

# Safety Issues in Children's Outdoor Recreational Activities, Hail City

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**Abstract:** *Outdoor recreation has recently become more popular and is considered a way of life for many people; this is why providing outdoor recreational opportunities and pleasant urban public spaces is essential. Parks in urban areas play an important role in improving the inhabitants' well-being and quality of life. Urban gardens provide educational, recreational, and psychological benefits to children. However, in addition to causing mental and physical harm to children, failing to provide safe and secure recreational facilities will lead to losing opportunities for children to play outdoors. This paper aims to identify the difficulties encountered by children when using different parts of the parks and playgrounds in Hail City, explain the reasons why these problems need to be addressed, and identify the elements of parks and recreational activities that can make a positive contribution to their quality of life if they are responsive to them. Also, this research is dedicated to identifying and analyzing the potential dangers to children that occur while using the park's recreational activities and how these dangers affect park and playground visitation, as well as establishing safety standards for a safe and healthy outdoor environment. This study used a survey distributed to visitors to collect data directly from the park through a questionnaire and observation of children's activities. The questionnaire used three broad categories: The respondents' profile, usage patterns, and satisfaction with park elements in terms of children's safety. The paper explores many issues regarding children's protection, which needs to be handled with care in future of design and planning of parks and playgrounds.*

**Keywords:** outdoor recreation, public spaces, children safety, quality of life, Hail City

## 1. Introduction

Children form a significant proportion of the population in countries worldwide [1]. The availability of safety in recreational spaces is vital for children to play, regardless of whether they are well-prepared. Children often prefer to play outdoors, so making such spaces available is crucial. Parents and guardians should always consider safety standards when choosing an outdoor recreational facility. Due to Hail's changing demographics and family structures, children's well-being is becoming increasingly important. The combination of increased building density on open spaces and increased traffic, which contributes to mobility problems [2], has prevented children from having easy access to safe and well-maintained green areas and playgrounds [3]. Due to an increasingly avoiding-risk society [3], children are increasingly withdrawn from the streets. As a result, some parents are searching for sustainable options for their children's free time. Children need to participate in both indoor and outdoor activities to grow. In urban areas, parks play an essential role in improving the inhabitants' well-being and quality of life [4, 5]. In a free outdoor setting, children can self-understand and discover their capabilities. Children's sports skills can be developed through outdoor recreation, so it is essential to prepare them for the world and help them stay healthy physically and mentally. Furthermore, children's interactions with the environment are tied to their development (mental, physical, intellectual, and social) [6]. In addition to physical development, free play has shown broad effects on children's cognitive development (neural networks), emotional development (social interaction), and even attention. A child's perception of activity as play positively impacts his psychological well-being. According to several studies, parks and open spaces

could contribute to children's development in terms of economic, environmental, and health benefits [7]. A potential developmental function of play can be recognized as follows: - First of all, park and playground visitation develop the body, and enjoying the senses can also create the process of testing and improving one's abilities [8]. Another potential skill is that children can express anger in ways that would be unacceptable in non-play situations because they can say it against their parents or siblings. As well as in the early years, it can make children autonomous, independent, and able to make their own decisions about what to do, when to do it, and with whom to do it. In other words, children make allowances differently than adults, so they learn about the adult world, develop social skills, and learn a language simultaneously. Finally, they develop creativity and imagination. There has been a significant amount of evidence pointing to the social benefits that public open spaces can provide regarding health, environmental, and economic benefits [6,7]. When talking about the facilitation or hindrance of parks and playgrounds to children, research indicated that the road system is a critical physical element, as it is designed according to the needs of motorized traffic, neglecting the needs of pedestrians and posing a danger to children [9] [10]. Secondly, the extent to which children are exposed to the variety of activities found in the city depends on whether mixed-use or single-use zoning is present in areas with housing [11], how far is it from one's neighborhood to the various resources, and is it possible to get there? The location of the city center and the multiple resources relative to the communities affects children's ability to use them. The following factors should be considered when choosing a play area for children. (1) Make sure children use appropriate playground equipment for their age. (2) Ensure

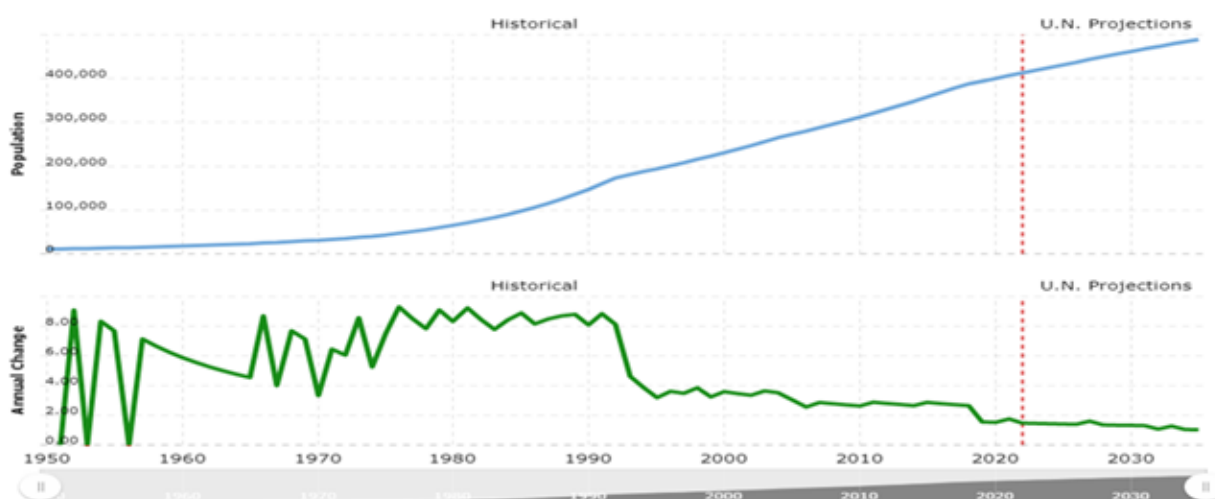
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that a separate play areas available and maintained for children under seven, yet it is essential for babies learning to walk to have an easy-to-walk surface in the play area. (3) Surfacing under and Nearby Playground Equipment should be Safed. (4) In installing play equipment, it is crucial to ensure that the playground is free of surfaces that are not impact-absorbing, such as asphalt, concrete, grass, dirt, or gravel. The following surface materials are recommended: sand, pea gravel, wood chips, mulch, and shredded rubber. It is recommended to use sand, gravel, wood chips, mulch, and shredded rubber as surface materials. Safe and low-maintenance surfaces are also made of rubber mats, synthetic turf, and other artificial materials. Around fixed equipment, the surface should extend at least six feet in all directions and be twelve inches deep. Surfaces may need to extend beyond six feet, depending on the height of the equipment. The surfacing of swings should extend twice the size of the suspending bar, both in the front and back. It is recommended that the surfacing extends twenty feet above the swing set's top if it is ten feet high. Mitigation. Providing qualified personnel with the responsibility of inspecting and maintaining playgrounds is also essential. Playground equipment should be age-appropriate and well-maintained at the school or child care center. Public and backyard playgrounds with hazards should be reported to prevent dangers that may affect children, and the equipment should not be used until it is safe. The organization responsible for the playground should be notified of any playground safety hazards [12]. Children of different ages and interests need services and activities appropriate for their needs; the city

should provide services and activities that match the variety and meet their needs [12]. The city offers children with information (such as Child-Friendly Guide) about various places and services that they can utilize [13], which presents opportunities in the town for children and rates them based on their attitude towards children, access, facilities, fun factor, and age group [14]. The ability to find one's way around the environment is related to the scale of various elements in the physical environment, including aspects of legibility and their understanding of it. Does one need to be able to read? Is it possible to reach the counter or the button? Both parents and adults are influenced by the perception and method of maintaining safety in public environments, including lighting when allowing their children to use the city. The potential function of play can, firstly develop the body and enjoy the senses. Secondly, the process of testing and improving one's abilities. Thirdly, enabling children to express anger in ways that would be unacceptable in non-play situations because they can say it against their parents or siblings. Finally, children make allowances differently than adults, so they learn about the adult world, develop social skills, and learn a language simultaneously [15]. A healthy and livable city depends on accessible parks, playgrounds, and greenery. Unfortunately, there is a limited variety and supply of activities for young children (under seven years old), resulting in a limited number of options [16]. A similar study [17] mentioned five attributes associated with park use and physical activity. They indicated that safety is one of them.



**Figure 1:** Hail population data

Source: United Nations - World Population Prospects

## 2. Methodology

This article's research method and data gathering were divided into subsections, as shown below; the survey took place between April and August 2022.

### 2.1 Study area

The study was conducted in Hail City, in the middle of the Hail region, composed of four administrative areas (Hail, Al-Gazala, Al-Shanan, and Baq'a). Hail is located in the northwestern part of the region. Each municipality (known as "baladiyah") has its government. Hail has a population of

413000 people with an annual rate of 1.47% according to the record of 2022. Figure 1. Over 20% of Hail City's population has been reported to be of foreign nationality [18]. Targeting children from three to seven are selected as a sample to study; as the United Nations defines it, a child of this age group is usually capable of thinking and acting independently, and outdoor recreation is one of the main ways they learn [19]. Compared with school-age children, young adults participate more often in outdoor recreation, making them the leading recreation group in parks and playgrounds.

## 2.2 Scope of the Study

This study aims to answer research questions so that conclusions can be drawn. In this study, residents in Hail City were examined regarding the factors influencing park visits, such as safety issues. The study does not include non-park users. A survey was conducted among visitors from all age groups (accompanying children while visiting) who had seen the three parks from Hail City: Prince Saud bin Abdul Mohsin Park, Az Zaitoon (Olive) Park, and As Salam Park, during the survey period. Visitors from the three parks were chosen because these parks are considered the best in Hail City, according to a study done by SaidM.A and Touahmia [20].

## 2.3 Sample Parks Selection

This report proposes selection criteria for existing outdoor public spaces suitable for recreational systems, according to a study [18] based on online public surveys, observation and site visits, and analysis of other city-related plans.

## 2.4 Data Collection

### 2.4.1 Design and Admiration of the Survey Questionnaire

This study used a complex survey form distributed to the park visitors to collect data directly from them through a questionnaire. The questionnaire may be self-administered at a reduced cost, but it may be assumed that participants are not visually impaired and have good literacy skills [21]. All questions must be understandable, and the questionnaire should be relatively short. Its format and question wording should be simple, without complex skip patterns. Self-administration eliminates the interviewer effect, but missing data may result from ambiguous questions. It is possible to administer the questionnaire either by paper or electronic means. Research questions were included in the survey questionnaire to facilitate the achievement of objectives. The questionnaire used three broad categories: The respondents' profile, usage patterns, and safety issues resulting from using or visiting the park. Close-ended questions constituted all the questions. Collecting personal information about every visitor to the park was not feasible. Hence, only those who responded to the survey were used as a representative sample to understand the overall population trend. Regarding the survey questionnaire distribution, drop-off and pick-up methods were used; they were administered personally and distributed to the target respondents, who filled them out and returned them to the researcher. The training was provided to the researcher's friends, who handled the distribution and collection of the questionnaires. The use of the survey questionnaire helped us to collect a large amount of raw data.

### 2.4.2 Determination of Sample Size

Based on the public survey software's Sample Size Calculator, 238 questionnaires should be distributed with a level of certainty of 95% and a confidence interval of 5%. The sample was calculated from the average monthly visitation using counting the number of visitors to the park within three days in the three following weeks of the visit during the summer of 2022.

Visitation frequency. Two hundred and eighty respondents were selected at random to complete the questionnaire. A sample size of 250 survey forms was collected back in good condition, and all required data was recorded. Therefore, this is a dependable sample (because there was more than the number of documents collected back than the minimum requirement (238)).

## 2.5 Data analysis

Data from the survey are analyzed in the next section. Inferential statistics were used to answer the research question. Using inferential statistics, as well as a discussion of respondents' demographic background is also presented. The purpose of the descriptive analysis was to provide general information about the nature of respondents' responses. Statistical tools such as chi-square are used based on the field data.

### 2.5.1 Descriptive statistics

Data on respondents' profiles, how they used the parks, and their statements about how frequently they visited parks were described using descriptive statistics using histograms, medians, and modes of responses.

## 3. Analyses and Results

Analyzing the survey data from this exploratory study aims to reveal the respondents' profiles and their level of satisfaction with park features and the children's safety influences it. This study examines changes in satisfaction levels with different park attributes and their influence on children's safety. And related the frequent visitation to safety issues and whether it will affect the park and playground visitation. Analyzing the possible dangers to children that occur while using the park's recreational activities, how these dangers affect park and playground visitation, and establishing safety standards for a safe and healthy outdoor.

### Background Information on Respondents and pattern of visit and where they come from when visiting.

#### Visitation patterns to parks and their nature.

Responses to the survey include respondents' type and nationality. Analysis of the demographic profile data was conducted to identify the overall image of the respondents' profiles. Most respondents accompanied female children, with almost 225 respondents (87%) (Table 1). The remaining 80 respondents (32%). Children represent nearly more than 60% of the total visitors. Non-Saudi constitutes almost 42% of the total children. Respondents' place of residence reflects how meaningful the park is to them based on where they live. All respondents (100%) visited parks intentionally from their homes, disrespecting their type or nationality, which means visitation is their target.

**Table 1:** frequency and status of visitation summer of

Characteristics		Category	Frequency	Percentage (%)
Type	$p = 0.775$ $df = 4$	Male	25	13
		Female	75	27
		Children	150	60
Nationality	$p = 0.060^*$ $df = 2$	Saudi	145	58
		Non-Saudi	105	42

What mode of transportation do visitors use to visit parks? Almost 98% of the respondents indicated that they use their cars to visit the park; when we asked them why they mentioned that there is no transport pass by the park, and it is comfortable for them to use their private cars, especially if

they are bringing their children with them. The result indicates that males and females do not significantly differ on whether they visit the park using their private cars ( $X^2 = 1.13$ ,  $df = 2$ ,  $N = 250$ ,  $P = .118$ ,  $.118 > .05$ ). Non-Saudis use Uppers and a little bit more than Saudi (See Table 2).

**Table 2:** Mode of transport and characteristics

Variable	Measure	$X^2$	What type of transport do you use to reach this place			N = 250
			Private car	Upper or Karim	Public transport	
Type	Male	$P = 0.118$ , $df = 2$	98%	2.0%	74.5.5%	94
	Female		93.0%	7%	84.6%	156
Nationality	Saudi	$P = 0.35$ $df = 2$	98.8%	1.2%	81.6%	38
	Non-Saudi		88.3%	11.7%	81.7	186

Using demographic characteristics as a basis for the regularity of visits to the park, Table 3 shows the cross-tabulation of the data from the field regarding this type of visit. In general, two-thirds of the respondents (66%) indicated that they seldom visited the park regularly, while the remaining respondents indicated that they frequented it regularly. The Saudis constitute two third (40%) who do not see the park regularly, while non-Saudi people visit the park

regularly 75% Table 3. In Table3, the interest in visitation to the park (using the chi-square test) did not differ significantly by gender, age, and educational category according to the survey of different types of visitors at the park. Therefore, regardless of gender, age group, and educational background, a considerable number of visitors regularly frequent the park. As stated above regarding

**Table 3:** Visitations type based on visitor characteristics

Variable	Measure	$X^2$	Visit type: regular		Visit type: irregular		N = 250
			Frequency	%	Frequency	%	
Type	male	$P = 0.313$ , $df = 2$	10	4%	15	6%	25
	female		25	10%	50	20%	75
	Children		50	20	100	40%	150
Nationality	Saudi	$P = 0.015$ , $df = 2$	45	18%	100	40%	145
	Non- Saudi		45	18%	60	24	105

gender category, the result indicates that males and females do not significantly differ on whether they visit the park regularly or not ( $X^2 = 1.023$ ,  $df = 2$ ,  $N = 250$ ,  $P = .212 > .05$ ). When asking the respondent about the is the distance traveled affect your visitation 90% of them answered "NO" It has been determined that proximity to the park is not a factor

determining park visitation, that means visitors looking for a good garden in their viewpoint regardless of the distance traveled, in other way distance is not an issue for park visitation Table 4. This may be attributed to the importance of the parks as most people have transportation, and the fuel is cheap

**Table 4:** The impact of distance traveled to park visitations

Variable	measure	$X^2$	Is distance an issue for visitation				N = 250
			Yes		No		
			Frequency	%	Frequency	%	
Type	Male	$P = 0.214$ , $df = 2$	2	8%	23	92%	25
	Female		5	13%	70	87%	75
	Children		15	10%	145	90%	150
Nationality	Saudi	$P = 0.065$ , $df = 2$	2	1%	143	99%	145
	Non-Saudi		10	9%	95	91%	105

**What are some of the factors that limit frequent park visits? Is safety one of them?**

When asking people about the factors that limit their visitation, almost 200 respondents (80%) of the visitors indicated that the safety issue is the reason behind frequently hindering their visitation to the park. When asking them what type of danger hindering them, they mentioned that uncomfortable visitors who use moving object constitutes 46.8%; the behavior of other children that are using electric cars, bikes or bicycles, or other moving objects; secondly, moving object (constitutes 9.6%) that participating in the

pollution of the areas, annoying other visitors and affect the **safety** of other children Table 5. location of the park adjacent to the main road (3.6%) exposes them to road accidents. Moreover, some old equipments is rusty, in addition to the surrounding area of the equipment or beneath them that may cause injury as well as some of this equipment may exhaust unhealthy gases like carbon dioxide. Therefore, when designing features and facilities for a park, it is crucial to understand the types of visitors, such as singles, couples, families, groups, and children.



Table 5: factors that limit frequent park visits

Hinder factors of visitation			Safety issues (80%)												Limited activities (20)	
Variable	Measure		Uncomfortable visitor		surrounding under play equipment		Safety equipment		Moving Objects		Park location		Park fence		Limited activities	
Type		P = 0.943, df = 2	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
	Male		4	3.36	4.00	25.00	4.00	21.05	4.00	16.67	5.00	50.00	2.00	16.67	2.00	4.00
	Female		10	8.40	10.00	62.50	15.00	78.95	20.00	83.33	5.00	50.00	10.00	83.33	5.00	10.00
	Children		105	88.24	2.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.00	86.00
Total No of respondents			119		16.00		19.00		24.00		10.00		12.00		50.00	
Total of the %			47.6		6.40		7.60		9.60		4.00		4.80		20.00	
Nationality	Saudi	P = 0.079, df = 1	59	49.58	9.00	56.25	10.00	52.63	14.00	58.33	4.00	40.00	7.00	58.33	42.00	84.00
	Non-Saudi		60	50.42	7.00	43.75	9.00	47.37	10.00	41.67	6.00	60.00	5.00	41.67	8.00	16.00
Total No of respondents			119		16.00		19.00		24.00		10.00		12.00		50.00	
Total of the %			47.6		6.40		7.60		9.60		4.00		4.80		20.00	

\*p<0.05 significant at 95% confidence levels

#### 4. Discussions and Conclusion

Many people say that the city where the people live is an accessible, legible, healthful, secure, comfortable, and independent environment for children to grow up in [21]. However, in the US, a study [22] on 60 years of children in one neighborhood found that access to public places progressively became more restricted over time [23]. Hail City is the one that experienced the same problem. The purpose of this paper is to identify the difficulties encountered by children when using different parts of the parks and playgrounds in Hail City, to explain the reasons why these problems need to be addressed, and to identify the elements of parks and recreation activities that can make a positive contribution to their quality of life if they are responsive to them. This research showed that children aged 3 to 7 usually visit parks from home without considering the distance traveled; they typically visit larger parks with more playgrounds, recreation facilities, and other facilities. The issue of their visitation is safety regarding safety due to accessibility or safety in case of using park facilities or safety encounters from other children using the same parks or playgrounds. This research can provide practical evidence to inform tomorrow's park design and redevelopment. It is essential to realize that little is known about the characteristics of parks children visit and how these characteristics influence playground and park use. These findings provide timely and innovative evidence to assist urban planners, local authorities, state governments, and park designers in better understanding the characteristics of parks necessary to promote park visitation among children of different ages. In light of the significant population growth expected to occur in urban areas and the increasing density of living, high-quality parks must be available for future generations. A growing population requires gardens to be designed to appeal to a wide range of age groups to promote park visitation and physical activity to meet its needs. This study contributes to knowledge of how parks can be distributed and designed to appeal to children of different ages. The study shows that when developing and distributing parks, it can be concluded. Firstly, in terms of planning, it is

imperative to consider the park's location concerning the road, mainly when children use the park. Secondly, firsthand in terms of design, parks should be fenced to make sure that children can't run away when their parents are busy with something other than concentrating on them, on second hand it is crucial to make sure that the playing equipment is well prepared in term of the equipment itself, the surrounding area of the equipment and the site beneath the equipment. Thirdly, in terms of management, there should be rules that organize children's play. For example, children should not be allowed to bring something that can cause danger to other children, such as bikes, bicycles, or any moving objects that can cause trouble to others, unless a specific area with the strict rule should be provided for such things. Fourthly, many argue that one way to achieve this is to allow and encourage participatory planning with the children's parents [22]. Make sure children are using playground equipment that is appropriate for their age. Ensure that separate play areas are available and maintained for children under seven. Despite safety guidelines and standards, playgrounds sometimes present hazards to children even after they have been designed, installed, and maintained correctly. Hence, gardens must be designed so parents and caregivers can track children as they move around. It is vital to minimize visual barriers as much as possible. A park bench should be able to see playground equipment as much as possible.

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