Play, Urban Spaces and Children's Capabilities:

A Pilot Study in the Neighbourhood of La Candelaria in Cartagena, Colombia

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Abstract

Using the theoretical foundations of the capabilities approach to human development, this study looks at the relationship between children's capabilities and the quality of their urban play spaces. Research on play patterns was conducted in La Candelaria, a low-income neighbourhood in the city of Cartagena, focusing on children's use and appropriation of their neighbourhood's play spaces. Drawing on the concept of affordances from the field of environmental psychology, semi-structured interviews were carried out with 86 children between the ages of 8 and 13. Criteria for assessing the perceived environmental quality of children's play spaces are proposed, and recommendations for public policy are given, underlining the importance of children's participation in the process of urban planning.

Keywords: Capabilities approach, play, public policy for childhood, quality of urban play spaces, affordances, use and appropriation of public space, urban planning

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1. Introduction

The capabilities approach to human development, first articulated by Amartya Sen in the late 1980s, is a theoretical framework concerned with the evaluation of human well-being. Sen defines the concept of well-being as "individuals' capability of achieving the kinds of lives they have reason to value" (Sen, 2000). As such, a person's set of *capabilities* reflects the amount of freedom he or she has to lead the type of life they aspire to live.

Sen distinguishes capabilities from the notion of *functionings* which he defines as the various things a person may value doing or being. As Sen explains, "the difference between a functioning and a capability is similar to the difference between an achievement and the freedom to achieve something, or between an outcome and an opportunity" (2000).

Although this approach focuses on all human beings, many researchers working in the field believe that children's issues should be central to the discussion of human development (Uhm et al., 2011). Placing children at the center of development studies not only accounts for their unique developmental needs, but it also allows us to see children as autonomous human beings, capable of expanding their freedom and well-being. Their autonomy, however, is constrained by environmental factors. Children live and grow in contexts that vary greatly across different cultures, and as a result, their capabilities can either be promoted or hindered by their social and physical environment.

As children explore their surroundings, and interact with other children and with the urban landscape in which they live, their relationship with the environment gradually takes shape. Most of this interaction happens in the form of play. Virtually all children use and appropriate the spaces around them to satisfy their drive to play. This drive is so strong that children will play even in the most difficult of environments. Undoubtedly, the particular

physical characteristics and sociocultural makeup of these environments have a profound influence on children's evolving capabilities.

Recognizing the importance of play, researchers and educators have stressed how fundamental it is for the cognitive, physical, social and emotional development of all children. Martha Nussbaum, who has also contributed extensively to the capabilities approach to human development, even lists play as one of her central human capabilities (Nussbaum, 2011). Nussbaum includes play on her list of central capabilities because it is an essential dimension of what it means to be human. Indeed, play is at the heart of children's lives everywhere.

In recognition of its importance in child development, the United Nations includes the dimension of play in article 31 of the Convention on the Rights of the Child (1990). Cultural theorists also emphasize the importance of play as a formative element in human culture. Dutch historian John Huizinga, for example, proposes that play is primary to and a necessary condition of the generation of culture (1938). According to Huizinga, culture begins in play and develops as play, and is therefore the precursor to complex human activity such as language, art and science.

The role of play in human development has thus been acknowledged and well-researched (White, 2012). However, relatively few studies up to now have focused on the environmental quality of children's urban play spaces as applied to the capabilities approach to human development. Considering the fact that the majority of children in the developing world are now growing up in cities (UNICEF, 2012), increased attention must be placed on the interaction between children and their urban environments.

In an attempt to resolve this scarcity, we conducted a pilot study in La Candelaria, a low-income neighbourhood in the city of Cartagena, Colombia. The research was centered on the following questions related to the children's play habits:

- What play affordances does the urban environment offer children?
- In what ways do children use and appropriate the spaces where they play?
- How freely can they move around and play in their neighbourhood?
- What perceptions do they have of these spaces?

These questions refer to the physical, sociocultural and psychological factors that affect the quality of children's play as well as their ability to move around independently in their neighbourhood (unaccompanied by adults). The term *affordances* refers to the functional possibilities that children perceive in the environment as they interact with it (Gibson, 1979).

The quantity and diversity of play affordances, together with the degree of children's independent mobility, are essential components of healthy child development (Shaw et al., 2015). Indeed, studies have shown how levels of mobility influence children's physical, social, cognitive and emotional development. Hüttenmoser (1995), for example, was able to show a decline in the motor and social development of 5-year olds who were not able to play independently outdoors. This clearly illustrates the interrelationship between play and a child's set of emerging capabilities.

1.1 Research Objectives

The theoretical foundations of the capabilities approach and the concept of affordances were both central to the research we conducted. As our study was exploratory and descriptive in nature, we used these foundations to guide our approach and methodology. The objectives of the pilot study were as follows:

1.1.1 General objective:

- To examine the relationship between the environmental quality of the play spaces in La Candelaria and the evolving capabilities of the children who live there

1.1.2 Specific objectives:

- To identify the neighbourhood spaces that afford opportunities for play and social interaction
- To determine the main factors limiting the children's opportunities for play and the development of their capabilities
- To describe the cultural practices that shape children's play in La Candelaria

For our pilot study, we decided to focus on a neighbourhood located in a sector of Cartagena with a high level of vulnerability and limited urban planning. We hope that our research will lead to increased attention to the improvement of environmental quality in the area.

This paper presents an overview of the research that was conducted and analyses the results in the context of the capabilities approach. As a result of this study, we are also interested in exploring new ways of formulating public policy for children and adolescents. We feel that they should be better informed by current thinking on the capabilities approach and by what children perceive to be of value in their neighbourhoods.

2. Theoretical Framework

The experience of childhood is largely defined by the interactions that take place between children and their environments. The word childhood itself tends to evoke a time of curiosity and exploration, and for the most part, that exploration takes place in the environments where children live and play. For many children around the world, however, a number of economic and sociocultural factors impact negatively on the physical and social environment where they grow up (UNICEF, 2012). The spread of urbanisation and the growth in population, for example, limit the amount of open space where children can play, intensifies traffic and crime, and increases the amount of waste and debris in their communities. Nonetheless, children's drive to play is such that even the most vulnerable of neighbourhoods can provide opportunities for play.

Looking closely at the way children cope with the changing urban landscape, especially in developing countries, has stimulated new ways of understanding the relationship between the built environment and human development. In particular, the field of urban studies takes a critical perspective in analyzing the major issues at stake in our modern societies and focuses on themes such as inequality and poverty, urban violence, urban politics and policy making, to name a few. Increasingly, contemporary urban studies are influenced by new ideas from disciplines such as sociology, cultural studies, critical geography, architecture, urban planning and environmental psychology. The inclusion of new conceptual and theoretical perspectives from other fields has broadened our understanding of the city, and in the process, helps us think of ways to improve the quality of life of urban populations and their communities.

Ideally, communities and neighbourhoods should provide children with ample opportunities for play and socialization with other children as well as adults. They should be

safe environments in which children can learn from others and gradually expand their capabilities as they negotiate and build relationships in widening fields of interaction. However, many neighbourhoods in the urban developing world are inadequate in terms of their social and physical conditions, and consequently, children's development is compromised. In this section, we will review theoretical models of child development, and will look at how these theories inform our understanding of the relation between children's capabilities and the built environment, and the role of urban spaces in this relation.

2.1 Perspectives from Developmental Psychology

Many researchers in the field of developmental psychology pay close attention to the environmental, social and cultural aspects of children's lives, placing emphasis on the unique composition of each child's context of development. As children's range of play opportunities expands during childhood, they develop a sense of attachment to certain places and landmarks of their neighbourhood. As a result, the relationship between children and their local environment becomes increasingly layered as it evolves over time. Several studies have highlighted the way children value and use their immediate environment (Bowles, 1997, Castonguay & Jutras, 2010). These studies not only reveal the intimate nature of the geographies children develop, but also the complexity of these places of play and interaction.

Drawing from Vygotsky's social learning theory, Bronfenbrenner (1994) proposes an ecological model of human development which takes into account both the characteristics of the individual as well as those of the context. According to this model, child development is fuelled and shaped by the interaction between factors in the child's maturing biology, his or her immediate family/community, and the societal landscape. The emphasis here is on the interaction between the child and the different structures of his or her environment.

In Bronfenbrenner's view, the characteristics of a child's environment should be studied on the following levels:

1. The microsystem. This is the layer closest to the child and contains the structures with which the child has direct contact. Structures in the microsystem include family, school and neighbourhood environments.
2. The mesosystem. This layer provides the connection between the structures of the child's microsystem. Examples: the connection between the child's teacher and his parents, between the police force and his neighbourhood, etc.
3. The exosystem. This layer defines the larger social system in which the child does not function directly. The structures in this layer impact the child's development by interacting with some structure in his microsystem. Examples: Parent workplace schedules or community-based family resources.
4. The macrosystem. This layer may be considered the outermost layer in the child's environment. While not being a specific framework, this layer is comprised of cultural values, customs, and laws. The effects of larger principles defined by the macrosystem have a cascading influence throughout the interactions of all other layers (Bronfenbrenner, 1994).

Some researchers have pointed out certain limitations in Bronfenbrenner's theory. Kyttä (2003), for example, affirms that the analysis of the physical environment, at the microsystems level, should be more in depth. Furthermore, although the ecological systems theory recognizes that a child's biology fuels development, the emotional dimension of an individual's relationship with the environment doesn't receive much attention in this framework. We will address this problem in the section of this paper that pertains to our research methodology.

2.2 Perspectives from Perceptual Psychology

In our discussion of the environmental factors that have an influence on child development, it is important to include the concept of *affordances* explored by Gibson (1979).

As mentioned above, good neighbourhoods offer a wide range of play affordances for children. Affordance theory states that the environment is perceived not only in terms of objects and spatial relationships, but also in terms of possibilities for action. Objects and places are perceived as functionally meaningful units, as things that can be used for a specific purpose. As Kyttä (2003) explains, "in the view of ecological perceptual psychology, perception is fundamentally goal oriented, which means that perception cannot be separated from the intentional activity with which it is connected." Gibson refers to this concept as *direct perception*; the individual and the environment are viewed as being inseparable. As such, the act of being mobile helps reveal meaningful information about the environment. Perception and action are interrelated; action generates new affordances, and the perception of new affordances creates new action. This idea coincides well with Bronfenbrenner's focus on children's interaction with the environment.

More recently, the cognitive scientist, Donald Norman, appropriated the term affordances and used it in the context of interactive design (2013). He proposed that affordances depend on the individual's capability to perceive them. In other words, perceived affordance is the quality of an object that suggests how it might be used. For example, the affordance of a fallen tree as a place to sit is dependent on both the qualities of the tree (in terms of its shape, how stable it is on the ground, etc.) and on the capabilities of the person who wants to use it (being able to notice the fallen tree's potential as a place to sit, the person's ability to climb onto it, etc.).

As Kyttä (2003) notes, newborns perceive environmental affordances immediately. They are selective towards affordances that are connected to their mothers, such as their mothers' voices. Children's perception improves as they develop more physical skills. For instance, when a child begins to walk, a new field of affordances opens up in the environment (Gibson, 1979).

Perception is thus oriented towards finding affordances in the immediate environment. Naturally, any particular setting holds countless potential affordances. A person's personal qualities, as well as his or her motivations, and other social and cultural factors determine which affordances out of all potential affordances the individual perceives in different situations (Kyttä, 2003). Sociocultural and individual factors also determine which of the perceived affordances are utilized and when they are utilized; Heft (1989) and Kyttä (2003) refer to these utilized affordances as *actualized* affordances. The present study focuses on the both the potential affordances of their neighbourhood's play spaces and the affordances that are actualized as children interact with them.

2.3 Children's Capabilities and the Built Environment

It is worth commenting here on the relation between affordances and the central concepts of the capabilities approach. The concept of affordances is useful because it helps in understanding the relationship between the individual's capabilities, on the one hand, and the properties of the environment on the other, as well as the constraints and possibilities afforded by this relationship (Uhm et al., 2011). Affordances are also useful because, unlike other aspects of the environment, they can be identified and compared, and this allows researchers and planners to better evaluate children's environments. This, in turn, helps in defining priorities for urban planning and intervention.

A variety of affordances in the built environment can contribute to children's well-being. Parks, playgrounds, safe streets, the presence of other children, interaction with adults, and even spaces without the presence of adults, are all elements that potentially increase the affordances of a neighbourhood. As they move about the urban spaces where they live, children are able to choose from the play opportunities afforded to them in their surroundings, and in the process, expand their set of capabilities.

In this manner, the perceived affordances of a neighbourhood can be viewed as a set of capabilities available to the child for play as well as other activities. Similarly, the actualized affordances relate to the tangible things a child values doing. Children are thus able to convert a set of capabilities into actual functionings (to use Sen's terminology) through their interaction with the local environment.

2.3.1 Livable cities for children. In 1970, the late MIT professor Kevin Lynch initiated a UNESCO project entitled *Growing Up in Cities* to understand low-income adolescents' use and perception of their urban environments. The goal of the project was to collect ideas and focus energies in order to design more livable cities. Subsequently, Lynch offered a treatise on what he called the *performance criteria* for good city form. Although Lynch's formulations are essentially normative, they differ from other aesthetic ideals of a good city in that they come closest to addressing the question of well-being (Uhm et al., 2011).

Here are the five basic dimensions Lynch offers as performance criteria for evaluating the quality of human habitat and their values which, of course, may vary across cultures:

1. Vitality. An environment is a good habitat if it supports the health and biological well-functioning of the individual and the survival of the species.

2. Sense. The sense of a settlement, refers to the clarity with which it can be perceived and identified, and the ease with which its elements can be linked with other events and places in a coherent mental representation of time and space and that representation can be connected with nonspatial concepts and values.
3. Fit. The fit of a settlement refers to how well its spatial and temporal pattern matches the customary behaviour of its inhabitants. It is the match between action and form in its behaviour settings and behaviour circuits.
4. Access. Access is one fundamental advantage of an urban settlement. It is a matter of potential reach, and the obstacle to it may be physical, financial, social, or psychological.
5. Control. A good settlement is one in which place control is certain, responsible, and congruent, both to its users (present, potential, and future) and also to structure of the problems of the place (Lynch, 1984).

In the 1990s, environmental psychologist Louise Chawla reinitiated the Growing Up in Cities project, but changed its focus slightly. The question of how children perceive urban space was expanded to include more practical interests related to understanding how young people use and evaluate the places where they live, and their ideas for improvements (Chawla, 1997). Since 2003, the project has been incorporated into UNESCO's MOST Programme (Management of Social Transformations) which works with governments, social and human science communities and civil societies to improve connections between knowledge and action.

According to Chawla's (2003) research, which describes findings from cities in eight different countries, children's environmental preferences remained surprisingly consistent over

the nearly three decades of the project. The findings show that the main indicators of a city's child-friendliness are: the versatility of the environment, the degree of independent mobility, social uniformity, strong communal identity and a tradition of self-help, the existence of meeting places for age peers and the existence of safe green areas, the availability of basic services, and finally, the safety and continuity of living.

Another interesting finding of Chawla's work is that, despite their diverse backgrounds, children's opinions were very similar when expressing the problems they encountered in their local environments. The principal complaints expressed by children living in urban settings are:

- Insufficient and unsafe places to play
- Dangers posed by traffic
- Harassment and public safety
- Waste management and littering

Chawla's findings show that many children in low-income communities around the world live severely constrained lives due to the indignities and risks that they face in their everyday environments. Her work also illustrates how children are well able to evaluate their own environments and recommend thoughtful ways of improving them. This point was key in the development of our pilot study, as will be detailed in the Research Methodology below.

2.3.2 Capability-based evaluation of the built environment. The erosion of adequate spaces for children in the urbanizing world and the rise in sedentary lifestyles in more developed countries have contributed to the decrease in the quality and frequency of children's play. The negatives consequences on child development have become difficult to ignore, and in response, government agencies as well as non-governmental organizations have initiated studies to explore the role of the built environment in promoting children's well-being.

Uhm, Lewis and Banerjee (2011), for their part, propose a framework for assessing the role of the built environment centered on improving children's capabilities. Although the authors of the study admit the difficulty of translating the idea of capability into performance criteria, they attempt to resolve this by using Lynch's five basic dimensions for good city form (that we have outlined above) to evaluate the degree to which an urban environment maximizes the opportunities for children to expand their capabilities.

In the framework they propose, the authors link Lynch's five performance criteria to Nussbaum's list of universal capabilities. Then, using information gathered on environmental features, they identify a coherent set of criteria to evaluate the capabilities of the built environment. In effect, this framework allows them to determine the number and diversity of environmental features that have the potential of converting capabilities into functionings, in other words, opportunities into outcomes. That said, however, we believe that the method does not sufficiently take into account two important factors that may constrain a child's relationship with his or her environment: the degree of independent mobility and the sociocultural attitudes of the child's community.

The table below (Table 1.1) synthesizes the framework proposed by the authors, coupling Lynch's performance criteria to Nussbaum's list of capabilities. In our study, we focused primarily on the criteria of fit and access since those dimensions are most closely related to play.

Table 1. Lynch's performance dimensions and children's built environment capabilities

Lynch's dimensions	**Nussbaum's central human capabilities**	**Children's capabilities**	**Built environment features**
Vitality	Life Bodily health Bodily integrity	Being able to be born healthy and to maintain health Able to lead a normal length of life Being secure against bodily accidents and assaults	Sustaining Secure Consonant
Sense	Senses Imagination and Thought Emotions	Able to make sense of place in relation to self Able to experience sensory environment Able to imagine and develop meaning	Identifiable Structured Congruent Transparent Legible Significant
Fit	Play	Able to cognitively and physically engage with environment Able to manipulate environment Able to predict events in settings and relate to them	Stable Versatile Resilient
Access	Bodily integrity Affiliation	Able to engage in social, physical, sensory and cognitive activities Being able to move freely from place to place	Diverse Equitable Locally manageable
Control	Control over one's environment	Being able to participate in environmental decision making Able to take responsibility for one's environment Able to perceive and understand environmental operations and controls	Certain Congruent Responsible Intermittently loose

Source: Uhm, J., Lewis, F., & Banerjee, T. (2011)

2.3.3 Affordance-based evaluation of the built environment. Using a different framework altogether, urban planner Marketta Kyttä focuses on the diversity of environmental resources and on access to play and exploration as the two central criteria of a child-friendly environment. According to Kyttä (2003), Gibson's concept of affordances provides valuable tools for the theoretical understanding of person-environment interactions. She notes that from the perspective of perceptual psychology, "it is possible to specify what exactly one perceives in the physical environment and why the mobility and activity of the perceiver are essential in the perceptual situation" (Kyttä, 2003). Although this perspective does not refer to the capabilities approach per se, as previously noted, the perceived affordances of a neighbourhood can be viewed as a set of capabilities available to the child for play.

Kyttä's research is primarily interested in the role of the material environment as a source of actualized affordances for children. She views affordances as parts of the process through which the child-friendliness of environments can be determined. Children's individual qualities, combined with sociocultural factors, determine the extent to which they are able to or want to explore the environment and discover affordances (2003).

She admits, however, that the evaluation model she uses has its limitations. For example, the perceived lack of safety in the social environment plays an important role in children's lives and this should be addressed in studies focusing of children's environments. Secondly, the two-dimensional assessment model could be further developed so that it includes information on the importance children attribute to each affordance. This would provide valuable insights with regards to the motivational basis of action in the environment. And finally, the cultural context in which the children develop needs to be examined in more depth in order to better understand

how the shared values, beliefs, norms and customs of the social environment shape the way children interact with each other and with their surroundings.

2.4 Urban Spaces and Cultural Capabilities

Due to Cartagena's geographical location on the Caribbean coast, most cultural activity, including play, takes place outside, and therefore, any study focusing on the built environment inevitably must examine the way children interact with the spaces of their urban environment.

Most generally, the built environment is defined as the part of the physical environment that is constructed by human activity. It consists of land use patterns, the distribution across space of activities and the buildings and locations that frame them; the transportation system, the physical infrastructure of roads, sidewalks, bike paths, etc., as well as the service this system provides (Glanz et al., 2002). For the purpose of our study, we focused on the urban spaces that are locations of play. As we will discuss later in this paper, these spaces fulfill many different social functions, some more positive than others (Blanco-Bello & Victoria-Cogollo, 2013). They are, at the same time, places where children play and socialize; where they express themselves and negotiate their identities; where they learn cultural norms and traditions; and often, defy those norms and explore new ways of doing and living.

Indeed, in Cartagena, as in many other cities, urban spaces have become vital sites of cultural learning. In these spaces, children are able to observe and interpret the behaviour of their peers and other members of the community. Urban spaces are especially important since they are places where children learn what Swidler refers to as *strategies of action*. In her definition of culture, Swidler (1986) offers the following explanation: "culture provides a repertoire of habits, skills and attitudes from which people construct strategies of action."

The term strategy is not used here in the usual sense of a plan to achieve a specific goal. Rather, it is used to express a general way of organizing action that enables one to reach several different life goals. This idea relates well to Sen's concepts of capabilities and functionings; the larger a person or a group's repertoire of cultural tools, the less constraints they have on the range of available strategies of action. Repertoires may vary not only in the content of their elements, but in the number and scope. As such, some groups or people may have greater horizons of possibility because they have a wider array of repertoires of action (Lamont, 2010).

This is where well-designed cultural infrastructure can play a significant role in enlarging people's capabilities to lead the type of life they aspire to live through full participation in cultural life and access to cultural resources in their neighbourhoods. Ideally, urban spaces should provide both children and adults with a sense of belonging, a meeting point that helps bring people together around shared interests, strengthening bonds and increasing the cultural capabilities of a community. Public policy must work towards addressing these needs.

In the following section, we will discuss the methodological aspects of our study, including a description of La Candelaria neighbourhood and its history, as well as an overview of the ethical considerations involved in conducting research with children.

3. Research Methodology

In 1972, geographer Roger Hart settled on an unusual project for his PhD dissertation. He moved to the rural New England town of Inavale, and for two years, tracked the movements of 86 children in the local elementary school, to create what he called a *geography of children*, which included actual maps that would show where and how far the children typically roamed away from home. At that time, most research on children was conducted by interviewing parents, but Hart decided to focus his study on the children's perspective. Often they took him to places adults had never seen before (Hart, 1979).

Although this method of research is no longer novel, we share Hart's belief that children should be the primary source of information in our study. Likewise, we were interested in using social cartography as our principal method of representing the data we collected with the children. Recently, participatory social mapping has become a key strategy for analysing issues in a number of fields, including contemporary urban studies.

Di Gessa (2008) defines participatory mapping as an approach that combines the tools of cartography with participatory methods to represent the spatial knowledge of local communities. It is based on the premise that members of a community have detailed knowledge of their local environments which can be expressed in a geographical framework that is easily understandable and universally recognized.

In mapping their own communities and reflecting on the maps they create, children are able to express the places and activities that are important to them. Also, in the process, they may become more aware of the relationships they build within the boundaries of their neighbourhoods and of the issues they are confronted with in their everyday lives.

In our own research, we used both participatory mapping and semi-structured interviews. The interviews were designed in order to gather information on three aspects: the neighbourhood spaces that afford children opportunities for play; the children's level of independent mobility and their perception of insecurity in each neighbourhood play space; and the children's sociocultural context to better understand their play patterns and the factors that can promote or hinder play opportunities in the context studied. The research was done by the author and three undergraduate students majoring in psychology.

Maps of the neighbourhood were also used to assist with locating participants' residences and play areas (Figure 1).

Figure 1. Participatory mapping with children of La Candelaria

Though our study was descriptive in nature, the research process followed the grounded theory approach which allowed for a cyclical activity of collecting data, analyzing, and verifying findings throughout the entire research process. This led to the development of themes and findings. Triangulation of methods and consultation with multiple researchers from multi-disciplinary backgrounds provided a strong basis for credible research (Goulding, 1999). During the analyses, findings were systematically checked for coherence.

Focus group discussions were conducted to gather the data from participating children (86 in total). Boys and girls were interviewed separately during five different sessions. Each focus group was comprised of 8 to 9 children and 2 researchers. This method proved to be useful for gathering in-depth information on aspects that are by nature more difficult to measure, such as sociocultural perceptions and attitudes towards play. This was critical in challenging preconceived notions of what we thought were important areas to explore.

Open-ended questions were asked at the end of the interviews to explore emerging themes and to encourage children to talk about aspects of play that were not covered in the questionnaire. Subsequent to the interviews, we visited each of the play spaces and took photographs of the areas in order to identify the affordances they offer to children.

3.1 Description of La Candelaria Neighbourhood

Our research was carried out between September 2014 and June 2015 with 86 children between the ages of 8 and 13 from La Candelaria neighbourhood. We chose this age range in consideration of the participants' ability to answer and understand interview questions and on the basis of whether a child could comprehend and express feelings and emotions related to play spaces. Since the study involved children, special considerations were taken during the research process. Before the interviews, we obtained written consent from the children's parents and

authorization from the school where the interviews took place. Also, children, parents and teachers were invited to ask questions about the uses of the research, how the data would be collected and how the results would be shared.

The interviews for this study were held at a local school in the heart of La Candelaria neighbourhood: Institución Educativa Omaira Sánchez (Figure 2). The school, founded in 1986, currently has 554 students enrolled in primary school and 398 in the secondary programs, most of whom live in La Candelaria or in the surrounding neighbourhoods. The children who participated in the research were students from third, fourth and fifth grade of the primary school. With the assistance of their teachers, we selected an almost equal amount of male and female students who lived in La Candelaria (45 boys and 41 girls). Children were selected based on their interest in participating. We also asked teachers to choose students of diverse interests.

La Candelaria (Figure 2) is a low-income neighbourhood that was established sixty-five years ago by Cartagena's Afro-Colombian population. It currently has approximately 13,000 residents. Regrettably, it has a history of violence and segregation. Back in 1949, Gabriel García Márquez, who at the time was working as a journalist for the local newspaper, wrote about an infanticide that occurred in the area. It is one of the five neighbourhoods of Cartagena with the highest rates of homicide and domestic violence, and it has a high prevalence of gang involvement (Goyeneche, 2013). The neighbourhood is located southeast of the city center, alongside the Ciénaga de la Virgen, a body of water which receives a large portion of the Cartagena's domestic waste by means of a system of open-air canals.

More than 80% of the neighbourhood's housing environment is composed of dwellings in precarious conditions, built with accessible low-cost materials with little formal architectural design or planning. These homes offer little protection from the elements; 64% are at risk for

flooding. Less than 3% of the neighbourhood's public space is officially dedicated to recreation (Goyeneche, 2013). Many of these recreation spaces were built a year or two prior to 2006. That year, the Central American and Caribbean Games were held in Cartagena and the local government decided to improve access to the city's main stadium by building a roadway (named Vía Perimetral) along the Ciénaga de la Virgen. Between the roadway and the water, the government also constructed a bicycle path and playing fields in an area that residents had previously occupied to build informal homes despite the proximity to the water. The present conditions of these recreational spaces are inadequate, and in general, the maintenance of physical infrastructure and the playing fields is minimal.

Figure 2. Aerial shot of La Candelaria neighbourhood

[The school is the set of buildings with the green roofs. The Vía Perimetral can be seen at left.]

3.2 Structure of the Interview Questionnaire

As mentioned above, the interview questionnaire (see Appendix A) was designed to gather data on three separate aspects:

1. Identification of neighbourhood spaces that afford children opportunities for play
2. Children's level of independent mobility and perceived insecurity in the neighbourhood
3. Sociocultural factors and the creation of opportunities for play

The first objective of this study was to identify the neighbourhood spaces that afford opportunities for play and social interaction. Similar studies (Kyttä, 2004) have used a functional taxonomy of 29 affordances derived from Heft (1989), but due to Cartagena's climate, certain affordances of this taxonomy are not possible. Prior to the interviews with the children, we spoke with members of the community, and using the taxonomy as a basis, we asked them about the most common activities and games children play in La Candelaria. Based on their responses, we created a list of 15 affordances: biking, running and jumping, skating, playing football, playing baseball or kickball, building structures with found objects, playing with animals, playing with plants and nature, swinging and hanging, climbing, digging and molding, swimming, fishing, being at peace and playing social games.

In this first part of the interview, each child was asked three questions for each affordance. For example, for the affordance of biking, children were asked the following questions (we have translated the questions to English):

1. Where do you usually go biking in your neighbourhood?
2. When was the last time you rode a bicycle in your neighbourhood?
3. On a scale of 1 to 5, how important is biking to you?

Children were shown flashcards with pictures of the activities to facilitate understanding. As they answered the first question, they would identify on a map of the neighbourhood the place where the activity normally took place. When asked about the importance of the activity, we would ask them to give us their rating by a show of fingers (from 1 to 5). As they rated the importance of each affordance, we were able to gain insight as to which activities were valued most in the community.

In the second part of the interview, we asked children questions that pertained to their level of independent mobility within the local environment. Using printed maps of the area, we first asked children if they were able to play anywhere in their neighbourhood, and if they weren't, we asked them about the areas where they couldn't play and noted the reasons they gave us. Some of the younger children had difficulty identifying certain spaces or landmarks on the map, so we recorded and later transcribed their comments.

Children were then asked about the most common routes they took within the neighbourhood. Since most of the roads of the neighbourhood are unpaved, walking is the main mode of transportation for children. We therefore asked them about their main walking trajectories. They listed 4 main routes: walking to school, walking to the store, walking to a friend or family member's house and walking to one of the neighbourhood's play spaces. To assess their level of independent mobility, we asked them if they usually walked alone, in the company of another child or in the company of an adult.

Subsequently, we asked children to tell us how safe they felt in the different play spaces of La Candelaria. For each space, they would state whether they always, sometimes or never felt safe there. As we will explain in the Discussion section below, the children's perception of

insecurity – justified or not – can impact negatively of the actualization of children's play opportunities, and consequently, on the development of their capabilities.

Finally, at the end of the interview, we asked the children open-ended questions about other games they liked to play and activities that were common in the neighbourhood that had not come up in the interviews. We also asked them about the existence of sports leagues in the area (for football and baseball) and about any activities they did at certain times of the year out of tradition or habit. This gave us a better understanding of the children's cultural context, and it also allowed us to identify the activities that are deemed positive in the neighbourhood as well as the practices that may have negative effects on child development.

In addition, the open-ended questions allowed the children to express themselves more freely and elaborate on themes of interest. This took the conversation in new directions and helped us to identify a number of strategies children used to create opportunities for play in an environment that lacked adequate spaces for recreation. The overall results of the interviews are presented in the following section.

4. Results

The analysis of the children's responses revealed a number of significant findings. The interpretation of the data was carried out separately for each of the three aspects of the semi-structured interview. In the following section, we will examine the findings of each aspect and take a closer look at the emerging themes.

4.1 Identification of Neighbourhood Spaces That Afford Opportunities for Play

After the statistical analysis of the interview responses for the list of 15 affordances, we were able to identify the neighbourhood's most common play spaces as well as the activities carried out in each of them. In all, eight play spaces were mentioned by the children:

1. The children's home or right in front of their home (Figure 3)
2. The street where they live (Figure 4)
3. The streets of the neighbourhood – within walking distance from home (Figure 5)
4. The open spaces of the Vía Perimetral (Figure 6)
5. The school playground (Figure 7)
6. The softball field behind the school (Figure 8)
7. The Surtigas playground (Figure 9)
8. The Ciénaga de la Virgen (Figure 10)

Boy and girls showed different preferences in terms of both play activities and location of play. The older boys (12-13 years-old) who we interviewed tend to prefer larger spaces, play in larger groups and farther away from home, and engage in activities that involve gross movements. Girls occupy internal or more restricted spaces, play in smaller groups, near their houses and prefer games related to social activities.

Table 2 summarizes the play opportunities that are afforded by the urban spaces of La Candelaria neighbourhood.

Table 2. Summary of play opportunities afforded by the urban spaces of La Candelaria

	Neighbourhood Play Spaces							
Affordances	1. Home	2. Street where they live	3. Barrio streets	4. Vía Peri-metral	5. School	6. Softball field	7. Surtigas play-ground	8. Ciénaga de la Virgen
1. Biking		✓	✓	✓		✓		
2. Running & jumping	✓	✓	✓	✓	✓	✓		
3. Skating	✓		✓	✓		✓	✓	
4. Playing football	✓		✓	✓	✓	✓	✓	
5. Playing baseball	✓		✓	✓	✓	✓	✓	
6. Building structures	✓	✓	✓	✓		✓		
7. Playing with animals	✓		✓	✓				
8. Playing with nature	✓	✓	✓	✓		✓	✓	
9. Swinging & hanging	✓		✓	✓	✓	✓		
10. Climbing	✓	✓	✓	✓	✓	✓		
11. Digging & molding	✓	✓	✓	✓		✓		
12. Swimming								✓
13. Fishing								✓
14. Being at peace	✓		✓					
15. Social games	✓	✓	✓	✓	✓	✓	✓	

Figure 3. Children playing in front of home

Figure 4. Children playing on the street where they live

Figure 5. Boy biking on neighbourhood street

Figure 6. Adolescents playing football in the open spaces of the Vía Perimetral

Figure 7. Children playing on school playground

Figure 8. The softball field behind the school

Figure 9. Children playing at the Surtigas playground

Figure 10. The Ciénaga de la Virgen

We were able to determine the children's preferred activities by pairing the most recently played activities and the ones which children deemed most important (see Appendix B). The preferred activities for the boys in La Candelaria are football, social games (e.g., hide and seek, tag), biking, swimming, playing with animals and playing with plants and nature. Conversely, the preferred activities for girls are kickball, social games (especially dancing and rhythmic hand clapping), running and jumping, playing with animals and playing with plants and nature. Both boys and girls were very knowledgeable in terms of the names of trees in their neighbourhood. For the boys, the most frequent place for group activities and sports is the streets of the neighbourhood. Many of the older boys also enjoy playing in the open spaces of the Vía Perimetral and swimming in the Ciénaga de la Virgen. For the girls, on the other hand, the most frequent place for play is at school (for running, jumping and kickball) and at home or in front of their house (for social games). Both boys and girls enjoy playing with animals and plants in the patio of their homes where most families of the neighbourhood keep pets and livestock.

Surprisingly, the least preferred place for playing was the Surtigas playground which was donated to the neighbourhood by the private sector approximately six years ago. The playground has a basketball court, swings, slides and a seesaw. When asked why they didn't use it, the children said that the gates to the playground were kept locked most of the time. The keys are kept in a house next to the playground and children who want to play there have to ask for the gates to be opened. They also mentioned that a group of older boys had damaged some of the play equipment and benches. The activities that they engage in at the playground are football, baseball and skating on the concrete surface (the majority of the streets of the neighbourhood are not paved). When asked why they didn't play basketball there, the children mentioned that none of them had a basketball, but that they did play sometimes with a football.

In terms of actualized affordances, the results of the study show that the neighbourhood spaces of La Candelaria do offer children opportunities for play. However, children complained about the poor conditions of many of the spaces that were specially designed for play. In particular, they referred to the deficient maintenance of the softball field and the spaces along the Vía Perimetral road (an area they call the *Terraplén*). They cited many problems, such as the inadequate disposal of waste (especially in the Ciénaga), poor lighting, lack of shade and the perception of insecurity that are prevalent along the roadway. These problems not only deter the use of these spaces, but also create a vicious circle of neglect: as less people make use of the area, local authorities feel less obligated to maintain the neighbourhood's public spaces in optimum conditions. Some architectural interventions aimed at improving the play spaces have occurred, but most work has been remedial, and has failed to significantly increase their use.

4.2 Level of Independent Mobility and Perceived Insecurity

The findings regarding children's level of independent mobility and perceived insecurity were valuable for a number of reasons. In the first place, they were helpful in giving us a broader view of the children's territory of play; the urban environment is a shared space that offers many opportunities to a growing child, but many challenges as well. Second, the interview responses showed the extent to which children are keenly aware of their surroundings. As they develop, children must negotiate their way through a series of increasingly complex relationships with their physical and social world, and in the process, they learn from everything they see, feel and hear around them.

Predictably, the results revealed that the older children (12-13 year-olds) have a larger play range compared to the younger ones; they look for more open spaces as they tend to prefer games that require more freedom of movement. Although the results support children's

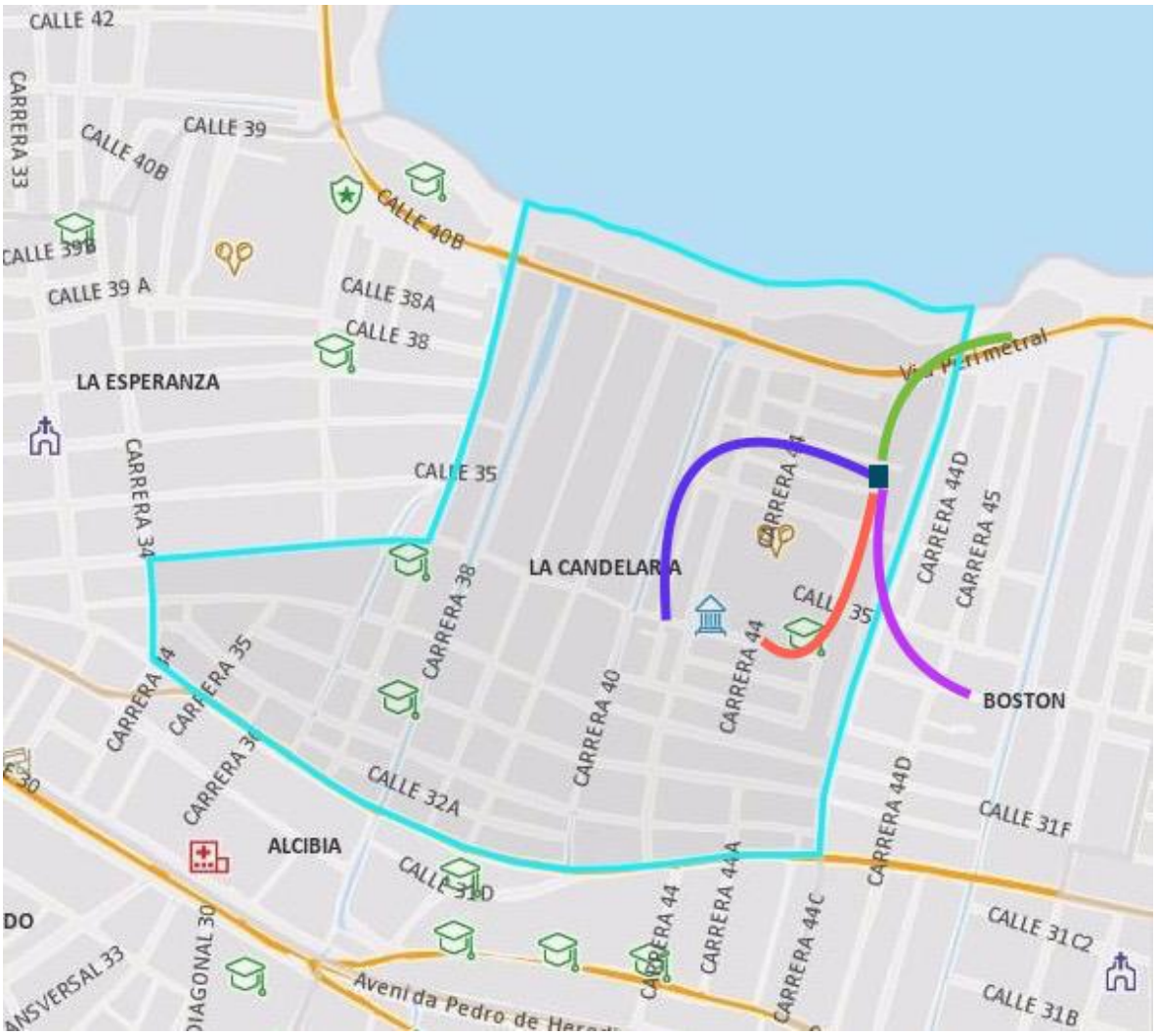
tendency to gradually expand their play range, the majority of the children (more than 70%) stated that their mobility was restricted due to the fact that there were invisible borders within the neighbourhood that separated gang territories. They said they avoid crossing these borders as they walk around the neighbourhood in order to steer clear of any possible confrontations. In particular, the open spaces along the Vía Perimetral have become a focal point of conflict. Territorial clashes take place on the main road where groups of adolescents of opposing gangs throw stones and other makeshift weapons at each other. For this reason, many of the younger children we interviewed said that they avoid the area.

When we examined the children's level of independent mobility in terms of their walking routes, the results were varied (see Appendix C). Most children (81%) reported that they walk to the store alone almost on a daily basis. Their parents send their children frequently to buy what they need for cooking. Since their trips are brief, they seldom go accompanied by someone. In contrast, more than half the children reported walking to a friend's house or to school in the company of another child or an adult. Most of the younger children stated that their parents did not let them walk to those places alone, while the older ones mentioned that they themselves preferred walking with a friend or sibling for company. Figure 12 shows the four most common walking routes of an 11 year-old boy, using his house in the Omaira Sánchez sector of the neighbourhood (close to the school) as a starting point.

The children we interviewed expressed that they seldom venture outside of La Candelaria and its immediate neighbourhoods. On occasion, they accompany their parents to the market or the city center, and sometimes go on family outings to the beach. This restricted movement limits children's expanding capabilities, as they don't have many opportunities to interact with the rest of the city. As such, the children of the neighbourhood are segregated from Cartagena's

sociocultural practices on a larger scale. It is important for them to feel part of a larger community and to have the opportunity to experience news ways of being and doing in an ever-widening field of action.

Figure 12. Common walking routes of an 11 year-old boy from La Candelaria



Legend: Blue lines represent the limits of the neighbourhood; orange lines are the main roads; the dark blue line is the boy's route to the convenience store; the green line is the route to the play spaces of the Vía Perimetral, the purple line is the route to a friend's house; the red line is the route to school. Map produced by Cartagena's mayor's office (2015).

With reference to the perception of insecurity in the neighbourhood, the children's responses reflected a wide range of emotions and experiences. Most of children spoke about La Candelaria in positive terms and showed a sense of attachment to many of the places we discussed, such as the school and their home environment. For example, when asked if they knew people in their neighbourhood who could help them if they felt in danger, the vast majority of children said yes. On the other hand, many children narrated personal encounters with violence and spoke of a generalized sense of insecurity in the neighbourhood, especially in the play spaces along the Vía Perimetral. Here are some of the comments we recorded (we have translated them into English):

"My favorite place to play is my house because I feel safe there" (girl, 8 years old).

"At school we all feel safe, but when we leave we have to be careful because sometimes there are fights in the street" (boy, 9 years old).

"There's some good places to play football near the water, but it's not very safe there. That's where the bigger kids fight and do drugs" (boy, 10 years old).

The overall results pertaining to the perceived insecurity for each of the neighbourhood's play spaces can be found in Appendix D. Children stated that they felt safest on the street where they live, followed by the school, the softball field behind the school, the Surtigas playground, and finally, the open spaces of the Vía Perimetral.

For future research, we would suggest to interview the children's parents as well, in order to obtain further information on the perception of insecurity and on the children's independent mobility. It would be useful to gather data on the amount of time children played outside without adult supervision. This would require more specialized research methods and instruments, such as GIS mapping.

4.3 Cultural Practices That Shape Children's Play

The open-ended questions in the final section of the interview allowed us to gather information on the cultural practices that shape play patterns in the community. These findings were important in illustrating the role culture plays in shaping and guiding children's play activities and interactions. Within the past decade, there has been increased attention to the role of culture in children's play (Holmes, 2011). These studies highlight children's active role in shaping their play, the relationship between culture and play, and how children pass along these traditions to each other. Traditional games have shared traits, and invariably, involve one or several of the following elements: physical skill, repetition of patterns, strategy and chance, creativity and risk-taking. We observed many of these elements in the games of La Candelaria.

In our conversations with the children, we realized that many of the traditional games they play were not included in our list of affordances. These activities are visibly shaped by the cultural practices and traditions of the community. Some activities, for example, are performed almost exclusively during the holidays. Fishing in the Ciénaga de la Virgen, for instance, is an activity that many boys do with their fathers during the months of December and January, and during the Easter break. Other games and activities are associated with Cartagena's Independence celebrations in the month of November. Another example is the tradition of *tintililillo*, celebrated on All Saints' Day (November 1st). On this day, children go from house to house asking for ingredients to make a communal soup by singing rhyming songs. This is local variant of the tradition of Halloween, which has become popular in Latin America as well, albeit at a more commercial level. It has actually displaced the tradition of *tintililillo* in the more affluent neighbourhoods of Cartagena.

Other traditional games involve the demonstration of physical dexterity and creativity. Every August, taking advantage of the beginning of the windy season, children celebrate kite month by flying handmade kites crafted with found material such as plastic bags. Another familiar game in the neighbourhood, played mostly by younger boys, is marbles. Throughout the neighbourhood, they dig holes in the ground to trap the marbles and compete with each other. At their school, the open spaces between the classrooms were riddled with these small trenches. Also popular is a game called "Jimmy". Children stack bottle caps to create towers and the objective is to try to build the tower without getting tagged out by the opposing team. This game is very popular in working-class neighbourhoods throughout the coastal region of Colombia and is played in almost any open space children can find.

Figure 13. Boys playing with marbles at school

Girls, for their part, told us how they enjoyed dancing and playing rhythmic hand clapping games, especially at school and at home. These games are indeed common in countries around the world and support the idea that girls show a preference for more intimate social games. Music in general is ever-present in Cartagena and accompanies people everywhere as they go about their daily lives. In La Candelaria, families traditionally listen to music on loudspeakers referred to locally as picós (derived from the English "pick-up"). Music played through sound systems is a predominant feature of the local musical culture, as it is in many regions of the Caribbean. In fact, the sound system culture has permeated the city's cultural landscape for the past forty years, and has been vital in creating new musical styles in Cartagena, infusing local rhythms with imported sounds from Africa and the Caribbean. In the 1970s, West African music became popular in the areas of the city inhabited by urban and displaced Black populations, like La Candelaria. Most weekends, local DJs and aficionados play music from their home systems and the volume can reach exceptionally high levels. Sound system culture is competitive and DJs show their prowess by attaining the loudest sound possible without distortion. People of all ages dance to the rhythms they play, and naturally, the neighbourhood children observe and imitate their movements from a very early age.

These musical practices and traditions are an integral part of the community, and as such, they have a positive impact on a child's sense of identity. If we look at other dimensions of child development, however, certain aspects of these practices may also have negative effects, especially in the context of the children's home environment. When asked if there were places in their neighbourhood for quiet play, several children expressed that it was difficult for them to find a place where they could be at peace. The main reasons they gave were related to noise levels in their immediate vicinity and overcrowded living conditions. The consequences of high

levels of environmental noise have been well studied in urban contexts and research has shown that children exposed to noise in learning environments can experience trouble with reading abilities, cognitive development and motivational tasks. Likewise, studies have found that children who live in crowded environments have higher levels of behavior difficulties in school. These effects are intensified if children reside in large, multifamily structures (Evans, 2006). As such, it is important to consider both the positive and negative aspects of a community's cultural practices in terms of their effect on the developing child. Further studies are needed to examine the positive effects of these musical traditions and cultural practices in terms of the capabilities they are able to generate. By the same token, the community has an interest in providing spaces dedicated to music practice and performance, and in limiting noise levels in the neighbourhood to provide children with a healthy environment in which to develop, learn and grow.

The games and traditions described above effectively illustrate the sociocultural factors that influence the quality of children's play. They also support the contemporary view that play is both a universal and culture-specific activity (Lancy, 2002). Through play and imitation, children acquire the values, skills and abilities embedded in their community's evolving cultural identity.

5. Discussion

The research outlined above examines the physical, psychological and sociocultural factors that affect the quality of children's play in La Candelaria. The consideration of these factors was useful in identifying the constraints and possibilities afforded by the children's environment. In the following section, we will discuss the findings in relation to the specific objectives of the pilot study.

5.1 Spaces That Offer Opportunities for Play

This first objective was to determine both the quantity and diversity of play affordances in La Candelaria. In terms of Lynch's performance criteria for good city form, this objective refers to the dimension of 'Fit', i.e., how well the spatial features of the built environment match the developmental needs of the children.

In the case of La Candelaria, we found that the built environment does offer children opportunities for play and social interaction, however, some aspects of the physical conditions of the children's play spaces are not entirely adequate for healthy development. In particular, the lack of maintenance of the play areas, the insufficient infrastructure for waste disposal and the resulting pollution of the Ciénaga discourage children's exploration of their surroundings, thus limiting the range of play opportunities. Referring back to Lynch's performance dimensions and the capabilities of the children's built environment (Table 1), these conditions do not promote children's physical engagement with the environment or the ability to manipulate it. In point of fact, some of the children's attempts at adapting the spaces have been discouraged by the local authorities. For example, at the beginning of 2015, children built a makeshift football field next to a recently constructed school along the Vía Perimetral that provided some shade in the hours of the afternoon (Figure 14).

Figure 14. Makeshift football field next to a school along the Vía Perimetral

Figure 15. Fencing in of school 6 months later to prevent children's appropriation of the space

Six months later, the school's administration had dismantled the improvised goals and installed a two-meter high fence around the area, thus discouraging any football games next to the school (Figure 15). As such, children's efforts to create new play opportunities were swiftly disallowed.

In her own research, Kyttä (2004) refers to four hypothetical environmental types when describing environments in terms of child friendliness: *Bullerby*, *Glasshouse*, *Wasteland* and *Cell*. The opportunities for the actualization of affordances vary in each of these four environments. The Bullerby-type environment is any diverse environment that children are able to explore freely. In the Glasshouse, the environment is diverse and attractive, but it cannot be accessed freely. An extreme example of this kind of an environment is a place riddled with landmines where children are forced to play in a very restricted area. In the Wasteland, the environment is empty of things for children to discover; its affordances are few or not diverse. And in the Cell, children are completely restricted from exploring the affordances of their immediate environment.

Using this perspective in the case of La Candelaria, we could say that the open spaces along the Vía Perimetral and the softball field behind the school are very close to becoming Wastelands if the local government continues to neglect the upkeep of these spaces. They need better lighting and shade, well-paved paths for biking, places to sit and rest, playing fields for sports other than football and softball as well as green spaces for free exploration. In other words, they need to offer a more diverse range of play opportunities and recreation for the community.

A growing body of research correlates the physical characteristics of neighbourhoods with the health and wellbeing of their residents. Evans (2006) review of research into the effects

of chronic environmental stress highlights the cumulative effect of deficient environments for children living in low-income neighbourhoods. Environmental stresses, inadequate structural conditions and dull physical environments all affect the quality of children's play and, therefore, constrain the development of their capabilities. More has to be done in order to improve the urban spaces where children play. This can be done by first recognizing the community's assets. When we compare the play habits of the children of La Candelaria to wealthier neighbourhoods of Cartagena, we realize the extent to which children's activities are performed outside in public spaces. This should be encouraged. Seeing children use the street, the sidewalk, the front of buildings and other public spaces actually reinforces the notion that the neighbourhood spaces are actually places for children to enjoy. If we don't recognize these attributes, we will be unable to plan in ways that strengthen and build on these qualities.

5.2 Factors That Limit Children's Opportunities for Play

The second objective was to determine the factors that may limit children's opportunities for play. This objective refers most closely to Lynch's dimension of 'Access', i.e., the child's ability to move freely from place to place in the environment where they live and the child's capability to engage in social, physical, sensory and cognitive activities.

Our findings suggest that the principal factor limiting children's capabilities in La Candelaria is the perception of insecurity. It is difficult to refute that the feelings of insecurity experienced by the children have a significant impact on their development. Our intention in stating this is obviously not to perpetuate the stigma of violence that has long been associated with these communities. However, we do find it important to recognize the area's vulnerability to violence. Children and young adults need to be able to explore their environment freely and, in the process, gradually broaden their relational world. As such, it is vital for children to have

safe environments in which to grow. Feelings of environmental insecurity can have a strong impact on perceived quality of life and the general well-being of urban neighbourhoods. Research has shown that early exposure to circumstances that produce persistent fear can have lifelong effects on how children learn, solve problems, and relate to others (National Scientific Council on the Developing Child, 2010).

Notwithstanding its social vulnerability, La Candelaria has positive aspects that should be emphasized. As mentioned above, many children expressed a sense attachment to the neighbourhood, which seemed to lower the sense of insecurity for some of the younger children. Also, the neighbourhood is pedestrian-oriented which strengthens this sense of attachment and ties with neighbours. Children know the community well and the people who live in it. In terms of capabilities, these attributes allow children to make sense of their environment, predict events in different settings and develop a definite sense of belonging.

Blinkert (2004) outlines the importance of viewing local neighbourhoods as 'action spaces', a territory close to home which offers opportunities for interaction with other children. Through this interaction, children also learn to adapt to the particular conditions of their surroundings, adopting individual and collective strategies that offer some sense of protection. Some of these strategies, however, potentially encourage further violence as they focus on defending the children and their 'territory' from neighbouring gangs (Massey, 1995).

Unless the children's quality of life improves, this cycle of violence is likely to continue. Recent studies have started to address these issues of well-being by focusing attention on urban settings with a high incidence of addictive behaviour, referring to these settings as 'ecologies of addictions' (Laskow, 2015). Using a methodology called 'ecological momentary assessment', researchers measure participants well-being by asking them questions related to the

surrounding environment at random moments of the day by means of a cellphone app: Do you see trees? Is it noisy? Can you open a window? These are followed by other questions related to the person's well-being: How stressed do you feel right now? How clear do you feel about your ability to make decisions? Do you feel connected with other people? Do you feel safe right now?

The idea is to acquire multiple measurements of a person's environment and their feelings and behaviours, in order to try to understand the relationship between the two. The app also acquires specific geographical information about where the person is located when he or she completes an assessment. Therefore, the researchers obtain both the subjective description of the environment and objective information about that location. In the preliminary analysis of the data so far collected, the strongest relationship is related to nature: when people could see trees, their level of reported well-being was higher. There was also an effect of noise: with higher levels of noise, the level of well-being was lower. Having a better understanding of the complex relationship between the built environment of the city and unhealthy behaviour, such as aggression and addiction, is crucial to think of ways to improve neighbourhoods' quality of life.

5.3 Cultural Practices and the Creation of Play Opportunities

The last objective allowed us to explore the role of culture in shaping and guiding children's play. Since the capabilities-based model proposed by Uhm, Lewis and Banerjee and the affordances-based model proposed by Kyttä do not specifically address the cultural factors that determine the child-friendliness of environments, we decided to include this aspect in the framework of our methodology.

In the findings of our research, we can clearly observe how the cultural traditions present in La Candelaria contribute to the creation of children's play opportunities. As such, play is an important vehicle for cultural learning and transmission, since children acquire both cultural

skills and meaning through play and traditional games. At the same time, it is through play that children transform their culture into something new; as they engage in playful activities, children learn to negotiate with their peers and with the norms and values of their widening social world. In the case of La Candelaria, much of this negotiation takes place outdoors in the public spaces of the neighbourhood. It is therefore important to consider the cultural capabilities that children are able to develop through their interaction with others within these spaces.

In a general sense, cultural capabilities can be defined as the capabilities that allow individuals, groups and communities to satisfy their cultural needs. They consist of the set of elements that allow citizens to exercise their right to participate in cultural life and and to enjoy their achievements (Martinell, 2013). In the context of La Candelaria, cultural capabilities appear to be stronger at the individual and group level than at the organizational or institutional level. Table 2 summarizes these strengths and weaknesses observed during our study.

Table 2. Strong and weak cultural capabilities as evidenced in La Candelaria

Strong Cultural Capabilities		Weak Cultural Capabilities
Individual Capabilities	**Group Capabilities**	**Organizational Capabilities**
Exercising freedom of expression, sensitivity, creativity and the traditions of one's own culture	Participating freely in the cultural life of the community of reference	Structuring cultural organizations at different levels based on the needs of the context
Possessing capabilities that enable different artistic expressions (such as manual skills, communication, movement, etc.)	Transmitting clearly and adequately the community's memory and cultural historical knowledge to the new generations in order to preserve them and avoid them falling into oblivion	Maintaining an effective dialogue and forms of cooperation between civic cultural organizations and the public administration
Understanding and appreciating one's own heritage and cultural memory	Promoting, disseminating and sharing within the community the cultural resources and the cultural potentials of its members	Establishing relationships between the public cultural management, civil society, and the private sector

When we consider the fact that communities like La Candelaria develop on their own, with few resources and little outside support from the local government, the occurrence of weak organizational capabilities and lack of proper infrastructure is not particularly surprising. Neighbourhoods such as these strive on informality: the ability of people to respond to their needs with whatever resources they have available. This scarcity of resources fosters a high level of innovation and exchange and produces highly social, creative thinking. However, the social and cultural services of the community need to be strengthened in order to provide children with an adequate cultural infrastructure. It is worth noting that La Candelaria lacks a well-equipped library and an adequate cultural centre for public performances.

Children have the right to participate fully in the cultural life of their community. As such, they need to have access to a number of cultural resources, as well as a variety of opportunities to play and interact with others, in order to further develop their cultural capabilities. Hannerz (1969) refers to this as a process of mapping and developing a repertoire of cultural tools. Our research is a step in this direction; however, further research is required in order to better understand the impact of cultural factors on children's play activities and interactions.

6. Conclusion and Recommendations

Our pilot study set out to examine the relationship between the environmental quality of the play spaces in La Candelaria and the evolving capabilities of the children who live there. The methodology we used took into consideration various aspects of this relationship: the affordances of the built environment, the degree to which children are able to explore their neighbourhood, the feelings they attached to different places in it, and finally, the sociocultural factors that affect the quality of children's play. Studying all of these aspects helped us to identify the constraints and possibilities afforded by the children's environment. The findings revealed a culturally vibrant community whose children adapt to inadequate play conditions through a series of strategies that have both positive and negative consequences on the development of their capabilities. Intervention of the built environment is needed to improve the diversity of play opportunities and children's ability to move around independently in the public spaces of their neighbourhood.

Hart (2002) affirms that any city wishing to improve its planning of public spaces with the needs of children in mind must develop and present a clear vision of why children's play is important to its citizens. In the city of Cartagena, unfortunately, public policy for children and youth is poorly defined and lacks clear implementation strategies. The local government has established three priorities to promote recreation and play in Cartagena: construction of play centres for early childhood, increase of children's participation in cultural programs and sporting events, and improvement of sports facilities. However, the entities responsible for tracking these priorities have not consistently kept records of the actions that were taken for each of them, and therefore, cannot clearly measure the advances made between 2008 and 2014, years for which the priorities had been established (Arrieta, 2014).

In addition to the lack of data to measure progress, the priorities are solely focused on organized sports, recreational facilities and cultural programs, with no provisions for improving the quality of neighbourhood play spaces. It is in the interest of city government to evaluate the quality of children's play spaces in the different neighbourhoods of Cartagena. Every year, *Cartagena Cómo Vamos*, a private sector initiative that measures changes in the quality of life in Cartagena, publishes a report with statistics in areas such as education, health, security, public services, housing, environment, public space, road infrastructure, urban mobility, economic development, poverty and inequality. The report could be broadened to also include an evaluation of the quality of the play spaces for other neighbourhoods of the city.

It is important to mention some of the limitations of our pilot study in order to improve future research in an area of urban studies that has been underexplored in Colombia. Limitations include the relatively small sample size; a lack of data on adults' perception of children's independent mobility; and a lack of specialized equipment to measure children's mobility without adult supervision. In addition, future research should contemplate focusing on all of Lynch's performance criteria for good city form and include the study of educational initiatives that promote child participation, such as the ones lead by the artist, Jorge Raedó, in Bogotá (Raedó, 2014).

Our methodology of social cartography, however, could easily be replicated and adapted to collect more data on children's level of independent mobility as well as information on children's ideas for improving their neighbourhood's play spaces. Children's participation in processes aimed at improving their local environments is important because, first and foremost, the communities benefit from the insights and perspectives that children can provide.

Furthermore, their involvement ensures that they gradually acquire skills that will stay with them into adulthood; active participation leads to active citizens in the future (Matthews, 2001).

Local governments must place children at the forefront of social policy and do more to enhance their quality of life. Improving the environments where children grow and play is important for two fundamental reasons: first, because all children need play opportunities for their full development; and second, because play in public space is a necessary condition of the generation of culture (Hart, 2002). All children grow and learn through a process of observation and interaction (Rogoff, 2003). As children play, they imitate and reflect the games and activities of the world around them, and in the process, they become members of a cultural community. If we don't lessen the constraints on children's opportunities for play and social interaction, we are depriving them of their cultural rights as well as the possibility to improve their well-being.

Children living in low-income neighbourhoods are confronted by many factors in their social and physical environment that hinder the quality of their play. However, we should carefully observe what happens informally in these communities, in terms of the strategies children adopt to create play opportunities for themselves, and then strengthen these initiatives through formal interventions. In this way, children can participate in the planning process and gain both a valued role within the local community and an increased sense of connectedness with the places where they live and grow.

7. References

Alcadía Mayor de Cartagena de Indias (2015). Mapa Interactivo de Asuntos del Suelo – MIDAS. Retrieved from http://midas.cartagena.gov.co/

Al-Khalaileh, E. A. (2004). *Understanding children's environments: The effect of outdoor physical environments on children's activities and quality of life within Al-Wihdat Palestinian refugee camp and environs in Amman, Jordan*. Raleigh: North Carolina State University. Retrieved from http://repository.lib.ncsu.edu/ir/bitstream/1840.16/4512/1/etd.pdf

Amin, A. (2006). *Collective culture and urban public space*. Barcelona, Spain: Centre de Cultura Contemporània de Barcelona. Retrieved from http://www.publicspace.org/es/texto-biblioteca/eng/b003-collective-culture-and-urban-public-space

Arrieta, R. (2014). *Política pública de infancia y adolescencia en Cartagena: Balance y perspectivas*. Cartagena, Colombia: Universidad de Cartagena (IPREG).

Baraldi, C., & Iervese, V. (2014). Observing children's capabilities as agency. In D. Stoecklin & J. M. Bonvin (Eds.), *Children's rights and the capability approach* (pp. 43-66). London, United Kingdom: Springer.

Bartlett, S. (1999). Children's experience of the physical environment in poor urban settlements and the implications for policy, planning and practice. *Environment and Urbanization*, 11(29), 63-73.

Blanco-Bello, R., & Victoria-Cogollo, K. (2013). Los espacios públicos en sectores populares de Cartagena: lugares de encuentro y desencuentro. *Entramado*, 9(2).

Blinkert, B. (2004). Quality of the city for children: Chaos and order. *Children, Youth and Environments*, 14(2), 99-112.

Bowles, R. (2004). Children's understanding of locality. In S. Catling & F. Martin (Eds.), *Researching Primary Geography* (pp.29 -42). London, United Kingdom: University of Greenwich.

Boyden, J. & Dercon, S. (2012). *Child Development and Economic Development: Lessons and Future Challenges*. Oxford, United Kingdom: University of Oxford.

Bronfenbrenner, U. (1994). Ecological models of human development. In *International Encyclopedia of Education* (2nd ed., Vol. 3, pp. 1643-1647). Oxford, United Kingdom: Elsevier.

Burchardt, T., Tsang, & T., Vizard, P. (2009). *Specialist consultation on the list of central and valuable capabilities for children*. London School of Economics, London, United Kingdom.

Castonguay, G. & Jutras, S. (2010). Children's use of the outdoor environment in a low-income Montreal neighbourhood. *Children, Youth and Environments*, 20(1), 200-230.

Chawla, L. (1997). Growing up in cities: A report on research under way. *Environment and Urbanization*, 9(2), 247-251.

Chawla, L., & Salvadori, I. (2003). Children for cities and cities for children: Learning to know and care about urban ecosystems. In A. R. Berkowitz, C. H. Nilon, K. S. Hollweg (Eds.), *Understanding urban ecosystems* (pp. 294-314). New York, NY: Springer.

Di Gessa, S. (2008). Participatory Mapping as a Tool for Empowerment. *International Land Coalition*. Retrieved from http://www.iapad.org/wp-content/uploads/2015/07/08_ilc_participatory_mapping_low.pdf

Evans, G.W. (2006). Child development and the physical environment. *Annual Review of Psychology*, 57, 423-451.

Fernández, A. (2012). Strategies and tactics in public space. *a+t architecture*, 38.

Fraser, B. (2007). Manuel Delgado's urban anthropology: From multidimensional space to interdisciplinary spatial theory. *Arizona Journal of Hispanic Cultural Studies*, 11, 57-75.

Freeman, C., & Tranter, P. (2011). *Children and their urban environment: Changing worlds*. London, United Kingdom: Earthscan.

Frost, J. L., Brown, P. S., Sutterby, J. A. & Thornton, C. D. (2004). *The developmental benefits of playgrounds*. Olney, MD: Association for Childhood Education International.

Gharahbeiglu, M. (2007). Children's interaction with urban play spaces in Tabriz, Iran. *Visual Studies*, 22(1), 48-52.

Gibson, J. J. (1979). The ecological approach to visual perception. Boston, MA: Houghton Mifflin.

Glanz, K., Handy, S. L., Henderson, K. E., Slater, S. J., Davis, E. L., Powell, L. M. (2016). Built environment assessment: Multidisciplinary perspectives. *SSM – Population Health*, 20, 24-31.

Goulding, C. (1999). *Grounded theory: Some reflections on paradigm, procedures and misconceptions*. WP006/99. University of Wolverhampton, United Kingdom.

Goyeneche, F., Pardo, J. & Mármol, O. (2013). *Diagnóstico general de la situación de violencia y criminalidad en Cartagena de Indias: Período 2008-2012*. Cartagena, Colombia: Alcaldía Mayor de Cartagena de Indias.

Hannerz, Ulf. 1969. *Soulside: Inquiries into Ghetto Culture and Community*. New York, NY: Columbia University Press.

Hansen, J. (2015). *Locating capabilities in the built environment: Socio-spatial products and processes and the capability approach*. London, United Kingdom: University College London.

Harker, C. (2005). Playing and affective time-spaces. *Children's Geographies*, 3(1), 47-62.

Harloff, H. J., Lehnert, S., & Eybisch, C. (1998). Children's life worlds in urban environments. In D. Görlitz, H.J. Harloff, G. May & J. Valsiner (Eds.), *Children, cities, and psychological theories: Developing relationships* (pp. 55-84). Berlin, Germany: De Gruyter.

Hart, R. (1979). *Children's experience of place*. New York, NY: Irvington.

Hart, R. (2002). Containing children: Some lessons on planning for play from New York City. *Environment and Urbanization*, 14(2), 135-148.

Heft, H. (1989). Affordances and the body: An intentional analysis of Gibson's ecological approach to visual perception. *Journal for the Theory of Social Behaviour,* 19(1), 1-30.

Holmes, R. (2011). Adult Caregiver Attitudes and Beliefs Regarding Play in Lana'i, *American Journal of Play, 3*, 424-452.

Huizinga, J. (1938). *Homo ludens: A study of the play-element in culture*. Boston, MA: Beacon Press.

Human Rights Office of the High Commissioner. (1990). *Convention on the rights of the child*. New York, NY: United Nations.

Hüttenmoser, M. (1995). Children and their living surroundings: Empirical investigations into the significance of living surroundings for the everyday life and development of children. *Children's Environments*, 12(4), 1-16.

Iervese, V., & Tuttolomundo, L. (2014). Youth agency and participation outside the classroom. In C. S. Hart, M. Biggeri & B. Babic (Eds.), *Agency and participation in childhood and youth* (pp. 243-2599. London, United Kingdom: Bloomsbury.

Jones O., (2009). Approaching the otherness of childhood: Methodological considerations. In L. Van Blerk & M. Kesby (Eds.), *Doing children's geographies: Methodological issues in research with young people* (pp. 195-212). London, United Kingdom: Routledge.

Kyttä, M. (2003). *Children in outdoor contexts: Affordances and independent mobility in the assessment of environmental child friendliness*. Helsinki, Finland: Helsinki University of Technology. Retrieved from http://lib.tkk.fi/Diss/2003/isbn9512268736/isbn9512268736.pdf

Kyttä, M. (2004). The extent of children's independent mobility and the number of actualized affordances as criteria for child-friendly environments. *Journal of Environmental Psychology*, *24*, 179–198.

Lamont, M., Small, M. L., & Harding, D. J. (2010). Reconsidering Culture and Poverty. *The Annals of the American Academy*, 649, 6–27.

Lancy, D. (2002). Cultural constraints on children's play. In J. Roopnarine (Ed.), *Conceptual, social-cognitive, and contextual issues in the fields of play. Play & Culture Studies. Vol. 4* (pp. 53-62). Westport, CT: Ablex Publishing.

Laskow, S. (2015). "Urban Mind" app will examine how cities encourage our addictions. *Next City*. Retrieved from https://nextcity.org/daily/entry/cities-place-addictions-urban-mind-app

Lester, S., & Russell, W. (2008). Play for a Change: Play, policy and practice: A review of contemporary perspectives. London, United Kingdom: National Children's Bureau.

Lissy, R. (2006). *Where do children play? The Urban Spaces Project at PS X*. Stanford University. Stanford, CA. Retrieved from http://caselib.stanford.edu/sites/default/files/cases/Lissy_case.pdf

Luken, E. (2007). *Children's power over play: A cultural geography of playspaces in America*. Cincinnati, OH: University of Cincinnati.

Lynch, K. (1984). *Good city form*. Cambridge, MA: MIT Press.

Mackett, R., Brown, B., Gong, Y., Kitazawa, & K., Paskins, J. (2007). Children's independent movement in the local environment. *Built Environment*, 33(4), 454-468.

Malone, K., & Tranter, P. (2003). Children's environmental learning and the use, design and management of schoolgrounds. *Children, Youth and Environments*, 13 (2). Retrieved from http://www.colorado.edu/journals/cye/13_2/Malone_Tranter/ChildrensEnvLearning.htm

Martinell, A. (2013). *Impactos de la dimensión cultural en el desarrollo*. UNESCO Chair in Cultural Policies and Cooperation. Girona, Spain: Universidad de Girona.

Massey, D. S. (1995). Getting away with murder: Segregation and violent crime in urban America. *University of Pennsylvania Law Review*, 143, 1203-1232.

Matthews, H. (2001). *Children and community regeneration: Creating better neighbourhoods*. Save the Children. London, United Kingdom.

National Scientific Council on the Developing Child. (2010). *Persistent Fear and Anxiety Can Affect Young Children's Learning and Development*. Working Paper No. 9. Retrieved from http://developingchild.harvard.edu/wp-content/uploads/2010/05/Persistent-Fear-and-Anxiety-Can-Affect-Young-Childrens-Learning-and-Development.pdf

Norman, D. A. (2013). *Design of everyday things: Revised and expanded*. New York, NY: Basic Books.

Nussbaum, M. (1999). *Sex and social justice*. Oxford, United Kingdom: Oxford University Press.

Nussbaum, M. (2011). *Creating capabilities: The human development approach*. Cambridge, MA: Harvard University Press.

Raedó, J. (2014). Colombia y la educación de arte y arquitectura para niños. *Fronterad*. Retrieved from http://fronterad.com/?q=bitacoras%2Fjorgeraedo%2Fcolombia-y-educacion-arte-y-arquitectura-para-ninos

Rasmussen, K. (2004). Places for children – Children's places. *Childhood*, 11(2), 155-173.

Rogoff, B. (2003). *The cultural nature of human development*. Oxford, United Kingdom: Oxford University Press.

Segovia, O. & Jordán, R. (2005). *Espacios públicos urbanos, pobreza y construcción social*. New York, NY: United Nations.

Sen, A. (2000). *Development as freedom*. New York, NY: Anchor.

Shaw, B., Bicket, M., Elliott, B., Fagan-Watson, B. & Mocca, E. (2015). *Children's independent mobility: an international comparison and recommendations for action*. Public Studies Institute. London, United Kingdom: University of Westminster.

Spencer, C., & Blades, M. (2005). *Children and their environments: Learning, using and designing spaces.* Cambridge, United Kingdom: Cambridge University Press.

Swart-Kruger, J. & Chawla, L. (2002). "We know something someone doesn't know": Children speak out on local conditions in Johannesburg. *Environment and Urbanization*, 14, 85-96.

Swidler, A. (1986). Culture in action: Symbols and strategies. *American Sociological Review*, 51(2), 273-286.

Uhm, J., Lewis, F., & Banerjee, T. (2011). Children's capabilities: Toward a framework for evaluating. the built environment. In M. Biggeri, J. Ballet, & F. Comim (Eds.), *Children and the capability approach* (pp. 304-328). London, United Kingdom: Palgrave Macmillan.

UNICEF. (2012). Cities and Children: The Challenge of Urbanisation in Tanzania. New York, NY: UNICEF. Retrieved from http://www.unicef.org/infobycountry/files/Cities_and_Children_-_FINAL.pdf

White, R. E. (2012). *The power of play*. Minnesota Children's Museum. St. Paul, MN.

8. Appendices

Appendix A

Interview Questionnaire

Section A. Identification of Neighbourhood Play Spaces and Play Affordances

1. Opportunities for bike riding	
Where do you usually go bike riding in your neighbourhood?	*Indicate place on the map.*
When was the last time you rode a bicycle in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is bike riding to you?	*Record the given score.*

2. Opportunities for running and jumping	
Where do you usually run and jump around in your neighbourhood?	*Indicate place on the map.*
When was the last time you ran and jumped in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is running and jumping to you?	*Record the given score.*

3. Opportunities for skating	
Where do you usually go skating or rollerblading in your neighbourhood?	*Indicate place on the map.*
When was the last time you went skating or rollerblading in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is skating or rollerblading to you?	*Record the given score.*

4. Opportunities for playing football

Where do you usually play football in your neighbourhood?	*Indicate place on the map.*
When was the last time you played football in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is playing football to you?	*Record the given score.*

5. Opportunities for playing baseball, softball or kickball

Where do you usually play baseball, softball or kickball in your neighbourhood?	*Indicate place on the map.*
When was the last time you played baseball, softball or kickball in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is playing baseball, softball or kickball to you?	*Record the given score.*

6. Opportunities for building structures

Where do you usually build structures with found objects in your neighbourhood?	*Indicate place on the map.*
When was the last time you built structures with found objects in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is building things with objects to you?	*Record the given score.*

7. Opportunities for playing with animals

Where do you usually play with animals in your neighbourhood?	*Indicate place on the map.*
When was the last time you played with animals in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is playing with animals to you?	*Record the given score.*

8. Opportunities for playing with plants and nature

Where do you usually play with plants and nature in your neighbourhood?	*Indicate place on the map.*
When was the last time you played with plants and nature in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is playing with plants and nature to you?	*Record the given score.*

9. Opportunities for swinging and hanging

Where do you usually swing in your neighbourhood?	*Indicate place on the map.*
When was the last time you swung in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is swinging to you?	*Record the given score.*

10. Opportunities for climbing

Where do you usually climb in your neighbourhood?	*Indicate place on the map.*
When was the last time you climbed something in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is climbing to you?	*Record the given score.*

11. Opportunities for digging molding

Where do you usually dig or mold things in your neighbourhood?	*Indicate place on the map.*
When was the last time you dug or molded something in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is digging and molding to you?	*Record the given score.*

12. Opportunities for swimming

Where do you usually swim in your neighbourhood?	*Indicate place on the map.*
When was the last time you swam in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is swimming to you?	*Record the given score.*

13. Opportunities for fishing

Where do you usually go fishing in your neighbourhood?	*Indicate place on the map.*
When was the last time you went fishing in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is fishing to you?	*Record the given score.*

14. Opportunities for quiet play and being at peace

Where do you usually go to feel at peace in your neighbourhood?	*Indicate place on the map.*
When was the last time you felt at peace somewhere in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is being at peace to you?	*Record the given score.*

15. Opportunities for playing social games

Where do you usually play social games with other children in your neighbourhood?	*Indicate place on the map.*
When was the last time you played social games in your neighbourhood?	*Ask children to choose an option:* In the last two weeks During the last month More than a month ago I've never done it
On a scale of 1 to 5, how important is playing social games to you?	*Record the given score.*

Section B. Children's Level of Independent Mobility

1. Perceived restrictions to play	
Can you play anywhere in your neighbourhood?	*Record the answers.* Yes or No
If answer is No: In what places can you not play? Why not?	*Record the answers.*

2. Common walking routes of children	
Who do you usually walk with on your way to school?	*Ask children to choose an option:* Alone With a friend or sibling With an adult
Who do you usually walk with on your way to the store?	*Ask children to choose an option:* Alone With a friend or sibling With an adult
Who do you usually walk with when you visit a friend or a family member in the neighbourhood?	*Ask children to choose an option:* Alone With a friend or sibling With an adult
Who do you usually walk with on your way to the play spaces of your neighbourhood?	*Ask children to choose an option:* Alone With a friend or sibling With an adult

Section C. Children's Perception of Insecurity

1. Perceived insecurity in the neighbourhood's play spaces	
For each play space identified on the map, tell us how safe you feel in that space.	*Ask children to choose an option:* I always feel safe there. I sometimes feel safe there. I never feel safe there.

Section D. Sociocultural Factors

1. Play patterns and promoted activities in the neighbourhood	
Who do you usually play with?	*Ask children to choose an option:* With children of the same age or younger With children of the same age or older With adults Alone
What games do you play with them?	*Record the answers.*
Are there any games that you play only at certain times of the day or at certain times of the year?	*Record the answers.*
Are there any games or sports that you would like to play, but that you are not able to play in your neighbourhood?	*Record the answers.*
Are there any organized sports leagues or cultural organizations in your neighbourhood?	*Record the answers.*
Are there any games that children of the neighbourhood have invented?	*Record the answers.*

Appendix B

Interview Results: Identification of Neighbourhood Play Spaces

Table 1

Opportunities for bike riding

Where do you usually go biking in your neighbourhood?

			On the streets of the 'barrio'	On the bike path of the Perimetral	At school	On the street where they live	At home or in front of their house	In the softball field	Total
Sex	Boys	Count	18	11	0	10	1	5	45
		% within Sex	40,0%	24,4%	0,0%	22,2%	2,2%	11,1%	100,0%
	Girls	Count	18	8	1	2	5	7	41
		% within Sex	43,9%	19,5%	2,4%	4,9%	12,2%	17,1%	100,0%
Total		Count	36	19	1	12	6	12	86
		% within Sex	41,9%	22,1%	1,2%	14,0%	7,0%	14,0%	100,0%

Table 2

Frequency of bike riding

When was the last time you rode a bicycle in your neighbourhood?

			In the last two weeks	During the last month	More than a month ago	Never	Total
Sex	Boys	Count	36	1	8	0	45
		% within Sex	80,0%	2,2%	17,8%	0,0%	100,0%
	Girls	Count	18	0	22	1	41
		% within Sex	43,9%	0,0%	53,7%	2,4%	100,0%
Total		Count	54	1	30	1	86
		% within Sex	62,8%	1,2%	34,9%	1,2%	100,0%

Table 3

Importance of bike riding

On a scale of 1 to 5, how important is bike riding to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	3	2	1	6	33	45
		% within Sex	6,7%	4,4%	2,2%	13,3%	73,3%	100,0%
	Girls	Count	5	1	1	5	29	41
		% within Sex	12,2%	2,4%	2,4%	12,2%	70,7%	100,0%
Total		Count	8	3	2	11	62	86
		% within Sex	9,3%	3,5%	2,3%	12,8%	72,1%	100,0%

Table 4

Opportunities for running and jumping

Where do you usually run and jump around in your neighbourhood?									
			On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	On the street where they live	At home or in front of their house	In the softball field	Total
Sex	Boys	Count	9	3	15	4	4	10	45
		% within Sex	20,0%	6,7%	33,3%	8,9%	8,9%	22,2%	100,0%
	Girls	Count	12	3	4	12	7	3	41
		% within Sex	29,3%	7,3%	9,8%	29,3%	17,1%	7,3%	100,0%
Total		Count	21	6	19	16	11	13	86
		% within Sex	24,4%	7,0%	22,1%	18,6%	12,8%	15,1%	100,0%

Table 5

Frequency of running and jumping

When was the last time you ran and jumped in your neighbourhood?				
			In the last two weeks	Total
Sex	Boys	Count	45	45
		% within Sex	100,0%	100,0%
	Girls	Count	41	41
		% within Sex	100,0%	100,0%
Total		Count	86	86
		% within Sex	100,0%	100,0%

Table 6

Importance of running and jumping

On a scale of 1 to 5, how important is running and jumping to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	1	3	4	8	29	45
		% within Sex	2,2%	6,7%	8,9%	17,8%	64,4%	100,0%
	Girls	Count	0	1	2	0	38	41
		% within Sex	0,0%	2,4%	4,9%	0,0%	92,7%	100,0%
Total		Count	1	4	6	8	67	86
		% within Sex	1,2%	4,7%	7,0%	9,3%	77,9%	100,0%

Table 7

Opportunities for skating

Where do you usually go skating or rollerblading in your neighbourhood?

			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	At home or in front of their house	In the softball field	In the Surtigas playground	Total
Sex	Boys	Count	13	17	5	0	5	3	2	45
		% within Sex	28,9%	37,8%	11,1%	0,0%	11,1%	6,7%	4,4%	100,0%
	Girls	Count	4	13	7	2	2	11	2	41
		% within Sex	9,8%	31,7%	17,1%	4,9%	4,9%	26,8%	4,9%	100,0%
Total		Count	17	30	12	2	7	14	4	86
		% within Sex	19,8%	34,9%	14,0%	2,3%	8,1%	16,3%	4,7%	100,0%

Table 8

Frequency of skating

When was the last time you went skating or rollerblading in your neighbourhood?

			In the last two weeks	More than a month ago	More than a year ago	Never	Total
Sex	Boys	Count	22	8	4	11	45
		% within Sex	48,9%	17,8%	8,9%	24,4%	100,0%
	Girls	Count	17	7	13	4	41
		% within Sex	41,5%	17,1%	31,7%	9,8%	100,0%
Total		Count	39	15	17	15	86
		% within Sex	45,3%	17,4%	19,8%	17,4%	100,0%

Table 9

Importance of skating

On a scale of 1 to 5, how important is skating or rollerblading to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	14	4	3	5	19	45
		% within Sex	31,1%	8,9%	6,7%	11,1%	42,2%	100,0%
	Girls	Count	8	2	2	10	19	41
		% within Sex	19,5%	4,9%	4,9%	24,4%	46,3%	100,0%
Total		Count	22	6	5	15	38	86
		% within Sex	25,6%	7,0%	5,8%	17,4%	44,2%	100,0%

Table 10

Opportunities for playing football

Where do you usually play football in your neighbourhood?										
			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	At home or in front of their house	In the softball field	In the Surtigas playground	Total
Sex	Boys	Count	0	13	10	7	0	9	6	45
		% within Sex	0,0%	28,9%	22,2%	15,6%	0,0%	20,0%	13,3%	100,0%
	Girls	Count	4	9	3	8	7	5	5	41
		% within Sex	9,8%	22,0%	7,3%	19,5%	17,1%	12,2%	12,2%	100,0%
Total		Count	4	22	13	15	7	14	11	86
		% within Sex	4,7%	25,6%	15,1%	17,4%	8,1%	16,3%	12,8%	100,0%

Table 11

Frequency of playing football

When was the last time you played football in your neighbourhood?						
			In the last two weeks	More than a month ago	Never	Total
Sex	Boys	Count	45	0	0	45
		% within Sex	100,0%	0,0%	0,0%	100,0%
	Girls	Count	32	5	4	41
		% within Sex	78,0%	12,2%	9,8%	100,0%
Total		Count	77	5	4	86
		% within Sex	89,5%	5,8%	4,7%	100,0%

Table 12

Importance of playing football

On a scale of 1 to 5, how important is playing football to you?							
			1	2	4	5	Total
Sex	Boys	Count	1	0	2	42	45
		% within Sex	2,2%	0,0%	4,4%	93,3%	100,0%
	Girls	Count	6	1	7	27	41
		% within Sex	14,6%	2,4%	17,1%	65,9%	100,0%
Total		Count	7	1	9	69	86
		% within Sex	8,1%	1,2%	10,5%	80,2%	100,0%

Table 13

Opportunities for playing baseball, softball or kickball

Where do you usually play baseball, softball or kickball in your neighbourhood?										
			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	At home or in front of their house	In the softball field	In the Surtigas playground	Total
Sex	Boys	Count	5	4	13	5	5	9	4	45
		% within Sex	11,1%	8,9%	28,9%	11,1%	11,1%	20,0%	8,9%	100,0%
	Girls	Count	4	8	7	11	6	3	2	41
		% within Sex	9,8%	19,5%	17,1%	26,8%	14,6%	7,3%	4,9%	100,0%
Total		Count	9	12	20	16	11	12	6	86
		% within Sex	10,5%	14,0%	23,3%	18,6%	12,8%	14,0%	7,0%	100,0%

Table 14

Frequency of playing baseball, softball or kickball

When was the last time you played baseball, softball or kickball in your neighbourhood?								
			In the last two weeks	During the last month	More than a month ago	More than a year ago	Never	Total
Sex	Boys	Count	30	3	3	9	0	45
		% within Sex	66,7%	6,7%	6,7%	20,0%	0,0%	100,0%
	Girls	Count	19	0	6	11	5	41
		% within Sex	46,3%	0,0%	14,6%	26,8%	12,2%	100,0%
Total		Count	49	3	9	20	5	86
		% within Sex	57,0%	3,5%	10,5%	23,3%	5,8%	100,0%

Table 15

Importance of playing baseball, softball or kickball

On a scale of 1 to 5, how important is playing baseball or kickball to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	6	3	5	11	20	45
		% within Sex	13,3%	6,7%	11,1%	24,4%	44,4%	100,0%
	Girls	Count	6	0	2	1	32	41
		% within Sex	14,6%	0,0%	4,9%	2,4%	78,0%	100,0%
Total		Count	12	3	7	12	52	86
		% within Sex	14,0%	3,5%	8,1%	14,0%	60,5%	100,0%

Table 16

Opportunities for building structures

Where do you usually build structures with found objects in your neighbourhood?									
			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	On the street where they live	At home or in front of their house	In the softball field	Total
Sex	Boys	Count	3	1	8	0	26	7	45
		% within Sex	6,7%	2,2%	17,8%	0,0%	57,8%	15,6%	100,0%
	Girls	Count	1	2	2	3	30	3	41
		% within Sex	2,4%	4,9%	4,9%	7,3%	73,2%	7,3%	100,0%
Total		Count	4	3	10	3	56	10	86
		% within Sex	4,7%	3,5%	11,6%	3,5%	65,1%	11,6%	100,0%

Table 17

Frequency of building structures

When was the last time you built structures with found objects in your neighbourhood?

			In the last two weeks	During the last month	More than a month ago	More than a year ago	Never	Total
Sex	Boys	Count	33	0	5	3	4	45
		% within Sex	73,3%	0,0%	11,1%	6,7%	8,9%	100,0%
	Girls	Count	29	2	5	3	2	41
		% within Sex	70,7%	4,9%	12,2%	7,3%	4,9%	100,0%
Total		Count	62	2	10	6	6	86
		% within Sex	72,1%	2,3%	11,6%	7,0%	7,0%	100,0%

Table 18

Importance of building structures

On a scale of 1 to 5, how important is building things with objects to you?

			1	2	3	4	5	Total
Sex	Boys	Count	5	2	4	6	28	45
		% within Sex	11,1%	4,4%	8,9%	13,3%	62,2%	100,0%
	Girls	Count	9	2	2	4	24	41
		% within Sex	22,0%	4,9%	4,9%	9,8%	58,5%	100,0%
Total		Count	14	4	6	10	52	86
		% within Sex	16,3%	4,7%	7,0%	11,6%	60,5%	100,0%

Table 19

Opportunities for playing with animals

Where do you usually play with animals in your neighbourhood?

			On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	At home or in front of their house	In the Surtigas playground	Total
Sex	Boys	Count	15	4	0	25	1	45
		% within Sex	33,3%	8,9%	0,0%	55,6%	2,2%	100,0%
	Girls	Count	9	6	1	25	0	41
		% within Sex	22,0%	14,6%	2,4%	61,0%	0,0%	100,0%
Total		Count	24	10	1	50	1	86
		% within Sex	27,9%	11,6%	1,2%	58,1%	1,2%	100,0%

Table 20

Frequency of playing with animals

When was the last time you played with animals in your neighbourhood?

			In the last two weeks	During the last month	Total
Sex	Boys	Count	45	0	45
		% within Sex	100,0%	0,0%	100,0%
	Girls	Count	40	1	41
		% within Sex	97,6%	2,4%	100,0%
Total		Count	85	1	86
		% within Sex	98,8%	1,2%	100,0%

Table 21

Importance of playing with animals

On a scale of 1 to 5, how important is playing with animals to you?							
			1	3	4	5	Total
Sex	Boys	Count	3	4	6	32	45
		% within Sex	6,7%	8,9%	13,3%	71,1%	100,0%
	Girls	Count	2	1	3	35	41
		% within Sex	4,9%	2,4%	7,3%	85,4%	100,0%
Total		Count	5	5	9	67	86
		% within Sex	5,8%	5,8%	10,5%	77,9%	100,0%

Table 22

Opportunities for playing with plants and nature

Where do you usually play with plants and nature in your neighbourhood?										
			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	On the street where they live	At home or in front of their house	In the softball field	In the Surtigas playground	Total
Sex	Boys	Count	0	2	12	1	28	2	0	45
		% within Sex	0,0%	4,4%	26,7%	2,2%	62,2%	4,4%	0,0%	100,0%
	Girls	Count	2	4	8	1	23	1	2	41
		% within Sex	4,9%	9,8%	19,5%	2,4%	56,1%	2,4%	4,9%	100,0%
Total		Count	2	6	20	2	51	3	2	86
		% within Sex	2,3%	7,0%	23,3%	2,3%	59,3%	3,5%	2,3%	100,0%

Table 23

Frequency of playing with plants and nature

When was the last time you played with plants and nature in your neighbourhood?

			In the last two weeks	During the last month	More than a month ago	More than a year ago	Never	Total
Sex	Boys	Count	40	2	2	0	1	45
		% within Sex	88,9%	4,4%	4,4%	0,0%	2,2%	100,0%
	Girls	Count	34	1	2	1	3	41
		% within Sex	82,9%	2,4%	4,9%	2,4%	7,3%	100,0%
Total		Count	74	3	4	1	4	86
		% within Sex	86,0%	3,5%	4,7%	1,2%	4,7%	100,0%

Table 24

Importance of playing with plants and nature

On a scale of 1 to 5, how important is playing with plants and nature to you?

			1	2	3	4	5	Total
Sex	Boys	Count	2	1	5	4	33	45
		% within Sex	4,4%	2,2%	11,1%	8,9%	73,3%	100,0%
	Girls	Count	2	3	1	5	30	41
		% within Sex	4,9%	7,3%	2,4%	12,2%	73,2%	100,0%
Total		Count	4	4	6	9	63	86
		% within Sex	4,7%	4,7%	7,0%	10,5%	73,3%	100,0%

Table 25

Opportunities for swinging and hanging

Where do you usually swing in your neighbourhood?

			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	At home or in front of their house	In the softball field	In the Surtigas playground	Total
Sex	Boys	Count	1	18	4	4	12	6	0	45
		% within Sex	2,2%	40,0%	8,9%	8,9%	26,7%	13,3%	0,0%	100,0%
	Girls	Count	3	12	11	1	13	0	1	41
		% within Sex	7,3%	29,3%	26,8%	2,4%	31,7%	0,0%	2,4%	100,0%
Total		Count	4	30	15	5	25	6	1	86
		% within Sex	4,7%	34,9%	17,4%	5,8%	29,1%	7,0%	1,2%	100,0%

Table 26

Frequency of swinging and hanging

When was the last time you swung in your neighbourhood?

			In the last two weeks	During the last month	More than a month ago	Never	Total
Sex	Boys	Count	42	2	1	0	45
		% within Sex	93,3%	4,4%	2,2%	0,0%	100,0%
	Girls	Count	33	0	5	3	41
		% within Sex	80,5%	0,0%	12,2%	7,3%	100,0%
Total		Count	75	2	6	3	86
		% within Sex	87,2%	2,3%	7,0%	3,5%	100,0%

Table 27

Importance of swinging and hanging

On a scale of 1 to 5, how important is swinging to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	4	1	2	4	34	45
		% within Sex	8,9%	2,2%	4,4%	8,9%	75,6%	100,0%
	Girls	Count	2	1	2	3	33	41
		% within Sex	4,9%	2,4%	4,9%	7,3%	80,5%	100,0%
Total		Count	6	2	4	7	67	86
		% within Sex	7,0%	2,3%	4,7%	8,1%	77,9%	100,0%

Table 28

Opportunities for climbing

Where do you usually climb in your neighbourhood?										
			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	On the street where they live	At home or in front of their house	In the softball field	Total
Sex	Boys	Count	1	9	3	6	1	24	1	45
		% within Sex	2,2%	20,0%	6,7%	13,3%	2,2%	53,3%	2,2%	100,0%
	Girls	Count	5	6	1	6	2	21	0	41
		% within Sex	12,2%	14,6%	2,4%	14,6%	4,9%	51,2%	0,0%	100,0%
Total		Count	6	15	4	12	3	45	1	86
		% within Sex	7,0%	17,4%	4,7%	14,0%	3,5%	52,3%	1,2%	100,0%

Table 29

Frequency of climbing

When was the last time you climbed something in your neighbourhood?

			In the last two weeks	More than a month ago	Never	Total
Sex	Boys	Count	45	0	0	45
		% within Sex	100,0%	0,0%	0,0%	100,0%
	Girls	Count	35	1	5	41
		% within Sex	85,4%	2,4%	12,2%	100,0%
Total		Count	80	1	5	86
		% within Sex	93,0%	1,2%	5,8%	100,0%

Table 30

Importance of climbing

On a scale of 1 to 5, how important is climbing to you?

			1	2	3	4	5	Total
Sex	Boys	Count	3	4	1	6	31	45
		% within Sex	6,7%	8,9%	2,2%	13,3%	68,9%	100,0%
	Girls	Count	3	2	2	8	26	41
		% within Sex	7,3%	4,9%	4,9%	19,5%	63,4%	100,0%
Total		Count	6	6	3	14	57	86
		% within Sex	7,0%	7,0%	3,5%	16,3%	66,3%	100,0%

Table 31

Opportunities for digging and molding

Where do you usually dig or mold things in your neighbourhood?

			Have never done it	On the streets of the 'barrio'	In the open spaces along the Perimetral	On the street where they live	At home or in front of their house	In the softball field	Total
Sex	Boys	Count	1	4	9	1	14	16	45
		% within Sex	2,2%	8,9%	20,0%	2,2%	31,1%	35,6%	100,0%
	Girls	Count	0	7	15	2	11	6	41
		% within Sex	0,0%	17,1%	36,6%	4,9%	26,8%	14,6%	100,0%
Total		Count	1	11	24	3	25	22	86
		% within Sex	1,2%	12,8%	27,9%	3,5%	29,1%	25,6%	100,0%

Table 32

Frequency of digging and molding

When was the last time you dug or molded something in your neighbourhood?

			In the last two weeks	During the last month	More than a month ago	More than a year ago	Total
Sex	Boys	Count	36	0	3	6	45
		% within Sex	80,0%	0,0%	6,7%	13,3%	100,0%
	Girls	Count	32	6	2	1	41
		% within Sex	78,0%	14,6%	4,9%	2,4%	100,0%
Total		Count	68	6	5	7	86
		% within Sex	79,1%	7,0%	5,8%	8,1%	100,0%

Table 33

Importance of digging and molding

On a scale of 1 to 5, how important is digging and molding things to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	2	5	9	6	23	45
		% within Sex	4,4%	11,1%	20,0%	13,3%	51,1%	100,0%
	Girls	Count	6	2	5	2	26	41
		% within Sex	14,6%	4,9%	12,2%	4,9%	63,4%	100,0%
Total		Count	8	7	14	8	49	86
		% within Sex	9,3%	8,1%	16,3%	9,3%	57,0%	100,0%

Table 34

Opportunities for swimming

Where do you usually swim in your neighbourhood?					
			Have never done it	In the 'Ciénaga'	Total
Sex	Boys	Count	4	41	45
		% within Sex	8,9%	91,1%	100,0%
	Girls	Count	23	18	41
		% within Sex	56,1%	43,9%	100,0%
Total		Count	27	59	86
		% within Sex	31,4%	68,6%	100,0%

Table 35

Frequency of swimming

When was the last time you swam in your neighbourhood?

			In the last two weeks	During the last month	More than a month ago	More than a year ago	Never	Total
Sex	Boys	Count	31	0	9	2	3	45
		% within Sex	68,9%	0,0%	20,0%	4,4%	6,7%	100,0%
	Girls	Count	11	1	1	0	28	41
		% within Sex	26,8%	2,4%	2,4%	0,0%	68,3%	100,0%
Total		Count	42	1	10	2	31	86
		% within Sex	48,8%	1,2%	11,6%	2,3%	36,0%	100,0%

Table 36

Importance of swimming

On a scale of 1 to 5, how important is swimming to you?

			1	2	3	4	5	Total
Sex	Boys	Count	6	1	2	3	33	45
		% within Sex	13,3%	2,2%	4,4%	6,7%	73,3%	100,0%
	Girls	Count	4	5	1	3	28	41
		% within Sex	9,8%	12,2%	2,4%	7,3%	68,3%	100,0%
Total		Count	10	6	3	6	61	86
		% within Sex	11,6%	7,0%	3,5%	7,0%	70,9%	100,0%

Table 37

Opportunities for fishing

Where do you usually go fishing in your neighbourhood?					
			Have never done it	In the 'Ciénaga'	Total
Sex	Boys	Count	0	45	45
		% within Sex	0,0%	100,0%	100,0%
	Girls	Count	14	27	41
		% within Sex	34,1%	65,9%	100,0%
Total		Count	14	72	86
		% within Sex	16,3%	83,7%	100,0%

Table 38

Frequency of fishing

When was the last time you went fishing in your neighbourhood?								
			In the last two weeks	During the last month	More than a month ago	More than a year ago	Never	Total
Sex	Boys	Count	33	4	7	1	0	45
		% within Sex	73,3%	8,9%	15,6%	2,2%	0,0%	100,0%
	Girls	Count	19	4	3	1	14	41
		% within Sex	46,3%	9,8%	7,3%	2,4%	34,1%	100,0%
Total		Count	52	8	10	2	14	86
		% within Sex	60,5%	9,3%	11,6%	2,3%	16,3%	100,0%

Table 39

Importance of fishing

On a scale of 1 to 5, how important is fishing to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	8	0	4	6	27	45
		% within Sex	17,8%	0,0%	8,9%	13,3%	60,0%	100,0%
	Girls	Count	11	3	3	5	19	41
		% within Sex	26,8%	7,3%	7,3%	12,2%	46,3%	100,0%
Total		Count	19	3	7	11	46	86
		% within Sex	22,1%	3,5%	8,1%	12,8%	53,5%	100,0%

Table 40

Opportunities for quiet play and being at peace

Where do you usually go to feel at peace in your neighbourhood?						
			Have never done it	On the streets of the 'barrio'	At home or in front of their house	Total
Sex	Boys	Count	23	1	21	45
		% within Sex	51,1%	2,2%	46,7%	100,0%
	Girls	Count	10	1	30	41
		% within Sex	24,4%	2,4%	73,2%	100,0%
Total		Count	33	2	51	86
		% within Sex	38,4%	2,3%	59,3%	100,0%

Table 41

Frequency of quiet play and being at peace

When was the last time you felt at peace somewhere in your neighbourhood?							
			In the last two weeks	During the last month	More than a month ago	Never	Total
Sex	Boys	Count	19	2	0	24	45
		% within Sex	42,2%	4,4%	0,0%	53,3%	100,0%
	Girls	Count	29	0	2	10	41
		% within Sex	70,7%	0,0%	4,9%	24,4%	100,0%
Total		Count	48	2	2	34	86
		% within Sex	55,8%	2,3%	2,3%	39,5%	100,0%

Table 42

Importance of quiet play and being at peace

On a scale of 1 to 5, how important is being at peace to you?								
			1	2	3	4	5	Total
Sex	Boys	Count	4	1	1	2	37	45
		% within Sex	8,9%	2,2%	2,2%	4,4%	82,2%	100,0%
	Girls	Count	2	1	0	2	36	41
		% within Sex	4,9%	2,4%	0,0%	4,9%	87,8%	100,0%
Total		Count	6	2	1	4	73	86
		% within Sex	7,0%	2,3%	1,2%	4,7%	84,9%	100,0%

Tabla 43

Opportunities for playing social games

Where do you usually play social games with other children in your neighbourhood?

			On the streets of the 'barrio'	In the open spaces along the Perimetral	At school	On the street where they live	At home or in front of their house	In the softball field	In the Surtigas playground	Total
Sex	Boys	Count	14	7	11	3	5	3	2	45
		% within Sex	31,1%	15,6%	24,4%	6,7%	11,1%	6,7%	4,4%	100,0%
	Girls	Count	10	2	11	6	10	1	1	41
		% within Sex	24,4%	4,9%	26,8%	14,6%	24,4%	2,4%	2,4%	100,0%
Total		Count	24	9	22	9	15	4	3	86
		% within Sex	27,9%	10,5%	25,6%	10,5%	17,4%	4,7%	3,5%	100,0%

Table 44

Frequency of playing social games

When was the last time you played social games in your neighbourhood?

			In the last two weeks	More than a month ago	Total
Sex	Boys	Count	45	0	45
		% within Sex	100,0%	0,0%	100,0%
	Girls	Count	40	1	41
		% within Sex	97,6%	2,4%	100,0%
Total		Count	85	1	86
		% within Sex	98,8%	1,2%	100,0%

Table 45

Importance of playing social games

On a scale of 1 to 5, how important is playing social games to you?							
			1	3	4	5	Total
Sex	Boys	Count	0	2	7	36	45
		% within Sex	0,0%	4,4%	15,6%	80,0%	100,0%
	Girls	Count	1	1	2	37	41
		% within Sex	2,4%	2,4%	4,9%	90,2%	100,0%
Total		Count	1	3	9	73	86
		% within Sex	1,2%	3,5%	10,5%	84,9%	100,0%

Appendix C

Interview Results: Children's Level of Independent Mobility

Table 1

Perceived restrictions to play

Can you play anywhere in your neighbourhood?					
			Yes	No	Total
Sex	Boys	Count	13	32	45
		% within Sex	28,9%	71,1%	100,0%
	Girls	Count	12	29	41
		% within Sex	29,3%	70,7%	100,0%
Total		Count	25	61	86
		% within Sex	29,1%	70,9%	100,0%

Table 2

Walking to school

Who do you usually walk with on your way to school?						
			Alone	In company of child	In company of an adult	Total
Sex	Boys	Count	21	12	12	45
		% within Sex	46,7%	26,7%	26,7%	100,0%
	Girls	Count	11	11	19	41
		% within Sex	26,8%	26,8%	46,3%	100,0%
Total		Count	32	23	31	86
		% within Sex	37,2%	26,7%	36,0%	100,0%

Table 3

Walking to the store

Who do you usually walk with on your way to the store?

			Alone	In company of a child	In company of an adult	Total
Sex	Boys	Count	35	9	1	45
		% within Sex	77,8%	20,0%	2,2%	100,0%
	Girls	Count	35	6	0	41
		% within Sex	85,4%	14,6%	0,0%	100,0%
Total		Count	70	15	1	86
		% within Sex	81,4%	17,4%	1,2%	100,0%

Table 4

Walking to a friend's house

Who do you usually walk with when you visit a friend or a family member in the neighbourhood?

			Alone	In company of a child	In company of an adult	Total
Sex	Boys	Count	20	10	15	45
		% within Sex	44,4%	22,2%	33,3%	100,0%
	Girls	Count	18	7	16	41
		% within Sex	43,9%	17,1%	39,0%	100,0%
Total		Count	38	17	31	86
		% within Sex	44,2%	19,8%	36,0%	100,0%

Table 5

Walking to the neighbourhood's play spaces

Who do you usually walk with when you go to the play spaces of the neighbourhood?

			Alone	In company of a child	In company of an adult	Total
Sex	Boys	Count	24	18	3	45
		% within Sex	53,3%	40,0%	6,7%	100,0%
	Girls	Count	11	14	16	41
		% within Sex	26,8%	34,1%	39,0%	100,0%
Total		Count	35	32	19	86
		% within Sex	40,7%	37,2%	22,1%	100,0%

Appendix D

Interview Results: Perceived Insecurity in Neighbourhood's Play Spaces

Table 1

Perceived safety at school

How safe do you feel at school?

			I always feel safe	I sometimes feel safe	I never feel safe	Total
Sex	Boys	Count	29	1	15	45
		% within Sex	64,4%	2,2%	33,3%	100,0%
	Girls	Count	13	8	20	41
		% within Sex	31,7%	19,5%	48,8%	100,0%
Total		Count	42	9	35	86
		% within Sex	48,8%	10,5%	40,7%	100,0%

Table 2

Perceived safety in the softball field behind the school

How safe do you feel in the softball field?

			I always feel safe	I sometimes feel safe	I never feel safe	Total
Sex	Boys	Count	13	13	19	45
		% within Sex	28,9%	28,9%	42,2%	100,0%
	Girls	Count	14	16	11	41
		% within Sex	34,1%	39,0%	26,8%	100,0%
Total		Count	27	29	30	86
		% within Sex	31,4%	33,7%	34,9%	100,0%

Table 3

Perceived safety on the street where they live

How safe do you feel on your street?						
			I always feel safe	I sometimes feel safe	I never feel safe	Total
Sex	Boys	Count	28	4	13	45
		% within Sex	62,2%	8,9%	28,9%	100,0%
	Girls	Count	17	10	14	41
		% within Sex	41,5%	24,4%	34,1%	100,0%
Total		Count	45	14	27	86
		% within Sex	52,3%	16,3%	31,4%	100,0%

Table 4

Perceived safety along the 'Vía Perimetral'

How safe do you feel in the open spaces along the 'Vía Perimetral'?						
			I always feel safe	I sometimes feel safe	I never feel safe	Total
Sex	Boys	Count	2	11	32	45
		% within Sex	4,4%	24,4%	71,1%	100,0%
	Girls	Count	8	13	20	41
		% within Sex	19,5%	31,7%	48,8%	100,0%
Total		Count	10	24	52	86
		% within Sex	11,6%	27,9%	60,5%	100,0%

Table 5

Perceived safety at the Surtigas playground

How safe do you feel in the Surtigas playground?						
			I always feel safe	I sometimes feel safe	I never feel safe	Total
Sex	Boys	Count	10	22	13	45
		% within Sex	22,2%	48,9%	28,9%	100,0%
	Girls	Count	5	18	18	41
		% within Sex	12,2%	43,9%	43,9%	100,0%
Total		Count	15	40	31	86
		% within Sex	17,4%	46,5%	36,0%	100,0%