Living on a Rural Island: Children Identify Assets, Problems, and Solutions for Health and Well-Being

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Abstract

This paper describes the methods and results of a child and youth evaluation of their semi-isolated rural island community. Map drawings, interviews, community asset mapping, and focus groups were used to identify assets, problems, and solutions in the community. A broad representation of the island's children and youth, ranging from 5 to 14 years old provided information on the impact of the physical environment, community services and resources, social capital and community cohesion, and favorite places and activities. Four broad categories emerged as important for children and youth regardless of age: a sense of safety, the positive influence of the natural environment, a close-knit community and available resources, programs and services. The results of this place-based evaluation are compared to the literature on person-environment congruence and child-friendly communities.

Keywords: child participation, child-friendly community, neighborhood effects, children's well-being, community asset mapping, map drawings, interviews, rural

Introduction

Every community is unique due to its natural and built characteristics, the people who live there, local customs and culture, societal supports, economic circumstances, political systems and historical influences. Understanding the complexities of a community is important since its design and the services that are provided can influence children's physical, social, and emotional health (e.g., Basrur 2004; Beauvais and Jensen 2003; Connor and Brink 1999; Evans 2006; Frank, Andresen and Schmid 2004; Moore 1986; Stroick and Jensen 1999). With the many potential differences across communities, the question arises of whether it is possible to isolate specific criteria that are positive for child health. This paper adds to the place evaluation literature by examining community assets, problems and solutions, favorite places, afterschool activities, and community cohesion from the perspective of children and youth living in a semi-isolated coastal community.

Nurturant Communities for Children and Youth

Using the World Health Organization's definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (2007), an obvious starting place for positive criteria for nurturant communities for children would be the international declaration of children's rights. The United Nations' Convention on the Rights of the Child (United Nations 1989), covers the social, economic, cultural, civil and political rights of children up to the age of 18, based on four core principles: non-discrimination; devotion to the best interests of the child; the right to life, survival and development; and respect for the views of the child.

Specific to the environment, the Child Friendly Cities (UNICEF 2004; 2007) movement focuses on developing and evaluating environments that promote child health. Launched in 1996, the Child Friendly Cities movement was based on a resolution passed during the second United Nations Conference on Human Settlements to make cities livable places for all, particularly children. A child-friendly city is one that is actively engaged in fulfilling the right of every young citizen to: 1) influence decisions about their city; 2) express their opinion on the city they want; 3) participate in family, community and social life; 4) receive basic services such as health care and education; 5) drink safe water and have access to proper sanitation; 6) be protected from exploitation, violence and abuse; 7) walk safely in the streets on their own; 8) meet friends and play; 9) have green spaces for plants and animals; 10) live in an unpolluted environment; 11) participate in cultural and social events, and; 12) be an equal citizen of their city with access to every service, regardless of ethnic origin, religion, income, gender or disability (UNICEF 2007). Pivik, Herrington and Gummerum (2011) recently recommended two additional dimensions: (a) environmental features that provide stimulation and the opportunity for developmentally safe risk-taking in order to develop competencies; and (b) play spaces that incorporate different developmental needs and levels of independence.

Both the Growing Up in Cities (UNESCO 2007) initiative and the Child Friendly Cities movement (UNICEF 2004; 2007) have generated research exploring the recommendations of these international agreements. Essential to both initiatives is

child and youth involvement in neighborhood evaluations in accordance with the Convention on the Rights of the Child (1989). As well as the "rights" argument that children should have a voice in decision-making that impacts them, there is also "the need to focus on the activities and experiences of children while they are children, and on the construction of a clear picture of childhood and how childhood is experienced" (Ben-Arieh 2005, 576). Further, including the "voice" of children allows a deeper and enhanced understanding of environmental influences on their well-being as their perspective may differ from adults' (Berg and Medrich 1980; Pivik 2008; 2010; Pivik, McComas and Laflamme 2002; Ward Thompson 1995).

Child and Youth Environmental Preferences

Focused on urban spaces, UNESCO's Management of Social Transformations program, Growing Up in Cities, explored youth perceptions of their environment in Argentina, Australia, England, India, Norway, Poland, South Africa and the United States (Chawla 2001; Malone 1999). From the original study of four countries by Lynch (1977) and the eight countries reported by Chawla (2001; 2002), youth aged 12 to 15 years consistently reported the following as positive features of neighborhoods: social integration and feelings of acceptance; varied and interesting activity settings; places to gather with friends; a sense of safety and freedom of movement; a cohesive community identity; a community involved in progressive improvement; green spaces for informal play and exploration; places for organized sport; and the provision of basic needs. Similar results were found by researchers testing "environmental child-friendliness" (Björklid and Nordström 2007; Horelli 2007; Kyttä 2004; Haikkola et al. 2007).

Most of the research conducted by the above initiatives focused on early adolescent reports of urban environments. A recent study by Loebach and Gilliland (2010) in London, Ontario, provides an example of younger child engagement in the evaluation of a city neighborhood. Students aged 7 to 9 years (n=16), indicated that valued aspects of their environment supported social and familial relationships, play and social activity. As well, the children highlighted the importance of clean, natural and well-kept spaces, which were often reported as safe, and sites that evoked a sense of ownership, belonging or pride. Talen and Coffindaffer (1999) worked with even younger students (kindergarten to second grade), who reported that an ideal neighborhood would include both recreational and utilitarian elements, including single-family homes, schools, shops, pools, parks and hospitals. Age differences were noted between the youngest and older children; with the oldest children suggesting twice the number of commercial and recreational elements in their ideal neighborhood and the youngest children suggesting more non-land use elements such as people, animals and moving objects. Gender differences were also found, with females including more utilitarian elements (e.g., police stations, recycling centrs, banks, factories) and males including more recreational elements (e.g., ball parks, arcades, movie theatres, playgrounds) in their ideal neighborhoods. The authors emphasized the capabilities of kindergarteners' to conceptualize and identify preferences for neighborhoods; a finding supported by Clark (2005; 2010) and Clark and Moss (2001) in their work on place evaluations with children under 5 years old.

Understandably, since half of the world's billion children reside in cities (UNICEF 2002), the majority of child-based neighborhood evaluations have focused on urban settings. However, as more municipalities join the Child Friendly Cities movement, children's place evaluations are extending to rural and suburban areas. The study of children's environmental preferences across different community types (rural, suburban, urban) has not, to date, produced clear conclusions, likely due to the different methods employed, the different ages of the children represented, cultural or social considerations and relatively few studies with large sample sizes. However, some trends are emerging, such as children in rural areas appreciating natural and green spaces and desiring more resources (Nordström 2010; Roe 2006) and suburban children focused less on natural spaces and more on elements that promote different physical and social activities (Nordström 2010; Talen and Coffindaffer 1999). No study was found that explored the environmental preferences of children living on an island.

The Context

The community for this study is a small coastal island 20 minutes away by ferry from West Vancouver, British Columbia, Canada (Figure 1). This semi-isolated island is approximately 6 km wide by 12 km long, with a land area of 49.94 km² (19.28 mi^2). The island features significant areas of undeveloped Crown Land, parkland, ecological reserve, 65 km of hiking trails, and beaches; 78 percent of the land mass is composed of natural ecosystems according to the 2010 Official Community Plan. Twenty-one neighborhoods, spread out across the island, have emergency resource support. Most of the resources and services are located in or near the village center and include: shops (e.g., gift shops, grocery stores, a pharmacy, toy store, and a building supply shop), art galleries, restaurants or cafés, four churches, four schools, and a preschool. Additional resources include a library, fire station, ambulance, police station, and two doctors' offices. Recreational programming mainly runs out of the community school and The Youth Center, with private dance, music, arts and martial arts available at Artisan Square. Culturally, there are four different choral ensembles, a Theatre School for children, and a public gallery that showcases local artists. Buildings are all under three stories high and typically in the Craftsman style. The ferry to West Vancouver runs on an hourly basis from 5:30 am until 9:30 pm (except between 12-2:30 pm) and there is a community shuttle that offers hourly service during morning and evening rush hour to most but not all areas of the island.

There are 3,551 permanent residents, supplemented in the summer by roughly 1,500 summer residents or tourists (BC Stats 2007). About 500 workers and over 200 students commute to offices and schools on the mainland each day. In 2006, roughly 91 percent of all dwellings were single detached houses, with 81 percent of the dwellings owned. In 2006, the median income for all households was CDN$72,990, however a 2007 affordable housing study found that there was a significant gap between low- and high-income earners with 28 percent of households earning less than $40,000 and 27 percent earning more than $100,000 annually (2010 Bowen Island Municipality Official Community Plan).

Figure 1. Map of the island

The size, location and rural aspect of the island provided an ideal opportunity to examine: how the natural environment impacts a sense of well-being, physical activity, play and recreation; availability (or lack of) services and resources; impact of social capital; the effect of parents working off island; and the need to commute by ferry.

Methodology

Approach

For the entire community analysis, multiple methods were employed similar to that of the Growing Up in Cities initiative (Chawla 2002). These included: 1) a document review of published community-based information including: population-based data, features of the physical environment, services and resources available to children and youth, changes to the environment and laws, and a tracking of recreational and cultural opportunities for children and youth; 2) focus groups and key informant interviews with parents, youth workers, teachers, principals, child development specialists, community leaders, law enforcement and health specialists; 3) child and youth identification of assets, problems and solutions using map drawings, individual interviews, community asset mapping and focus groups (n=82); 4) a child-based photo essaying project exploring why the community is important (n=21); and, 5) a documentary of child-led tours exploring favorite places (n=4).

This paper will present the results of the child and youth identification of assets, problems, and solutions using map drawings, individual interviews, community asset mapping and focus groups.

Sample

Participants included 82 children and youth (from 5 to 15 years old). Table 1 describes the age and gender of children who participated within three epoch groups: young = kindergarten to second grade; middle = third to fifth grades; and older = sixth to ninth grades.

Table 1. Sample characteristics

	Young: K-2nd Grade	Middle: 3rd to 5th Grade	Older: 6th to 9th Grade
Gender			
Female	9	14	24
Male	11	11	13
Mean age (years)	6.0	8.6	12.8
Total number	20	25	37

Procedure

An information letter and consent form was distributed by the principals of the four schools on the island (a public elementary school, a Montessori school, an independent middle school and a Supported Learning Centre for part-time home-schoolers). As well as having parental consent to participate, all children provided verbal assent. The data collection took place at the children's school.

The study used multiple methods concurrently and in this order: map drawings, interviews, community asset mapping and focus group discussions—to ensure inclusiveness of different strengths, ages and abilities. Having each child complete all of these activities also provided the opportunity to conduct a comparative analysis of the different methods and determine those aspects of the community that are important to children and youth at different stages of their development. Data collection took between 1.5 and 2 hours with breaks provided for the younger children. All the activities were video-taped and audio-taped for educational training purposes and to ensure accuracy of the feedback. In addition to the author, three research assistants were required at the various stations, as the children cycled through the activities at their own pace. Thirty percent of the entire data set was scored by a second rater, with inter-rater reliability at 87 percent.

Measures

Map Drawings

Map drawings are a reflection of how we understand our world and "concerns the study of how we consciously and more commonly subconsciously acquire, learn, develop, think about and store data relating to our everyday environment" (Kitchin and Fotheringham 1997, 269). As Halseth and Doddridge (2000) found in their study of children's neighborhood depictions using map drawings, the maps are useful for identifying environmental features of importance to the children. The purpose of using the maps in this study was to explore *how* children saw their community and what they identified as *important* in those depictions. As such, we performed a content analysis on the maps instead of the more commonly used typology identified by Lynch (1960) for evaluating urban spaces. Children were asked to "draw a map of where they live." We provided them with a variety of pencils, pens, markers, and a sheet of plain paper. Each child's map drawing, along with the child's description of it during the individual interview, were examined in relation to the presence, absence and number of: natural elements, built structures, level of environment depicted (house, street, neighborhood, community, world), and depictions associated with recreation (e.g., parks), programs (e.g., dance class) or resources (e.g., school, library). We recorded the percentage of maps depicting these elements along with the total number of items present per category.

Individual Interviews

Individual interviews were then conducted where the child verbally described their map and answered the following questions: a) Why is this community good for kids? b) Why is it not good for kids? and, c) If you could make changes, what would they be? To ensure consistency and comparability across ages, we presented the questions as simply as possible. Up to five responses for each category (assets, problems, solutions) were recorded. We conducted content and thematic analyses using the qualitative software, NVivo 7.0. After unitizing the data (i.e., selecting units of data such as words, sentences, or multi-sentence chunks that could be analyzed for meaning), we coded the units into categories, which represented common themes. Along with the qualitative analyses, we recorded the frequency of each theme and performed descriptive statistics.

Community Asset Mapping

Typically, community mapping is an inventory of available skills, services and capacities of people, community associations and institutions, physical structures, natural resources, and businesses (Berkowitz and Wadud 2003; Kretzmann and McKnight 1993). In this study, we hung a large map of the island at eye level and gave each child four different colored stickers. We asked the children to place a sticker on a location on the map that related to the following questions: a) their favorite place in the community; b) where they spend the most time with friends; c) the place where they most often do after-school activities; and, d) the place they would go if they needed help and family was not around. This method provided a connection between place and activity and addressed social cohesion as well programs and resources. For example, where they do after-school activities

provided a description of the types of activities with which the children are involved, and the programs and services of the community. We recorded each child's age, gender and answers to the questions, and performed descriptive statistics on the frequency counts.

Focus Groups

The same questions asked in the individual interviews were used for the group discussion, that is: a) Why is this community good for kids? b) Why is this community not good for kids? c) Can you suggest changes or solutions? Like the interviews, we conducted content and thematic analyses of the children's responses.

Results

Map Drawing: What Does This Community Look Like to Its Children and What Is Important?

The maps the children drew varied considerably and included pictorial, path, road and aerial map representations of home, the neighborhood, the island and one of the world. Overall, maps drawn by the children included: pictures of their home (n=21), their street (n=9), a path map from their house to an end point (n=7), neighborhoods (i.e., more than one street, n=20), community/island pictures (n=15), and one world view. As Table 2 indicates, the children in the youngest and middle groups most often drew maps of their house and yards (40 percent and 35 percent, respectively).

Table 2. Cognitive mapping percentage depicted per age group

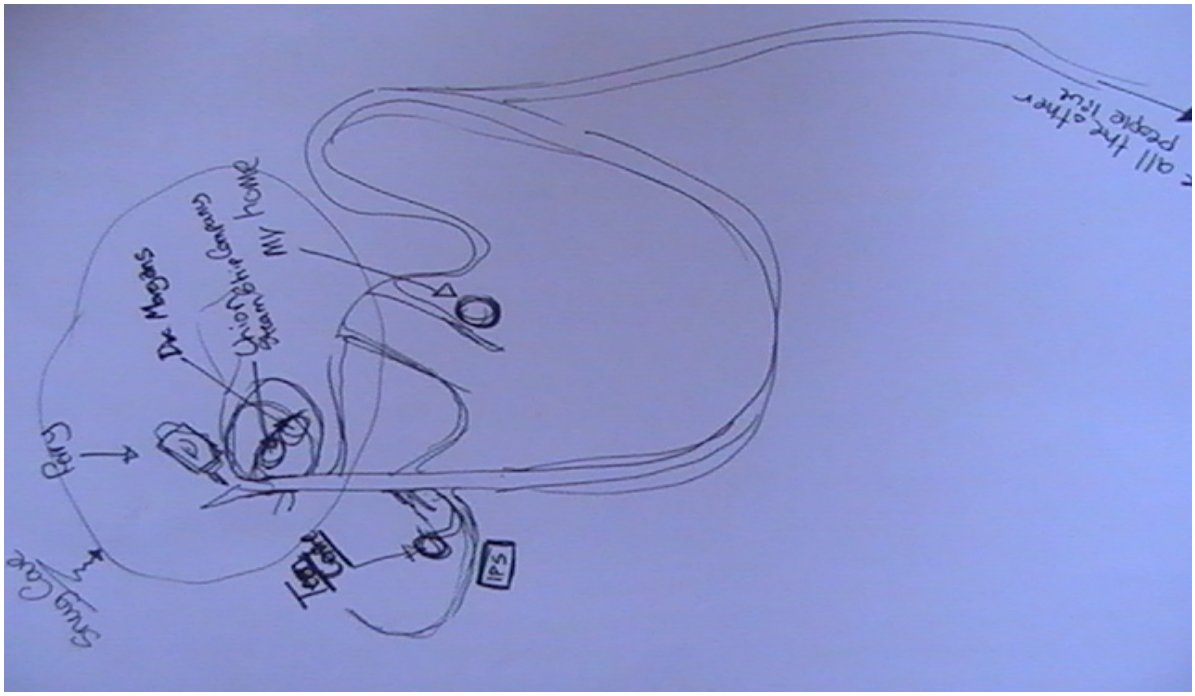
	Young	Middle	Older
Level			
House	40	35	16
Street	15	17	24
Neighborhood	15	17	30
Community	25	30	27
World	0	0	3
Natural elements	75	72	70
Built elements	95	78	97
Recreation	21	22	24
Resources	40	26	13
Programs	0	0	2

Interestingly, 25 percent of the maps depicted by the youngest group and 30 percent by the middle group were that of the entire community or island; where typically they drew a path map from their house to the ferry terminal or the village. The older children were most likely to draw maps of their neighborhood or the community. Figures 2a and b depict two typical map drawings, one from a 5-year-old and another from a 13-year-old. The younger child's map displays his home and

yard while the community-level map of the older student describes those places of importance to her: home, her school, the village center, work place, the Youth Centre, ferry terminal, and the homes of her friends who live across the island.

Figure 2a. 5-year-old's cognitive map depicting his house and yard

Figure 2b. Cognitive map of a 13-year-old depicting relevant neighborhood resources



Although a high percentage of the maps included both natural and built elements, the actual number of these items represented in the maps varied across groups. Children in grades 3-5 drew the most natural elements in their maps, such as trees, water, animals, $\underline{X}$ = 7.0 (SD = 10.9) compared to the younger children, $\underline{X}$ = 2.7 (SD = 3.4), or the older group, $\underline{X}$ = 4.8 (SD = 6.7). The number of depicted built elements (e.g., school, neighbor's houses, marina) increased as the children aged ($\underline{X}$ young = 2.8, middle = 6.3, older = 8.5) as did the number of recreational (e.g., playgrounds, pool) and resources (e.g., ferry, shops) representations. Identified resources included the ferry (young = 5, middle = 6, older = 4), stores in the village center, the fire station and schools. Recreational representations included mainly trails and the beach for the younger group; archery, a basketball hoop, the playground, a tree swing and the beach for the middle group; and a pool or the beach (n=6), a basketball hoop and the Youth Centre for the oldest group. Programs were not effectively identified by the map drawings, with only two percent of youth identifying various activities.

Individual Interviews: Identifying Assets, Problems, and Solutions

Along with describing their map drawings, the individual interviews asked children to identify what was good about their community, what they did not like and what solutions or changes they would make. Table 3 provides the percentage responses for all of the categories by epoch group.

Table 3. Percentage responses of interview question by group

	Young	Middle	Older
Why is this a GOOD community?	n=59	n=68	n=144
Physical environment	42	50	18
Social environment	17	12	33
Resources	27	22	16
Safe	8	15	30
Miscellaneous	6	1	3
Why is this NOT a good community?	n=27	n=7	n=66
Physical environment	29	42	3
Social environment	30	29	12
Resources (lack of)	7	29	85
Miscellaneous	15	0	0
Nothing wrong	19	0	0
What SOLUTIONS can you think of?	n=18	n=21	n=32
Physical environment	35	52	0
Social environment	17	0	0
Resources	44	48	88
Miscellaneous	4	0	12

The responses for what makes a good community fell into five categories: a sense of safety, the physical environment, social aspects of the environment, community resources and miscellaneous. The majority of responses by the younger (42 percent) and middle group (50 percent) reported some aspect of the physical environment as a positive element of their community. Typical responses for young children included: "lots of nature, lots of trees, can play on street, can fly kites, and can go fishing." Students in grades 3-5 also focused on how the physical environment assisted in play, such as: "lots of places and spaces to play; swimming at the beach, safe to play on the road, great hiking trails, nice and quiet and lots of trees." In the same category, the older group felt the community was good for kids because it provided the chance to see "lots of wild animals, had wide open spaces, where nature very calming and there was no pollution."

The importance of the social environment was highlighted by all groups but particularly the older children (33 percent of responses). The youngest group reported that "there were no robbers, most people know each other, there are lots of good people and they had lots of friends." The middle group indicated "the island had nice people, no robbers or gangs and they were not afraid of people taking them away." The oldest group reported that the island was good for kids because "people are nice and friendly, they look out for each other and due to the small size of the community, most people are familiar."

A sense of safety was another major theme of a good community, especially for the older group (30 percent of responses), often combining aspects of both the physical and social environment. The oldest group reported a sense of safety because the community "is small, feels safe, there is very little crime, not a lot of traffic and provides an increased sense of independence and freedom." For the youngest group, safety aspects included "not a lot of toxic stuff, not too crowded or busy, and not too much traffic." The middle group also mentioned "no crime and having streets that are safe to play on."

In the category of resources, the younger children felt that the island had "good schools, fun things to do, a toy store and for some, swimming at a private neighborhood pool." The middle group also mentioned the "pool, having lots of different things to do and the candy and toy store." The older children mentioned the "schools, trails, the Youth Centre and the arts and recreational programs" as positive aspects.

When describing why the community was not good for kids, three categories emerged: the physical environment, social environment and resources. Overall, there were not many negative features of the community identified, with the striking exception of the older group in relation to resources (younger = 27, middle = 7, older = 66). Children in both the younger and middle groups expressed concern about social aspects which included "people smoking, doing drugs and drinking." For the oldest group, negative social aspects of the island included "it feels too small for teenagers, is boring, doesn't have enough kids their own age and doesn't prepare kids for what the real world is like due to the sense of safety and close community."

Physical environmental features were mentioned most often by the students in grades 3-5 and included "fear of cougars, dangerous cliffs and pollution from the school buses." Young children also expressed concern about cougars, pollution and added road traffic. The older youth focused on how living on an island is "isolating."

A lack of resources composed 85 percent of the oldest group responses and included "the lack of a high school, not enough shops for them, no hospital, and limitations due to the ferry" (e.g., not being able to attend evening events on the mainland as the last ferry leaves at 9:30 pm). Seven percent of the youngest group indicated that the island had limited activities and 29 percent of the middle group of children felt there were not enough shops for children their age, concern about a lack of a hospital and one child mentioned a limited choice of schools.

The children in this sample were very proficient in suggesting solutions to the issues they identified as negative. The young children provided 18 recommendations, the middle group provided 21 recommendations and the oldest suggested 32 recommendations. The most frequently reported solutions related to additional programs, resources and services. The majority of participants in each group identified the need for a public swimming pool. Younger children wanted more parks, trails and playground structures. The middle group wanted more challenging play structures and walking trails across all areas of the island. The older children wanted a high school, a recreation center, more sports activities, a more inclusive Youth Centre and additional shops.

Regarding the physical environment, the youngest children were concerned with being hit by cars and suggested putting up street lights or crosswalks, "slow down" signs and reducing the number of cars where they play. They also recommended that "that the cougar be sent back to where it belongs." The middle group were also concerned about safety (e.g., build fences for cliffs), pollution, and made suggestions about dealing with the ferry (e.g., build a bridge or an airport).

Three points were quite salient in the miscellaneous category. The first was from a first-grader who said "she should tell her mom before going with a stranger," reflecting her sense of safety in the community. As well, numerous students in the older grades were concerned about the price of food on the island and the need to learn about "the real world."

Community Asset Mapping: Linking Place to Programs, Activities and Services

The community asset mapping exercise provided answers to: 1) their favorite place on the island; 2) where they spend time with friends; 3) where they do after-school activities; and, 4) where they would go in an emergency if their family was not home. Each place name was recorded along with the reasons given. Table 4 provides the percentage response per group for each category.

Table 4. Percentage responses per group for community asset mapping

	Young (n = 18)	Middle (n = 24)	Older (n = 31)
What is your favorite place?			
Home	11	28	30
Nature (trails, fields)	17	17	16
Artisan Square	11	0	0
Friend's house	11	0	3
Village square	6	13	3
School	11	0	3
Pool/beach	22	42	32
Playground	11	0	0
Youth Centre	0	0	13
Where do you spend time with friends?			
Neighborhood	29	8	0
School	41	8	29
Friend's house outside neighborhood	6	8	3
Home	12	25	13
Nature (trails, forest)	6	13	0
Village Center	0	25	16
Artisan Square	6	0	13
Youth Centre	0	0	3
Pool/beach	0	13	23
Where do you do after school activities?			
School	11	4	3
Neighborhood	11	0	0
Friend's house outside neighborhood	6	9	3
Artisan Square	17	26	53
Home	17	13	16
Daycare	11	0	3
Relative's house	6	0	0
Cove	0	17	3
Theatre	0	4	0
Forest	0	9	0
Tutor	0	4	0
Playground	21	14	16
Off island	0	0	3
Where would you go in an emergency?			
Neighbor's	76	48	53
Call 911	6	4	0
Daycare	6	0	0
Relative	6	4	9
Friend	6	26	22
Go home	0	18	3
RCMP	0	0	13

For the youngest group, their favorite places on the island centered on natural elements (fields, trails and the beach) and their home. Home, the beach, a private neighborhood club pool, fields and trails were identified as favorite places for children in the middle age group. As well, children in this group identified the village center as important, whereas the older group included the Youth Centre.

The second asset mapping question related to children's play activities, i.e., where they spend time with friends. As expected, the youngest children spent time with friends around home, at school and in their neighborhoods. The middle group typically played at home, in the village center and at the beach. The older group identified their school, the village center and the beach/pool as the main places where they spend time with friends. Children were also asked to identify what they do while spending time with their friends. Once again, the youngest played chiefly in their neighborhoods. The middle group reported a lot of outdoor activities associated with the physical environment such as beaches, fields, forests and parks. The oldest group reported playing Ultimate Frisbee at the field and hanging out in village center, beach/pool or at cafés.

Children also identified where and what they do after school. Two main areas of the island provide programs and services to children: the community school and Artisan Square (location of private sports, music, theatre and dance studios as well as shops and cafés). The majority of older kids were taking private lessons (dance, piano, Tae Kwon Do) in Artisan Square or went home. The activities of the younger and middle groups were more focused around the community public school or in the village center; playing soccer, baseball, tennis, in the gym or on the playground/fields. This reflects the types of recreational programs and services available to children of different ages, suggesting a need for more community-based services and programs for the older group (instead of private lessons, which may be financially inaccessible for some families).

The final question asked where children would go in an emergency if their family was not around. This question was posed to identify issues associated with community cohesion and ferry commuting by their parents. Most children and youth would go to a neighbor's house in an emergency, reinforcing the idea that the island has high community cohesion. The middle and older kids would also go to a friend's house (usually located in their neighborhood). A little unsettling was the number of children in grades 3-5 who would just go home and wait for their parents.

Focus Group Discussions

Following all of the individual exercises, the children then gathered together as a group to discuss the three main questions: Why is this a good community for kids? Why is it not? and What changes would they make? The data for the groups for this section are separated into grades K-5 and 6-9.

Similar to the individual interviews, the children focused on the physical and social factors of the environment, often related to a sense of safety as positive aspects of

the environment. For the physical environment, the younger children reported feeling safe, it being a good place to play and enjoying the natural environment. The older children focused more on the safety issue in relation to an increased sense of freedom. Socially, both groups reported positive and supportive relationships with community members. Interestingly, the older children focused on a sense of support from different age groups regarding participating in events, assistance by artists or individuals being open-minded.

The few negative comments identified by the younger children were related to pedestrian safety and worries about drugs and alcohol. Drugs were also a main topic of concern for the older children. They reported that the island has a reputation for drugs, particularly from high school students and their parents on the mainland. Generally they were uncomfortable about this reputation and wanted places to be together that were supervised by adults. The older kids also reported concerns about not enough to do, issues associated with commuting by ferry and concerns about being prepared for "the real world."

When identifying solutions, the younger group focused on activities related to recreation such as more play structures, organized sports and most importantly, a public swimming pool (100 percent agreement). The older group also wanted additional recreational resources (pool, recreational center, and opportunities to play ad hoc sports like basketball). They also recommended: having a high school, better drug prevention programs, a place with musical instruments where they could "jam," arts programs, places to hang out like cafés or a center for pre-teens, and transportation solutions such as more frequent bus and ferry service.

Discussion

This community *is* very different than the urban, suburban and rural areas previously evaluated by children and described in the literature. It is abundant in natural green spaces, forests, fields and is surrounded by the ocean. It has a small population of residents who tend to watch out for each other and other people's children. It has very little crime. Its residents are also isolated from the mainland at night and during bad weather when the ferry does not run. Due to the small population size and location, it has fewer resources and programs, such as lacking a hospital, recreational center, mall or high school. There is not as much traffic but also no stop lights to cross intersections safely. Most of the streets do not have sidewalks for children to safely walk or bike, although there are quite a few trails through the parks. Likely due to the sense of safety and lack of accessible transportation, hitchhiking is common even for youth. Since many parents work off island, young children spend longer hours in daycare and older children take classes every day after school or go home alone. Unlike many suburban or city neighborhoods, there are not as many children in one's age group and playing with friends often requires parental transportation. Youth spend an extra hour a day travelling to high school by ferry.

Even with the many differences identified between this island community and suburban communities, small towns or cities, these children and youth reported many of the same needs and desires. Four broad categories emerged as important

for these children and youth regardless of age: a sense of safety; the positive influence of the natural environment; a close-knit community; and available resources, programs and services. The importance of safety identified by these children has been suggested by reviews of proxy data (Connor and Brink 1999; Ellen and Turner 1997) and reports from other children (Chawla 2002; Figueria-McDonough 1998; Polivka, Lovell and Smith 1998). According to these participants, their sense of safety in the community was related to caring people, the lack of crime and not too much traffic. Likely unique to a small semi-isolated community, the children's sense of safety was also associated with more independent activities and less adult supervision, explaining reports of children playing at beaches, the forest and in fields with their friends.

As well, the positive benefits of the natural environment were identified by all three age groups, although especially children in grades 3-5. Children reported that the natural environment was calming, serene and provided wonderful opportunities to play. They appreciated the quiet and the lack of crowding, pollution and traffic. Consistently, the beaches were identified as favorite places or places that they spent time with friends. The connection between health and well-being and the natural environment supports thinking by Evans (2006), Polivka, Lovell and Smith (1998), Shonkoff and Phillips (2000), Fjørtoft (2004), Wells (2000) and the large body of work conducted by the Kaplans (S. Kaplan 1983; Kaplan and Kaplan 1989).

Another extremely positive aspect of their community expressed by the children was social cohesion, i.e., a caring and friendly community, its small size where most people are familiar, and the feeling that people look after each other. Social cohesion has been identified as an important community support for children by social and population health researchers (e.g., Bandura 1986; Connor and Brink 1997; Ellen and Turner 1997). In this study, most of the children reported that they would turn to their neighbors in times of need. They appreciated the support of other community members and enjoyed mixed-aged community events. The smaller population level of the community was associated with "the need to get along with others" and "communal activities with people of all different ages." The older children also identified adult role modeling and social control as important factors, a finding also reported in the literature (Jencks and Mayer 1990; Leventhal and Brooks-Gunn 2000). However, even though the older kids reported positive aspects of a close-knit community, they also felt a sense of surveillance by other adults (i.e., "you know they are going to tell your mother on you").

Asking what they thought were community problems and solutions added to the picture of what constitutes a nurturant community. When exploring the negative aspects of their community, three areas were consistently reported: the lower level of resources, the impact of commuting by ferry, and concern about substance abuse. Supporting the Neighborhood Resource Theory (Leventhal and Brooks-Gunn 2000) and the Institutional Model (Jencks and Mayer 1990), all children reported wanting more recreational opportunities such as a public swimming pool, a recreational center, and more organized sports. The younger and middle groups also wanted more play structures and parks. Older youth wanted more and

different programs, as well as places to gather as a group, play music or do pick-up sports.

Children as young as 5 years expressed concern about relying on the ferry. The ferry was depicted by all age groups in their map drawings and was mentioned frequently in the interviews and group discussions. The older group felt most limited by the hours of operation impacting sports activities or social events. They also mentioned concern about bus transportation on the island not servicing certain areas. Accessible transportation as an important community support for children's well-being has been identified by Evans (2006) and Talen and Coffindaffer (1999).

The final major concern was related to substance abuse, specifically drugs, alcohol and for the younger kids, smoking. These concerns reflect Social Disorganization Theory, identified as an important mediator for children's well-being (Barnes McGuire and Shay 1996; Sampson, Raudenbush and Earls 1997; Simcha-Fagan and Schwartz 1986). Solutions reported by the younger children included "locking up all poison" whereas the older youth suggested educational and rehabilitation programs.

Environmental influences on children and youth living on a semi-isolated island are similar to findings from other child-based place evaluations and support the Child Friendly Communities recommendations. Like previous research, the children in this study identified preferences for natural environments (Chawla 2002; Malone 1999; Moore 1986; Terrible 2000), social integration, safety, freedom of movement, varied environments (Chawla 2002; Hart 1979; Talen and Coffinder 1999), opportunities for accessibility (Talen and Coffinder 1999), and places supporting social interaction (Chawla 2002; Haikkola et al. 2007; Hart 1979; Loebach and Gilliland 2010; Talen and Coffindaffer 1999). As well, they disliked boring, noisy and unsafe neighborhoods (Malone 1999; Polivka, Lovell and Smith 1998). As Chawla (2001) nicely summarizes,

> *Beyond the provision of basic needs, what children want most was a sense of security, acceptance and positive identity, in places where they could socialize, play with friends and find interesting activities to join or observe* (21).

Children in this study showed that they are more than capable of identifying community influences on their health and well-being. This study also highlighted the capabilities of young children in place evaluations and the importance of including multiple ages to address differential concerns. This place evaluation also established that the children living in this very different kind of community reported many of the same needs and desires as those living in cities, suburbs and smaller villages, supporting the recommendations of the Child Friendly City Movement (2004; 2007). Finally, the study results suggest that planners, researchers, practitioners, and policy makers work with children and youth on issues associated with the physical environment, safety concerns, social cohesion and available resources in order to promote child health and well-being.

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