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Activity Preferences and Participation of School-Age Children Living in Urban and Rural Environments

Ted Brown[1], Sophie O'Keefe[2], & Karen Stagnitti[2]

[1]Department of Occupational Therapy, School of Primary Health Care, Faculty of Medicine, Nursing and Health Sciences, Monash University, Frankston, Victoria, Australia, [2]Occupational Science and Therapy Program, School of Health and Social Development, Faculty of Health, Medicine, Nursing, and Behavioural Sciences, Deakin University, Geelong, Victoria, Australia

ABSTRACT. It is important for therapists to be knowledgeable about the impact of the environment on children's participation patterns and activity preferences. This study investigated the activity preference and participation among school-age children living in urban and rural locations. The participation patterns and preferences for activities of 58 typically developing children (32 males and 26 females; response rate of 38.7%) aged 8–12 years were assessed across both urban ($n = 24$) and rural ($n = 34$) regions of southwest Victoria, Australia. The participation patterns and preferences for activities were assessed using the *Children's Assessment of Participation and Enjoyment* and *Preferences for Activities of Children* (CAPE/PAC). An independent samples *t*-test was used to determine whether significant differences existed for the CAPE/PAC scores for urban and rurally based children as well as boys and girls. Significant differences were found between the scores of children living in urban and rural areas on the following subscales: CAPE Diversity, CAPE Intensity, CAPE Whom, CAPE Where, PAC Physical Preference, and PAC Social Preference. A significant difference for rural and urban groups was found on the following CAPE activity types: Recreation Diversity, Recreation Intensity, Social Diversity, Social Intensity, Self-Improvement Diversity, and Self-Improvement Intensity. Rurally based children were engaged in a broader range of activities and did so more frequently than urban children. Differences in gender were identified with girls preferring to participate in social and skill-based activities and being more likely to participate with friends or people outside their home. However, there were no significant differences in the participation patterns of boys and girls. Physical, social, and structural aspects of the location where a child lives impact the frequency, type of activities, and whom a child participates with most frequently in out-of-school activities. The activity participation of boys and girls in Australia has become quite similar.

KEYWORDS. Activity, children, environment, gender, participation, preference

Address correspondence to: Dr. Ted Brown, Department of Occupational Therapy, School of Primary Health Care, Faculty of Medicine, Nursing and Health Sciences, Monash University-Peninsula Campus, Building G, 4th floor, PO Box 527, Frankston, Victoria, 3199, Australia (E-mail: ted.brown@monash.edu).

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INTRODUCTION

A key outcome for occupational therapists working with children and their families is to facilitate children's participation in desired life roles and environments at home, at childcare, at school, and in their wider community context (American Occupational Therapy Association, 2008). Research has consistently shown that participation in everyday occupations of life contributes significantly to human development and life experience of children (Christiansen & Baum, 2005; Engel-Yeger & Jarus, 2008; King et al., 2003). Furthermore, participation in meaningful occupations has been consistently associated with positive influences on health and well-being (Case-Smith, 2005; Garton & Pratt, 1991; Passmore, 2003; Solish, Perry, & Minnes, 2009). In the *International Classification of Functioning, Disability and Health* (ICF), the World Health Organization (WHO) defines participation as the "involvement in a life situation" and is the outcome of a person's interaction with their personal, social, and physical environments (2001, p. 14).

On the basis of the ICF framework, it is important to explore the environmental factors associated with children's activity participation. The environment as a whole consists of the physical, social, cultural, and structural surroundings in which children interact. For example, research by Engel-Yeger, Jarus, Anaby, and Law (2009) has indicated that family routines, support, and attitudes both at home and in the community as well as the physical environments in which they live directly influence a child's preference and participation. The environmental influences on the activity participation of children have only been investigated from a disability focus in Australia. Strong associations have been found between family preferences for social and recreational activities and the participation of children with cerebral palsy, in particular, in informal activities (Imms, Reilly, Carlin, & Dodd, 2009).

The influence of family has been highly considered as both facilitating and impeding the activity participation of children (Case-Smith, 2005; Law, 2002). Household income and parental education levels can either enhance or decrease a child's participation diversity and frequency in active physical activities, self-improvement activities, and social activities (Brown & Gordon, 1987; Law et al., 2006). The number of parents living in the household and the degree of support provided as perceived by the child can also contribute to the increase or decline in activity participation (Law et al., 2006).

Results similar to the influence of family on participation patterns have also been found in relation to the wider social environment. It has been found that children who attended a school that did not have a buddy system in place, or in the event that social marginalization was present, the child's participation in school activities was considerably lower (King et al., 2007). Parents of children who have a disability also perceive that if their child interacts within an unsupportive social or attitudinal environment, it will decrease their out-of-school activity participation (King et al., 2003). On a more communal level, it is thought that differences in participation can also occur among different cultural groups due to diverse structures and ideologies among these communities (Engel-Yeger, 2009). This became evident when a study completed in Israel measured the activity participation of children from two different cultural groups (Engel-Yeger, 2009). Significant differences were found in terms of activity participation, despite the two cultural groups residing in neighboring cities (Engel-Yeger, 2009).

In addition to the complex interaction of the social environment, the physical environment, although more distant to the child, has also been identified as an influence of participation (Harding et al., 2009; Law, Petrenchik, King, & Hurley, 2007). Factors such as access to community facilities, availability of public transportation, and the layout of environments all play an integral role in the level and frequency of participation a child can maintain (Law et al., 1999). In addition to these, characteristics such as temperature, terrain, lighting, noise, and crowding all have the potential to impact a child's ability to participate, especially when a physical disability or a sensory processing deficit is present (Engel-Yeger, 2008).

The environment has been recognized as a complex influence on children's activity participation patterns. Although previous research has provided some knowledge and understanding into the effect of the environment on the activity participation of children, much of this information has been established overseas and does not directly relate to the activity participation of Australian children (Engel-Yeger, Jarus, & Law, 2007). Australia is made up of three different primary geographic locations: urban, rural, and remote. These areas vary significantly in terms of the social, economic, natural, and structural environments (Dollman & Lewis, 2010).

Dollman and colleagues (Dollman & Lewis, 2010; Dollman, Norton, & Tucker, 2002) published two key articles exploring the environmental factors affecting sport and physical activity participation of rural Australian youths. In quasi-experimental designs, Dollman et al. (2002) and Dollman and Lewis (2010) compared large samples of urban and rural children. They found that socioeconomic position is a major influence on participation in preferred activities, with rural children specifying provision of equipment and lack of transport or access to facilities as major barriers. Complimenting this, a second study highlighted that rural children have a higher preference for sports organized by a club rather than their school (Dollman & Lewis, 2010). Their findings suggested that participation in community-organized sport is more feasible for rural children (Dollman & Lewis, 2010). Greater community support for sporting clubs in rural areas makes it cheaper for children to participate. Although it appears that participation in school and physical activities differs considerably in rural and urban areas, more information is needed about children's preferences and levels of participation in other daily activities.

There is currently a limited understanding of the participation and preferences of children living in urban and rural regions of Australia. For example, there is little known about the activities children prefer, with whom they are doing them, how often they do each activity, where they do it, and how much they enjoy doing it. This information is valuable for intervention planning and implementation on an individual, family, school, and community basis. Occupational therapists utilize daily activities to promote functional independence in clients; hence, having additional knowledge about children's participation patterns and activity preferences will assist them in service provision with this age group. The purpose of this study was to investigate the relationship between activity preference and participation among children living in urban and rural locations.

METHOD

Participants

Two groups of typically developing children aged 8–12 years were recruited from two state primary schools and two Catholic schools. In Australia, both state primary schools and state Catholic schools receive public funding. The first group was recruited from a rural region in southwestern Victoria, and the second group was recruited from two urban centers located in southwestern Victoria. Inclusion criteria for both groups of participants were being able to read English at a Grade 2 level, having parental consent to take part in the study, and not having any known physical, intellectual, psychological, behavioral, cognitive, or developmental impairments.

Urban area or *rural* environments are defined by the Australian federal government's Rural, Remote and Metropolitan Areas (RRMA) classification system. The RRMA is used to divide the country's states and territories into metropolitan (urban), regional, rural, and remote zones. A major metropolitan center/urban area consists of a population of >100,000. Rural areas are made up of large rural centers (population 25,000–99,999), small rural centers (population 10,000–24,999), and other rural areas (population < 10,000; Australian Institute of Health and Wellbeing [AIHW], 2010). The AIHW also classifies an area with a population less than 5000 as being remote. The RRMA's classification system of *urban* and *rural* was used in this study.

Instrumentation

Demographic Questionnaire

The demographic questionnaire asked the children to answer questions relating to their age, primary school information, location of residence, and preferred activities when not attending school. No information was obtained about the socioeconomic status of the participants.

Children's Assessment of Participation and Enjoyment and Preference for Activities of Children (CAPE/PAC)

To evaluate the extent of everyday activity participation and preferences, outside mandated school activities, all participants completed the Children's Assessment of Participation and Enjoyment and Preference for Activities of Children (CAPE/PAC; King et al., 2004). The CAPE/PAC can be administered in one of two methods: self-administered or interviewer administered. For this study, the CAPE/PAC was self-administered as all participants were typically developing and possessed proficient English language skills. For self-administration, the child receives a record booklet containing all components of the CAPE/PAC, which are the instructions, illustrations of each activity item, practice items, and a response key for each item (King et al., 2004).

The CAPE/PAC is composed of two components. The first component, the CAPE, is a 55-item measure designed to document how both typically developing children and children with a disability participate in everyday activities (King et al., 2004). The CAPE is designed to be a direct measure of participation,

therefore identifying *what* the child does, not the child's ability or competence to perform an activity (King et al., 2004). This component is always to be completed first. The CAPE measures activities across two domains: formal and informal. There are five activity types: recreational, social, physical, skill-based, and self-improvement (King et al., 2004). Children are required to indicate on a 7-point scale if they have completed an activity in the last 4 months, how often they did it, with whom, where, and their level of enjoyment.

The second component, the PAC, presents the same activities as in the CAPE, except this time the child is required to indicate how much they would like to do each activity, with no relation to whether they currently perform that activity or not. The child does this by circling one of three options: (1) would not like to do at all, (2) would like to do, and (3) would really like to do (King et al., 2004).

The CAPE/PAC manual reports construct validity and internal consistency of the measure. On the basis of Cronbach's alpha, internal consistency ranges from 0.32 to 0.62 (poor to adequate; King et al., 2004). Despite low internal consistency, construct validity of this measure has been established against known predictors of children's participation (King et al., 2003). The CAPE/PAC was identified as the most appropriate measure as it allows the child to place importance on activities that are meaningful to them rather than a parent's perception of what is meaningful to their child.

Procedure

Ethics committee approval was received from the Deakin University Human Research Ethics Sub-Committee, the Victorian Department of Education and Early Childhood Development, and the Victorian Catholic Education Office before the study started. All ethical guidelines were adhered to throughout the study.

Convenience sampling strategies were followed to recruit study participants. Participants were recruited from two Catholic primary schools and two state primary schools. The school principals had to agree for their schools to be involved with the project before data collection could occur there. Parent information sheets and consent forms were distributed by the children's classroom teachers and sent home with children in Grades 3, 4, 5, 6, and 7 at the four schools. Those children, whose parents provided informed consent by returning the signed consent form to child's classroom teacher, were then enrolled in the study. A total of 150 consent forms were sent home to parents and 58 consent forms were returned that met inclusion criteria for the study. The response rate was 38.7%.

The questionnaires were completed by students at school in accordance with the administration guidelines specified in the CAPE/PAC manual. Children were allocated to groups of four or five to complete the CAPE/PAC in a quiet spare room free from distractions at the child's school. Children were supervised by a final-year occupational therapy honors student in case they had any questions. Prior to each session, the second author explained the purpose of the session and sought the child's written assent to participate. All 58 children provided verbal assent. The second author received 2 hours of training in relation to the administration and scoring of the CAPE/PAC. She also reviewed the CAPE/PAC manual to ensure that she was familiar with its administration guidelines.

Data Analysis

All raw data were analyzed using the Statistical Package for Social Science (SPSS) version 17.0. Descriptive statistics were used to analyze the demographic information. The skewness and kurtosis of data were identified, revealing that data met the assumptions of normality. Data produced from the CAPE/PAC were nominal and ordinal in level, but since it met the assumptions of normality, paramedic-level statistics were used to analyze the data. An independent samples *t*-test was used to compare the CAPE/PAC scores for urban and rural children as well as boys and girls to determine whether any significant differences were present.

RESULTS

Participants

The sample consisted of 32 males and 26 females. The age range of all participants was 8–12 years. The mean age of participants was 10 years and 5 months with the standard deviation (*SD*) of 1.17. Table 1 describes the specific demographics of the rural and urban participants.

Rural Participants

Thirty-four rurally based participants consented to be in the study. Nine participants were recruited from a state primary school located in a small rural township with a population of 900. The remaining 25 participants attended a Catholic primary school from a neighboring township that had a population of 10,000. Both these towns were located 290 km from the large metropolitan city of Melbourne, Victoria, Australia (AIHW, 2010). The age of the rural participants ranged from 9 to 12 years, with a mean age of 11 years ($SD = 0.71$).

Urban Participants

Twenty-four children were recruited from two large cities in regional Victoria. Ten participants attended a state primary school in one city and the remaining 14 urban children attended a Catholic primary school in another city. The age of the participating urban children ranged from 8 to 12 years. The mean age was 9.75 years ($SD = 1.07$). The city locations were 75 and 110 km from Melbourne, Victoria, Australia, respectively. Both cities had a population larger than 90,000 people and were identified as "urban" by the Australian federal government regional classification system (AIHW, 2010).

TABLE 1. Participant Descriptive Statistics (*N* = 58)

	Rural		Urban	
Variable	*n*	%	*n*	%
Male	18	52.9	14	58.3
Female	16	47.1	10	41.7
State primary school	9	26.5	10	41.7
Catholic primary school	25	73.5	14	58.3

TABLE 2. CAPE/PAC Raw Scores Based on Place of Residence

Residence	Variable	*n*	Minimum	Maximum	Mean	*SD*
Rural	CAPE Diversity	34	12	51	32.62	6.73
	CAPE Intensity	34	1.18	3.82	2.64	0.53
	CAPE Whom	34	1.74	3.03	2.44	0.53
	CAPE Where	34	2.00	3.49	2.88	0.38
	CAPE Enjoy	34	2.90	4.73	3.69	0.37
	PAC Recreation	34	1.58	2.92	2.18	0.30
	PAC Physical	34	1.15	2.92	2.18	0.31
	PAC Social	34	2.10	3.00	2.63	0.21
	PAC Skill-based	34	1.10	2.90	1.91	4.80
	PAC Self-improve	34	1.00	2.60	1.64	0.32
Urban	CAPE Diversity	24	6.00	48	23.29	9.74
	CAPE Intensity	24	0.60	3.13	1.74	0.71
	CAPE Whom	24	0.83	3.00	2.17	0.49
	CAPE Where	24	0.77	2.96	2.32	0.55
	CAPE Enjoy	24	0.81	4.75	3.60	0.80
	PAC Recreation	24	1.42	2.75	2.09	0.39
	PAC Physical	24	1.00	2.77	2.04	0.55
	PAC Social	24	1.20	2.90	2.32	0.48
	PAC Skill-Based	24	1.00	3.00	1.82	0.56
	PAC Self-Improve	24	1.00	2.7	1.63	0.44

Note: CAPE Diversity: sum of the number of activities the child does out of a possible 55. CAPE Intensity: average amount of time a child spends participating based on maximum opportunities for participation. CAPE Whom: reflects the people with whom the child participates in activities most often. A low score reflects more solitary engagement, while a high score reflects more social engagement. CAPE Where: describes the type of environment in which participation is taking place most of the time. A low score indicates home based, while a high score indicates community based. CAPE Enjoy: average enjoyment rating for all items the child participates in. A high score indicates please experienced from participation, while a low score indicates *participation* is not enjoyed. PAC Recreation: average preference rating for recreational activities. PAC Physical: average preference rating for physical activities. PAC Social: average preference rating for social activities. PAC Self-Improvement: average preference for self-improvement activities. PAC Skill-Based: average preference for skill-based activities.

CAPE/PAC Scores

Table 2 presents the mean, *SD*, minimum, and maximum scores for the five CAPE subscales and the five PAC subscales for the rural and urban groups of children.

Group Differences Between Urban- and Rural-Based Children

Significant differences were found between the scores of children living in urban and rural areas on the following CAPE/PAC subscales: CAPE Diversity, CAPE Intensity, CAPE Whom, CAPE Where, PAC Physical Preference, and PAC Social Preference (see Table 3). Rural participants scored higher on each of these CAPE/PAC subscales. Higher total scores for these variables represent participation in a greater number of activities, greater enjoyment, more involvement with different people and different environments, and broader preferences.

To compare the participation of rural- and urban-based groups of children in terms of activity domains, an independent samples *t*-test was performed using the entire 10 CAPE activity types (see Table 4). A significant difference for rural and urban groups was found on the following CAPE activity types: CAPE Recreation Diversity, CAPE Recreation Intensity, CAPE Social Diversity, CAPE, Social Intensity, CAPE Self-Improvement Diversity, and CAPE Self-Improvement Intensity.

TABLE 3. Independent Samples *t*-test Results for the CAPE/PAC Subscales Based on Place of Residence

CAPE/PAC Variable	Rural ($n = 34$) *M*	Rural ($n = 34$) *SD*	Urban ($n = 24$) *M*	Urban ($n = 24$) *SD*	*t* value	*p* value
CAPE Diversity	32.62	1.15	23.29	9.74	4.32	.00**
CAPE Intensity	2.64	0.53	1.74	0.71	5.57	.00**
CAPE Whom	2.44	0.31	2.17	0.49	2.38	.02*
CAPE Where	2.89	0.38	2.32	0.55	4.57	.00**
CAPE Enjoy	3.69	0.37	3.61	0.80	0.49	.63
PAC Recreation Preference	2.18	0.31	2.09	0.39	0.96	.34
PAC Physical Preference	2.34	0.37	2.04	0.55	2.32	.03*
PAC Social Preference	2.63	0.28	2.32	0.48	2.83	.01*
PAC Skill Preference	1.91	0.48	1.82	0.11	0.66	.52
PAC Self-Improve Preference	1.64	0.32	1.63	0.09	0.09	.93

Note: *M*, mean. Diversity: CAPE subscore, sum of the number of activities the child does out of a possible 55. Intensity: CAPE subscore, average amount of time a child spends participating based on maximum opportunities for participation. Whom: CAPE subscore that reflects the people with whom the child participates in activities most often. A low score reflects more solitary engagement, while a high score reflects more social engagement. Where: CAPE subscore that describes the type of environment in which participation is taking place most of the time. A low score indicates home based, while a high score indicates community based. Enjoy: CAPE subscore that describes the level of enjoyment experienced when participating. Physical Preference: PAC subscore that reflects the average preference rating for physical activities. Recreation Preference: PAC subscore that reflects the average participation rating for recreational activities. Physical Preference: PAC subscore that reflects the average preference rating for physical activities. Social Preference: PAC subscore that reflects the average preference rating for social activities. Skill Preference: PAC subscore that reflects the average rating for skill-based activities. Self-Improvement Preference: PAC subscore that reflects the average rating for self-improvement activities.
*$p < .05$; **$p < .01$.

TABLE 4. Independent *t*-test for Children's Place of Residence Comparing Participation Across Five Activity Domains

CAPE/PAC Variables	Rural ($n = 34$) *M*	Rural ($n = 34$) *SD*	Urban ($n = 24$) *M*	Urban ($n = 24$) *SD*	*t* value	*p* value
Recreation Diversity	11.94	2.76	9.17	4.30	2.73	.01*
Recreation Intensity	3.69	0.87	2.59	0.89	4.63	.00**
Physical Diversity	5.62	2.28	4.26	0.65	1.89	.06
Physical Intensity	2.00	0.95	1.58	0.25	1.52	.14
Social Diversity	7.70	1.75	6.04	0.74	2.09	.05*
Social Intensity	3.11	0.96	1.96	1.13	4.13	.00**
Skill-Based Diversity	4.12	3.22	3.22	2.95	1.07	.29
Skill-Based Intensity	1.21	0.90	1.06	0.96	0.62	.54
Self-Improve Diversity	5.56	1.79	4.22	2.35	2.44	.02*
Self-Improve Intensity	2.89	0.94	2.07	1.02	3.11	.00**

Note: *M*, mean. Recreation Diversity: sum of the number of recreation activities a child participates in. Recreation Intensity: the average amount of time a child spends participating in recreational activities based on the maximum opportunities for participation. Physical Diversity: sum of the number of physical activities a child participates in. Physical Intensity: the average amount of time a child spends participating in physical activities based on the maximum opportunities for participation. Social Diversity: sum of the number of social activities a child participates in. Social Intensity: the average amount of time a child spends participating in social activities based on the maximum opportunities for participation. Skill-Based Diversity: sum of the number of skill-based activities a child participates in. Skill-Based Intensity: the average amount of time a child spends participating in skill-based activities based on the maximum opportunities for participation. Self-Improvement Diversity: sum of the number of self-improvement activities a child participates in. Self-Improvement Intensity: the average amount of time a child spends participating in self-improvement activities based on the maximum opportunities for participation.
*$p < .05$; **$p < .01$.

TABLE 5. Independent Samples *t*-test Results for the CAPE/PAC Subscales Based on Gender

CAPE/PAC	Male ($n = 32$)		Female ($n = 26$)			
Variable	*M*	*SD*	*M*	*SD*	*t* value	*p* value
CAPE Diversity	26.8	8.54	31.9	9.71	−1.84	.07
CAPE Intensity	2.25	0.76	2.29	0.76	−0.22	.83
CAPE Whom	2.23	0.35	2.45	0.46	−2.08	.04*
CAPE Where	2.70	0.47	2.60	0.61	0.71	.49
CAPE Enjoy	3.73	0.44	3.57	0.72	1.03	.31
PAC Recreation Preference	2.14	0.34	2.15	0.35	−0.17	.86
PAC Physical Preference	2.31	0.44	2.10	0.50	1.67	.10
PAC Social Preference	2.40	0.43	2.63	0.32	−2.21	.03*
PAC Skill-Based Preference	1.63	0.40	2.19	0.46	−4.98	.00**
PAC Self-Improve Preference	1.55	0.38	1.73	0.34	−1.90	.06

Note: Same as footnotes in Table 3.
***$p < .05$; **$p < .01$.**

Gender Differences

No significant differences were identified between boys and girls on 7 of the 10 CAPE/PAC subscale scores (see Table 5). A significant difference between male and female scores was present for the following CAPE/PAC subscales: CAPE Whom, CAPE Social Preference, and CAPE Skill-Based Preference. These results indicated that girls are more likely to participate in social and skill-based activities and to participate with friends or people outside their home.

DISCUSSION

Activity Participation of Children Living in Rural and Urban Environments

In the present study, there was a significant difference between the activity participation and preferences of children residing in rural locations of Victoria, Australia, compared with those residing in urban locations of Victoria, Australia. Overall, children living in a rural environment reported higher levels of participation, with participation in activities being more frequent and on a communal basis, than those who lived in urban areas. Specifically, rurally based children reported significantly higher participation in recreational (e.g., puzzles, board games, crafts, playing with toys, and watching TV), social (e.g., going to a party, hanging out, visiting, and entertaining others), and self-improvement (e.g., writing letters, religious activity, reading, homework, and doing a chore) activity domains.

A comparison of the participation patterns in the day-to-day activities of children living in rural and urban regions of Australia has previously not been reported. There has, however, been a strong interest in the physical activity levels and physical fitness of rural and urban Australian children (Dollman et al., 2002; Dollman & Lewis, 2010; Springer, Hoelscher, Castrucci, Perez, & Kelder, 2009). A study by Dollman et al. (2002) in particular identified results similar to the present study, when they compared the fitness and physical activity levels of 1,051 children aged 10 and 11 years residing in urban and rural areas of South Australia. Dollman

et al.'s findings indicated that children from rural communities ran faster over a 1.6-km course and reported greater participation in club sports and school physical education programs than to their urban-residing peers.

There have also been similar studies conducted in other countries, such as Israel, in which the activity participation and physical fitness of children across different cultural and residential groups were compared. The study conducted in Israel identified significant differences in the participation patterns of Jewish children compared with Druse children (Engel-Yeger & Jarus, 2008). Similar results have been obtained in studies conducted in the United States, Cyprus, and New Zealand, all indicating that children who resided in rural locations reported higher levels of activity participation and physical fitness (Hodgkin, Hamlin, Ross, & Peters, 2010; Loucaides, Chedzoy, & Bennett, 2004; Lui, Bennett, Harun, & Probst, 2008). These findings concur with the results of this study as children who resided in rural locales had significantly differing participation patterns compared with those residing in urban areas due to different environmental influences that were associated with living and growing up in different geographical regions.

To ensure the clinical utility of the current study's findings for pediatric occupational therapists, it is important to explore and understand potential reasons why differences in children's participation across rural and urban contexts have been identified. The physical environment varies significantly between rural and urban locations. Children in urban areas likely have friends who live close by, are more likely to live close to community facilities (such as parks, swimming pool, library, and sports fields), and have a variety of activity options to engage in. In summary, urban-based children are likely located geographically much closer to amenities that promote diversified activity participation and likely have a wider range and diversity of activities to choose to participate in.

Children in rural communities, on the other hand, likely have to travel greater distances to access community facilities and amenities, have a smaller repertoire of activity options to choose from, have less access to sedentary types of entertainment (e.g., Internet and computer games, movie theatre, and gaming arcades), and convenience food outlets, but instead have more opportunities for active play (Dollman & Lewis, 2010). For example, a large proportion of rurally based children in this study indicated via the demographic questionnaire that one preferred activity for them was to help their parents on the family farm. There is likely less infrastructure in place that is accessible to children living in rural regions to impact their activity preferences and degree of participation (Phillips & McLeroy, 2004). For example, Findholt, Michael, Davis, and Brogoitti noted that "many rural communities are characterized by vast distances, low socioeconomic status, transportation challenges, and low public funding levels for facilities, programs, and other public amenities" (2010, p. 12).

The physical environments where urban and rurally based children live are also likely quite different. Children in the country may live on a farm accessed via an unsealed road that is several kilometers from their next neighbor, whereas those in a suburban area may only have to go next door to find a playmate. Children who live in the country likely have to be driven greater distances to take part in activities, whereas those who live in suburban areas may still need to be driven, but not as far.

In terms of the social environments, rural children indicated that they participated in activities on a communal basis, with friends, relatives, and people in their community. As Dollman and Lewis (2010) discussed, it is likely that rural areas possess a stronger sense of community and social support. Many rural communities have well-organized local sports and recreation clubs where children take part in activities. Rural communities are more likely to be supportive of their sport and recreation clubs both financially and with in-member support. This makes participation for children more inviting and more financially manageable for families. Therefore, the way that children living in rural regions are socialized and the values that parents (and extended family members) engender their children with may be slightly different compared with their urban-based peers.

Impact of Gender on Children's Participation

Previous studies have highlighted the impact that both personal and environmental factors have on determining the activity participation patterns and preferences of typically developing children (Engel-Yeger et al., 2007; Engel-Yeger & Jarus, 2008). In the present study, significant differences between boys and girls were found in 3 of the 10 activity CAPE/PAC participation and preference scales. Girls indicated that they preferred social and skill-based activities, such as parties and homework, and overall, they participate in activities on a communal basis more than boys. This finding is consistent with previous research conducted internationally where gender has been found to be a factor that influences activity preference, but has minimal impact upon direct activity participation (Cultural Ministers Council, Statistics Working Group, 2007; Garton & Pratt, 1991; Meyer & Sagvolden, 2006).

Engel-Yeger and Jarus (2008) reported that Israeli girls had a higher preference for social and skill-based activities over Israeli boys. To account for this difference in activity preference, multiple studies have found that girls and boys differ in their social, communication, and fine-motor skills. Girls appear to be more social and have better verbal and communication skills (Howie, Lukas, Pastor, Reuben, & Mendola, 2010) as well as better dexterity and fine-motor skills (Meyer & Sagvolden, 2006).

Despite some differences between boys and girls in terms of activity preferences, the scores on all five participation scales in the present study were very similar. This implies that children aged 8–12 years in Australia share very similar activity participation patterns. There is currently limited other literature directly comparing the activity participation of younger children (8–12 years) based on gender in Australia.

Three studies have been conducted in Israel that share findings similar to our results. Engel-Yeger et al. (2007) explored the impact of culture on children's community participation in Israel and found only two significant differences in participation for boys and girls in "skill-based activities" and the "level of enjoyment" experienced during participation. Girls scored much higher than boys on both scales. Similar findings have been reported by Engel-Yeger et al. (2009) and Jarus, Anaby, Bart, Engel-Yeger, and Law (2010). Earlier studies, however, showed contrary results, in that girls tended to participate in skill-based, academic activities while boys were more likely to be involved in sports-related activities that were coached and formally organized (Law et al., 1999; Posner & Vandell, 1999).

It has been emphasized that the gender expectations of parents have impacted largely on the participation patterns of boys and girls (Posner & Vandell, 1999). It is thought that parents perceived that boys are expected to participate mainly in sporting activities, whereas girls are expected to participate in occupations that are based on fine-motor skills, such as art and music (Engel-Yeger & Jarus, 2008; Finnegan, Nicholls, Zacher, & Hood, 1991). In this instance, parents were more likely to choose toys for their child according to gender and encourage participation in certain activities (Berk, 1996; Finnegan et al., 1991; Higgins, Idson, Freitas, Spiegal, & Molden, 2003). However, the findings from the present study together with findings from international studies suggest that the expectations held by parents, communities, and society have changed and evolved over time. It is no longer expected that girls should participate in more informal skill-based or academic activities and boys should be involved in formal physical activities (Law, 2002; Price & Ladd, 1986; Saunders, Sayer, & Goodale, 1999).

The findings of the present study concur with the results found by Jarus et al. (2010). They determined that the participation patterns of boys and girls were in fact more similar than different. This result emphasizes that as health care professionals, it is important to note that gender-related expectations and stereotypes of activity participation are becoming more convergent. After recognizing the evolving impact that gender plays on influencing the participation patterns and preferences of children, it is evident that the differences identified in participation between rural and urban children can be analyzed according to the environmental distinctions between the two locations.

Limitations and Future Research

The present study is based on a limited sample size from a specific geographic area recruited via convenience sampling. Given that the CAPE/PAC was completed by children, there is the potential for biased responses. With any type of self-report measure, there is always the possibility that respondents may answer questions in ways that they perceive to be socially desirable. However, children were instructed to fill out the CAPE/PAC so that it reflected their own perspectives, thoughts, and experiences. It is recommended that this study be replicated with a larger sample group recruited from a wider geographical region. It is also suggested that children from regions classified as *remote* also be included in future studies.

CONCLUSION

This study investigated the similarities and differences between the activity preferences and participation among school-age children living in urban and rural locations. A group of 58 typically developing children from urban ($n = 24$) and rural ($n = 34$) areas of southwest Victoria, Australia, completed the CAPE/PAC. The findings indicated that rurally based children were engaged in a broader range of activities and did so more frequently than urban-based children. Differences between in gender were identified with girls preferring to participate in social and skill-based activities, whereas no significant differences in the participation patterns of boys and girls were found. This has implications for occupational therapists when working with children and their families. We need to be cognizant of the impact of

the environmental factors that affect the activity preferences and participation of the children and their families with whom we work.

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ABOUT THE AUTHORS

Dr. Ted Brown, PhD, MSc, MPA, BScOT(Hons), GradCertHltProfEd, OT(C), OTR, AccOT, is affiliated with the Department of Occupational Therapy, School of Primary Health Care, Faculty of Medicine, Nursing and Health Sciences, Monash University, Frankston, Victoria, Australia. **Sophie O'Keefe**, BScOT(Hons), and **Dr. Karen Stagnitti**, PhD, BScOT(Hons), are affiliated with the Occupational Science and Therapy Program, School of Health and Social Development, Faculty of Health, Medicine, Nursing, and Behavioural Sciences, Deakin University, Geelong, Victoria, Australia.

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