Sociodemographic Effects on Activities Preference of Typically Developing Israeli Children and Youths

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KEY WORDS
- age factors
- choice behavior
- human activities
- Israel
- sex factors
- socioeconomic factors

OBJECTIVE. To describe activity preferences of typically developing Israeli Jewish children; examine the effect of age, gender, and sociodemographic variables on these preferences; and add information about the construct validity and reliability of the Preference Assessment of Children (PAC; King et al., 2004).

METHOD. A total of 310 typically developing Jewish Israeli children and youths ages 5–16 years completed the PAC.

RESULTS. Differences in activity preferences were found between genders. Younger children preferred to participate in more PAC scales than did older children. Additional sociodemographic variables were correlated with specific activity preferences.

CONCLUSIONS. Sociodemographic variables may affect children’s activity preferences. However, the specific characteristics of the Israeli setting had additional effects on the results. Elaborating on knowledge about people’s preferred activities and about the factors that affect those preferences may assist in occupational therapy evaluation and intervention. PAC was found to be a sensitive for examining the impact of sociodemographic variables on children’s activity preferences.


Children develop activity preferences according to their exposure to a variety of daily activities. These preferences are influenced by age, exposure to opportunities, proficiency in a given activity, and the level of enjoyment when performing activities (Larson & Verma, 1999; Law, 2002). Preferences for activities are seen as major determinants of participation in leisure and recreation (Searle & Jackson, 1985). The literature indicates that activity preference can lead to participation, and participation can lead to the development of stronger interests (Garton & Pratt, 1991). The World Health Organization’s (2001) International Classification of Functioning, Disability, and Health defined participation as “involvement in a life situation,” and it is well established that participation is essential for psychological and emotional well-being, skill development, life satisfaction, and competence (Lovell, Datillo, & Jekubovich, 1996).

The concept of participation has received increased attention in the literature (Freysinger, Alessio, & Mehdizadeh, 1993; Garton & Pratt, 1991; Larson & Verma, 1999; Law, 2002; Law, Steinwender, & Leclair, 1998) and has become increasingly important in the field of childhood disability (King et al., 2006; Law et al., 2004, 2006). Several studies have addressed participation and activities preference of this population (King et al., 2006; Law et al., 2006). To refer to a baseline of comparison, however, additional data are needed on the participation and activity preference patterns of children with typical development. Such information may assist in evaluations of developmental and functional aspects in children (Lovell et al., 1996) and thus may contribute to targeting services and interventions.
When evaluating the factors that facilitate participation, it is also necessary to refer to issues of person–environment fit; that is, which personal and environmental factors may affect a person’s choices (Law, 2002; Law & Dunn, 1993). Personal factors, such as age and gender, have been shown to influence participation patterns and activity preferences (King et al., 2006; Law et al., 2006; Sherwood, Story, Neumark-Sztainer, Adkins, & Davis, 2003). As for environmental factors, previous reports indicate that social and familial factors, such as income, availability of opportunities, values, role models, psychosocial support, family preferences, and children’s care and training, may affect their patterns of participation (Hopkins & Westra, 1989; Law, 2002; Osterweil & Nagango, 1991; William & Williams, 1987).

These factors may have varying impacts in different countries or geographic areas (Krefting & Krefting, 1991) and in different cultures. For example, Larson and Verma (1999) noted changes across countries regarding the way in which children and adolescents spend their time. They reported that the amount of time spent in children’s play increases as societies transition from nonliterate to literate. Gauvain and Perez (2005) examined participation of European-American and Latino children ages 7–9 years. The researchers evaluated the way children planned their activities outside of school and in the classroom. In addition, they examined parental expectations about the children’s planning. Data were gathered from the children, their mothers, and the children’s teachers. Results indicated that decision-making practices and parental expectations varied not only in accordance with individual child development but also with ethnicity.

The literature emphasizes the need to elaborate knowledge about cultural competence in occupational therapy theories and practice (Engel-Yeger, Jarus, & Law, 2007; Iwama, 2007; Nelson, 2007; Odawara, 2005). When referring to clients’ preferred activities, knowledge about factors that affect those preferences, such as geographic area and culture, may assist in the occupational therapy evaluation and intervention processes. The current study examines activity preferences of preschool- and school-age typically developing Israeli children and youths.

Israel has a varied population that includes native Jewish citizens as well as Jewish immigrants from the former Soviet Union, Ethiopia, and other countries. Jews make up 80% of Israel’s population; the remaining 20% consist of the Arab and Druze populations. More than half of the Israeli population is secular. Five large cities account for a quarter of the population, whereas the rest live in small towns, villages, or kibbutzim, which are rural communal settlements (American-Israeli Cooperative Enterprise, 2008).

The current study aims to
- Evaluate the relationship among activity preference, age, gender, and sociodemographic parameters of typical developed mainstream Israeli Jewish children and youths. This evaluation may add information about person–environment effects on individuals’ choices expressed by activity preference and
- Add information about the construct validity and reliability of the Preference Assessment of Children (PAC; King et al., 2004).

Method

Participants

This convenience sample consisted of 310 typically developing Israeli Jewish children and youths. All participants were born in Israel; their parents were born in Israel or had lived in Israel for more than 10 years and speak, read, and write Hebrew fluently. Participants consisted of 141 boys and 169 girls, with a mean age of 8.86 ± 2.17 years. They were divided into three age groups: 5–8 (n = 140); 9–12 (n = 140); and 13–16 (n = 30) years. Regarding residence, 79.6% of the children lived in cities and 20.4% lived in villages or kibbutzim. As for socioeconomic level, 5.3% of the children were from low-income families; 38.2% were from families with an average income; and 56.5% were from high-income families. All participants attended mainstream public schools.

Children with known neurological, developmental, or learning disabilities, as based on the parents’ reports, were excluded from the study.

Instruments

All participants completed the PAC (King et al., 2004) to evaluate their preferred activities outside mandated school activities. The version used in this study contained 49 activities.

In the PAC, each activity is presented on a card with a drawing of the activity and a phrase (in words) describing the activity. Scores are examined at three different levels: activity type, domain, or overall. Scores are obtained for five activity types, derived through factor analysis of participation preference data: recreational, active physical, social, skill based, and self-improvement or educational scales. In addition, there are two separately evaluated domains for formal and informal activities. The formal domain is measured by 14 items of structured activities that involve rules or goals and that have a formally designated coach, leader, or instructor (e.g., taking art lessons, learning to dance, swimming,
getting extra help for schoolwork from a tutor). The informal domain, which is measured by 35 items, includes activities that have little or no planning and are often initiated by oneself (e.g., reading, hanging out, going to a party).

The child or adolescent is asked to sort the cards into three piles according to how much he or she prefers to do the activity in an ideal world, as follows: (1) really likes to do, (2) sort of likes to do, and (3) does not like to do the activity. The preferences do not necessarily refer to activities that are actually performed. Mean scores are calculated for each activity type, for each domain, and for the PAC total score, ranging from 1 to 3. Preliminary assessments of the PAC have demonstrated sufficient internal consistency, test–retest reliability, and validity (King et al., 2004).

**Procedure**

Approval for this study was received from the ethics committee at the University of Haifa. Participants were recruited by an advertisement that was published in their schools. The advertisements called for participation in a study that would evaluate activity preferences of children. Parents’ approval and agreement from the school board were received before carrying out the study. All children were evaluated by occupational therapists in a quiet room in their home. In this study, the PAC was administered in one phase.

**Data Analysis**

Cronbach’s alpha was calculated to evaluate the internal consistency of the PAC scores. Multivariate analysis of variance (MANOVA) was performed to examine the significance of the differences between age groups with regard to all PAC scales: recreational activities, active physical activities, skill-based activities, social activities, and self-improvement/educational activities, as well as the formal and informal domains. *t* tests were performed to examine the significance of the differences in the total PAC scores between genders and between different places of residence. Analysis of variance was performed to examine the significance of the differences in the total PAC scores between the age groups. Spearman’s rank correlation was performed to evaluate the significance of the correlations between the PAC scores and family demographic variables. The level of significance was set at .05 for all statistical tests.

**Results**

When evaluating the reliability of the PAC, Cronbach’s alpha coefficients for the PAC scores expressed medium–high internal consistency (see Table 1). PAC scores of the general sample are summarized in Table 2.

<table>
<thead>
<tr>
<th>Table 1. Cronbach’s Coefficient Alpha for PAC Scores</th>
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<tbody>
<tr>
<td>PAC Scores</td>
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<tr>
<td>Total PAC score</td>
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<tr>
<td>Formal domain</td>
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<tr>
<td>Informal domain</td>
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<tr>
<td>Recreational activities</td>
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<tr>
<td>Active physical activities</td>
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<tr>
<td>Social activities</td>
</tr>
<tr>
<td>Skill-based activities</td>
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<tr>
<td>Self-improvement activities</td>
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</tbody>
</table>

*Note. PAC = Preference Assessment of Children (King et al., 2004).*

**Gender Differences**

In general, significant differences were found between the PAC scores of both genders according to MANOVA (*F*\[7, 262\] = 9.39, *p* = .0001). When referring to each PAC score, significant differences were found in the active physical activities, social activities, and skill-based activities and in the informal domain. Table 3 summarizes the differences between the PAC scores of both genders. No significant differences were found between the genders in the total PAC scores.

**Age Differences**

In general, significant differences were found between the PAC scores of the age groups according to MANOVA (*F*\[14, 526\] = 6.34, *p* = .0001). Significant differences were found in all the PAC scores except for the social activities scale. Table 4 summarizes the differences in PAC scores of each age group.

In all the PAC scales, the youngest group showed a higher preference to participate in activities than the older group. However, Scheffé post hoc tests revealed several significant differences between the three age groups. On the recreational activity scale (that includes activities such as doing puzzles, playing board or card games, doing crafts, drawing, or coloring), the youngest group showed a higher

<table>
<thead>
<tr>
<th>Table 2. PAC Scores of the General Sample</th>
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<tbody>
<tr>
<td>PAC Scores</td>
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<tr>
<td>PAC total score</td>
</tr>
<tr>
<td>Formal domain</td>
</tr>
<tr>
<td>Informal domain</td>
</tr>
<tr>
<td>Recreational activities</td>
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<tr>
<td>Active physical activities</td>
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<tr>
<td>Social activities</td>
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<tr>
<td>Skill-based activities</td>
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<td>Self-improvement activities</td>
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</tbody>
</table>

*Note. PAC = Preference Assessment of Children (King et al., 2004). M = mean, SD = standard deviation.*


Table 3. Differences Between PAC Scores of Both Genders

<table>
<thead>
<tr>
<th>PAC Scores</th>
<th>Boys</th>
<th>Girls</th>
<th>F (1, 268)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Formal domain</td>
<td>1.88</td>
<td>.40</td>
<td>1.86</td>
</tr>
<tr>
<td>Informal domain</td>
<td>1.64</td>
<td>.28</td>
<td>1.58</td>
</tr>
<tr>
<td>Recreational activities</td>
<td>1.57</td>
<td>.33</td>
<td>1.59</td>
</tr>
<tr>
<td>Active physical activities</td>
<td>1.59</td>
<td>.40</td>
<td>1.76</td>
</tr>
<tr>
<td>Social activities</td>
<td>1.46</td>
<td>.33</td>
<td>1.33</td>
</tr>
<tr>
<td>Skill-based activities</td>
<td>1.94</td>
<td>.46</td>
<td>1.68</td>
</tr>
<tr>
<td>Self-improvement activities</td>
<td>2.01</td>
<td>.43</td>
<td>1.95</td>
</tr>
</tbody>
</table>

Note. PAC = Preference Assessment of Children (King et al., 2004). M = mean, SD = standard deviation. *p ≤ .01. **p ≤ .001

...preference than both older groups. Age group 9–12 showed a higher preference than the oldest age group. In the active physical scale (that includes activities such as racing or track and field, doing team sports, and doing martial arts), age groups 5–8 and 9–12 showed a higher preference than both oldest groups. No significant difference was found between the age groups in the social activity scale. The youngest groups showed a higher preference to participate in skill-based activities (such as swimming, doing gymnastics, taking art lessons) than the oldest group. In the self-improvement activity scale (that includes activities such as writing letters, reading, going to the public library), the youngest group showed a higher preference than both older groups. In the formal and informal domains, age groups 5–8 and 9–12 showed a higher preference than both oldest groups.

With regard to the total PAC score, significant differences were found among all age groups, in which each younger age group showed a higher preference to participate in activities than the older group did.

Differences According to Place of Residence

Significant differences were found between the PAC scores of children from different places of residence in all the scores except the informal domain. Significant differences were also found in the total PAC scores (r [130] = 2.46, p = .015). In general, children who lived in villages or kibbutzim showed a higher preference level than did children who lived in the city. Table 5 summarizes the PAC scores of children from the different places of residence.

Correlations Between PAC Scores and Familial Demographic Variables

Parents’ Years of Education. A significant correlation was found between mothers’ educational level and children’s preference to participate in active physical activities (r = .194, p = .004) and in formal activities (r = .189, p = .005), meaning that the higher the mother’s education, the lower the child’s preference to participate in these activities. No significant correlations were found between fathers’ educational level and the PAC scores of the children.

Family Income. A significant correlation was found between family income and children’s preference to participate in active physical activities (r = .225, p = .05), meaning that the higher the familial socioeconomic level, the higher the child’s preference to participate in these activities. A significant negative correlation was found between family income and children’s preference to participate in recreational activities (r = -.265, p = .021), meaning that the higher the familial socioeconomic level, the lower the child’s preference to participate in these activities.

Number of Children Living at Home. No significant correlations were found between the PAC scores and the number of children living at home.

Discussion

The aims of the current study were to describe the profile of activities preference among typically developing Israeli Jewish mainstream children and youths; to examine the relationship among age, gender, sociodemographic parameters, and this profile; and, finally, to add information about the construct validity and reliability of the PAC.

In general, participants showed high preference to do the activities included in the PAC. This may result from the
fact that PAC includes activities that are popular in the Western world, such as going to parties, doing martial arts, participating in community clubs, and going to the public library, that are familiar and common among the participants of this study, who live according to Western norms.

**Gender Differences**

This study found differences in activity preferences between genders. In past research, gender was found to be a major predictor of patterns of participation diversity in childhood (Medrich, Roizen, Rubbin, & Buckley, 1982) and youths (Garton & Pratt, 1991). Offord, Lipman, and Duki (1998) found that among typically developing children ages 6–11 years, boys participated more in sports, whereas girls participated more in arts or social activities. Similar results regarding sports activities were reported by Larson and Verma (1999) and Vandell (2000). Moreover, similar results were reported by Law et al. (2006) and King et al. (2006), who evaluated the participation patterns of children with complex physical disabilities in the same age range, using the Children’s Assessment of Participation and Enjoyment (King et al., 2004). When examining participation diversity, it was found that girls participated more in social and skill-based activities. As for participation intensity, it was found that boys participated more in active physical activities.

The current study emphasizes that, in addition to these gender differences in actual participation, similar differences exist between the genders with regard to their activities preference. Indeed, preferences or interests are seen as major determinants of participation (Scarle & Jackson, 1985) and are closely related to the level of participation (Garton & Pratt, 1991). However, preference and participation do not necessarily develop together in a straightforward fashion (King et al., 2004), and thus it is important to evaluate both actual participation and activities preference (Law, 2002) to apply the optimal intervention program based on a client-centered approach also in regard to gender.

**Age Differences**

In the current study, younger children showed a higher preference than older children for participation in PAC activities. Previous reports on the effects of age on participation patterns have referred mainly to children with physical disabilities. King et al. (2006) reported that, with increasing age, children with physical disabilities participated less intensely in recreational activities. These authors explained that these activities included some items more relevant for younger children, such as doing crafts and playing with toys. Law et al. (2006) found that children with physical disabilities ages 12 years or older showed lower participation intensity, particularly in informal activities. These authors suggested that, in addition to possible developmentally expected differences in the patterns of participation among children and youths, which may account for the results, the data are cross sectional and do not refer to the same children as they grow. The current study has the same limitation and thus reduces the ability to generalize the results.

When referring to social activities, previous reports on typically developing children found that socializing increases with age (Larson & Richards, 1991). This was also reported by King et al. (2006) with regard to children with physical disabilities. The current study found no differences in social activities preference according to age—a finding that may be explained by cultural influences. In Israel, children typically enter the educational system at about age 2 years. Socializing with friends from the neighborhood and from school is encouraged by parents from early ages. In addition, programs for encouraging socialization between children with disabilities and typically developing children, as well as between children from different cultural backgrounds (e.g., Jews and Arabs), are made available by the Ministry of Education (www.mitu.org.il).

**Differences According to Place of Residence**

The current study found that children who live in villages or kibbutzim have an overall higher preference to participate in

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**Table 5. Differences Between PAC Scores According to Place of Residence**

<table>
<thead>
<tr>
<th>PAC Scores</th>
<th>Children Who Live in Cities</th>
<th>Children Who Live in Villages or Kibbutzim</th>
<th>F (1, 130)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Formal domain</td>
<td>1.92</td>
<td>0.37</td>
<td>1.68</td>
</tr>
<tr>
<td>Informal domain</td>
<td>1.62</td>
<td>0.26</td>
<td>1.51</td>
</tr>
<tr>
<td>Recreational activities</td>
<td>1.65</td>
<td>0.36</td>
<td>1.45</td>
</tr>
<tr>
<td>Active physical activities</td>
<td>1.73</td>
<td>0.41</td>
<td>1.52</td>
</tr>
<tr>
<td>Social activities</td>
<td>1.33</td>
<td>0.24</td>
<td>1.44</td>
</tr>
<tr>
<td>Skill-based activities</td>
<td>1.82</td>
<td>0.44</td>
<td>1.6</td>
</tr>
<tr>
<td>Self-improvement activities</td>
<td>1.98</td>
<td>0.39</td>
<td>1.79</td>
</tr>
</tbody>
</table>

*Note. PAC = Preference Assessment of Children (King et al., 2004) M = mean, SD = standard deviation, NS = not significant.

*p ≤ .05. **p ≤ .01.
different activities. The one exception was in social activities, for which children who lived in the city showed a higher preference. This may result from the different structure and ideology of the villages and specifically the kibbutz, where the emphasis is more on collective social life. It may be that children who are raised in these settings experience socializing as an integral part of their lives and therefore do not give social activities a special preference.

Correlations Between PAC Scores and Familial Demographic Variables

Some previous reports did not find significant effects of sociodemographic parameters, such as family income or parents’ education level (Brown & Gordon, 1987), but others did. Law et al. (2006) found that familial socioeconomic level affects children’s participation diversity in active physical activities, as well as self-improvement activities, social activities, and formal and informal activities. It may be suggested that because most participants of the current study came from an average to high socioeconomic level, similar preferences were found in most scales. This socioeconomic level probably enabled the children to participate more in physical activities, because several physical activities included in the PAC require payment for participation (e.g., martial arts, water sports, team sports). It should be noted that in the current study, the correlations between mothers’ education level and children’s preference to participate in active physical activities and formal activities were rather low. Thus, although parents’ education level may be related to children’s preference to participate in these activities, other sociodemographic parameters, such as family income, may have greater influence on these preferences.

Law et al. (2006) also found that parents’ education level affects children’s participation, but only in self-improvement activities and not in active physical activities, as was found in the current study. However, these authors emphasized that demographic variables may have a significant effect on children’s participation patterns. Thus, it is important to examine how community programs and local policies can be structured to facilitate equitable participation for all children and families. This is also relevant for Israel in regard to typically developing children and children with disabilities, especially because the Israeli population is largely composed of immigrants and populations with different cultural backgrounds and needs.

In summary, the current study elaborates the knowledge about the effect of geographic areas and culture on participation patterns of children and youths, as expressed in their activity preferences. In addition, this study adds information about the construct validity and reliability of the PAC.

The current study has some limitations. First, it was based on a convenience sample within a specific age range, each age group included a relatively small sample, and the number of participants in the different age groups was not equal. In addition, this study refers to mainstream Israeli Jewish children, and more data are needed regarding additional populations living in Israel, such as orthodox religious populations and new immigrants from different countries, as well as children with disabilities. Because participation is considered to be a key outcome of rehabilitation programs and services directed at assisting children and families to adapt to the challenges they face (King et al., 2002, 2006), additional studies in different geographic areas are needed. These studies should be performed on typically developing children as well as with children with disabilities and should consider gender and age.

As a health care profession in a multicultural society, it is important for occupational therapists to develop cultural competency and to further explore people’s everyday experience and participation (Odawara, 2005). This information may assist in building intervention programs that are more suitable for children’s needs, developmental age, and environmental expectations.


