The Evaluation of the Playgrounds in Respect of Child Safety: Tekirdağ (Turkey)

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Play provides the spiritual and the bodily development of a child, his/her recognition of surroundings, identity development by some trial and error methods, getting rid of his/her fears, development of the cooperation and solidarity feelings and focusing his/her attention on other subjects. In this sense, the playgrounds have an important role in the spiritual and bodily health of children. However, providing these areas possibility to the development of the children it is also important for them to be safe. In this respect in the sample of Tekirdağ (Turkey) in order to put forward the safety of the playgrounds; a four stage study has been carried out as the selection of the area, survey, questionnaire and the conformity to NPPS criteria. Together with this study it has been determined that only 2 (%10) 19 parks examined within the province are safe. It has been determined that the recommended maximum tool height is appropriate in 95% of the playgrounds but it has also been determined that only 10% of the ground material and the surface width are appropriate. Consequently it has been determined that the parks in province general constitute danger in respect of the child safety therefore it has also been determined that the structural and the plant material should be reevaluated as appropriate to the safety standards and designed.

Keywords: Playground, Safety, Play, Child, Tekirdag

Çocuk Güvenliği Açısından Çocuk Oyun Alanlarının Değerlendirilmesi

Oyun, çocuğun ruhsal ve bedensel gelişimini, çevresini tanımasını, birtakım deneme yanılma yöntemleriyle kimlik gelişimini, korkularından kurtulmasını, işbirliği ve dayanışma duygularının gelişmesini ve dikkatini başka konulara odaklaştırmasını sağlar. Bu anlamda çocuk oyun alanlarının, çocuğun ruh ve beden sağlığında önemli bir rolü vardır. Ancak bu alanların çocukların gelişimlerine olanak tanımalarının yanısıra güvenli olmaları da önemli bir konudur. Bu kapsamda Tekirdağ (Türkiye) örneğinde çocuk oyun alanlarının güvenliğini ortaya koymak için; alan seçimi, sörvey, anket çalışması ve NPPS kriterlerine uygunluk şeklinde dört aşamalı bir çalışma yapılmıştır. Bu çalışma ile kent içinde irdelenene 19 parktan sadece 2'sinin (% 10) güvenli olduğu saptanmıştır. Oyun alanlarının %95'inde önerilen maksimum alet yüksekliğine uyulduğu ancak zemin materyali ve yüzey genişliği konusunda sadece %10'unun önerilen materyal ve genişliğe sahip olduğu saptanmıştır. Sonuç olarak, kent genelinde çocuk güvenliği açısından parkların tehlike oluşturduğu, bu nedenle yapısal ve bitkisel donatıların güvenlik standartlarına uygun olarak yeniden değerlendirilip tasarlanması gerektiği belirlenmiştir.

Anahtar kelimeler: Çocuk oyun alanı, güvenlik, çocuk, Tekirdağ

Introduction

Explained in the Declaration of Child Playing Rights Malta 1977 the play; is an important activity (Heseltine and Holborn, 1987) of vital importance for the potential development of each child as wellas nutrition, health, accommodation and education. Well-designed playgrounds affect the emotional and the cognitive developments as well as the physical developments of the children. Being present multicolor elements regarding the physical activities in playgrounds makes an effect of increasing the level of the physical activities of the children (Ridgers *et al*., 2007).

Herrington and Studmann (1998) have stated that the playground based on the structural tool and equipment increases only the physical development whereas the playgrounds designed with landscape materials (plant, stone, sand etc) increase the cognitive and the emotional development. A great variety of trees, shrubs and ground cover are essential when planning for play. Appropriately

and imaginatively placed dense foliage provides the infrastructure for imaginative and creative play. Advice is freely available from nurseries and the Botanic Gardens (Anonymous, 1998). Care must be taken in selecting the plant material to be used in the arrangement of the playgrounds. The plants must be nontoxic and have a feature not to cause harm due to their structural features (needle and thorn). The leaves and the fruits of the plants such as *Acer rubrum, Aesculus hippocastanum, Ailanthus altissima, Armenica vulgaris , Buxus sempervirens, Cotinus coggygria, Brassica nigra, Lantana camara, Laurus nobilis, Quercus infectoria, Caesalpinia gilliesii, Hedera helix, Juglans regia, Laburnum anagyroides, Ligustrum vulgare, Melia azederach, Nerium olander, Rhododendron ponticum, Prunus laurocerasus, Sambucus nigra, Robinia pseudoacacia, Taxus baccata, Atropa belladonna, Colchicum speciousum, Dieffenbachia picta, Rhus radicans* have high toxicity. Particularly in respect of the safety the toxicity status, toxic degree and the toxic organs must be taken into consideration while using these plants in child playground and other green field arrangements (Yılmaz *et al*., 2006).

Socio-economical conditions of people should be considered in planning of playgrounds (Yılmaz and Bulut 2007). The playgrounds are classified in different forms according to their usage unit they take place in or the variety of the play elements they contain. According to, Anonymous (2008), "Public" playground equipment refers to equipment for use by children ages 6 months through 12 years in the playground areas of: Commercial (non-residential) child care facilities, institutions, multiple family dwellings, such as apartment and condominium buildings, parks, such as city, state, and community maintained parks, restaurants, resorts and recreational developments, schools, other areas of public use. Barbour (1999) groups the playgrounds; as the traditional, modern and adventurous playgrounds.

Today's designs of the playground focus on making use of various landscape areas found in natural environment. Children find the natural playgrounds more attractive and interesting. The social relations of the children, concentration and the motor abilities are positively affected by the games they play in nature (Fjørtoft and Sageie, 2000).

The playlots and the playgrounds; must be organized for the age groups of babyhood (0-3), preschool term (3-6) school term (7-12). The playgrounds must be attractive, warning, exciting as well as providing entertaining play experiences (Benedyk and Minister, 1998). Less information is available on disliked places than on liked ones. Streets and alleys are disliked (Loukaitou-Sideris, 2003) and deemed unsafe because of traffic or crime (Chawla and Malone 2003; O'Brien, 2003; Pain, 2006). Children sometimes consider parks unsafe, for example at night or when they are occupied by teenagers drinking or taking drugs (O'Brien, 2003; Pain, 2006; Harden, 2000).

The playgrounds bring some safety problems while providing possibilities for the development of the children. Injuries are often thought of as a normal part of play at the playground.

In many countries the safety of children's playgrounds is a well recognized problem, and several efforts have been made to lower the number and severity of playground injuries. The playgrounds under consideration here range from an individual slide at a school yard to a commercially run amusement park; the play equipment may have movable parts, but motor driven equipment is not included. From the available accident statistics it appears that about 50% of all injuries at play-grounds are equipment related. So far, a lot of study has been done in the field of product safety: in many countries standards are available for playground equipment (Weperen and Rogmans, 1991).

Falls rate as a major contributor to injury in both children and older people. Falls are a leading cause of childhood injury, with head and upper extremity trauma being the most common injuries. The mechanisms tend to differ with child age, with young children most commonly falling at home and older children falling in the playground (Sturnieks and Tiedemann, 2008).

Each year in the United States, emergency departments treat more than 200,000 children ages 14 and younger for playground-related injuries (Roderick, 2004; Tinsworth and McDonald, 2001). While all children who use playgrounds are at risk for injury, girls sustain injuries (55%) slightly more

often than boys (45%) (Tinsworth and McDonald, 2001). Children ages 5 to 9 have higher rates of emergency department visits for playground injuries than any other age group. Most of these injuries occur at school (Phelan *et al.*, 2001). On public playgrounds, more injuries occur on climbers than on any other equipment (Tinsworth and McDonald, 2001). A study in New York City found that playgrounds in low-income areas had more maintenance-related hazards than playgrounds in high-income areas. For example, playgrounds in low-income areas had significantly more trash, rusty play equipment, and damaged fall surfaces (Suecoff, 1999).

Not only the surface materials in injuries in playgrounds but also the type and the height of the playing tools are effective. In the study carried out by Mott *et al.* (1997) it has been determined that the risk of injury by falling off the monkey bars is 2 times the climbing-frames and 7 times the swings or slides. The rubber or the bark surfaces are the surfaces where the low rate of injuries takes place in playgrounds. Sherker and Smith (2003) have emphasized the foot breaking events have been carrying on as of the announcement of the new standards of playgrounds in 1996 but the head injuries are not experienced and the hospitalization rate based on the population has reduced. Together with the study carried out they have stated that the 98% of the playgrounds have usually the recommended (oak bark) and more than 85% is appropriate to the recommended maximum tool height.

Loder (2008), in the study carried out about the injuries resulting from the elements of the child play in America, the evaluations have been performed by making use of the data obtained from "National Electronic Injury Surveillance System" (NEISS).

The safety hand book in public playgrounds has been prepared by Consumer Product Safety Commission (CPSC) in order to create a safer playground for all the children and to reduce injury and death related to the playgrounds. In Britain, many agencies with interests in children's play provision and children's health are now questioning the appropriateness of the current balance between safety and other goals within the play environment (Ball, 2004).

With a study carried out in Holland the safety criteria have been put forward in the playgrounds. This subject has been handled under 7 titles: sitting, lay-out, equipment, surfacing, installation, operation and maintenance. Together they constitute a complete frame-work for playground safety which may be used as a basis for both legislation and standardization, not only with regard to the manufacturing of equipment, but concerning the whole life cycle of the playground and all safety aspects involved (Weperen and Rogmans, 1991).

There are various inspection foundations to provide the application of the international standards and to inspect whether the products are suitable for human health and safety or not. The most important of these foundations are: CPSC (U.S. Consumer Product Safety Commission), ASTM (American Society for Testing and Materials), CSA (Canadian Standard Association), CFA (The Consumer Federation of America), IPEMA (International Play Equipment Manufacturer Association), NCIPC (National Center for Injury Prevention and Control), NPPS (The National Program for Playground Safety).

In the study Akdoğan (1972) carried out has stated that the playing tools in 5 big cities in Turkey found in playgrounds are simple, almost in uniform character and in the quality to provide service to only the age group 0-6. even if the injuries in the playgrounds can be reduced in various ways or eliminated the most important problem in Turkey is the equipping of the playgrounds with play equipments and groups not in conformity with the standards. Although the relevant standard about the playgrounds exist in our country, there are not any statistics about the failures and the accidents occurring in the playgrounds.

However the study for Turkey that can be said to be the first has been started by İstanbul Metropolitan Municipality. Identifying the failures beforehand by performing inspections in the scope of European standards all year around in all the parks (child playing groups, open field fitness tools) and preventing the possible accidents (Anonymous, 2007) are aimed. The application of the standard to the playgrounds in Turkey has been carried out by adopting the standard in Europe to

the standard in Turkey and TS EN 1176 and TS EN 1177 have been in force (Anonymous 2002).

The purpose is this article is to evaluate the playgrounds in respect of those used in international level in Turkey, putting their general status forward and putting forward the recommendations in respect with the safety by taking the standards into consideration in the sample playgrounds selected in Tekirdağ province privacy.

Materials and Method

The playgrounds taking place within Tekirdağ province and the whole province constitute the study material. The sample playgrounds and their position within the province whose survey study have been carried are given in (Figure 1). In the study 19 of the playgrounds out of 45 playgrounds taking place in the different quarters of the province have been evaluated within the scope of the study.

Tekirdağ province is located in the northwest of Turkey in the north of the Marmara Sea. Tekirdağ is between the northern latitudes 41º 34' 52" - 40º 52' 53" - 41º 35' 28" – 40º 32' 23" and the eastern longitudes 28º 09' 14" - 26º 42' 42" – 28º 08' 34" – 26º 54' 24". The surface area is 6.313 km², the height from the sea is between 0 and 200 meters. The province is surrounded by İstanbul from the east, Kırklareli from the north, Edirne from the west, Çanakkale from the south-west and Marmara Sea from the south. It has a coast of 2,5 km from the north-east to the Black Sea.

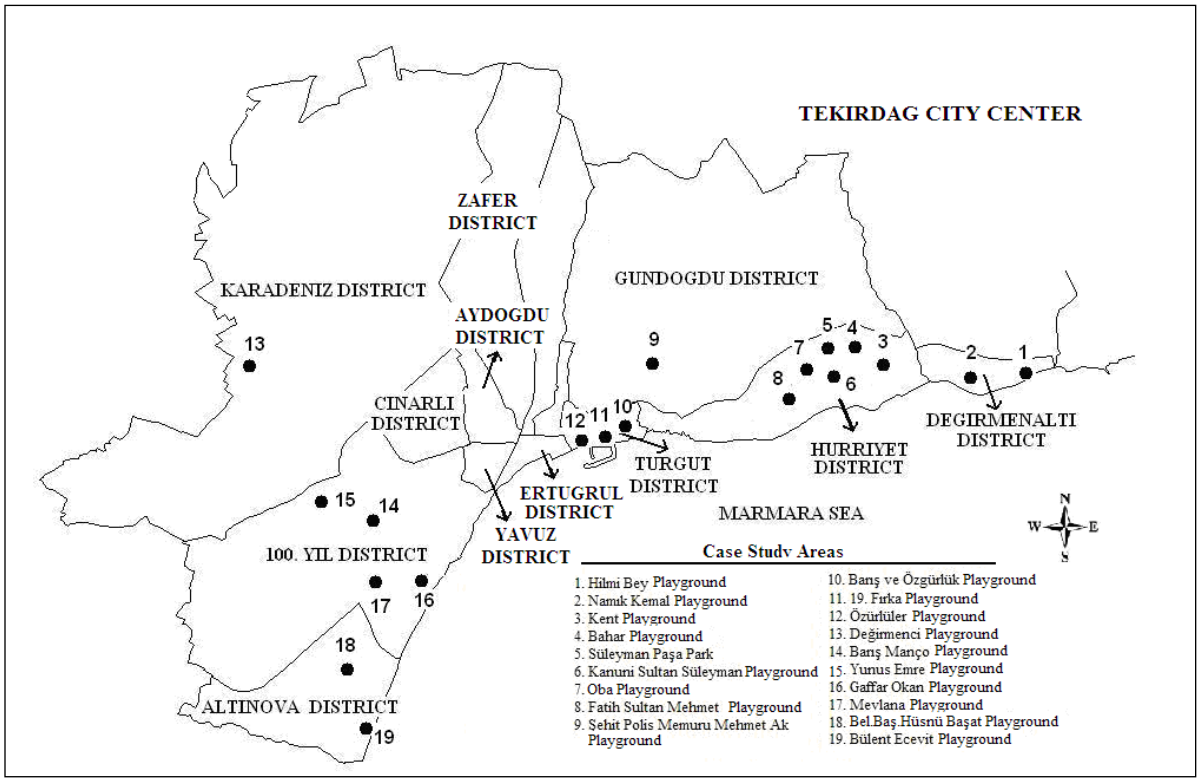

Figure 1. Location of case study areas

The study has been executed in four stages. The playgrounds to be taken to evaluation at the beginning of the study have been determined. The sample area selection has been performed according to the diversity of the child playing tools and the area size criteria. Therefore all 14 quarters taking place in the whole Tekirdağ province have not been included in the study. 19 out of 45 playgrounds taking place in the whole quarters have been handled. In the second stage of the study; the survey study in the playgrounds has been carried out. The current status of the playgrounds

in Tekirdağ Centrum has been determined by investigating one by one and their pictures have been taken. The plant types used in the area have also been determined in order to perform an evaluation regarding the botanic use in the study areas.

The data collected have been analyzed by evaluating. In the third stage one-to-one interview standard questionary has been carried out in mutual talk review form with 100 persons together with thousandth sampling to determine the opinions of the people of the province about the safety of the playgrounds. As for the fourth stage, an evaluation has been made for the playgrounds in Tekirdağ by taking the safety determination criteria of the playgrounds of America into consideration specified by (National Program for Playgrounds Safety) in order to determine the safety of the playgrounds. The cards have been filled by evaluating on site by using the evaluation card in order to evaluate the current playgrounds according to those criteria. There are 4 main parts in this evaluation form as the parents (supervision), age-appropriate design, fall surfacing and the equipment maintenance. There are totally 24 subtitles of these 4 main parts and there are also the ‘’Yes’’ and the ‘’No’’ answers given to the questions at the end of the replies. If the yes reply is between 24-20 in the answers given, A (safe playground), 19-17 B (Playground is on its way to providing a safe environment), 16-13 C (playground is potential hazardous for children), 12-8 D (Children are at risk on this playground), 7- & F (Do not allow children on this playground) classification has been made.

Results

60% of the parents are male and 40% of the parents are female who attended the survey performed to take the views of the people of the province about the safety of the playgrounds taking place within the province. 36% of those attending the survey have found the playgrounds safe and 64% of those attending the survey have found the playgrounds safe (Figure 2).

The most important safety problem in the playgrounds is caused by the disrepair of the tools with %30. This is respectively followed by the strangers (26%), lighting (12%), traffic (9%) and the others (garbage, missing security staff and the wandering stray dogs) (9%) (Figure 3). In addition, they have stated the increase of the playgrounds, recovering the current ones, providing their safety, and the requirements such as safe playing element, seating elements, waste bin and equipment elements.

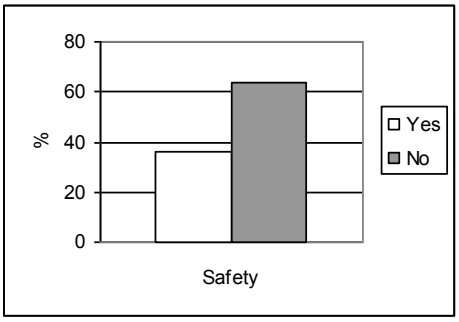

Figure 2. Safety of playgrounds

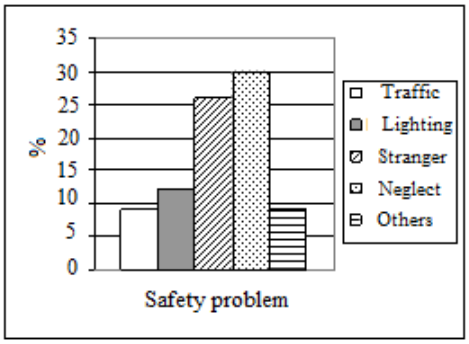

Figure 3. Safety problem in playgrounds

After the survey study the evaluation has been made according to the criteria of National Program for Playgrounds Safety (NPPS) for 19 playgrounds taking place in different regions of the province Centrum (Table 1). Although the evaluations were made individually for 19 areas, one each sample has been given below in details by selecting one sample representing every class at the end of the evaluation.

When the 19 sample playgrounds are evaluated according to the NPPS criteria taken into evaluation in Tekirdağ only 2 out of 19 are determined class A meaning safe, 1 of the other playgrounds classified B, 4 of them C, 8 of them D and 4 of them have been classified F.

Table 1. Determination of playgrounds according to NPPS criteria

PLAYGROUNDS (AREA-DISTRICT) / NPPS CRITERIA (If any of the gray boxes are marked "no" the potential of a life threatening injury is significantly increased)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		Hilmi Bey Playground / Degirmenaltı District	Namık Kemal Playground / Degirmenaltı District	Kent Playground / Hurriyet District	Bahar Playground / Hurriyet District	S. Pasa Playground / Hurriyet District	K.S.S. Playground / Hurriyet District	Oba Playground / Hurriyet District	F.S.M Playground / Hurriyet District	S.P.M.M.Ak Playground / Gundogdu District	B.Ozgurluk Playground / Turgut District	19.Firka Playground / Turgut District	Ozurluler Playground / Turgut District	Degirmenci Playground / Karadeniz District	Baris Manco Playground / 100.Yil District	Yunus Emre Playground / 100.Yil District	Gaffar Okan Playground / 100.Yil District	Mevlana Playground / 100.Yil District	B.B.H.Basat Playground / Altınova District	Bülent Ecevit Playground / Altınova District
		660 m²	600 m²	260 m²	418 m²	405 m²	146 m²	153 m²	499 m²	77 m²	1551 m²	256 m²	708 m²	200 m²	173 m²	251 m²	353 m²	225 m²	390 m²	330 m²
SUPERVISION	Adults present when children are on equipment	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Children can be easily viewed on equipment	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Children can be viewed in crawl spaces	-	-	-	-	-	-	-	Y	-	Y	-	Y	-	-	-	-	-	-	-
	Rules posted regarding expected behavior	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
AGE-APPROPRIATE DESIGN	Playgrounds have separate areas for ages 2-5 and 5-12	N	N	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N
	Platforms have appropriate guardrails	N	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Platforms allow change of directions to get on/off structure	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Signage indicating age group for equipment provided	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Equipment design prevents climbing outside the structure	N	N	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	N	N	N	N	Y	N
	Supporting structure prevents climbing on it	N	N	N	N	Y	Y	Y	N	N	Y	N	Y	Y	N	N	N	N	Y	N
FALL SURFACING	Suitable surfacing materials provided	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N
	Height of all equipment is 8 feet or lower	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y
	Appropriate depth of loose fill provided	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N
	Six foot use zone has appropriate surfacing	N	N	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N
	Concrete footings are covered	Y	Y	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N
	Surface free of foreign objects	N	N	N	N	N	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N
EQUIPMENT MAINTENANCE	Equipment is free of noticeable gaps	N	Y	Y	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Equipment is free of head entrapments	N	Y	Y	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Equipment is free of broken parts	N	Y	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	N	N	Y	N
	Equipment is free of missing parts	N	Y	Y	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Equipment is free of protruding bolts	N	Y	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	N	N	Y	N
	Equipment is free of rust	N	N	N	N	Y	Y	Y	N	N	Y	N	Y	Y	N	N	N	N	Y	N
	Equipment is free of splinters	N	N	N	N	Y	Y	Y	N	N	Y	N	Y	Y	N	N	N	N	Y	N
	Equipment is free of cracks/holes	N	N	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	N	N	Y	N
TOTAL POINTS /CLASSIFICATION		6/F	9/D	8/D	3/F	17/B	15/C	15/C	6/F	4/F	22/A	11/D	22/A	14/C	8/D	8/D	8/D	8/D	14/C	8/D

Barış & Özgürlük Playground: Taking place in the province Centrum in a park of 1551 m^2 area this child playground has been determined as the safest playground by the safety of the children within those taken into evaluation (Table 1/ No 10). The surface of the child playground has been covered with rubber. The elements of the child playground consist of the combination of wooden and plastic material. When also evaluated by the safety of the playing elements the height (2,438m≤), connection details and the surface structures of the tools have been determined as maintained in a way not to cause any problems. Besides it is one of the 2 playgrounds which is separated according to the age groups (for the age group 5-12)(Figure4).

Figure 4. Barış & Özgürlük Playground

Süleyman Paşa Playground: The child area found within a quarter in Hürriyet District has been found appropriate when evaluated by the construction of the elements, material and the ergonomics (Table 1/No 5). However it has been found negative in respect of the uncared ground onto which these materials are places and the tools taking place in the level of foundation concretes (Figure 5).

Figure 5. Süleyman Paşa Playground

Kanuni Sultan Süleyman Playground: The child playground taking place among the cluster housing areas opened new to settlement has been found appropriate when evaluated according to the safety criteria in respect of the elements (Table 1/No 6). However it has been found negative by safety due to being the ground these elements placed uncared, taking place in the surface the tools of the foundation concretes and the insufficient and improper botanical arrangements (Figure 6).

Barış Manço Playground: It is a playground taking place in the District Park. It has been found that it is uncared by both the ground and the playing elements. Being uncared, broken and rusty the playing elements and being the platforms spaces wide to cause the children to fall, ground flooring almost non-existent and many foreign substances in the ground are the basic reasons in evaluating as unsafe (Table 1/No 14) (Figure 7).

Figure 6. Kanuni Sultan Süleyman Playground

Figure 7. Barış Manço Playground

Fatih Sultan Mehmet Playground: The determined safety problems in this area in the most dangerous group regarding the safety of the playgrounds taken into evaluation are: being the materials uncared (broken and rusty), losing the property of the surface material, presence of the foreign substances on the ground, having the vertical playing elements spaces with width enough for the children to fit in (causing falling) (Table 1/No 8) (Figure 8).

Figure 8. Fatih Sultan Mehmet Playground

Discussion and Conclusion

The playgrounds existing in Tekirdağ in little amount are insufficient by the equipment elements. The playgrounds have been created by classical playing elements. No use has been brought by making use of any natural structure. The playing elements existing in the playgrounds in the province have not been designed in features to increase the physical and the mental developments. The playing elements are for the children usually in the age group 3-6. The places according to the different age groups have not been created as well as the nonexistence of the appropriate playing tools to the development periods of the children. This study has shown that the simple and the plain status of the playgrounds put forward at the end of the study Akdoğan has carried out in 1972 for the five

big provinces of Turkey that is it still carrying on today. As seen in studies carried out by Chawla and Malone, (2003), O'Brien, (2003) and Pain (2006) in many countries mainly traffic, problems resulting from lighting and the foreign substances taking place in the first order in the safety problems of the playgrounds. At the end of this study carried out for the province of Tekirdağ the survey study also has given the similar results.

The children can easily be seen by their families while playing games in the playground taken into evaluation. However the arrangements the families can observe their children easily by sitting are quite limited. Most of the playing elements are not in ergonomic standards. This situation may lead to serious size injuries as well as affective the physical development of the children negatively. It has been detected that the platforms in the major part of the tools have not been surrounded with guard rails and the spaces of the guard rails are wide enough the children can pass through. It has been determined that the falling surface does not comply with the standards in all the other parks except 2 of those taken into evaluation and they cause danger for the children. Except these 2 parks, sand has been used as the material in all the other parks. Although the sand does not cover completely the bottom parts all of the playing tools, they have lost this feature due to uncaring. Recreating the safety of the falling surface in these parts at once by taking into consideration presents importance. In the parks studied it has been found that the recommended maximum tool height in other 18 parks (95%) is appropriate except 1 park in the parks examined.

It has been determined that there are problems related to the inappropriateness of the falling surface rather than the status of the playing elements in the parks taking place in Tekirdağ. No botanical material has been made use as the design tool in almost none of the playgrounds. The plants usually used in the playgrounds are; *Acer negundo, Albizia julibrissin, Budlea davidii, Cercis siliquastrum, Cupressus sempervirens, Cotoneaster dammeri, Fraxsinus exelcior, Hibiscus syriacus, Lagerstromia indica, Ligustrum vulgare, Morus alba, Nerium oleander, Pinus nigra, Platanus orientalis, Pyracantha coccinea, Robinia pseuoaccacia, Rosa sp., Rosmarinus officinalis, Salix nigra, Tilia tomentosa.* Care must be taken not to use tree in the child playground such as *Ligustrum vulgare*, *Nerium oleander* and *Robinia pseuoaccacia* having toxic effects (Yılmaz *et al*., 2006). However it is also determined that there are thorny and needled types that will cause problem regarding the safety. The functions of the plants such as protecting from wind, light and sound, shadowing and directing have not been benefited. In other words the botanical design has not been taken into consideration in the playgrounds. As also stated by Fjørtoft and Sageie (2000) the natural playgrounds supported by botanical materials provide possibilities for the motor development of the children. By making use of the natural effects of making familiar of the plants the botanical material must be taken into consideration in the design of the playgrounds. Consequently, it has been put forward that the playgrounds constitute danger regarding the child safety. Therefore the structural and the botanical equipments must be designed by reevaluating in conformity with the safety standards.

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