities and self-improvement activities more than boys is consistent with studies showing that gender roles are taught from an early age and penetrate even into the realm of leisure. Although more choice of activities in the leisure domain is assumed, leisure activities serve as an important transition from childhood play to a variety of other experiences and skills. Although some differences are found between cultures and classes, girls tend to participate in more instrumental activities at home and more self-enrichment activities, which involve following rules, and social activities (Gill & Persson, 2008; Hofferth & Sandberg, 2001; Mahoney & Stattin, 2000; Zeijl et al., 2000).

Another gender difference we found was that boys participated in significantly more games and sports activities than girls, with significantly greater frequency and with more friends. Surprisingly, boys in the current study expressed enjoyment of sports activities significantly less

than did girls. One possible explanation may be girls' awareness of health and aesthetics as motivators for sports activities (Birtwistle & Brodie, 1991). This finding also sheds light on the conflict between the choice of activities and the strong socialization pressure that boys experience to participate and excel in competitive sports and games rather than in self-enrichment activities.

Conclusion and Future Research

The development of the CLASS supplies a needed valid and reliable tool for the evaluation of children's leisure activities in terms of quantity and quality. The leisure activity domains measured by the CLASS (variety, frequency, sociability, and preference) serve to thoroughly examine the richness of leisure phenomena. We used it with a diverse population of 249 children and adolescents in Israel and found it to have good content and structure validity, with acceptable internal consistency. Moreover, validity was demonstrated by its four domains and its distinction between gender patterns of participation in leisure activities, in correspondence with the literature. Although the instrument was first examined among typical children, future research using the CLASS should evaluate the leisure participation of children from diverse populations and with varied disabilities that influence their participation. ▲

References

- Altman, D. G. (1991). *Practical statistics for medical research*. London: CRC Press.
- American Occupational Therapy Association. (2008). Occupational therapy practice framework: Domain and process (2nd ed.). *American Journal of Occupational Therapy*, *62*, 625–683.
- Ben-Arieh, A., & Ofir, A. (2002). Time for (more) time-use studies: Studying the daily activities of children. *Childhood*, *9*, 225–248. doi:10.1177/0907568202009002805
- Benson, J., & Clark, F. (1982). A guide for instrument development and validation. *American Journal of Occupational Therapy*, *36*, 789–800.
- Birtwistle, G. E., & Brodie, D. A. (1991). Children's attitudes towards activity and perceptions of physical education. *Health Education Research*, *6*, 465–478.
- Bona, L. D. (2000). What are the benefits of leisure? An exploration using the Leisure Satisfaction Scale. *British Journal of Occupational Therapy*, *63*, 50–58.
- Bowman, K. (1999). *Development of Activity Card Sort for children: Does parental report on the Activity Card Sort reflect similar results of their children?* Unpublished master's project, University of Western Ontario, London.
- Burner, P. A., McMains, M. P., & Crowe, T. K. (2002). Survey of occupational therapy practitioners in south-western schools: Assessments used and preparation of students for school-based practice. *Physical and Occupational Therapy in Pediatrics*, *22*, 25–39.
- Coleman, D., & Iso-Ahola, S. E. (1993). Leisure and health: The role of social support and self-determination. *Journal of Leisure Research*, *25*, 111–128.
- Colley, A., Griffiths, D., Hugh, M., Landers, K., & Jaggli, N. (1996). Childhood play and adolescent leisure preferences: Associations with gender typing and the presence of siblings. *Sex Roles*, *35*, 233–245. doi:10.1007/BF01433109
- Connolly, K., Law, M., & MacGuire, B. (2005). Measuring leisure performance. In M. Law, C. Baum, & W. Dunn (Eds.), *Measuring occupational performance: Supporting best practice in occupational therapy* (2nd ed., pp. 248–275). New York: Slack.
- Couch, K. J., Deitz, J. C., & Kanny, E. M. (1997). The role of play in pediatric occupational therapy. *American Journal of Occupational Therapy*, *52*, 111–117.
- Farnworth, L. (2003). Time use, tempo, and temporality: Occupational therapy's core business or someone else's business. *Australian Occupational Therapy Journal*, *50*, 116–126. doi:10.1046/j.1440-1630.2003.00391.x
- Freysinger, V. J. (1994). Leisure with children and parental satisfaction: Further evidence of a sex difference in the experience of adult roles and leisure. *Journal of Leisure Research*, *26*, 212–226.
- Garton, A. F., & Pratt, C. (1991). Leisure activities of adolescent school students: Predictors of participation and interest. *Journal of Adolescence*, *14*, 305–321.
- Gill, P. E., & Persson, M. (2008). On using concept-maps to study school-children's understanding of leisure-time. *Leisure Studies*, *27*, 213–220. doi:10.1080/02614360802048795
- Hackett, J. (2003). Perceptions of play and leisure in junior school-aged children with juvenile idiopathic arthritis: What are the implications for occupational therapy. *British Journal of Occupational Therapy*, *66*, 303–310.
- Hanna, K., & Rodger, S. (2002). Towards family-centred practice in paediatric occupational therapy: A review of the literature on parent-therapist collaboration. *Australian Occupational Therapy Journal*, *49*, 14–24.
- Henry, A. D. (2000). *Pediatric Interest Profiles: Surveys of play for children and adolescents*. San Antonio, TX: Therapy Skill Builders.
- Hofferth, S. L., & Sandberg, J. F. (2001). How American children spend their time. *Journal of Marriage and Family*, *63*, 295–308. doi:10.1111/j.1741-3737.2001.00295.x
- King, G., Law, M., King, S., Hurley, P., Hanna, S., Kertoy, M., et al. (2004). *Children's Assessment of Participation and Enjoyment (CAPE) and Preferences for Activities of Children (PAC)*. San Antonio, TX: Harcourt Assessment.
- King, G. A., Law, M., King, S., Hurley, P., Hanna, S., Kertoy, M., et al. (2006). Measuring children's participation in recreation and leisure activities: Construct validity of the CAPE and PAC. *Child: Care, Health and Development*, *33*, 28–39. doi:10.1111/j.1365-2214.2006.00613.x
- Larson, R. W., Hansen, D. M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology*, *42*, 849–863. doi:10.1037/0012-1649.42.5.849

- Larson, R. W., & Verma, S. (1999). How children and adolescents spend time across the world: Work, play, and developmental opportunities. *Psychological Bulletin*, *125*, 701–736. doi:10.1037/0033-2909.125.6.701
- Mahoney, J. L., Larson, R., & Eccles, J. S. (Eds.). (2005). *Organized activities as contexts of development: Extracurricular activities, after-school and community programs*. Mahwah, NJ: Erlbaum.
- Mahoney, J. L., & Stattin, H. (2000). Leisure activities and adolescent antisocial behavior: The role of structure and social context. *Journal of Adolescence*, *23*, 113–127. doi:10.1006/jado.2000.0302
- Medrich, E. A., Roizen, J., Rubin, V., & Buckley, S. (1982). *The serious business of growing up: A study of children's lives outside school*. Berkeley: University of California Press.
- Nadirova, A., & Jackson, E. L. (2000). Alternative criterion variables against which to assess the impacts of constraints to leisure. *Journal of Leisure Research*, *32*, 396–405.
- Neistadt, M. E., & Crepeau, E. B. (1998). Introduction to occupational therapy. In M. E. Neistadt & E. B. Crepeau (Eds.), *Willard and Spackman's occupational therapy* (pp. 5–12). Philadelphia: Lippincott.
- Offord, D., Lipman, E., & Duku, E. (1998). *Which children don't participate in sports, the arts, community programs?* Ottawa, ON: Applied Research Branch, Strategic Policy, Human Resources Development Canada.
- Parham, L. D., & Fazio, L. S. (Eds.). (1997). *Play in occupational therapy for children*. St. Louis, MO: Mosby.
- Passmore, A. (2003). The occupation of leisure: Three typologies and their influence on mental health in adolescence. *OTJR: Occupation, Participation and Health*, *23*, 76–81.
- Passmore, A., & French, D. (2003). The nature of leisure in adolescence: A focus group study. *British Journal of Occupational Therapy*, *66*, 419–426.
- Reynolds, F. (1997). Coping with chronic illness and disability through creative needlecraft. *British Journal of Occupational Therapy*, *60*, 352–356.
- World Health Organization. (2001). *International classification of functioning, disability and health*. Geneva: Author.
- Zeijl, E., Te Poel, Y., Du Bois-Reymond, M., Ravesloot, J., & Meulman, J. J. (2000). The role of parents and peers in the leisure activities of young adolescents. *Journal of Leisure Research*, *32*, 281–302.
- Ziviani, J., Scott, J., & Wadley, D. (2004). Walking to school: Incidental physical activity in the daily occupations of Australian children. *Occupational Therapy International*, *11*, 1–11. doi:10.1002/oti.193