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A STUDY OF RISK PERCEPTION AND CHILDREN'S ACCIDENTS IN COPENHAGEN

An Interactive Qualifying Project
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by

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Abstract

The objectives of this project, completed at the Danish Consumer Council, were to present a comprehensive analysis of children's accidents, provide a comparison of risk perception among Copenhagen institutions, and find important trends in accident data. The following three procedures were used to gather information: analysis of accident data, field work done at playgrounds, and interviews with childcare personnel. Through these methods, problems and trends were detected in child safety, and finally, recommendations for improvements were formulated and presented.

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Executive Summary

Children's accidents are unavoidable and happen frequently. According to the ULYDIA database, which reports data from five major hospitals in Denmark, there were 1,732 playground accidents involving children less than 10 years of age in 2003 alone. In order to help prevent accidents like these from occurring, it is necessary to learn why and how children's accidents happen. The objectives of this project were to present a comprehensive analysis of children's accidents, provide a comparison of risk perception among institutions in Copenhagen, and find important trends in accident data. The following three procedures were used to gather information: analysis of accident data, safety checks at playgrounds, and interviews with childcare personnel. Through these findings and additional comprehensive research in the areas of playgrounds, adult supervision, and risk perception, conclusions and recommendations on childcare and playground improvements were formulated and presented.

ULYDIA, the database used to obtain accident data, proved to be very helpful to the project. But during the analysis of accident data, various restrictions were discovered in the database. There were three main restrictions that hindered the process of gathering information. The first issue was the risk identification mechanism. Within the database, if too many search components were used, the system would deny access to the requested information. Although seen as prevention against abuse, this restriction also prevented the acquiring of more specific data. The second restriction encountered dealt with the lack of an ethnicity category. This lack of ethnicity clarification prevented our team from being able to supply data that might have supported or refuted claims relating immigrant children with higher accident rates in comparison to Danish children. The third

restriction dealt with the free text component of each data entry, which usually includes an explanation of why or how the accident occurred. Unfortunately, our team was unable to utilize the free text since it was displayed only in Danish. It is recommended that an ethnicity category be added, enhancing the accessibility of the database as well as providing a wider range of search options. As for the risk identification issue, there is no recommendation since this mechanism is mandated by law.

Despite these restrictions, a wide range of trends was found. One of the goals of working with the database was to shed light on the general severity of children's accidents. Through data regarding the length of hospitalization and the different types of injuries, it was found that accidents were possibly not as severe as numbers suggested. Another objective was to identify how accidents were happening and how often they occurred. Through trends in mechanisms of injury, it was found that falls are the most common injury among children in all accident settings. This information is very important to consider in the prevention of children's accidents and should be made available to any childcare personnel and to the public in general.

ULYDIA, even with its restrictions, proved to be a useful source not only for this project, but for other organizations, such as the National Institute of Public Health (NIPH) and the Danish Consumer Council (DCC), that deal with accident studies and consumer issues in general. It was revealed during an interview at the NIPH, that ULYDIA is being formatted to become a publicly accessible database. Our team supports this endeavor. ULYDIA has many other purposes besides what was done in this project, and through its public access, it will continue to be a very useful tool.

Based on the information gathered from interviews and the observations of the four tested playgrounds, it was concluded that the playgrounds and institutions located in low-income areas were not as well maintained as those in middle and high-income areas. A poorly maintained facility helps lower the present level of safety. It is recommended that more attention be directed towards the playgrounds and institutions located in low-income areas. For example, more money should be invested into purchasing new and updated playground equipment, as well as investing in the maintenance needed to keep the facilities as new as possible. Even though this is not an easily executable task, more attention and resources should be applied to improvements in institutions and playgrounds situated in lower socioeconomic areas, which in turn increases the safety level.

With respect to the Troels Larsen, Sidsel Lynge Christensen, and Fie Illum's interviews, their childcare philosophies worked well for each of their respective institutions. Even though their methods differed, accidents were minimal and the children appeared to be content with each style of childcare. Therefore, the best approach towards childcare should be based on personal experiences and training, as well as the conditions of the specific institutions.

In regards to staff efficiency, it is evident from the interviews that a formally trained staff is beneficial to the general operation of a childcare institution. They are equipped with the proper training and knowledge to handle children in different situations including the accident setting. From the information gathered from interviews, it is recommended that the majority, if not all of the staff, be fully trained. A mostly trained staff provides a better guarantee of sufficient childcare, which in turn helps prevent the

occurrence of children's accidents, and gives the children an enhanced experience at their institution.

The concern regarding language proficiency was mainly discussed in the interview with Karin Schwennesen. Based on the interviews, it was concluded that communication is vital to the safety of the children. According to Schwennesen, immigrant children at her institution did not speak Danish on a daily basis, failing to learn Danish at the same rate as children from the other observed institutions, where there is a large majority of Danish children present. Troels Larsen and Sidsel Christensen's institutions both had a much smaller percentage of minority children than Schwennesen. These children, however, were able to effectively blend in with the Danish children and learn Danish proficiently. Therefore, it is recommended that non-Danish children should be integrated into institutions with native Danish children, resulting in a balanced population. This will quickly and effectively enhance general language and communication skills for non-Danish children, especially in the area of safety.

The ability to constructively stimulate children was a key aspect to the successful operation of an institution. In three out of the four institutions, the playground equipment challenged the children and kept them constantly occupied; therefore, the children rarely looked for other, more hazardous means of stimulation. In contrast, Schwennesen did not have such resources and as a result, she felt more concerned about the safety of her children and watched them more carefully since she believed her children were more prone to destructive behavior. Therefore, a concept to consider is that creative and constructive stimulation, while also aiding in intellectual and personal development, may help decrease the risk of accidents. A recommendation would be to have each institution

maintain a constant level of creative stimulation, such as field trips and art or music activities.

According to the interviewees, boys are less disciplined and more rambunctious than girls are. The analysis from the database only confirms this supposition, showing that boys are generally involved in more accidents than girls are. It is recommended that childcare staffs continue to be aware of this fact and to accordingly account and monitor for the riskier behavior displayed by boys.

In conclusion, it is important to stress that the recommendations and conclusions stated were based solely on a limited set of interviews and observations. Preventing children's accidents will be a constant endeavor, and this project only shed light on some of the issues from a small population of the Copenhagen area alone. Our team anticipates that this project will help attract attention to these important issues and that a larger scale study can be done so as to create more intensive programs and recommendations towards increasing general child safety within Copenhagen, and possibly all of Denmark.

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1.0 Introduction

Children's accidents are unavoidable and happen frequently, but can be prevented with high-quality accident prevention programs. According to a U.S. Consumer Product Safety Commission study in 1997, about 31,000 children, 4 years old and younger, were treated in U.S. hospital emergency rooms for injuries at both child care and school settings. Eight thousand of those injuries were due to falls from playground equipment. Overall, around 200,000 children under the age of 15 were involved in accidents in playground settings. Accidents can happen to any child, using any toy or product, at various locations, and even under adult supervision. This has been and is still a major worldwide problem resulting in billions of dollars spent on hospital bills, recalls, and lawsuits. Because of such alarming numbers, children's safety has become an increasingly important issue not only in America, but in many other countries as well, such as Denmark. According to the database, ULYDIA, which reports data from five major hospitals in Denmark, there were 1732 playground accidents from children under 10 years of age in 2003 alone. Concerns have been raised since parents need to feel secure about the safety of their children. However, the problem continues due to a lack of public awareness and inefficient standards.

In response to the concerns, both the United States and Denmark created organizations to help monitor children's safety. In the U.S., the Consumer Product Safety Commission is the head developer of safety requirements and standards. In Denmark, the Danish Consumer Council serves as a watchdog over important consumer safety issues. Without their continual efforts to reduce and prevent children's accidents, one can only imagine how much higher the number of accidents could be. Unfortunately,

although these organizations have helped to moderate the number of accidents, there is still a reasonably high number of children's injuries each year. With the advancement of technology in toy and playground design and changes in children's play trends, it is crucial that the organizations stay up-to-date on the safety standards that protect children. Prevention needs to be improved frequently; therefore, child safety standards must be updated consistently. Constant accident studies and observations must be utilized in order to continue the prevention of future children's accidents.

When creating or improving standards, an organization must take into account many factors. A key aspect to consider is the collecting and analyzing of accident data. When a person receives attention at a hospital for a mishap-related injury, the hospital requires a medical record of the accident. This record contains important information such as the patient's age, gender, preliminary diagnosis, and the cause and location of the accident. This accident data is compiled into a large database. In this project, the main purpose for the ULYDIA database was to use its trends and patterns as a foundation on which to base the selection of areas within Copenhagen for interviewing and playground observation. It also served as a basis for some of the interview questions, and also acted as a starting point for further research on other relevant topics.

Besides accident data, field work and risk perception research in the U.S. and Denmark, were used to gather information. By monitoring children and adults in childcare, school, and playground settings of different socioeconomic areas, our team learned more about the concern for safety and perception of risk. In addition, interviews with kindergarten and daycare staff were conducted in order to get a real sense and

analysis of risk perception. The interviews clarified many different issues surrounding children's accidents and safety.

In addition to interviews, fieldwork, observations, and data analysis, most of the information contained in this project came from published articles and websites containing information on children's accidents, injury prevention programs, and risk perception. Organizations that foster children's safety were also researched and examined. All of this information gave our team better insight on how to properly evaluate children's safety issues.

Once all analysis and observations were completed, recommendations were proposed to the Danish Consumer Council. Such suggestions included recommendations on improvements to the database and the operation of childcare institutions. In addition, our team also provided a comprehensive study on risk perception between Copenhagen municipalities and then compared the results to the U.S. Optimistically, these results will help the Danish Consumer Council to better evaluate and monitor important children's accident issues as well as raise concerns over new problems.

2.0 Background Information

The background information expands on the following topics: playgrounds, school and daycare settings, toys, organizations that foster safety, Copenhagen municipalities, and risk perception. Each topic is thoroughly researched in the following sections. There was an examination of the history of each topic, statistics on the overall problem, and basic literature and recommendations in each setting. This section of the project gives the proper background knowledge needed to develop adequate procedures that will help in attaining the project objective.

2.1 Accident Data

The following section defines accident data and discusses the different database systems used within the U.S., Europe, and Denmark. It also provides a brief discussion of the National Institute of Public Health, the organization in charge of maintaining ULYDIA, the database used in Denmark.

2.1.1 General Definition of Accident Data

When a person receives attention at a hospital for an injury, the hospital requires accident data – a medical record of the accident. Accident data contains important information such as the patient's age, gender, preliminary diagnosis, and the cause and location of the accident.

It is important to distinguish the difference between an accident and an injury. According to *Webster's Revised Unabridged Dictionary*, an accident is "an unexpected and undesirable event, especially one resulting in damage or harm." An injury is what

results from an accident. For example, an accident is a child falling off playground equipment. The injury resulting could be a broken arm or bloody nose.

2.1.2 National Electronic Injury Surveillance System

In the U.S., accident data is collected by the National Electronic Injury Surveillance System (NEISS). The NEISS data is "gathered from the emergency departments of 100 hospitals selected as a probability of all 5,300+ US hospitals with emergency departments" (CPSC 1). This data, along with CPSC sources, help provide evidence for product recalls, public awareness campaigns, and product safety standards. The data collection process follows a basic routine. First, a staff member of an NEISS hospital takes down the information about the specifics of the injury along with other data variables mentioned earlier. At the end of the day, the NEISS hospital coordinator looks at all the entries and selects those that meet the requirements to be included in the NEISS. A product code is used to identify the consumer product(s) involved with the injury along with other pertinent product details such as the name of the company that manufactured the product. After the data has been completely entered at the hospital, a modem is set to receive a phone call. Early in the morning, a computer at the CPSC Washington office polls each NEISS hospital and collects the new data. After the cases have gone through a second round of editing and review, they are entered into the permanent NEISS database and are immediately available for further review (CPSC 1). The NEISS data system is used to help "classify incidents by hazard pattern, prove insight into the type of actions needed to reduce or eliminate the hazards, identify defective products, and to evaluate the effectiveness of safety standards" (CPSC 2).

2.1.3 European Home and Leisure Accident Surveillance System

In Europe, accident data is collected by the European Home and Leisure Accident Surveillance System (EHLASS). The EHLASS comes from the consumer safety section of the European Commission. In April of 1986, the EHLASS was set up as a survey to observe home and leisure accidents in an organized manner to determine their causes, the conditions under which they happened, their effect on the victim, and to supply information of various products involved (The Information Management Unit 3). The organization felt that this system could be of valuable use and provides some insight into accidents and how to prevent them in the future. However, the first attempt to carry out this program was unsuccessful due to lack of organization in the quality of the data. In 1989, it was decided that each state would manage their own reports and observations from the EHLASS data (The Information Management Unit 3). The collection and transmission of data to the information system is the responsibility of the state (European Injury Prevention Program 1). In 1999, the EHLASS was integrated into the European Injury Prevention Program.

The current objective of the European Injury Prevention Program and the EHLASS is to obtain and exchange accident data information in order to obtain better prevention strategies. Particular attention is given to the technique of the data collection and the quality of the data, so it can be easily compared. The European Injury Prevention Program wants to make sure that the data is compatible and communicable. The data analysis needs to be able to detect products that are hazardous and dangerous. After the analysis, new methods for dealing with the problems, investigating their risk factors, and an accident prevention program need to be developed (European Injury Prevention

Program 1). Certain hospitals choose to participate in EHLASS. In Denmark, the system receives its data from five hospital emergency rooms spread throughout the country. The information that is coded in the data system includes the product with which the injury occurred, where the accident happened, the time of day, age and gender of the victim, and a detailed description of the injury.

2.1.4 ULYDIA

ULYDIA is a database derived from EHLASS. ULYDIA follows the same reporting process as EHLASS and is in the process of being transformed into a database that will be accessible to the public. This database allows easy access to important information about accidents. The National Institute of Public Health maintains ULYDIA. ULYDIA will be further discussed in the methodology section since it is the main source of data for this project.

2.1.5 The National Institute of Public Health

The National Institute of Public Health (NIPH) is independent and operates under the Danish Ministry of Interior Health. The institute often works with ULYDIA, which is why it is an important aspect of the study. The primary purpose of the NIPH is to plan and carry out various studies and reviews. Furthermore, this institute supports public authorities with statistical and epidemiological constancy concerning analysis, evaluation, and the planning of health services and promotions.

2.2 Playgrounds

A playground, an outdoor or indoor area set aside for child recreation and play, usually contains equipment such as monkey bars, slides, teeter-totters, and other typical

playground accessories. This section focuses on playground statistics and general safety measures.

2.2.1 Statistics (U.S.)

A visit to the playground as a young child either with friends at school or with parents is a fun-filled experience resulting in long lasting memories. Creative play in such settings is imperative for children and allows them to develop their cognitive, motor, and social skills (Macarthur 2). Children should be able to enjoy the playground experience without the possibility of a tragic accident occurring. Even though this is not the case today, the continual analysis of accident data combined with already known facts moves the world closer to the ideal children's playground setting. In the past two decades, however, there has been a striking increase in accidents involving kids playing on a playground. Each year, over 200,000 children are treated in United States hospital emergency rooms for playground related accidents (Tinsworth 2). Playgrounds do offer children a challenging and stimulating environment.

Playground injuries have been an important issue since the early 1990s. Playground accidents are a major cause of childhood injury in many countries across the globe. Looking at accident data helps pinpoint where the problematic locations on playgrounds are and how to rectify them efficiently. The majority of child victims are under the age of 14. Their exposure to playground equipment, nursery schools, daycare centers, and school settings such as kindergartens, increase their risk of injury. A study by the United States Consumer Product Safety Commission (CPSC), completed in April of 2001, produced disquieting statistics. In 1999, of the estimated 205,850 playground equipment incidents resulting in emergency room visitations, 55% of these cases were

injuries that happened on playgrounds specifically designed for school and child care use (Tinsworth 7). The CPSC also estimated a rate of 7.5 injuries per 10,000 US citizens. For children under five years of age, the estimated rate was 29.1 injuries per 10,000 children. The highest rate belonged to children between the ages of 5 and 14, where incidents increased to a rate of 34.8 per 10,000 children. Unfortunately, there are many more minor accidents happening everyday on playgrounds that remain unreported (Tinsworth 2). Although these accidents happen often enough to be considered a serious issue, most playground-related injuries are not severe enough to result in permanent disabilities or fatalities. Therefore, this issue does not always garner enough national attention.

The most common cause of playground injuries is falling from equipment like climbers, monkey bars, and slides. These account for 90 percent of the most severe playground equipment-related injuries and one third of playground-related fatalities (Eichelberger 1). Injury can also result when children are hit by moving objects such as swings. They can also be strangled through head entrapments or as a result of clothing being caught in equipment. Strangulations, such as these, account for nearly 58% of all playground equipment-related deaths (Eichelberger 1).

It is hard to believe that with so many statistics on playground-related accidents, many playgrounds still do not meet existing standards. Experts estimate dangerous heights can range from 1.5 to 4.0 meters. The height of equipment also indicates the type and depth of underlying surfaces on playgrounds. Studies examining this issue find that the type and depth of surfacing at most playgrounds are inadequate. Attempts to address these issues have included setting standards for playground equipment and landing

surfaces. These standards of playground equipment vary internationally; however, evidence from case-control studies conducted in a number of countries suggests that children are at higher risk from equipment that does not meet the existing standards (MacKay 2). It is a continuous challenge for organizations of playground safety to promote, implement, and enforce further playground safety standards.

2.2.2 Statistics (Denmark)

Lars Laj, a playground equipment company has many regulations to abide by when making a playground and its equipment. After products are completed in the factory, they are regulated before they are sold and allowed for use by the public. Products and designs are tested and certified yearly by the German TÜV Organization. The plastic parts on the playground equipment are carefully made. For example, the climbing nets contain steel-enforced safe guards that limit injuries to children. Climbing walls are made with waterproof plywood with a strong laminated weather resistant surface. Their patented closed edges on equipment eliminate sharp edges and prevent injuries. On wooden equipment, all bolts and screws are plastic cap covered. The rocks on the rock climbing walls are made of rubber and the underlying surfaces are soft as to prevent injuries from falls. The following figure shows the normal guidelines of what material to use:

Material Type	Grain Size (mm)	Layer Thickness (cm)	Maximum Height of Fall (cm)
Turf-Topsoil	N/A	N/A	up to 100
Bark	20 to 80	30	up to 300
Wood Chips	5 to 30	20	N/A
Sand	0, 2 to 3	20	N/A
Gravel	2 to 8	20	N/A
Synthetic Surfaces	N/A	N/A	up to 400

Fig. 2.1: Materials Used as Safety Protecting Surfaces

2.2.3 National Action Plan for the Prevention of Playground Injuries

Playground design involves a balance between safety issues and developmental value. Therefore, it is important that playgrounds remain a stimulating and challenging environment for children, since alternative play areas, such as roads, are much more dangerous (Macarthur 3). In order to achieve this careful balance, it is important to establish national standards.

In the past, playground safety fell under two sets of principles in the United States: CPSC guidelines and the American Society for Testing and Materials (ASTM) standards. In 1981, the CPSC published the Handbook for Public Playground Safety. This handbook describes a set of guidelines intended for playground safety for children ages 5 to 12 years old. Although not mandatory, this federal document has been viewed as the standard for safe playground equipment design (Phillips 27). ASTM also published a set of recommendations for playground equipment for children ages 2 to 5 and 5 to 12.

However, with the continual problems of playground safety, organizations were created to tackle this issue on a national level. Although helpful with playground safety, the CPSC and the ASTM are not specific to playground safety. In 1995, funding from the Centers for Disease Control and Injury Prevention (CDC) resulted in the formation of the National Program for Playground Safety (NPPS). This is a nonprofit organization based at the University of Northern Iowa. Through various training programs, the NPPS teaches parents, teachers, manufacturers, and others about the following four main goals for a safe playground setting:

1. To design age-appropriate playgrounds,

2. To provide proper surfacing under and around playgrounds,
3. To provide proper supervision of children on playgrounds, and
4. To properly maintain playgrounds.

These objectives provide the foundation for the NPPS's National Action Plan for the Prevention of Playground Injuries (National 1). This plan unifies every playground safety organization in the country. To be successful and to ensure that all of the nation's playgrounds are safe, the National Action Plan steps must be followed at national, state, and local levels. If successful, it will have a great impact on the safety of playgrounds throughout the United States.

2.2.4 Making a Playground Safe

Many school and daycare playgrounds today continue to include deadly hazards. Being aware of these possible hazards will help prevent a serious or perhaps fatal accident. The CPSC provides a detailed guide with its Handbook for Public Playground Safety. The guidelines inform parents and childcare staff of various playground safety hazards. From the CPSC Handbook, the National Playground Safety Institute (NPSI) was able to identify the leading causes of injury on playgrounds (Dozen 1). With this knowledge, safer playground standards can be implemented.

The initial component in the observation of a safe playground is to make sure it protects children from fall-related injuries. To prevent these injuries, an adequate fall zone made of proper protective surfacing must be implemented. The surface underneath and around the equipment should be soft enough to cushion an impact and should enclose the apparatus by a minimum of a six-foot radius (Dozen 3). Platforms without guardrails

are a risk that could lead to a dangerous fall. Missing guardrails and other risks are due to the lack of maintenance of the playground itself.

It is very important to be cautious about the construction of the playground. Some of the categories of hazards seem trivial; therefore, they often go unnoticed. It is important to look for trip hazards, protrusion and entanglement hazards, along with sharp edge hazards before allowing children onto the playground. Examples consist of exposed concrete footings and abrupt changes in surface elevations. Rungs or handholds that protrude outward from a support structure may be capable of poking children in the eye. Also, playground mechanisms should not be sharp or have the ability to crush a child's finger (Dozen 5).

The most important characteristic needed to ensure the safety of a playground is adult supervision. An effective play area is designed so that it is easy for a parent or caregiver to monitor the children at play. Children often do not recognize possible safety hazards. It is estimated that over forty percent of all playground injuries are directly related to lack of supervision in some way (Dozen 3). Knowledge of playground equipment and its safety standards are fundamental in making a child's playground experience both safe and fun.

2.3 Adult Supervision and Daycare

Adult supervision is defined as an adult watching over a child. Adult supervision is essential to child safety. It needs to be a constant force in a child's life. Adult supervision can be found just about anywhere – in the home, school, or daycare. The following section will further address adult supervision through daycare centers and the policies required to safely operate a childcare institution.

2.3.1 Required Policies (U.S.)

In order to operate a daycare, many guidelines must be followed. According to the rules and regulations of the state of Massachusetts, USA, the daycare center has to have a written health care system to protect the safety and welfare of the children. It needs to include all aspects of the program including staff responsibilities for emergencies and preventive health measures. The entire staff is to be trained for these kinds of situations. The policy should include emergency phone numbers, procedures to be followed in case of emergency or illness, notification of parents, the procedure for maintaining and using first aid supplies, a plan for evacuation, a plan for dispersion of medication, and a plan for injury prevention.

The injury prevention plans can consist of barring smoking in areas occupied by children and having adequate files of the injuries that do occur. In case of an accident, a record must be filed. The accident file needs to include the name of the child, date, time, location of accident, description of how it occurred, names of witnesses, and names of people who administered first aid or medical care. The daycare center must have a logbook of all injuries that happened during their hours of supervision. These records are to be examined to identify problem areas and help to prevent any future accidents from happening (National Resource Center in Health and Safety in Child Care 3).

2.3.2 Staff Requirements, Records, and Training (U.S.)

The daycare facilities must employ staff that meets the basic requirements of health and safety. An adult supervisor or a teacher must be at least 21 years of age and have a high school diploma. They must also have taken various college courses in childcare study. The daycare must also obey the required staff/child ratio, which is

designed for the safety of the children. There must be at least two adults trained in the center's health care and emergency procedures. They should at no time leave the children unsupervised. If no more than six children are present, then one adult supervisor is sufficient as long as there are no more than two children under the age of two and if there is a neighbor promptly available in case of emergencies. The following figure summarizes the required staff/child ratio (National Resource Center in Health and Safety in Child Care 11):

Age Group - Half or Full Day	**Maximum Group Size**	**Teacher/Child Ratio**	**Teacher Qualification**
Infants (1mo.-15mo.) Full or Half	No larger than 7	1 to 3 1 additional teacher or assistant for 4-7 infants	Infant/Toddler Teacher Qualified
Toddlers (15mo.-2.9yrs.) Full or Half	No larger than 9	1-4 1 additional teacher or assistant for 5-9 toddlers	Infant/Toddler Teacher Qualified
Infants and Toddlers (1mo.-2.9yrs.) Full or Half	No larger than 9 and no more than 3 infants	1 to 3 1 additional teacher or assistant for 4-9 infants and toddlers	Infant/Toddler Teacher Qualified
Toddlers and Preschoolers (15mo.-7yrs.) Full or Half	No larger than 9 At least one preschooler in the group	1 to 5 1 additional teacher or assistant for 6-9 children	Infant/Toddler AND Preschool Teacher Qualified
Preschoolers (2.9yrs.-7yrs.) Full	No larger than 20	1 to 10 1 additional teacher or assistant for 11-20 children	Preschool Teacher Qualified
Preschoolers (2.9yrs.-7yrs.) Half	No larger than 24	1 to 12 1 additional teacher or assistant for 13-24 children	Preschool Teacher Qualified
Kindergarten (4.9yrs.-7yrs.) Full or Half	No larger than 30	1 to 15 1 additional teacher or assistant for 16-30 children	Preschool Teacher Qualified

Fig. 2.2: Required Staff/Child Ratio

2.3.3 Required Policies (Denmark)

The following table gives a brief overview of the Denmark's model for childcare, as well as the recommended requirements for those employed in childcare and teaching (Cordeaux 5):

History	Integrated system
State subsidy	Parents contribute a fifth of the cost. The remainder is funded by the state.
Children under 3	53% of children attend publicly funded services: family daycare; nurseries for 0-3 olds; or age integrated provision 0-6 and over.
Children 3-6	88% of children attend publicly funded services in centers for 3-6 year olds or age integrated.
Statutory School Age	7
Administration	Ministry of Social Affairs for integrated service for children under school age. Standards are set locally within a decentralized system.
Teachers	Pedagogue training (social educators) in specialized colleges. Minimum age 18 but average age is 27. College admission criteria gives work experience priority.
Nursery Workers	As above.
Play Workers	As above.
Family Daycare	Pedagogical basic training for 1 to 1.5 years depending on experience.

Fig. 2.3: Danish Model of Childcare

2.3.4 Equipment Availability (U.S.)

The daycare must have sufficient toys and playground equipment for the children. Only toys and equipment that are age appropriate for the children are proper to use. They should not use any equipment, toys, furnishings or games identified by the U.S. Consumer Safety Commission as being hazardous. For example, some toys that have sharp edges can be extremely hazardous to young children.

The program must also be prepared for any kind of emergency that may happen. Adequate first aid materials must be kept and put in a safe place for emergency use. The staff must hold emergency evacuation drills at least every other month with the children. They must also make sure their building is safe and free from hazards (National Resource Center in Health and Safety in Child Care 14).

2.3.5 Looking for a Daycare

When parents start looking for a daycare, they must be observant and should be prepared to ask a variety of questions. Some relevant questions that can be asked are:

- Do they encourage visits from parents?
- What are the youngest and oldest age groups at the daycare center?
- Is smoking permitted on the property?
- What is the teacher/child ratio?
- What are the staff's credentials and what kind of training have they gone through?
- How do they screen staff?
- What type of toys do they provide the children with?
- Is there adequate padding under climbing equipment?
- Is the outside area fenced?
- How do they supervise children that are outside and ones that are inside at the same time?
- Does the daycare center have fire extinguishers and first aid kits?
- What is their emergency policy?

(Yount 1).

When looking for a daycare center for children, parents should not always go to the places that advertise new toys or new equipment. According to Liz Jaeger, a child development expert at the National Institute of Child Health and Human Development, "Glitzy stuff doesn't at all speak to quality" (BabyCenter 2).

Many researchers size up a daycare center by looking at how the teachers interact with the children, the staff to child ratios, and equipment. Parents should look for adequate staff/child ratios because too many children with not enough adult supervision can often lead to many injuries and accidents.

A daycare center should have a positive reputation and be known for its nurturing care and great staff. The staff should always be adequately trained and qualified to handle all responsibilities that come with looking after children. In addition to a great staff, the facilities must also be kept clean at all times and be safe for the children. Toys and play equipment must always be maintained and in good shape (BabyCenter 1).

2.3.6 Preventing Accidents in Daycare Centers

About 25% of children in the U.S. require medical attention due to an injury at a daycare center; 40% of these issues are due to falls (Rivara 1031). In order to decrease this number numerous safety measures must be used. All safety precautions that are used at home to protect children should be used at daycare centers. All medications and sharp objects should be out of reach of the children. Gates must block all stairs and all choking hazards from toys or other materials must be eliminated. Products such as toys, outside playing equipment, and cribs must continuously be checked to make sure they are safe and in good condition. All equipment must be clear of splinters, sharp edges or corners, protruding nails, and bolts (Stratbucker 7).

2.3.7 Accident Studies in Sweden and Canada

A study was done at various Swedish daycare centers, concentrating on the occurrence of injuries. This data was compiled from 10 local injury registry systems covering up to two years. According to this survey, the Swedish daycare centers have a 1:4 child-to-staff ratio and the groups are no larger than 10 to 15 children. Ninety one percent of injuries occurred when playing and the risk was greater if the children were playing outside. Overall, 60% of children injured were hurt in a fall, and 24% were injured by contact with another person or object. Of these recorded injuries, 9% of them required hospital visits. The overall injury rate calculated in Swedish daycare centers was around 1.95 injuries per 100,000 children. Information from 1990 showed that the time children spent in daycare centers per day was around seven hours while the estimated time of outside playing was around two hours per day. Out of 629 injuries that were studied, 390 or 62% occurred to boys while 239 or 38% occurred to girls.

In most of the databases, many details, such as factors that contributed to the injuries, were included in each file. Other details included were playground equipment, other children, furniture, parts of buildings, toys, bicycles, stairs, and outdoor surfaces (Sellstrom 1034).

The Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) contain data about children's accidents at daycare centers. This organization has this data on file so that it can be used to make recommendations for preventive measures. The aim of this program is to reduce the number of accidents and injuries in daycare centers in Canada. When an injury occurs, every injured person, adult, and emergency room staff fill out a form that is put in the database. Using this database, the program found that

72% of the injuries were due to cuts and bruises, and 91% were due to falls or hazards of the equipment. Overall, 60.5% of the injuries occurred to males, and 39.5% occurred to females (Mackenzie 1042).

2.4 Toys

A toy, an object designed to be played with by children, can range from a doll to a rattle. Although they are meant to be harmless objects, many injuries can result from toys. The prevalence of these injuries has become a major problem. In the following section, toy safety and standards are discussed.

2.4.1 Statistics (U.S)

Over 2.6 billion toys are purchased each year in the United States. With so many toys being bought and played with, it is not surprising that toys are one of the most scrutinized and regulated products on the market (TMA 4). Unfortunately, even though they are intensively monitored, toy-related accidents and deaths with children still occur. According to the U.S. Consumer Product Safety Commission (CPSC) in 2002, there were 13 toy-related deaths for children 15 and under (McDonald 1). Their deaths were caused by aspiration, head trauma, drowning and unspecified causes. Aspiration is the only injury that is considered a toy-caused death. Besides deaths, in 2003, there were 212,400 toy-related injuries treated in U.S. hospital emergency rooms (McDonald 2). Of those injuries, 78% were to children under 15, 34% were to children under five, and 58% involved males. Forty-seven percent occurred to the head and face region. The head and face region also had the most overall injuries when it came to individual parts: face with 45,400, head with 27,100, and mouth with 16,200. Besides the head area, 25% occurred

to the arm region, which includes from shoulder to finger, and 17% occurred to the leg and foot region. Around 53% of the injuries included lacerations, contusions, and abrasions (McDonald 3).

2.4.2 Toy-Related versus Toy-Caused Accident

It is important to distinguish between a toy-related accident and a toy-caused accident. Toy-related accidents are not due to flaws with the toy, but usually happen because the toy was left out and tripped over or something of the sort. Toy-caused accidents happen because there is a "fault in the toy's design, material content, construction, or performance" (TMA 5). When any injury involving a toy is recorded by The National Electronic Injury Surveillance System (NEISS), it sometimes does not include the details of how the accident happened. The NEISS makes periodic reports about product-associated injuries available to the public. These injury statistics come from a sample of hospital emergency rooms.

2.4.3 Importance of Adult Supervision

Although standards are set in place to help ensure the safety of children and toys, it cannot take the place of adult supervision. Toys should always be used, maintained, and stored correctly to ensure that the safety built in at the factory continues at home. It is through parents or adult supervision that children learn safe play habits and responsibility. Paying attention to instructions and reading them aloud, along with demonstrating to children how the toy is used, will help ensure safer play and longer toy life (TMA 6).

2.5 Organizations Fostering Child Safety

Because of so many accidents happening, many organizations were created to help improve children's safety, both locally and nationally in the U.S. The following organizations foster child safety and are constantly doing their best to help improve safety standards.

2.5.1 U.S. Consumer Product Safety Commission (CPSC)

The foundation of the CPSC began in 1967 when Congress adopted a joint resolution creating a National Commission on Product Safety (NCPS). They were concerned with the increasing amount of safety hazards caused by consumer products. The NPCS conducted a comprehensive study of the protection consumers have against unreasonable risk or injures caused by consumer goods. The commission collected a record of over 7,000 pages and submitted their final report in June of 1970. The NCPS concluded that existing consumer protection laws were inadequate and recommended the formation of a Federal regulatory agency with the power to fight for consumer rights. Two years later, on October 27, 1972, President Nixon signed the Consumer Product Safety Act, which officially created the CPSC (McGillan 49).

Today, the CPSC protects the public from unreasonable risks of serious injury or death from more than 15,000 types of consumer products under the agency's authority. Deaths, injuries, and property damage from incidents involving consumer products cost the nation more than $700 billion every year. The CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard or that can injure children. The CPSC's work to ensure the safety of consumer products for children has been extensive. The promotion of consumer awareness along

with the establishment of safety standards for children items - such as toys, cribs, and playground equipment - contributed significantly to the 30% decline in the rate of overall deaths and injuries associated with consumer products over the past 30 years (CPSC 1).

2.5.2 Injury Free Coalition for Kids of Worcester

The Injury Free Coalition for Kids of Worcester is an organization at UMASS Memorial Hospital in Worcester, Massachusetts that fosters children's safety. Using a trauma registry database, this organization can find the top three causes of children's accidents in Worcester. The top three causes are related to falls, bicycles, and motor vehicle related injuries (Injury Free Coalition for Kids of Worcester 1). Approximately 28,000 children are admitted to the UMASS emergency room every year (Injury Free Coalition for Kids of Worcester 1).

This organization focuses on accident prevention programs that help decrease the amount of children's injuries. The Injury Free Coalition works with the community on a playground safety improvement/renovation project, along with various other companies that help promote children's safety. The organization's primary goals are to educate the Worcester area families about the causes of accidents and injuries and how to avoid them, and to create a community involvement to help combat children's injuries.

2.6 Comparison of Educational Systems

It is important to distinguish the differences in the U.S. and Danish school systems. Specifically, words such as daycare and kindergarten have different meanings in each system. Therefore, the following section will discuss the school systems in more detail and clear up any confusion.

2.6.1 American Educational System

Daycare centers in the United States place an emphasis on recreational and cultural activities. They provide children with a safe haven for the time period between the end of school and when the parents get out of work. The children enrolled in such daycare centers are from 4 to 8 years of age. They have the opportunity to enhance their cognitive and motor skills by playing inside the classroom or outside on the playground. These daycare centers cannot be located just anywhere or run by anyone; the staff and the property must be licensed in order to become an official daycare (The SCRE Center 2).

In the United States, kindergarten is an option for children around the ages of five or six. Kindergarten is usually a half-day session where the children learn the alphabet, colors, and how to share. This is an option that the vast majority of parents in the United States choose to do for their child. However, this is not mandatory; only the 12 years of elementary school and high school following kindergarten is required (ThinkQuest 1).

2.6.2 Danish Educational System

In Denmark, daycare centers are for children up to two years of age. There are two categories of daycare centers. First there are daycare centers, "vuggestue", that typically have 20 to 40 children and 5 to 10 adults. This is sometimes included with older children up to the age of six. There are also daycare mothers, "dagpleje", who generally have four children in their home. They are paid and controlled by the municipality where they are located.

Most children start daycare when they are 12 months old, which is when the parents go back to work from maternity or paternity leave. Parents should sign up their

children early. Sometimes, the most popular daycare institutions have a wait list that can range anywhere from 1 ½ to 2 years from birth.

Kindergarten, "bornehave", in Denmark is referred to as grades 3-5. This usually consists of 20-100 children. They are typically placed into smaller groups of 15-20 children with approximately 10 children for every teacher. The time children spend here is strictly play, no education. Children normally play together on the playground; however, they are often divided into different areas for the younger and older (Danish Consumer Council).

2.7 Counties and Municipalities in Denmark

Denmark consists of 14 counties and 275 municipalities. The counties are responsible for health care and hospitals, social services, education, culture, roads, protection of the environment, and regional planning and development. Municipalities are responsible for elderly care, primary and secondary schools, child care, social benefits, integration of refugees and immigrants, public libraries, public housing, environment, local roads and traffic, and taxes (København Amt 1). The main areas of focus are municipalities in the Copenhagen county. The following sections will give a brief overview of a few of the municipalities so as to help determine possible rich and/or poor socioeconomic regions. Government posed web sites provided most of the information. Some of the municipalities will have limited information or none at all due to the lack of English versions for some of the web sites.

2.7.1 Copenhagen

Copenhagen County is divided into 18 municipalities with a total population of 615,000. Only 12 of the 18 municipalities report to EHLASS. Copenhagen County is the largest industrial and commercial region in Denmark. Around 365,000 people are employed in the Copenhagen County region. The demographic structure of the county can be found below. From the figures, roughly 20% of Copenhagen County's population is under 15 (København Amt 1).

Age	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2010**	**2015**
0-6	9.2	9.1	9.0	8.9	8.9	8.9	8.6	8.1
7-14	9.6	9.9	10.2	10.5	10.6	10.7	10.6	10.4
15-19	5.1	5.1	5.1	5.2	5.3	5.6	6.5	6.6
20-24	5.5	5.3	4.9	4.7	4.5	4.4	4.8	5.6
25-64	54.8	54.8	55.0	55.0	54.8	54.7	52.9	51.2
65-74	8.5	8.4	8.3	8.3	8.4	8.4	9.5	10.9
75+	7.3	7.4	7.4	7.4	7.4	7.4	7.2	7.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Fig. 2.4: Demographic Structure of Copenhagen

Albertslund

Albertslund is 15 km west of Copenhagen (city) and has an area of 23 square km. It possesses a high level of activity and boasts a tradition of dialogue between residents and business. Its main priorities are to provide environmental activities, excellent facilities for children and young people, as well as encouraging cultural and leisure

activities. The following figure gives a brief overview of general statistics about Albertslund (Albertslund Kommune 1):

		Year
Number of residents	29,201	(2001)
Population density (per km^2)	1,273	(2000)
Jobs per 100 residents	75	(2001)
Full-time unemployed per 100 residents aged 17-66	4.6	(2001)
Citizens of the EU/Scandinavia/USA per 10,000 residents	204	(2002)
Citizens of third countries per 10,000 residents	903	(2002)
Places in nurseries per 100 children aged 0-2 years	15.1	(2000)
Staff per nursery	0.3	(2000)
Monthly charge for nursery	*1.820	(2003)
Places in kindergartens per 100 children aged 3-5 years	42.4	(2000)
Staff per child in kindergartens	0.2	(2000)
Monthly charge for place in kindergarten (full-time)	*1.525	(2003)
Average class size in schools	20.03	(2002)

Fig. 2.5: Albertslund Figures (*currency in DKK)

Ballerup

Ballerup has 47,000 residents and covers 3,409 hektar, residing halfway between the fjord of Roskilde and the Sound. It is located 15 km from central Copenhagen. Ballerup has a flourishing economic life as well as a thriving sporting and cultural life. It also boasts of attractive housing areas and plenty of greenery (Ballerup Kommune 1).

Gladsaxe

Gladsaxe municipality is one of the largest in Denmark with a population of about 62,000 people (Gladsaxe 1). This municipality is a great setting for both the young and old. It has around 30,000 dwellings, leads a rich cultural life, has natural surroundings, and has numerous associations and organizations (Gladsaxe 1).

The municipality is in the county of Copenhagen and half of its area is housing sectors. Gladsaxe has around 34,000 jobs to offer, the most in the metropolitan area outside of Copenhagen. There are about 2,800 companies in Gladsaxe with three large

industrial districts. It also has a vast motorway system and extensive traffic connections (Gladsaxe 1).

Herlev

Herlev is a small municipality located about 10 miles northwest of Copenhagen City. It is Denmark's third smallest municipality, but it ranks among the 50 most populated municipalities in the country. Herlev is a town with a uniqueness all of its own. The northern part of this municipality contains many parks and a beautiful countryside. Herlev also boasts their 25-year old County Hospital, one of five large hospitals in the Copenhagen metropolitan area. All remaining unoccupied areas of the municipality belong to the people of Herlev, which include neighborhoods, daycare facilities, nursing homes, schools, and parks and much more (Herlev 1).

Høje-Taastrup

Høje-Taastrup is a municipality located halfway between central Copenhagen and Roskilde. With nearly 46,000 inhabitants, Høje-Taastrup is the capital's fastest growing commune, but still continues to maintain its natural beauty. Høje-Taastrup is the home of the huge Danish State Railways goods terminal. The municipality boasts both a gymnasium (high school) and the Danish Technical Institute. There is a postal center with more than 400 employees sorting around 1.1 million letters a day. Høje-Taastrup is a haven for businesses (Høje-Taastrup-Guiden 1).

Ledøje-Smørum

Ledøje-Smørum is located on the island of Zealand. It has an area of 3,133 hektar and a population of around 10,000. Ledøje-Smørum boasts a broad variety of housing facilities and a high level of employment. It has a total of three municipal schools, along

with a youth recreation center, a school of music, and a large variety of childcare options (Ledøje-Smørum Kommune 1).

Vallensbæk

Vallensbæk municipality has a population of about 12,000 people. It is located on the island of Zealand, in the Copenhagen community (Wikipedia 1).

Other Municipalities

The following municipalities had either no relevant or English versions of general information: Brøndy, Glostrup, Ishøj, Rødovre, and Værløse. The only relevant information was their population sizes. The following table is a list of each of the municipalities that report to ULYDIA and their population size:

Municipality	Population
Albertslund	30000
Ballerup	47000
Brøndby	34000
Gladsaxe	62000
Glostrup	20000
Herlev	27000
Høje–Tåstrup	45000
Ishøj	21023
Ledøje–smørum	10369
Rødovre	36317
Værløse	17924
Vallensbæk	12000

Fig. 2.6: Municipalities and Their Populations

2.8 Risk Perception

The perception of risk is defined as one's judgement of threats caused by accomplishing a certain activity or choosing a certain lifestyle. Whatever the situation, there is risk involved. Whether it is fighting in a battle or just walking across the street, risk is a normal part of daily life (Center for Toxicology 1).

It is important to notice the two sides of risk, behavioral and analytical, influencing one's decision. When analyzing risk in a behavioral fashion, it is often a subjective assessment. This is driven by emotion, which often causes irrational thought. For example, if someone says that his friend could never win money gambling, that friend, angry at such a statement, gambles to prove him wrong. This person's emotion led to complete ignorance of the risk of gambling (Simmons 5). Children often make similar decisions based on emotion in daycare, kindergarten, and playground settings.

Although people cannot, and would not want to, avoid every single risk in life, they can be minimized by controlling emotions and following safety guidelines for certain situations (Center for Toxicology 1). This is the analytical side of risk, which supports logical, data driven, and scientific assessments of various risk factors (Simmons 6). Organizations devoted to the safety of people in any setting use such assessments to develop safety standards and guidelines to keep.

The most important aspect in minimizing a risk is to correctly understand its assessment. If there is a lack of information, or misinformation, one is confronted with making an uninformed decision. Exaggerated fears often are a result of a lack of information. For example, many people refuse to go on an airplane due to their fear of flying. However in reality, the odds of being killed in a plane crash are 1 in about 650,000 people, compared to the odds of 1 in about 6,500 people being killed in a car accident (Simmons 3).

Making such informed choices about certain activities and lifestyles reduce the risk of developing injuries without eliminating a learning experience. This is called a risk versus benefit decision. The goal of many safety organizations is to provide people with

the knowledge to make an informed decision, whereby the risks are weighed against the profits derived from a specific activity (Center for Toxicology 1). To be informed of risk is good not only for adults, but for children as well.

3.0 Methodology

This section details the procedures followed in order to complete the project and the reasoning behind each method. The objective was to prepare an inclusive strategy to evaluate the problem of children's accidents in daycare, kindergarten or nursery school, and playground settings as well as analyze children's accident data with the intent of providing insight on child safety as well as give recommendations on improvements. The following figure is a flow diagram illustrating the procedures used in this project:

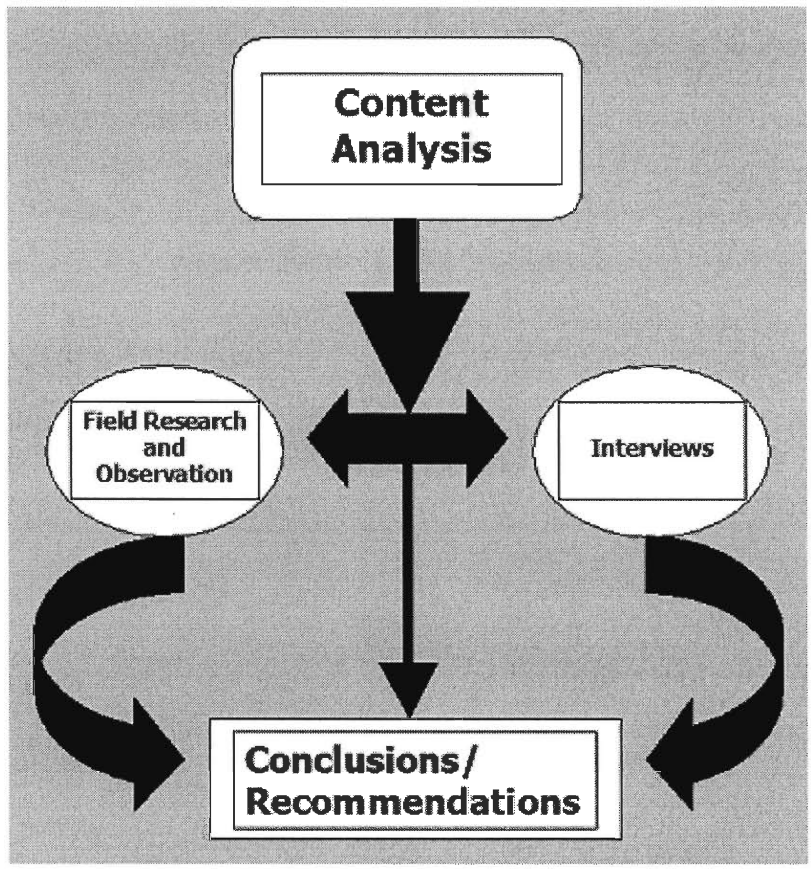

Fig. 3.1: Flow Diagram of the Methodology

3.1 Content and Risk Analysis

The objective of working with ULYDIA was to analyze the data, find patterns, and locate problematic areas. While sifting through the data, our team specifically looked for patterns in relation to toy products, playgrounds, schools, and the location of the reported treatment. The database had 30 different searchable categories, but only the following ones were used:

- Accident category
- Sex
- Hospital
- Age
- Place
- Municipality
- Admitted days, grouped
- Month of accident
- Toys
- Mechanism of Injury
- Lesion Type

By varying the categories and options, multiple spreadsheets were created using data pertaining to the number of accidents happening in specific locations or with specific products. Examples of these spreadsheets can be found in Appendix D. From these spreadsheets, a number of actions were taken. For example, if any of the municipalities continually topped the accident list in each of the different categories, more research was

done on the municipality and our team considered finding a school or daycare to interview in hopes of gaining insight on why so many accidents were happening.

The information gathered from the data analysis served as a foundation for the rest of the methodology. It was the basis on which some of the interview questions were formed as well as the selection of interview sites. Trends and patterns influenced the selection of playgrounds for field observation and research.

3.2 Field Observation and Field Research

A major task of this project was performing a direct study of the safety in daycare centers and kindergartens. Field observation and research of these daycare centers and kindergartens, along with their playgrounds, provided concrete, first-hand information. Some accidents in the ULYDIA, for example, did not seem to have a noticeable pattern. The database sometimes did not provide enough information to discern a substantial pattern or reason behind the accidents. Through observation, our team was able to find other factors that could have been the cause of the accidents. Therefore, this method effectively complemented the information from the accident database, enhancing the comprehensive research strategy.

Several different daycare centers and kindergartens were chosen in Copenhagen depending on their socioeconomic background. At each institution, one to two staff members were interviewed. Particular attention was paid to any hazards the adults might have imposed and whether children were being properly supervised at the daycare centers and kindergartens.

Another task was to measure and analyze the extent to which playgrounds adhered to playground safety standards. A list of multiple playgrounds, both public and

manned, in the Copenhagen area was compiled and a sample of these playgrounds were selected, keeping in mind location, size, age of playground, and database analysis that might suggest further follow-up. A manned playground is a playground that has constant hired supervision and there are planned and structured activities for the children. Once the playgrounds were chosen, a checklist was created based on relevant safety standards (see Appendix C).

There are many possibilities for injury on a playground. The biggest concerns are injuries from head, body, and shoulder entrapments. Using test probes designed by the European Playground Standards, several tests were performed on the playground equipment. According to the standards, these test probes can only be used on playground equipment that is 600 mm or higher. The reasoning behind this limit is that any heights lower than 600 mm are not considered high enough to cause strangulation or entrapment issues because children should be able to stand or at least support themselves.

There were two major hazards that were tested on the playgrounds: head and body entrapment and strangulation. The first test performed was called the head and body entrapment test. The head tool represents the head of a child, whereas the body tool imitates the circumference of the child's body. When these tools are used in conjunction with each other, one can see if the child is in danger of entrapment. The only kind of opening that is relevant for this test is an enclosed opening, with four complete sides. If both the head and body tools fitted through the opening, then it was not considered a safety hazard. Along the same lines, if neither the head nor body fitted through the opening, then a child is not in danger of entrapment. However, if the body fitted through

the opening and the head did not, then the test failed because a child's head could get trapped in the opening and possibly causes a serious injury.

The next test performed was the head and shoulder entrapment test. This was used for openings that were not fully enclosed, for example, the top of a fence. If the neck and shoulder tool fitted through the space, then the opening had to be tested using the head portion of the tool. If both the neck and head portion fitted through, then that meant a child could remove his or her head from the opening without becoming entrapped. However, if only the neck fitted through and the head did not, then the test failed because children were at risk of getting their heads caught in the opening.

The final test performed was the toggle test. This was used to see whether or not a child's jacket cord could get stuck in a small opening, resulting in possible strangulation. This test was performed using what is called a toggle, a replica of a string on a child's jacket or sweatshirt. It was used on playground equipment that children can slide down on, for example, a slide or a fireman's pole. The toggle string was positioned where the child would begin using the playground equipment. Next the string was moved around in a circular pattern to see if it became entangled in any little crevice. If so, the test failed because the children were at risk for possible strangulation.

3.3 Interviewing

Interviewing was an essential element of research in this project before and while in Denmark. Speaking with experts in their given fields allowed our team to gain information unobtainable from any other resource. In Denmark, the interviewing of experts in their respective fields provided vital information needed to complete the

project objectives. This information also further validated the conclusions and recommendations.

In the field of child safety, it was imperative to interview childcare and kindergarten or nursery school staff. Members of American and Danish organizations involved with child accident prevention were also an important source. The interviewees were professionals in various areas of child safety. The content of a few interviews, therefore, was different, even though the approach was similar.

The approach of interviewing members of organizations that dealt with child injuries was fairly unstructured. The questions were open-ended so the interviewee felt as though he or she were in an open conversational setting. This technique put the interviewee at ease and increased the chances of more complete answers. Organization members deal with children during and after a child's injury. Therefore, they have the best knowledge of the seriousness of the child's accident and their specific injury. Consequently, the interviewees also have specific knowledge of how and why the accident occurred, and the latest trends in children accidents. Examples of a few important questions that were answered are as follows (see Appendix A for full set of interview questions):

- Are there people familiar with the analysis of compiled accident data?
- What steps are being taken to create a child safety program with the compiled accident data?
- What kinds of trends (age, gender, and location of accident) occur from patients admitted into the emergency room?

The interviewees in these fields, however, did not have first hand experience teaching and watching children. Kindergarten and nursery school teachers and daycare staff are professionals that witness children's accidents as they happen and promote child safety to both children and their parents. Interviews with these people were critical to the overall research. The interviewee, again, was made comfortable through an unstructured interviewing style containing open-ended questions. There was a list of question prepared, but the questions posed depended on the flow of the interview. Teachers of young children and daycare staff work with children every day and it is part of their job to prevent children's accidents. Therefore, they have an immense knowledge of existing child safety standards and ideas to make playground and childcare settings safer. A few questions that our team used to elicit important information were as follows (see Appendix A for full set of interview questions):

- What are the most common types of accidents?
- Do any patterns appear with the types of accidents in playground/childcare settings and the children involved in them?
- Are there any suggestions/perceptions on making playground or childcare settings safer, for example, issues of adult supervision or child toy products?

With the knowledge gained from interviews, our team was better prepared to successfully complete this study.

4.0 Results and Analysis

This section focuses on the results and analysis compiled over the time period of this project. The results are broken down into three sections covering findings with the database, field observation, and interviewing. Such topics covered are trends and patterns in the database, general patterns in playground safety, and the effects of staff efficiency. With this section, our team aims to clearly lay out the basis and support for the conclusions and recommendations section.

4.1 Analysis and Results from the Accident Database ULYDIA

The following section will detail the results from working with the database ULYDIA. It will also include encountered restrictions and present important trends with supporting data and figures. It is important to mention that all data from ULYDIA covers the years of 1998-2003, unless otherwise noted. More thorough tables of information from the database can be found in Appendix D.

4.1.1 Restrictions on the Database

While working with the database, our team encountered restrictions that deterred the process of gathering information. Mainly, the problems dealt with the risk of person identification, the lack of a category for ethnicity within the data, and the lack of an English version of the free text. Each of these restrictions hindered the ability to gain more accurate information.

The first problem that arose was the risk identification issue. Within the database, if too many search components were used, the system would deny access to the requested information. As mentioned before, ULYDIA is being transformed into a database that

will be accessible to the public. Therefore, one of the most important aspects to keep in mind is safeguarding against possible abuse. This mechanism was built into ULYDIA to prevent users from being able to identify persons or patients, as well as protect the private nature of the data. For example, if a user wanted to pull up data on males, ages 0-9, from Ballerup municipality who have been involved in toy accidents in 2003, the following search criteria would be entered:

- Home-leisure accident
- Ages 0-9
- Gender - Male
- Ballerup (as the specific municipality)
- Toys (as product selection)
- Year - 2003

ULYDIA would reject this request, forcing the user to broaden the search. This restriction posed a problem in the project because it limited the opportunity of looking for a specific scope of trends. Most of the team's searches done with ULYDIA were broader than hoped for. Fortunately, Bjarne Laursen provided more detailed data as requested.

The second restriction encountered was dealing with the lack of an ethnicity category. In the U.S., clarification of ethnicity is a universal question asked in most documents. In comparison, in Denmark, the general inquiry about race or ethnicity is not as commonly accepted; therefore it is not always asked. This lack of ethnicity clarification prevented our team from being able to supply data that might have supported or refuted claims relating accident rates of immigrant children in comparison to Danish children.

The last restriction dealt with the free text component of each data entry. Free text is recorded information about the accident that usually falls outside the range of questions normally asked. Typically, the free text acts as a simple explanation of why or how the accident happened. Not all entries will have free text and sometimes, even those entries that do will only consist of one-line explanations. Unfortunately, our team was unable to utilize the free text since it was displayed only in Danish. The rest of the database has been translated to English, but the free text option has yet to be translated.

4.1.2 Clarifying Severity of Injuries

One of the goals of working with the database was to shed light on the general severity of children's accidents. With such large numbers of children's accidents, it is important to recognize that not all accidents are of a severe nature. Take for example the following figure:

Number of Admitted Days	Number
0	12315
1	204
2–4	21
5–9	6
10–29	3
Total	12549

Fig. 4.1: Severity of Accidents in Daycare Centers

At first glance, the total number of accidents appears to be alarmingly high. But upon further investigation, out of the 12,549 accidents, only a total of 243 accidents required one or more admitted days. Although there is a high number of accidents, not every accident is severe enough to the point of hospitalization. The following figure displays the breakdown of admitted days (at least one or more days) for accidents in specific locations or with toy products:

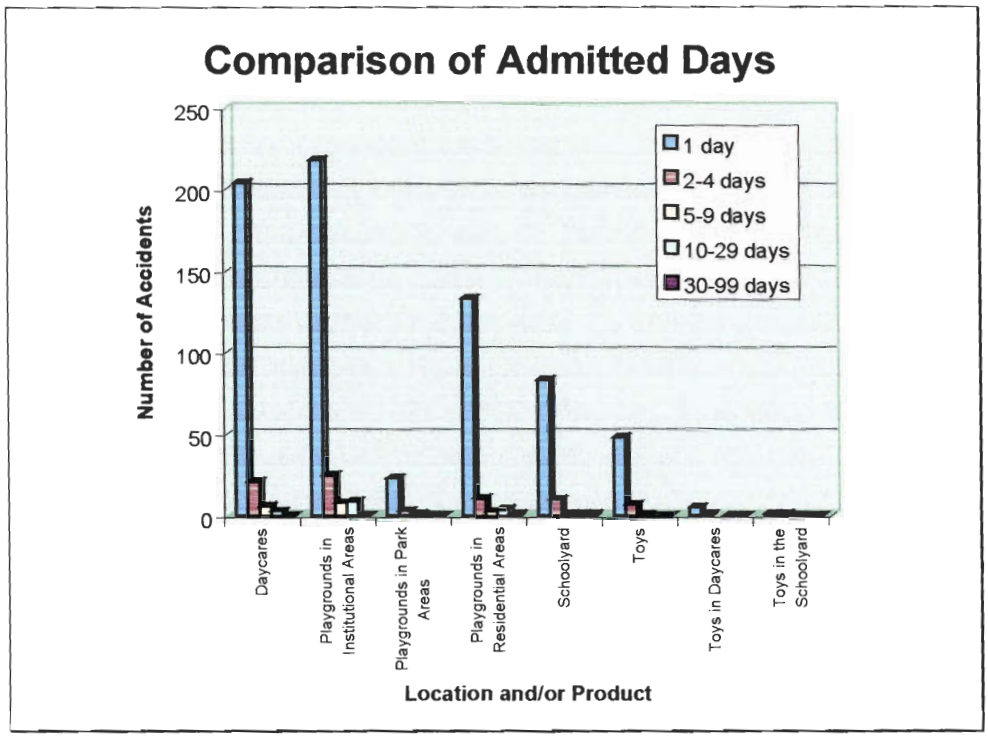

Fig. 4.2: Breakdown of Accidents Requiring Admitted Stays

According to the information in Fig. 4.2, one day admitted accidents are the most prevalent among the various accident settings. This trend indicates that many of the accidents that were hospitalized were not severe enough to require multiple day stays in the hospital. The following figure compares the number of non-admitted accidents to admitted accidents in different accident settings:

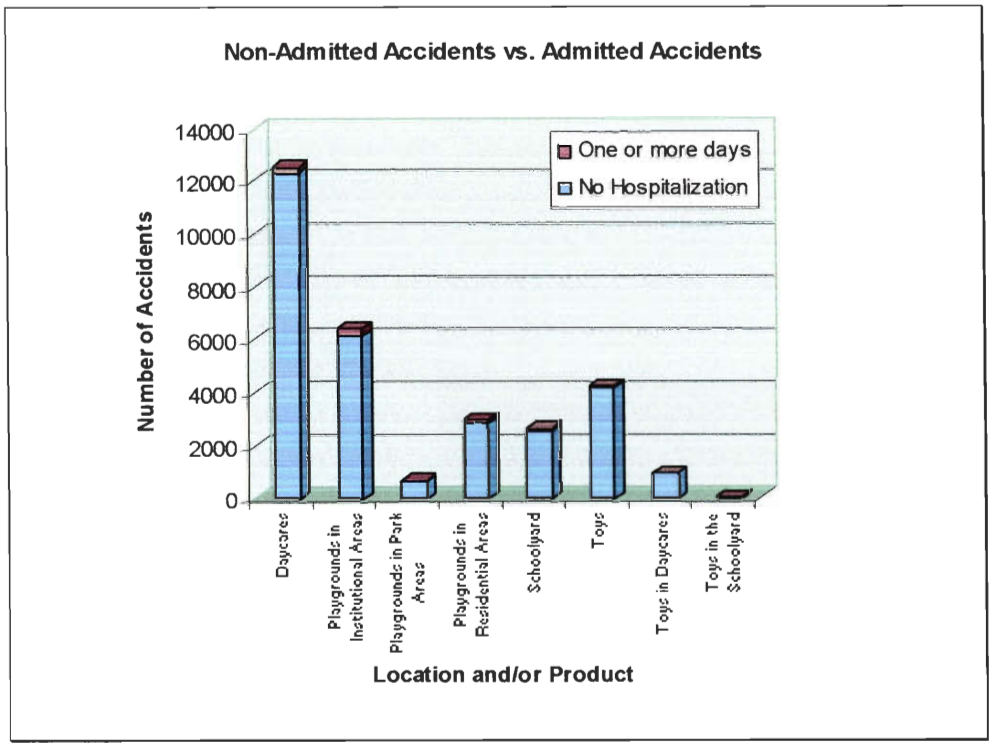

Fig. 4.3: Number of Non-Admitted Accidents vs. Admitted Accidents

The number of admitted accidents that were hospitalized for a day or more is minuscule in comparison to the number of non-admitted accidents. This contrast shows that many of the accidents required brief medical attention.

Another method used to help clarify severity was identifying severity through the type of injury that was sustained. The objective of this method was to find out if there were any dominant injuries and then assess the severity of the injury. The following figure displays the spread of accidents according to location and type of injury:

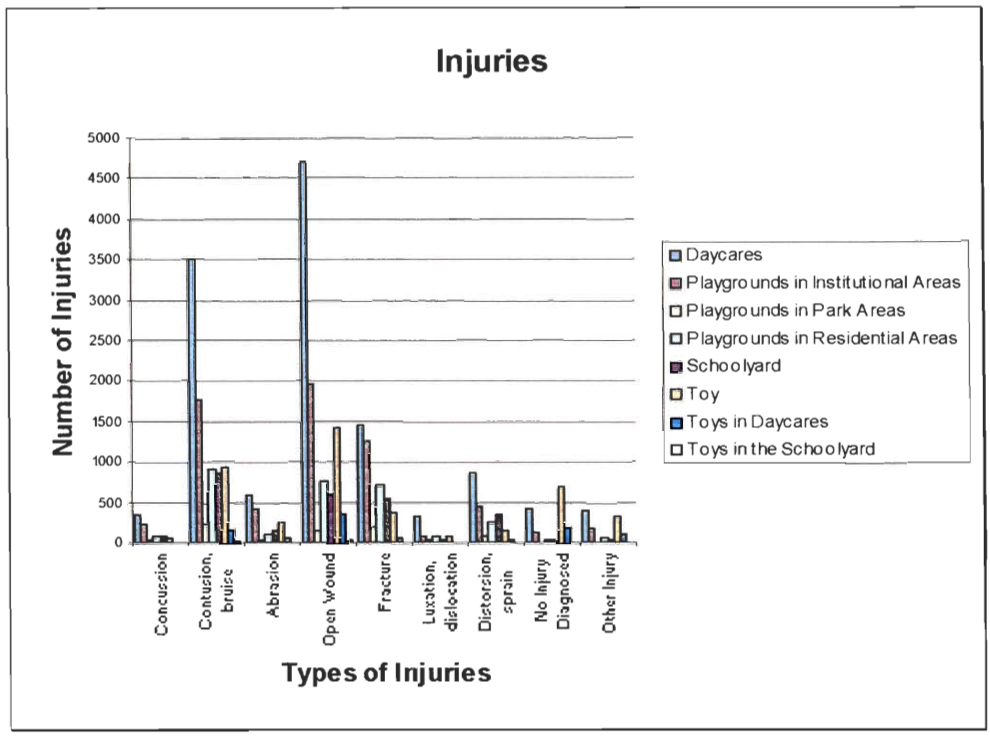

Fig. 4.4: Different Kinds of Injuries

From the graph, it appears that open wounds, contusions and bruises, and fractures are the most common injuries among children. Although these injuries can be of a severe nature in some cases, most of the time they require brief medical attention. Hence, again, this trend supports the idea that children's accidents are not as severe as numbers lead them to be.

4.1.3 Yearly Accident Trends

A general trend to explore was the particular increase or decrease of numbers of accidents from year to year. It is important to take notice of the movement of the data so as to be aware of any visible trends that might require further explanation or research. The following figure is a graph of the yearly trends of accidents in each of the accident settings:

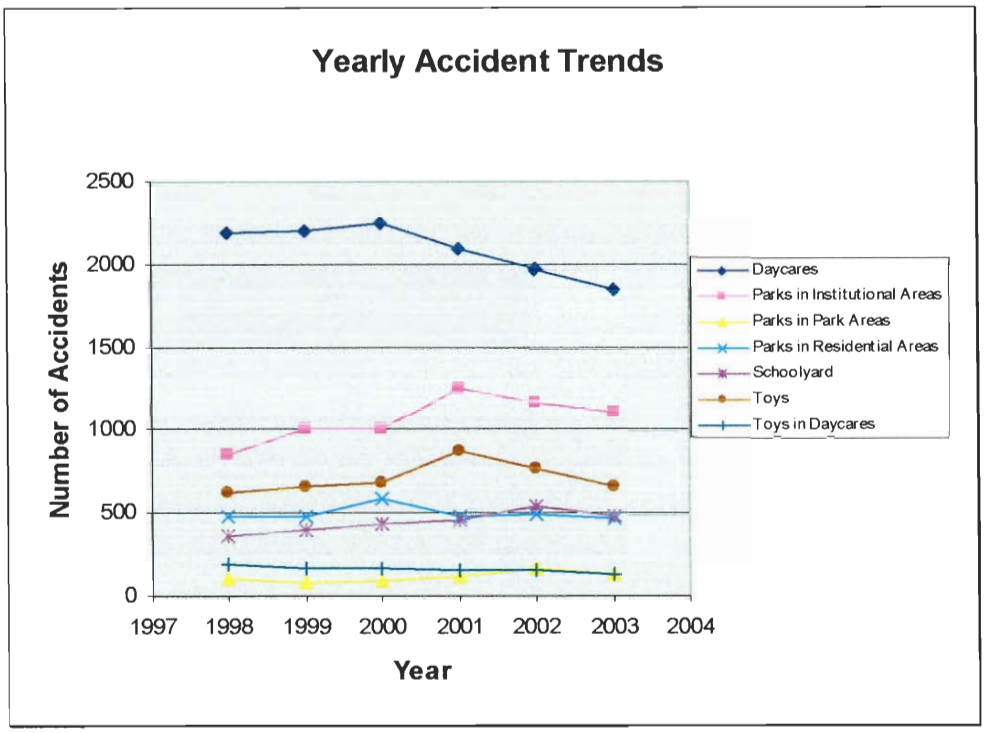

Fig. 4.5: Yearly Trends of Accidents from 1998 to 2003

There appears to be a noticeable increase in most accident categories from 1998 to either 2000 or 2001. It is important to explore possible reasons for why there was an increase in accidents during those years. The most logical explanation was brought up during an interview with Laursen (see Appendix B for a full interview synopsis). He stated that over the years, there have been numerous improvements in both recording and coding accident information into the system. These improvements have resulted in an increase in database entries, therefore creating the impression that accidents have increased over the years. This claim of increased accidents cannot be supported or refuted without further research, but it is safe to say that the improvements have had some effect and should be taken into consideration when noting yearly trends.

In the past year or two, there appears to be a decline in the number of accidents. Our team was unable to find a sufficient and supportable explanation within this project

as to why this decline was present, but wanted to note since this decline was a positive trend.

4.1.4 Trends in the Mechanism of Injury

In order to help prevent children's accidents, it is crucial to look at how accidents occur and how often they happen. The following figure displays the number of different types of mechanisms of injury in each accident setting:

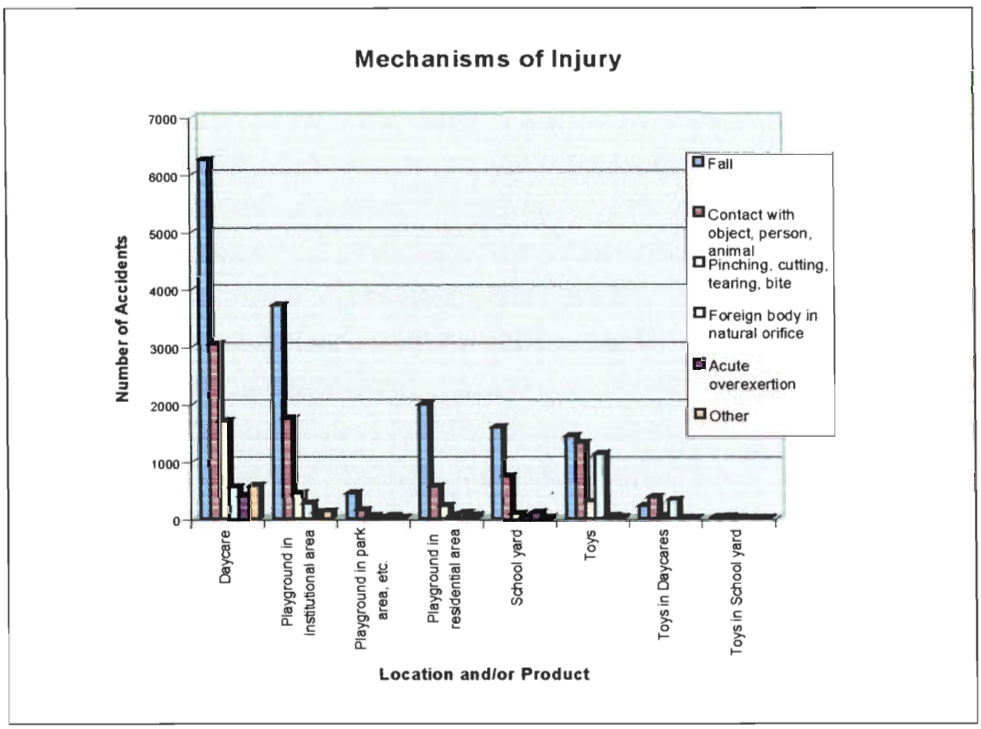

Fig. 4.6: Different Types of Mechanisms of Injury

According to the figure, the most popular mechanism of injury is falls. This figure confirms the statements made in the interviews about falls being the most common cause of injury. Because falls are the most frequent, it is important to look specifically at the different types of falls, so as to get a clear representation. The following figure displays the types of falls and their occurrences in each accident setting:

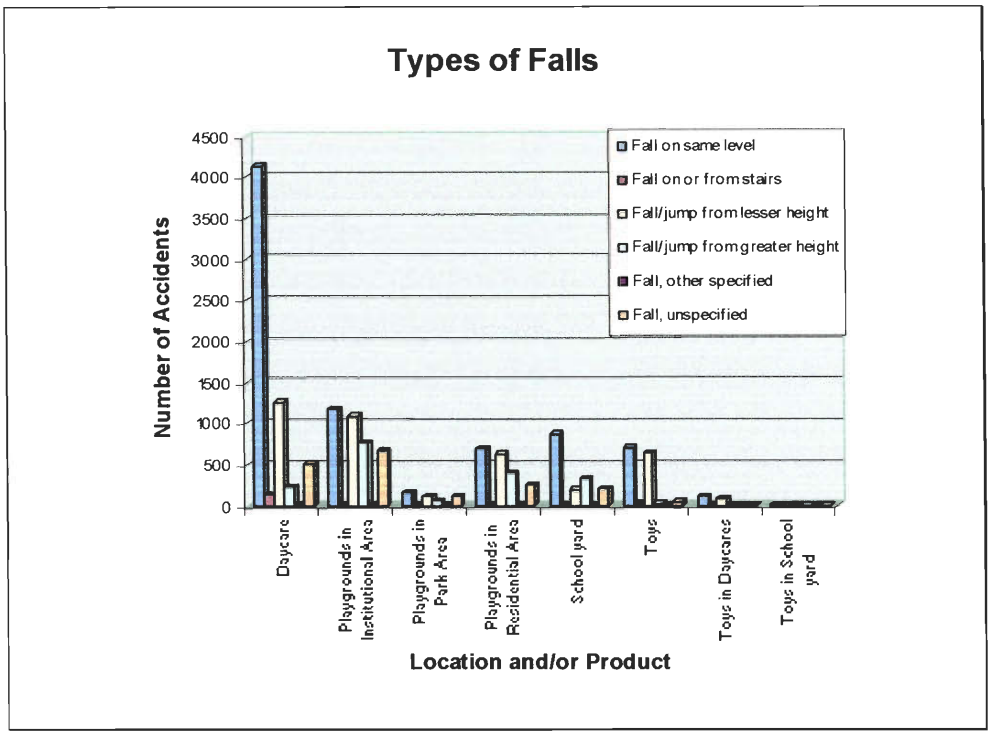

Fig. 4.7: Different Types of Falls

From the graph, falls on the same level are the most frequent in every setting, especially daycare centers. Falls from lesser or greater heights are more widespread on playgrounds, in general, since there is more equipment from which to fall from.

4.1.5 Accidents with Specific Toys

A sizeable number of children's accidents involve toys. Therefore, it is important to examine the frequency of accidents with certain toys. In ULYDIA, toys are broken up into the following four categories: toys on wheels carrying the weight of the child, toy weapons, model sets, and other toys. There are several different toys under each category and this section explores the trends within them.

The following figure displays the spread of accidents according to the type of toy on wheels:

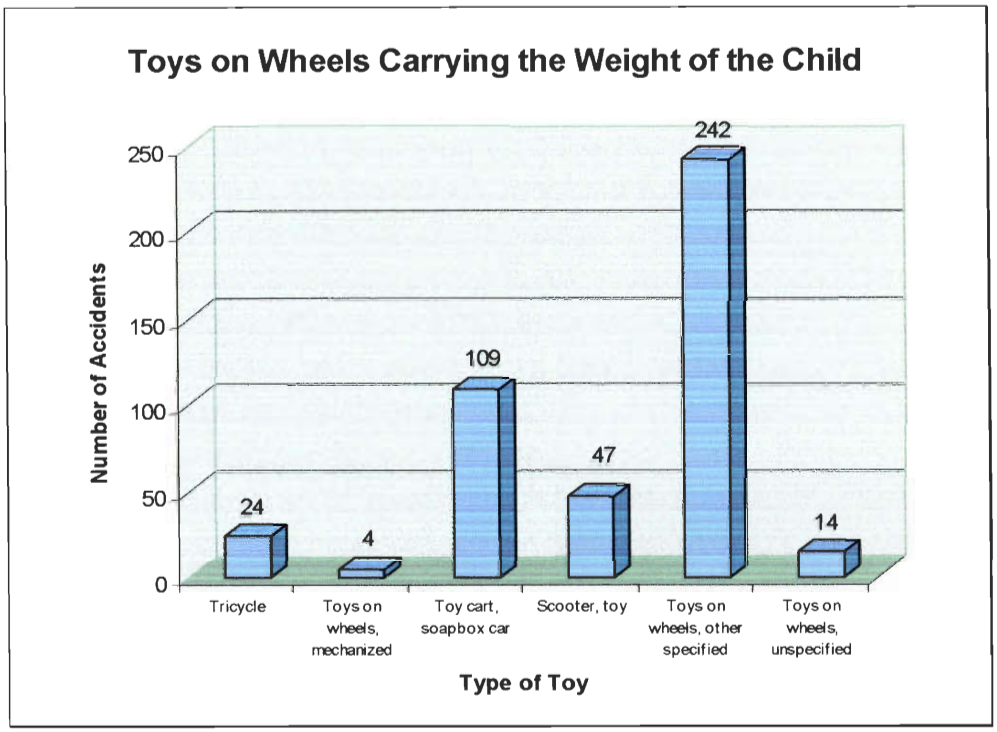

Fig. 4.8: Accidents with Toys on Wheels

According to the graph, toy carts and soapbox cars are most frequently involved in accidents, besides the "other specified" toys.

The next category is toy weapons. There were only two subcategories within toy weapons; therefore it was difficult to establish any dominant trends. The following figure represents the distribution of accidents involving toy weapons:

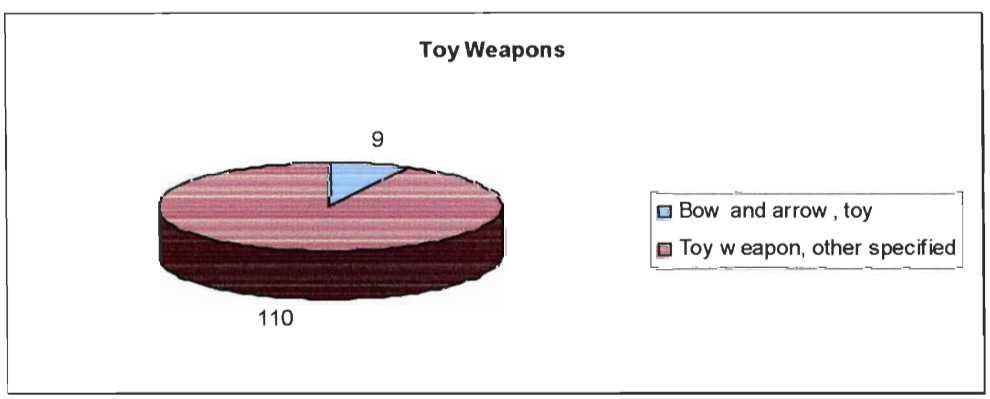

Fig. 4.9: Accidents with Toy Weapons

According to the pie graph, there were no clearly dominant toy weapons, except for bow and arrows. But even the frequency of accidents involving bows and arrows is low, meaning these toys do not significantly cause or are involved in accidents.

Model sets only had a total of five accidents happen within the past five years. It is again evident that these toys are not a large issue in relation to children's accidents. The following figure displays the spread of the five accidents involving model sets:

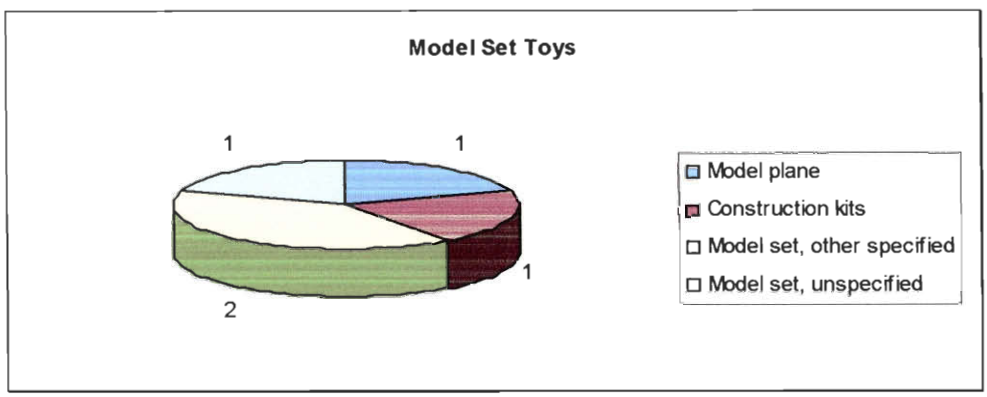

Fig. 4.10: Accidents with Model Set Toys

The last category is "other toys." This category contained a large number of different toys. The following figure displays the different types of toys and the frequency of accidents involving each toy:

Type of Toy	Number of Accidents
Pearl, bead (play)	859
Toy, other specified	622
Building toy (e.g. toy spade)	241
Toy, unspecified	209
Toy bricks/Lego	178
Box for toys	94
Toy vehicles	69
Shrovetide barrel/club	29
Toy bucket	25
Doll's pram	24
Replica of musical instrument	15
Skipping rope, skipping string	15
Doll, teddy bear	14
Balloon, toy	12
Doll's furniture	11
Marbles	10
Rocking horse	9
Frisbee	5
Floating/bathing toy	3

Fig. 4.11: Toy Accidents

From this table, pearls and beads are the most commonly involved toys in children's accidents. This is a valid trend considering that one of the risks with pearls and beads is that young children tend to swallow them due to their small size. Once again, "other specified" toys and "unspecified" toys make up a large portion of this category.

In general, the selection of searchable toys was less detailed and organized than other categories in ULYDIA. It is difficult to categorize toys when there are such a large variety of them available.

4.2 Results of Playground Observation and Safety Checks

Another major aspect of our project was to test various playgrounds to investigate whether or not they abided by the safety standards. Certain testing tools were used to determine if there was any substandard equipment on the playground. The methods used with the test probes are described in the methodology section of this report. Playgrounds were tested at various locations depending on the income level of the area. After much testing and observation, our team found several differences in the way playgrounds were maintained. The following section details the findings from the four playgrounds, two which were located in Nørrebro, one in Vesterbro, and one in Gentofte. The checklists for each playground can be found in Appendix C.

4.2.1 Playground Location: Nørrebro

The first playground examined was located in a low-income area of Nørrebro. Most of the finishing and paint was worn off the play equipment, posing a risk for splinters. The following photo shows the wear and tear of the playground equipment:

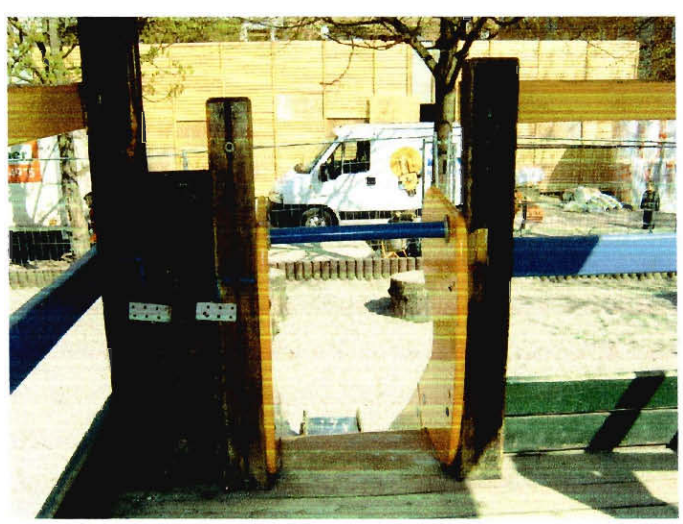

Fig. 4.12: Wear and Tear on Playground Equipment

There were also pieces of wood carelessly spread throughout the playground. This was an indication that the playground was not well maintained. Children could easily injure themselves on the broken pieces of wood. The following photo shows the dangerous wood:

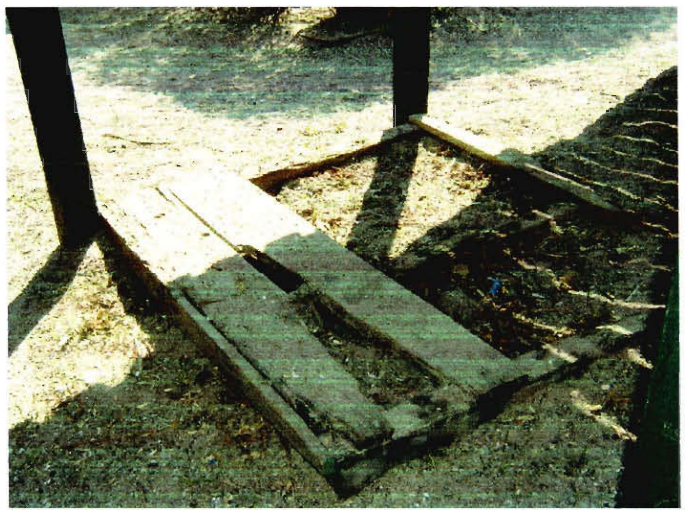

Fig. 4.13: Piece of Dangerous Wood

Many tests were done on openings that were possibly seen as substandard. A test that failed numerous times was the head entrapment test. The following photos show how the test failed on the handrails, stairs, and ladder, respectively:

Fig. 4.14: Head Entrapment Test Failing on Handrails

Fig. 4.15: Head Entrapment Test Failing on Stairs

Fig. 4.16: Head Entrapment Test Failing on Ladder

The head and body also fit through openings that were higher than 600mm, which meant children could easily fall through the barriers meant to protect them. The following photo shows how high this structure was and how far apart the boards of the barriers were:

Fig. 4.17: Unsafe Barriers on Climbing Structure

There were some signs of maintenance on this playground, however, much more still needed to be done. Some railings were recently fixed and the finishing was brand new, taking away the possibility of children getting splinters and cuts. The following photo shows the recently fixed railing:

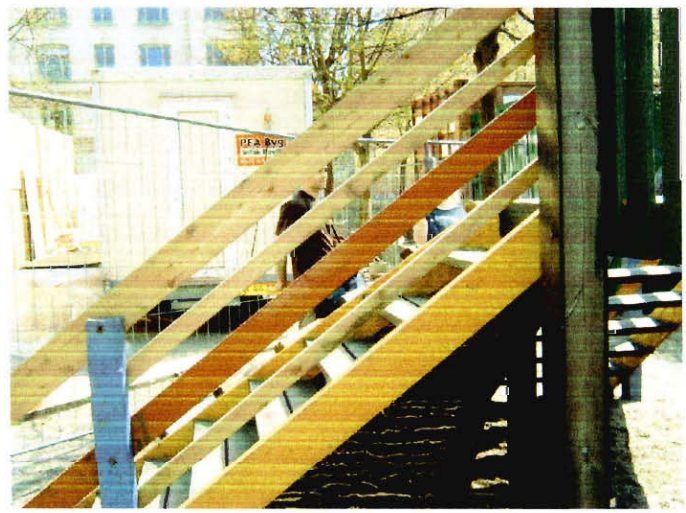

Fig. 4.18: New Railing on Stairs

There were also three tree trunks for the children to play on. However, they were not covered with any protective material to prevent splinters. The following photo shows the hazardous tree trunks:

Fig. 4.19: Three Hazardous Tree Trunks

A zip line with a plastic seat was very worn out due to extensive use. The following photo details the wear and tear of seat:

Fig. 4.20: Broken Zip Line Seat

It was concluded that this playground was not well maintained. Many of the tests failed and most of the equipment was worn down. The few repairs that were done were effective, but more improvements could and should have been made.

4.2.2 Playground Location: Nørrebro

Another playground that our team inspected was also located in Nørrebro, but in a middle-income area. This playground was not as worn down as the previous playground, but still had a few failed tests. The finishing was somewhat worn off, but nothing too serious. The following photo shows the overall layout and quality of the playground equipment:

Fig. 4.21: Overall Layout of Playground

The head entrapment test failed on a climbing structure and the railing of the stairs. The following photos show the tests failing, respectively:

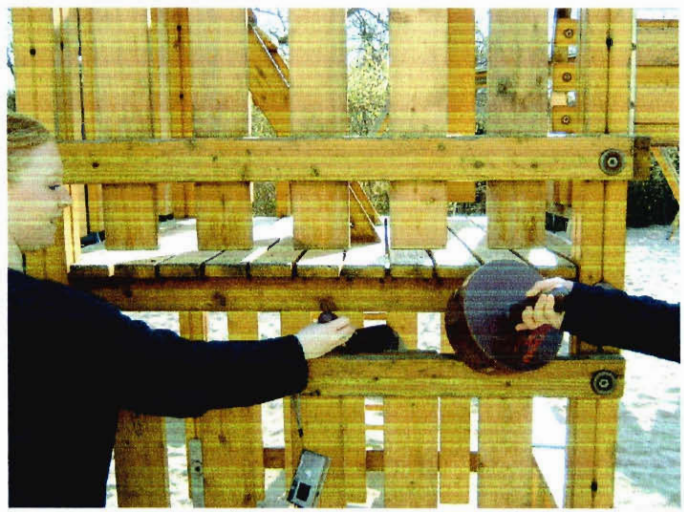

Fig. 4.22: Head Entrapment Test Failing on a Climbing Structure

Fig. 4.23: Head Entrapment Test Failing on Handrail

The toggle test failed only on the slide. The following photo shows the test failing:

Fig. 4.24: Toggle Test Failing on Slide

For the most part, the playground equipment had guardrails and handrails to keep children from falling off and injuring themselves. The following photo shows some of the protective measures used to guard against falling:

Fig. 4.25: Protective Railings and Handrails

In general, this playground was in good condition. The guardrails and other protective measures were especially effective. Although there were failed tests, these areas could be easily repaired.

4.2.3 Playground Location: Vesterbro

The next playground inspected was located in Vesterbro, which is also a middle-income area. Most of the play equipment was again worn down, making it prone to splinters and scratches. But there were signs of maintenance seen through the repairing of areas that would have previously failed safety tests. The following photo shows the extent of the wear and tear on the playground as well as the some recent maintenance:

Fig. 4.26: Playground Wear and Tear with Recent Maintenance

One head entrapment test did fail on the stairs of a climbing structure. The following photo shows the test failing:

Fig. 4.27: Head Entrapment Test Failing on Stairs

In addition, this playground also had many tree stumps for the children to play on, posing another risk for splinters. On a positive note, this playground had very good barriers and guardrails on the climbing structures, protecting against falling. Some of these guardrails were recently added. The following photo shows this recent addition:

Fig. 4.28: Recently Added Guardrails

Overall, this playground was in great condition. Any previous substandard equipment was repaired. Only one area, the stairs, failed, but it could be easily repaired by boarding up the area behind the stairs.

4.2.4 Playground Location: Gentofte

The last playground was located in Gentofte. This playground was connected to The Butterfly Kindergarten and Daycare. This playground was only two years old and was recently inspected a year ago. Nothing on the playground was of substandard quality and therefore, did not require testing. This playground was in near perfect condition. The following photos show the general layout and design of the playground:

Fig. 4.29: Front View of Playground

Fig. 4.30: Back View of Playground

Fig. 4.31: Other Section of Playground

4.3 Results of Interviews

There were five interviews completed in Copenhagen. This section details the relevant findings from each of the interviews. The order of interviews in this section will go as follows: Karin Schwennesen, Troels Larsen, Sidsel Lynge Christensen, Fie Illum, and Miguel Mikkelsen. More detailed interview synopses can be found in Appendix B.

The first interview completed in Copenhagen was with Karin Schwennesen. She is a full pedagogue at Samuelsgården Kindergarten, which is located in a low-income and heavily immigrant populated area of Nørrebro. Schwennesen stated that the kindergarten has unfortunately been burglarized a few times. Also, during some nights, young adults from the surrounding neighborhood break into the kindergarten's playground to vandalize and destroy property. Schwennesen noted that the social condition of the area was in bad shape. The physical condition of the facility was substandard enough that it was considered one of the 20 most underprivileged institutions in Copenhagen. Therefore, Samuelsgården will be receiving a grant of dkk 150,000 towards improvements. Schwennesen said that they plan on using it towards building a new playground that

adheres to the safety standards. The current playground was falling apart due to the vandalism and was not as safe as Schwennesen would prefer.

As mentioned earlier, Schwennesen is a full pedagogue. Schwennesen revealed that she was the only fully trained pedagogue employed at Samuelsgården. She stated that Samuelsgården does not require a formal education for employment, but does mandate a yearly training session in emergency procedures like First Aid and CPR. The staff at Samuelsgården primarily consisted of practicants and teachers aides. Schwennesen explained that practicants are individuals who have completed a shorter and less comprehensive version of pedagogue training and teacher's aides are individuals with little, if any, formal training. Many of the teacher aides were immigrant women; specifically Schwennesen's two aides were Turkish and Arabic. In Schwennesen's experience, these teachers aides are helpful because they are able to cross language barriers with the children that she cannot.

Schwennesen was currently in the process of moving to a new institution. She said that Samuelsgården has been advertising for a replacement, but nothing promising has turned up yet. She believed that people lost interest in the position once they learned where the institution was located. According to Schwennesen, Samuelsgården and its surrounding area do not have a desirable appeal. She said it was challenging to find people who wanted to deal with the social problems within the kindergarten and local neighborhood.

According to Schwennesen's estimates, Samuelsgården is mainly comprised of immigrant children from the surrounding area. Unfortunately, many of the children have inadequate language skills. In Schwennesen's kindergarten classroom, six out of 15

children were unable to speak Danish. Schwennesen believed that the children's language skills were not advancing well due to the fact that the children were not being motivated to speak and practice their Danish skills. Schwennesen stated that if her immigrant children were placed in institutions with Danish children, in roughly three years, the children would be fully integrated and have little, if any, language issues. Then, the children would be able to learn at a faster pace or at least the same pace as most Danish children.

Another issue brought up during Schwennesen's interview was the destructive behavior of some of the children. Schwennesen believed that these children, mainly male dominated, tended to gravitate towards more destructive activities because there were few constructive and stimulating activities to do. Schwennesen tried to combat this problem by planning weekly field trips to manned playgrounds or nature playgrounds where there were more organized and constructive activities. Samuelsgården was also in the process of changing one of its classrooms into what they called a "creativity room," where children could go and participate in artistic activities.

Troels Larsen, the head pedagogue at the Bifrost Adventure Playground in Ballerup, was interviewed to obtain another perspective on the issue of child safety and risk perception. Larson took pride in the uniqueness and success of his institution, which was populated by children ages 6 to 12. According to Larsen, a serious playground accident requiring hospitalization has never occurred at Bifrost in his seven years of employment.

Larsen stated various reasons as to why Bifrost remained successful. To begin with, approximately 75% of the adults working at Bifrost were fully trained pedagogues.

In the case of his absence, many others were as fully qualified to run the institution. When inquired, Larsen explained that 15% of the institution's population was of different ethic background. These children, however, had no difficulty fitting in with the Danish children and staying safe. Also, all the children had the opportunity to express their creative side by helping to build toys and certain elements of the playground. This allowed children to experience nature, which, in Larsen's opinion, was important to child development. His belief was that children cannot be taught everything inside the classroom; they need to experience the outside world.

Recently, Larsen had become annoyed with the addition of more stringent safety standards. He was passionate about the risk perception issue. According to Larsen, it was important to have the existing safety standards that prevented fatal accidents; however, it was also imperative that children take risks. For example, when a child acquires a small injury, such as a splinter, it is beneficial to him or her. The child will learn from this mistake, and be more careful in the future. This idea of taking healthy risks was an integral component to Larsen's childcare philosophy. His philosophy has worked particularly well for him. He stated that his children enjoy their freedom on the playground, but have also learned to be responsible risk takers.

Sidsel Lynge Christensen was the third fully trained pedagogue interviewed. Her institution, Kirkebjerg Skoles Fritidshjem, was located in Vanløse, a middle-income area and has children ages 6 to12 there. She has been a pedagogue for two years.

Christensen's institution has between five or six pedagogues on duty at all times. She stated that the pedagogues are very relaxed about watching the children. The staff rarely manned the football field and the inside court, so the children were on their own

when playing in those areas. Furthermore, when the children were outside playing, there was just one adult present to watch over them. Christensen stated that she and her colleagues had great trust in these children and believed that they were intelligent enough to not get themselves into any trouble. If the children wanted to go outside or visit the neighboring institutions, all they were required to do was leave a note saying where they would be.

Out of 63 children, only eight were of another ethnic background. When Christensen was asked if immigrant children were more prone to accidents possibly due to the language barrier, she said no, not at this particular institution. Those eight children could speak Danish very well because Danish children surrounded them all day. However, previously, she worked at a kindergarten that had a population consisting of about 50% non-Danish children. These children's first language was not Danish. These children felt more comfortable playing with the children that could speak their own native language. This impeded their Danish language skills because they did not speak Danish constantly throughout the day. It was also hard for Christensen to communicate with their parents because even they could not speak Danish well.

Most of the pedagogues and aides at her previous kindergarten were of different ethnic background as well. They were used to aid the children in their language difficulties. Christensen noticed, and was concerned about the fact that the children tended to favor the aides because of the bond they shared over being non-Danish. This ended up hindering the children because if they had the choice, they would speak their native language with the aides, as well as listen to and respect the aides more than other staff members.

Christensen stressed over her last job because the staff was never at full capacity. Many days, at least one or two staff members would not show up to work due to personal reasons. Therefore, some days, Christensen needed to watch 22 three-year-olds by herself. As a result, Christensen's increased work level and left her stressed and upset. Because of her high stress level, Christensen left that institution to come to Kirkebjerg. Here at Kirkebjerg, Christensen trusted her coworkers more because they were fully trained pedagogues and proved to be more reliable. She now has plenty of adequate help watching over children.

The institution's playground was only a year old. Part of the playground consisted of a tree house that no longer adhered to the safety standard. Therefore, it had to be blocked off to prevent children from playing on it. According to the safety standards, the problem was that it only had one entrance when it needed to have two for adult access, and it was well above the acceptable height for a tree house. This prohibiting was an example of why Christensen sincerely had a strong stance against the new stricter safety standards that were being imposed on playgrounds. She stated that everyone complained about how children were becoming more obese and lazy. However, the harsh rules took away the challenging playground equipment that could teach the children how to work their feet and improve their motor skills, as well as get them more active and energetic.

To assist the children in becoming more active, every Thursday, a staff member took 10 children swimming. In addition, one week out of the year, all 63 children went on a camping trip. The children and pedagogues rented cabins, brought tents, built bon

fires to cook their food, and had plenty of fun. Christensen stated that the more children were challenged, the better they developed both mentally and physically.

The next interview was with Fie Illum, who was a full pedagogue at The Butterfly Kindergarten and Daycare. The institution was located in a high-income area in Gentofte. It focused on a theme of sports and physical activity that included running, gymnastics, and football. This kindergarten and daycare also had an activity room where the children could run and play freely throughout the day. Illum strongly believed that children need to constantly be challenged and engaged in many activities so that they do not become uninterested and resort to destructive behavior.

According to Illum, it was very important to construct and have a playground that was challenging and entertaining for the children. She said if a playground was not challenging, and as a result was boring, that the children would resort to destructive play. A challenging playground also allowed the children to enhance their motor and balance skills.

Illum previously worked at a foster home for 20 years. She said the children she currently watched were very different from the foster children she previously looked after. The foster children had many family problems to deal with at a young age. They also had various emotional problems and were always fighting, biting other children, or constantly screaming. She continually had to watch the children to make sure they didn't get injured or run away because she feared that the emotional problems led to destructive behavior. The children at the Butterfly Kindergarten and Daycare did not have as severe and serious family issues or emotional problems like the foster children; as a result in Illum's opinion, they were not as destructive and rowdy.

Illum's childcare philosophies changed depending on the children she was watching. She adapted her techniques so as to adhere to and complement the children. The foster children were less predictable and unstable, so she had to watch them more carefully. The children at her current institution did not need to be watched as closely because they did not have as many serious personal problems.

Similar to other interviewees, Illum found some of the safety regulations too strict. Although she followed these rules, she did not necessarily agree with them. For example, a recent rule that was just created was that only two milk carton crates could be stacked up at a time on top of each other. However, she said that if she saw a child trying to stack three on top of each other and she knew that the child could manage it, then she would let it go. She believed that since she and her staff have had professional training and first-hand experience, they could judge the situation better than the people who made the rules and did not understand the situations and circumstances.

She said that not all of the staff employed at her school was fully trained. Each room of the institution had certain hours where there had to be a fully trained person in the room, and some hours allowed both fully and untrained personnel. The entire staff was Danish and the institution was comprised of only native Danish children also. The reason behind this mainly Danish population was because the area was located in a high-income area. Illum stated that this particular area did not want to accept any immigrant families, which explained why there were only Danish children at the Butterfly Kindergarten and Daycare. According to Illum, the location is a well off and high-income area because the parents in Gentofte are very invested and devoted in continuing to maintain the area.

Finally, Miguel Mikkelsen, an anthropologist performing a study based on child behavior and risk perception, was interviewed to provide further insight into the issue of child safety. With his colleague, Pia Christensen, Mikkelsen performs a study of 10 to 11 year old children and their behavior within the school and after school institution setting. Christensen was not present for the interview.

For the past two and a half months, Mikkelsen has observed and befriended children in both the classroom and playground setting. He receives his funding from the National Institute of Public Health (NIPH). What makes this study unique is that Mikkelsen chose the children to be his main resource. For the remainder of the school year, until late June, he will continue talk with the children to learn how they perceive risk when playing on the playground and with each other.

Mikkelsen stated that he observed almost immediately how the children, most often boys, sometimes play roughly with each other. Also, according to Mikkelsen, boys were likely to take more dangerous risks, such as walking along the busier roads to school. These children, however, were still careful when crossing the busier intersections. Therefore, the children, in his opinion, were competent in their management of risk.

At this point in time, though Mikkelesen's observations were fairly brief, he developed his own philosophy on child safety. The ability of the 10 to 11 year old children to manage risk proved to Mikkelsen that increasing safety standards is the wrong approach. From his observations, stricter rules will not prevent children from challenging themselves; it will just drive them to attempt other, possibly riskier, activities. If a

playground lacks excitement, children will find other venues for which to explore. This, in turn, may cause a greater susceptibility for injury.

4.4 Analysis of Interviews

This section analyzes the important topics discussed in the interviews and their relation to safety. The following six topics are under discussion: location and its socioeconomic implications, childcare philosophies, staff efficiency, language barrier, creative and constructive stimulation, and gender.

4.4.1 Location and its Socioeconomic Implications

The institutions chosen for this study were mainly chosen by means of location. Municipalities in Copenhagen range from low to high-income areas. Based exclusively on interviews from each institution, there were apparent trends deriving from the different socioeconomic locations.

The interview with Fie Illum took place in Gentofte, a higher income location. The rooms, toys, and playground equipment of the facility were of high quality. The children's play areas were securely fenced in to prevent children from running away and to counter vandalism at night. Admittedly, one cannot make a general analysis based on one location; however, this institution seemed very safe because of its location. Moreover, Illum appeared too undaunted over the risk of child injuries. Without any worries of insufficient funding, the institution was always well maintained. From this interview alone, one can infer that there was a great deal of invested interest in the institution.

The interviews with Sidsel Christensen and Troels Larson were located, respectively, in the middle-income municipalities of Vanløse and Ballerup. As with Illum, these locations displayed good conditions through invested interest in keeping the area well maintained. Larsen and Christensen also seemed unconcerned over children's accidents and safety issues. This impression showed, in the light of these specific interviews, that the middle-income locations reflected levels of physical maintenance comparable to the high-income area.

From the interview with Karin Schwennesen, one could infer that the lower income location presented an issue of risk and child safety. With such insufficient funding, the institution was rundown. It contained limited, unsafe toys and playground equipment for the children. Vandalism was frequent due to the poorly fenced in play area. As a result, Schwennesen was more concerned about child safety and risk issues. Although our team cannot make a general analysis from the Schwennesen interview, the insufficient funding from this low-income area affected the safety of the institution due to the deficient amount of maintenance. There appeared to be a higher risk of child accidents in comparison to the other three locations. Therefore, the socioeconomic setting is an important factor in studying the issues of child safety and risk perception.

4.4.2 Childcare Philosophies

When interviewing different institutions, which were located variously through Copenhagen, our team found different methods and philosophies of teaching, watching and caring for the children. The results showed that there were many different childcare philosophies, and one was not necessarily better than the other. They each were successful in their individual childcare settings.

Larsen from the Bifrost Nature Playground in Ballerup was very firm on his beliefs about having his playground be completely natural, which includes playground equipment composed of wood and tree trunks. He strongly believes that the children need to experience nature and the environment, especially those children living in the city. Their time at this institution was their only experience with nature, and he believed it was very important to their development. The children learn certain skills outside that they cannot learn inside a classroom such as motor and balance skills, and learning how to better perceive risk.

There are two kinds of risks, positive risk and negative risk. Positive risk can be defined as taking a risk initiated ourselves because we see a potential opportunity, as well as a potential for failure. Negative risk can be defined as potential events or circumstances that could have a negative impact on one's personal health. Larsen believed that positive risks were great learning experiences for children. For example, a positive risk could be children playing on wood or trees, which could cause splinters. If the child gets a splinter, then he or she will remember next time to be more careful when playing with the wood. It was a positive risk because the child learned from his or her mistake, which is a crucial life experience that every child needs to experience. Because of the advantages of these experiences, Larsen was annoyed with the stricter rules that tried to prevent these life lessons.

As stated before, Larsen did not believe that splinters and slivers were a big issue that needed to be dealt with. His risk perception was that minor accidents were actually advantageous and that those positive risks were beneficial to the child's development. Because Larsen felt that the children were learning important life skills by themselves on

the playground, he permitted them to have more freedom. Larsen's childcare philosophy was that he believed the children were intelligent enough to figure out whether or not situations were risky or not. It appeared that this method was successful for his institution because no severe accidents have ever occurred on the playground. He allowed the children to thrive and grow in an environment that encouraged them to develop at their own pace. He said that he left the children to play on their own and, for the most part, they did not take any negative risks that could cause them harm.

Christensen, another pedagogue concerned with her children and their development, also disagreed with the stricter rules being imposed on playgrounds. She explained that she has seen parents and many other people complain that children are becoming obese and lazy. The strict rules and safety standards were taking away the more active components of her playground, which in turn took away physical activities helping to reduce obesity and laziness. She felt the rules were making the playgrounds less challenging, therefore making children find other outlets for entertainment that might not require as much physical or constructive activity.

Christensen also believed that the children needed to have playgrounds that challenged and helped them learn better motor skills. She had a tree house in her playground; however it was closed off due to being above the allowed height limit. She said the children never had any accidents in this tree house before because they were able to gauge the risk and danger of the tree house, therefore they learned how to appropriately play in it.

Christensen's philosophy was about letting the children play freely and learn things on their own. She believed that by putting the responsibility in the children's

hands, they would learn to play responsibly on their own and improve their risk management. Christensen found that when she let the children roam freely and play spontaneously, they were intelligent enough to gauge risk on their own. As mentioned earlier, the tree house was a perfect example of how the children learned to be cautious because they could gauge the risk involved with climbing on the tree house.

Fie Illum, the final interview at the Butterfly School in Gentofte, was very adamant about having a regimen for the children that focused on sports and physical activity. She believed that the more activities the children were involved in, the less bored they would be and not resort to destructive behavior. If the children were bored and had nothing to do, then they would simply find something else to occupy their time. For example, they may go up to the train tracks and attempt to out run the train. This is considered very dangerous. If the children had constructive and challenging activities to keep them busy, then they would not have thought of such destructive things to have fun. Illum also stated that the playgrounds need to be challenging and safe as well. Since her school encouraged and promoted sports and physical activity, and has a fun, challenging playground, the children always had activities to keep them busy.

Since Illum has been taking care of children for over 20 years, she brought an experienced perspective on children's behavior and their aptitude for learning. She believed that she and her staff had good judgment when it came to children and their actions. Certain rules that were imposed on her playground were considered impractical because the kommune that created these rules did not deal with children on a daily basis and did not understand the behavior of children. Illum had faith in her ability to gauge risk when it came to children and their actions. For example, Illum allowed the children

to play with milk carton crates. As previously discussed, the rule imposed on her playground was that only two crates at a time were allowed to be stacked on top of each other. If Illum saw a child trying to stack three on top of each other, and she knew the particular child could manage it without getting hurt, then she permitted this action. She thought that her knowledge and experience offered a better judgment than the others at the kommune who were not as trained or experienced in dealing with children.

All three of the previously mentioned pedagogues have the same attitude towards the stricter rules that are being imposed on the playgrounds; they believe that they were taking away from the children's learning experiences. However, they each had a different philosophy when it came to childcare, and all three seemed to have worked well for their institution and children.

4.4.3 Staff Efficiency

During the four pedagogue interviews, each institution's staff was discussed and examined. It was important to pay specific attention to such details as whether there was a presence of formal training, the effects it had on staff structure, and the implications it had on the safety of the institution's environment. There was also inquiry into any past experiences and comparisons with previously work establishments. Basically, the following discussion was broken down into two subgroups: the advantages of having a predominantly trained staff and the disadvantages of a less trained staff. Discussing the disadvantages of an less trained staff was more challenging because there were fewer encounters with this setting. Assumptions or conclusions cannot be made with certainty, but general remarks will be presented based on the limited discussions and observations.

From the interviews, it was safe to say that at three of the institutions, specifically Larsen, Christensen, and Illum's, having a mostly trained staff was beneficial to the environment. The staffs were described as consistent, reliable, and knowledgeable. There was also a sense of personal and professional trust among staff members and this trust helped these staffs to work well together. Due to the staff's unified and dependable characteristics, the level of safety was considerably high since a full working staff meant there was a favorable ratio of staff to children.

At two of the institutions, Christensen and Illum's, there was an established schedule on how many trained and untrained personnel must be present during specific parts of the day. This arrangement provided an assurance that the institution strived to always have a healthy balance of trained professionals versus lesser trained. Creating this balance was advantageous for both parties; the trained staff member consistently had sufficient help on hand while the less trained staff member had a chance to observe and learn from a more experienced staff member. The relationship was beneficial from both a professional and educational standpoint.

A mostly trained staff results in the presence of knowledge on general child behavior and psychology. During pedagogue training, a large part of the learning focuses on understanding and handling child behavior. The advantage and purpose of this knowledge is to equip the staff member with the right information on how to assess certain situations. With such knowledge, the staff member could better handle both good and bad behavior so as to correct the bad or unsafe behavior and encourage the good.

The only institution to not have a predominantly trained staff was Schwennesen's school, Samuelsgården. There was not any sufficient evidence to support claims that an

untrained staff resulted in a less safe environment. But, there was an interesting point brought up about the employment of immigrant women as teacher aides, who were not formally trained like pedagogues or practicants. Many of these women were able to cross language barriers that other staff members, mainly the Danish members, could not. This was considered an advantage in the sense that if a child did not understand certain words or expressions in Danish, these bilingual teachers aides could translate. But there was a disadvantage as well. One of the main goals at Schwennesen's school was to encourage the immigrant children to speak more Danish, both inside and outside the classroom. However, the teachers aides were seen as a safety net at times for the children. They could misinterpret the teachers aides as a crutch for their language skills rather than make the individual effort to practice and refine their Danish, hence, counteracting the goal set forth by the school.

Another issue brought up about the immigrant teachers aides was the presence of favoritism among these women with immigrant children. Christensen noted that in her experience, immigrant children tended to hold the immigrant teachers aides in higher regard than some of the other staff members. This could be attributed to the fact that the teachers aides and children share a common bond in the fact that they were raised in different cultures. This was seen as a disadvantage because it possibly undermined other staff members, therefore resulting in a less unified staff presence to the children.

The other relevant discussion that took place happened with Christensen when she recalled her prior work experience. The staff at her previous institution had less training than her current one and was also less dependable. The staff was rarely at full force, due to people calling in for personal reasons and there was a low staff retention rate, therefore

decreasing the amount of adult supervision available to the children. This resulted in an increase in risk level and a decrease in safety since an appropriate ratio of staff to children was not present. For example, some days, Christensen would have to watch 22 three-year-olds by herself, which is very unsafe, considering three-year-olds need constant attention. She was unable to effectively distribute her care to the children and that opened the children up to possible harm. It cannot be certain that the staff's substandard care was a direct result of less training, but the issues brought up with Christensen were enough to warrant possible further investigation.

4.4.4 Language Barrier

Although the issue of language was not a prevalent topic in all the interviews, it did play a strong enough role at one institution to make it a topic worthy of further discussion. Schwennesen, at Samuelsgården, was the only pedagogue who worked predominantly with immigrant children and dealt with language barriers on a daily basis. The other pedagogues taught mostly native Danish children and therefore, were not concerned with any language barriers. The following section discusses the role of language in both settings and how it pertained to children's safety.

Language proficiency is an important aspect of safety in the sense that language barriers may hinder the understanding of safety precautions. In order to create a safe environment, it is essential that both the adults and children understand the purpose of safety and be able to convey it to one another. If there is a language barrier, there is a chance that the level of safety is reduced through the relaying of important instructions or general safety measures. Also it is equally as challenging to convey messages of danger with a lack of language comprehension.

As previously mentioned, many of the children at Schwennesen's kindergarten could not adequately speak Danish. One of the kindergarten's goals was to increase the level of language skills, in order to prepare the children for higher levels of learning within the Danish school system. Unfortunately, the goal was generally unfulfilled. At Samuelsgården, the population was mainly comprised of non-Danish, immigrant children. These children favored their native language over Danish. They spoke it with each other as well as with some of the teacher aides who were bilingual. Schwennesen did not believe that the level of accidents necessarily increased because of the language barrier, but she did address the challenge of clearly conveying general concepts, including safety. She suggested that if the immigrant children at her kindergarten were mixed in with more Danish children, that their language issues would be at an adequate level within three years.

The other three institutions did not confront serious problems with language proficiency since their population was predominantly Danish. What was important to note, though, was that there were immigrant children at two of the institutions, Bifrost and Kirkebjerg. These immigrant children had no problems with the Danish language, according to Larsen and Christensen. One of the influences behind their easier transition with the Danish language was the fact that they were constantly surrounded by Danish children, and therefore, had to speak Danish as well. This example gave some support to Schwennesen's theory and showed that the language barrier could be overcome.

4.4.5 Creative and Constructive Stimulation

Creative and constructive stimulation is defined as activities that challenge and enhance children's physical and mental capabilities, aiding their development. Based on

the information gathered from each interview, our team noticed that the presence of creative and constructive stimulation was a major benefit for the children at these institutions.

Referring to the interactions with Larsen, Christensen, and Illum, the children chose from an assortment of activities and resources made available to them at each institution. These institutions seemed to satisfy the creative needs to the children. The children at Larsen's institution, for example, built their own section of playground along with their own toys. Also, Illum and Christensen had well maintained play areas designated for the children. Due to the fact that these pedagogues had the proper resources to keep their children stimulated, they seemed to be less apprehensive about the issue of accidents involving children.

The interview with Karin Schwennesen provided a contrasting situation. As stated previously, she explained that she lacked sufficient funding at her institution. As a result, in comparison to the other three institutions, the children in Schwennesen's institution were deficient in well-maintained playground equipment and toys. With the lack of resources, Schwennesen stated that her children discovered other, more dangerous means of stimulation. The children started throwing rocks at one another, for example, and climbing metal fences that she felt were unsafe. To be sure, children can perform such actions at any location. The difference was, however, Schwennesen seemed more concerned about the safety of her children when they found other means of stimulation due to her lack of resources.

4.4.6 Gender

A common supposition, confirmed by the database and interviews, is that boys tend to be less disciplined and more rambunctious than girls are. What is of importance, however, is whether this leads to more accidents involving boys. Many of the interviewees offered a general estimate that accidents and injuries were generally split evenly between the boys and girls. But they were not certain of this estimate. Although it was not proven in these specific locations that boys get into more accidents than girls do, ULYDIA offered a broad overview of the spread of accidents involving boys and girls. The following figure displays the number of accidents involving boys or girls in each accident setting:

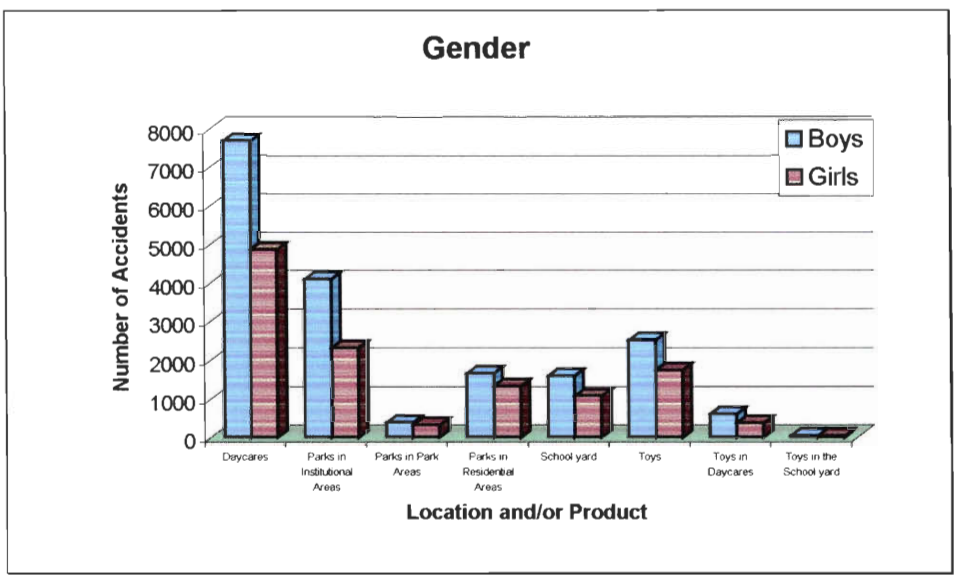

Fig. 4.32: Accidents According to Gender

According to the graph, in every accident setting, boys suffer more accidents than girls do. This result confirmed the interviewees' suggestion that less disciplined behavior leads to a higher risk of accidents. In general, boys are at more risk than girls are for accidents and injuries.

5.0 Conclusions and Recommendations

Through analysis of accident data, interviews, and playground observations, several conclusions and recommendations about child safety were formulated for the Danish Consumer Council. Each aspect of the methodology served the project well and the objectives set forth were successfully completed. The following section will detail the final conclusions from the analysis and present the composed recommendations.

ULYDIA, the database used to obtain accident information, proved to be very helpful to the project. But during the analysis of accident data, various restrictions were discovered in the database. There were three main restrictions that hindered the process of gathering information: the risk identification mechanism, a lack of an ethnicity category, and a lack of an English version of the free text component of the data. It is recommended that the adding of an ethnicity category would enhance the accessibility of the database and provide a wider range of search options. As for the risk identification issue, there is no recommendation since this mechanism is mandated by law.

Despite these restrictions, a wide range of trends was found. One of the goals of working with the database was to shed light on the general severity of children's accidents. Through data regarding the length of hospitalization and the different types of injuries, it was found that accidents were possibly not as severe as numbers suggested. Another objective was to identify how accidents were happening and how often they occurred. Through trends in mechanisms of injury, it was found that falls are the most common injury among children in all accident settings. This information is very important to consider in the prevention of children's accidents and should be made available to any childcare personnel and to the public in general.

ULYDIA, even with its restrictions, proved to be a useful source not only for this project, but for other organizations, such as the National Institute of Public Health (NIPH) and the Danish Consumer Council (DCC), that deal with accident studies and consumer issues in general. It was revealed during an interview at the NIPH, that ULYDIA is being formatted to become a publicly accessible database. Our team supports this endeavor. ULYDIA has many other purposes besides what was done in this project, and through its public access, it will continue to be a very useful tool.

Based on the information gathered from interviews and the observations of the four tested playgrounds, it was concluded that the playgrounds and institutions located in low-income areas were not as well maintained as those in middle and high-income areas. A poorly maintained facility helps lower the present level of safety. It is recommended that more attention be directed towards the playgrounds and institutions located in low-income areas. For example, more money should be invested into purchasing new and updated playground equipment, as well as investing in the maintenance needed to keep the facilities as new as possible. Even though this is not an easily executable task, more attention and resources should be applied to improvements in institutions and playgrounds situated in lower socioeconomic areas, which in turn increases the safety level.

With respect to the Troels Larsen, Sidsel Lynge Christensen, and Fie Illum's interviews, their childcare philosophies worked well for each of their respective institutions. Even though their methods differed, accidents were minimal and the children appeared to be content with each style of childcare. Therefore, the best approach

towards childcare should be based on personal experiences and training, as well as the conditions of the specific institutions.

In regards to staff efficiency, it is evident from the interviews that a formally trained staff is beneficial to the general operation of a childcare institution. They are equipped with the proper training and knowledge to handle children in different situations including the accident setting. From the information gathered from interviews, it is recommended that the majority, if not all of the staff, be fully trained. A mostly trained staff provides a better guarantee of sufficient childcare, which in turn helps prevent the occurrence of children's accidents, and gives the children an enhanced experience at their institution.

The concern regarding language proficiency was mainly discussed in the interview with Karin Schwennesen. Based on the interviews, it was concluded that communication is vital to the safety of the children. According to Schwennesen, immigrant children at her institution did not speak Danish on a daily basis, failing to learn Danish at the same rate as children from the other observed institutions, where there is a large majority of Danish children present. Troels Larsen and Sidsel Christensen's institutions both had a much smaller percentage of minority children than Schwennesen. These children, however, were able to effectively blend in with the Danish children and learn Danish proficiently. Therefore, it is recommended that non-Danish children should be integrated into institutions with native Danish children, resulting in a balanced population. This will quickly and effectively enhance general language and communication skills for non-Danish children, especially in the area of safety.

The ability to constructively stimulate children was a key aspect to the successful operation of an institution. In three out of the four institutions, the playground equipment challenged the children and kept them constantly occupied; therefore, the children rarely looked for other, more hazardous means of stimulation. In contrast, Schwennesen did not have such resources and as a result, she felt more concerned about the safety of her children and watched them more carefully since she believed her children were more prone to destructive behavior. Therefore, a concept to consider is that creative and constructive stimulation, while also aiding in intellectual and personal development, may help decrease the risk of accidents. A recommendation would be to have each institution maintain a constant level of creative stimulation, such as field trips and art or music activities.

According to the interviewees, boys are less disciplined and more rambunctious than girls are. The analysis from the database only confirms this supposition, showing that boys are generally involved in more accidents than girls are. It is recommended that childcare staffs continue to be aware of this fact and to accordingly account and monitor for the riskier behavior displayed by boys.

In conclusion, it is important to stress that the recommendations and conclusions stated were based solely on a limited set of interviews and observations. Preventing children's accidents will be a constant endeavor, and this project only shed light on some of the issues from a small population of the Copenhagen area alone. Our team anticipates that this project will help attract attention to these important issues and that a larger scale study can be done so as to create more intensive programs and recommendations towards increasing general child safety within Copenhagen, and possibly all of Denmark.

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Appendix A

Appendix A contains the interview questions used throughout this project. There are three sets, one for the Injury Free Coalition for Kids of Worcester, one for the school and after school institutions, and finally for the interview at the National Public Institute of Health.

Injury Free Coalition For Kids of Worcester Interview Questions

- Do you have direct access to the database?
  - If so, how is it organized?
    - Sex, race, age, type of injury, why, where, how, with what product?
    - Are there names? Or is it confidential anonymous data?
  - Do you like the organization?
    - If so, what are its strengths and why do you like it?
    - If not, what is wrong with it? What would you do to improve it?
- What type of patterns are you looking for when going through the database?
  - Give us an example of how you used the accident data patterns to create a program in accident prevention.
  - What are some of the programs in general?
  - Who are these organizations and what do they help you with:
    - Prevent Injury Now Network (PINN)
    - Mass Prevention Center

        - Pediatric Trauma Nurse Consortium
    - What accidents seem to be most prevalent?
- Are we able to access the database?
- How is the information collected?
    - By ER staff? Do you report to the NEISS?
    - Is every child accident put into the system? Or does it have to follow a requirement?

School and After School Institution Interview Questions

- How long have you been involved in childcare?
- How often is training related to child safety and accident prevention i.e. first aid or CPR scheduled?
    - What other types of training have you went through?
- What is the demographic of the children you watch?
    - Ages? Race?
    - Male-Female ratio?
- How many children do you watch?
    - How many trained personal per number of children?
- How frequent are accidents in the center? Say within a year?
    - What do they involve?
        - Toys? Injury due someone not watching? Tripping over toys?
- Do the children get playground time?
    - How long?

- How many people watching and how many kids playing?
- What types of injuries occur on the playground?
  - Falls from playground equipment?
- What can be done to the playgrounds to make it safer?

❖ What makes this daycare safer than another daycare?

- What are the strengths of accident prevention in your program?
- What are the weaknesses?
- What improvements do you suggest?
  - Room set up?
  - Toy quality?
  - Different demographic of children?

❖ What do you think children are at most risk for?

- Toys? (like choking, bad usage, tripping over)
- Playgrounds? (falling, strangling, not enough absorbent material)
- Not enough supervision?

The National Institute of Public Health Interview Questions

❖ What are the explanations for the shortcomings discovered in ULYDIA? (Laursen and Moller)

- Risk of person identification
- Lack of an ethnic background search category.

❖ Are there any other shortcomings in ULYDIA to be aware of?

❖ Is there a difference between ULYDIA and the EHLASS?

- How accurate is the information obtained from the database and can it ever be misleading?
- What does your study consist of? (Mikkelesen)
    - How long?
    - Age group of children?
- What methods are used to observe the children?
- How many hours a day do you observe the children?
- Are parents also involved with this study?
- What conclusions have been made with the study so far?
    - How do the children perceive risk?
    - Do boys take more risks compared to girls?
    - Should child safety standards increase and become more stringent?
        - Why? (examples)

Appendix B

Appendix B contains the interview synopses obtained from this project. The following institutions and people were interviewed: Injury Free Coalition for Kids of Worcester, Chestnut Nursery School and Kindergarten, Elm Park Elementary, Karin Schwennesen, Troels Larsen, Sidsel Lynge Christensen, Fie Illum, and the National Institute of Public Health.

Injury Free Coalition for Kids of Worcester Interview Synopsis

Colleen McGuire, from the Injury Coalition at UMASS, was interviewed at her location. A variety of questions were prepared (Appendix A) pertaining to our project on children's accidents. Her organization deals with the formation of accident prevention programs based on patterns found in an accident database called the Trauma Registry at UMASS Medical Center.

The trauma department coders are specialized in deciding whether the accident is considered a trauma or not. They look at the patient's medical chart to determine if it is pertinent enough to be recorded into the database. The coders use E-codes listed in a book of codes to figure out how serious the accident is. The trauma department will enter the information by age, gender, and zip code. This information is then used by McGuire and the Injury Coalition to make accident prevention programs.

Accidents that happen at other hospitals are not entered into this UMASS database, so the state gives the Injury Coalition a grant so they can buy children's

accident information from other states and hospitals. This way when they form their prevention programs, they have plenty of data to back their recommendations.

The Injury Coalition notices many patterns from the accident database, such as boys being two times more likely to suffer an injury than girls. Children ages one to four are more likely to experience an accident in the home, whereas children four to seven are more likely to suffer from an injury in a school or playground setting. Also, the number one injury at playgrounds is a fall. Such information and trends are useful because the organization can make specific programs to remedy these problems.

Colleen and the Injury Coalition are currently working on a project to build a playground in the Beverly Hills community. Their goal is to make a safe playground with no hazardous or dangerous equipment. They want children to have a safe environment to play in. This project will also include a lot of community involvement, which is important in the spreading of safety awareness.

Chestnut Nursery School and Kindergarten Interview Synopsis

At the Chestnut Nursery School and Daycare, teachers Tina Sweeney and Marie Demers were interviewed. Sweeney has four years experience at the school and is taking child development classes at Becker College. Demers is in her twentieth year with a Bachelor's Degree in Child Development. The age of the children they teach range from two years, nine months to nine years. The ratio of males to females is balanced with 80 percent of the children population being Caucasian.

Child safety is a major concern with everyone working at Chestnut Nursery School. It is mandatory for every teacher to receive annual CPR training. First-Aid

training is also required through the American Red Cross every three years. Injury prevention is an important topic during this First-Aid training.

When asked about the regularity of accidents at the center, Sweeney and Demers said that they happen daily. More serious accidents, however, happen less frequently. The classrooms contain a maximum number of 16 children and there are always two teachers per room. Classroom inspections by members of the National Association for the Education of Young Children (NAEYC) happen annually. This organization limits the type of toys children at the school may use due to its size, shape, and condition. This makes the classroom one of the safest locations in the school.

According to Sweeney and Demers, the majority of accidents occur during playground and gym time. The children receive 45 minutes of playground time in the morning and another 45 minutes after lunch. The school requires at least one teacher supervising for every 10 children during playground or gym time. Because of a child's unawareness of risk and undeveloped motor skills, accidents are more difficult to prevent when the child is running around. The teachers pointed out that the accident ratio of males to females is approximately 2 to 1. Examples of such accidents include getting an ear caught while on the swing set, tripping and bumping the head on the concrete floor of the gym, and frequent nosebleeds during the winter. The NAEYC also inspects the safety of Chestnut Nursery School's playground. They made the school install pea stones on the playground for better surfacing and had them tear down one of the playground pieces because it was too dilapidated. According to Demers, however, the entire playground is over ten years old and needs some maintenance.

Elm Park Elementary Interview Synopsis

At Elm Park Elementary School, teachers Sheila Reilly, Diana Johnson, Margaret Donovan, Hermoine McConner, and Principal Ruthann Melancon were interviewed. Ms. Reilly has had 8 years experience, Ms. Johnson has had 21 years, Ms. Donovan has had 9 years, and Ms. McConner with 20 years. Ms. Reilly is a preschool teacher while the other three are kindergarten teachers.

The kindergarten classrooms have around 22 children while the preschool has about 12 or 13. The maximum number allowed in a kindergarten is 32 while the max in preschools is 18. Each classroom has a balanced mix of girls and boys. About 65% of the school consist of minority students. Each room has one teacher and one teaching assistant.

Elm Park implements a "Learning Center" program in each classroom. This setup has learning centers set up in different parts of the classroom where children can learn and play at. The learning center setup always adheres to the floor plans given by the National Association for Education of Young Children (NAEYC). There is a maximum number of children that can be at each center and after a certain amount of time, children switch centers and learn something new. That way, there are not too many children in one area making the classroom safer.

After going through the centers, teachers have the children go through "Second Step." Second Step is a program that helps children talk about what they have just learned. It helps them to share their feelings and clear up any confusion. Teachers use role-playing and just general sharing techniques to get children involved in Second Step.

When asked about common injuries, the most prominent ones were falls and running into other children. What's unique about Elm Park is that its "playground area" doesn't actually contain a playground. It's simply open running room for children. The children can bring out toys, tricycles, jump ropes and other toys to play with outside as long as they bring their toys back in. Each class has a certain section of the big play field and is closely watched by the teacher and assistant. Younger children are brought to a fenced in area so that they can be monitored closely.

Toys are checked on a five-year basis by the NAEYC. The school has certain companies they must buy their toys from since those companies are NAEYC approved. If a teacher doesn't feel comfortable with a toy, he/she has the right to not use it in the classroom.

Karin Schwennesen Interview Synopsis

Karin Schwennesen, a pedagogue at Samuelsgården, was interviewed at her institution in Nørrebro. She has been working at Samuelsgården for two years and is currently in the process of changing schools. The school has been advertising for a replacement, but has had a hard time getting any applicants since the school isn't the easiest or most desirable place to work at, according to Schwennesen. Before working at Samuelsgården, Schwennesen worked for six years as a psychologist in Sweden. Schwennesen is actually of Swedish descent and Danish is her second language.

Schwennesen is the only person at Samuelsgården to have pedagogue training. Some of the other teachers or helpers are practicants meaning they have had a shorter version of the full pedagogue training and the rest of the aides have had no training at all.

Even though not everyone is required to have a formal education, the whole staff is required to go through First Aid training together on a regular basis.

The location of the school is in Nørrebro. It is in a low-income area and the school has been burglarized a few times. Even though the school is in poor condition, it must remain at full capacity at all times or else it loses funding. This past year, Copenhagen municipality chose Samuelsgården as one of the 20 poorest schools in the city meaning the institution will be receiving dkk 150,000 towards improvements in the school. The school takes in children from a specific area only. Parents can choose to send their children elsewhere, but most immigrant families just keep their children at whatever school is available. Families can only receive social care if the parents learn Danish and attempt to integrate. Even with their attempt to integrate, around 75% of the children going to Samuelsgården come from families with social problems, poor integration, and are living in the ghetto.

Schwennesen was observed while she interacted with her daycare group. There were 15 total children there, 10 girls and 5 boys. The rest of the school has a similar make up, around a third is boys and two-thirds are girls. We witnessed the opening roll call and the children participating in the "language bag" game. Schwennesen sang a song where they practiced counting in Danish as well as recognizing different animals in Danish. The children do this exercise each morning to help reinforce their language skills. Each child in Schwennesen's group was of immigrant descent and six of the children were unable to speak Danish yet. Schwennesen estimated that around 97% of the children at the school came from immigrant or "two-language" families. Schwennesen had two helpers with her to help keep order within the daycare group. The

two helpers were Arabic and Turkish so they were able to cross language barriers that Schwennesen was not able to. They both have never had formal training. Schwennesen believed that the children's language skills were not advancing well due to the fact that the children aren't being motivated to speak and practice their Danish skills. Non-Danish children, such as the Arabic and Turkish children, are put together at non-Danish schools instead of being integrated into Danish schools with other Danish children. Schwennesen believed that if these immigrant children were placed in schools with Danish children, in roughly three years, the children would be fully integrated and have little, if any, language issues. As a result, the immigrant children would be able to learn at a faster pace or at least the same pace that most Danish children learn at. But if they continue to be surrounded by non-Danish children, then they would keep speaking their native language at school instead of attempting to learn Danish seriously and this lack of language would hinder their education in the Danish system.

Schwennesen believes that the children at Samuelsgården are more destructive than most other children because there are less constructive activities for them to do. To combat this, the children are sent on trips once a week to manned playgrounds where there are more organized and constructive activities. Schwennesen even bought a piece of wood, nails, and hammers to keep the boys occupied in a more structured manner. The school has also currently changing one of the rooms into a "creativity room" where children can do more organized and creative activities. But even with all these efforts, the children still do not listen well and can be disobedient. Some of the children had bad upbringings at home where there were few rules, so therefore they do not listen to authority well, especially when the person in charge is speaking a different language.

The children go out and play on the playground at least once a day, if not more. Schwennesen estimated that about 60 children are out on the playground at a time and around three to four adults are outside watching them. The playtime usually happens during the adult lunch hour so that the adults can watch the children in shifts, giving everyone a chance to have a break and eat. She says it is "easier to watch kids out here" in the open rather than inside the school where there cannot necessary be an adult to watch every room with a child in it. At least outside, the adults can scan the playground and keep an eye on an open area. Even though there is usually constant supervision on the playground, the children still tend to be destructive. The boys have been known to climb on top of the small house/shed and smash the windows. They will also climb up and throw sand or rocks at children walking below. The boys tend to be more destructive because, as stated earlier, they are under-stimulated. The worst injury to have happened was when a little boy had a bay blade stuck in his eye. Schwennesen notes that although there are more girls at the school, the accidents seem to spread out evenly between the boys and girls.

The play area is located right outside the school. It consists of a playground, a blacktop, and a pebble area with a swing and some mini trees. The playground is actually for the older kids and the pebbled areas are for the younger children. Although it is highly stressed to follow the standards, Schwennesen said that the playground standards were up to the school. The playground was actually built by parents rather than a playground manufacturer. Since it's creation, older kids, who trespass on school grounds at night, have vandalized and helped ruin the playground. Because of the dilapidation, the school is using its dkk 150,000 to buy a new playground.

Troels Larsen Interview Synopsis

Troels Larsen, a pedagogue at the Bifrost Adventure Playground, was interviewed at his institution in Ballerup. After completing his 3.5 years of schooling to achieve pedagogue status, Larsen began working at Bifrost 7 years ago. Besides working with children, he is highly skilled in carpentry. Over the years he has helped construct various pieces of playground equipment.

Bifrost has been an area where children play after school for over 40 years. The playground our team viewed was one made 9 years ago by Troels himself. Children between the ages of 3 to 12 years come here after school to release their energy by performing a variety of activities. There is a 1:1 male to female ratio with around 15% of the children being of a minority background. The child to adult ratio is 10:1 and 75% of the adults working at Bifrost are pedagogues. This, Larsen explained, is a major reason why he has never seen nor heard of any playground accidents occur that required hospitalization at Bifrost Adventure Playground.

Upon entering the grounds of Bifrost, the uniqueness of it was clear. Larsen built the playground entirely out of wood in order for it to be more about the environment. To add to its distinctiveness, the children can help build certain parts of their playground. For example, the children help assemble small houses that they use as forts for certain role-playing games. Also, assortments of animals inhabit the Bifrost area. Many ponies, sheep, goats, rabbits, hens, and roosters call this place home. The children have the opportunity to care for these animals along with playing on the playground whenever they desire.

Bifrost, Larsen explained, is not a place where the children learn in the classroom, but in the environment. He feels that it is very important for children to experience nature. They learn important skills outside that cannot be taught in the classroom and it helps them become well-rounded adults. For this reason, when a child gets a small injury, such as a splinter, it is good for them because they learn from their mistake. Next time, the child will be more careful to not get another splinter. This is why, Larsen says, that he is annoyed with some of the stricter rules that aim to prevent even the small injuries. Without any playground accidents requiring hospitalization in the seven years he has worked at Bifrost, Larsen has a very convincing point.

An important point on wooden playgrounds is that over time, renovations will need to be made on it. That is the stage Bifrost's playground is in right now. Our team noticed floorboards and barriers to prevent falling missing from a section of the playground. This area, however, was still accessible to all the children. When inquired about this, Larsen's responded by realizing it would be a good idea to disallow children admittance to this area under renovation.

Sidsel Lynge Christensen Interview Synopsis

Sidsel Lynge Christensen has been teaching for about two years. She is a pedagogue with three and a half years of childcare school and training. This school has children ages six to ten. This is a fritidshjem, which means it is an after-school program and the children come 1pm to 5pm. All of these children that attend this after school program go to the school right next door. There are always five to six pedagogues on duty everyday. The play area consists of two playgrounds, a field, and an inside court. The children are allowed to play whenever they want wherever they want. If they go

outside, they need to leave a note saying where they are going to be. This is for safety reasons so that the staff knows where the children are at all times. The kids are also allowed to go to the other two after school care building whenever they want to as long as there is a note saying where they are. It seems that the adults have great trust in these children and nothing has happened to break their trust. Along the same lines, the staff hardly watches the children when they are playing outside. There is usually only one adult outside when the children are playing. Christensen also said that the field and the inside court rarely get watched, so the children are on their own.

The school is surrounded by a fence, which does get locked every day. However, Christensen said that there is a problem of older children jumping the fence at night or on weekends and vandalizing the playground. They had to get a new dumpster because that was broken and the bushes they are trying to grow will not because of older kids coming in and pulling out the plants.

The children here are about half boys and half girls. Out of 63 children, only eight are of another ethnic background. When asking her if they are more prone to accidents due to not understanding or not being of Danish background, she said no. She does not seem to think they are more at risk for accidents. However, Christensen did work at another kindergarten before this school, which had about 50% children with a different ethnic background. She said that it was extremely hard to talk to their parents because they couldn't speak Danish very well at all. It was also hard for the children because Danish isn't their first language, so if they have the choice which to speak, they would choose their own language. This comes into play when there are other children there that are the same race, so they would stay together and not speak Danish. Most of

the pedagogues or aids were ethnic as well. Christensen was very stressed with that job because the pedagogues were always sick, so she would have to watch all of the kids sometimes all by herself. This is why she left to work at this school. On the other hand, Kirkebjerg is good because there are only eight children out of 63 that don't have Danish as their first language. They are around Danish children, so they learn Danish very quickly and efficiently.

One playground was not even a year old and was built by a friend, not by a company. The other playground was a bit older, but not in use because of a tree house that is prohibited. This tree house was not following the safety standards, so they had to block it off. It only had one entrance when it needs to have two, and it was too high for the children to play on; it was well above the recommended height for a tree house on a playground. The dirt recently had to be changed on both playgrounds because the town of Copenhagen discovered that it was polluted. It was not safe for children to play on, so they changed it. The play area outside has a shed with roller skates, helmets, and pads.

Every Thursday a staff member takes about 10 kids to go swimming. It is 10 different kids every week so that everyone gets a turn to go. One week a year all 63 of the kids and many pedagogues go on a camping trip. They rent cabins, bring tents, and build bon fires. They cook all of their food on the fire.

Christensen said that not many accidents happen. The ones that do happen consist of a scrape or a bruise. No serious accidents are injuries ever happened that required an emergency room visit. The most serious at this school were two sprained ankles. However, the kindergarten she worked at before had two serious injuries that required emergency rooms visits. One was a broken arm that happened from a fall, and the other

was a gash to the head from falling off a chair. She said that accidents occur equally to boys and girls.

When asked if she trusted the children more than she did at her previous school, her statement was that no, she trusted them equally at both schools. However, it was the coworkers that she trusted more here at Kirkebjerg. The kindergarten coworkers at her past job were very untrustworthy because they would always call in sick. She also said that it was a lot easier working with older kids as opposed to the younger kids; they listen and obey much better than the two to five year old children.

One very interesting comment that was made by Christensen and seems to be a reoccurring subject is that the rules are too strict. She said that everyone complains how children are too obese, too lazy, and lack good motor skills and balance. However, the rules take away the playground equipment that can teach the children how to work their feet, and watch out for things that are dangerous. This subject also came up with Larsen at the nature playground. It is a reoccurring theme that is further discussed in the results section.

Fie Illum Interview Synopsis

Fie Illum has been working at this school for two years. Before working here, she worked at a foster home for 20 years. This school is a daycare and a kindergarten, taking care of children ages zero to six. They have 76 children all together and six of them are handicapped. The handicapped children go through physical therapy very often. She and her staff are trying not to alienate those six handicapped children into one program. They want to have them be involved with the other children, but there is always one adult per

handicapped child always watching him or her. These adults are specially trained to take care of handicapped children.

Their major theme for this school is sports. Every Monday they go running with the kindergarten. The other days, they do gymnastics and many other athletic games. The school has an activity room where the children can run and play.

Illum has gone through pedagogue schooling that took 3 and ½ years and it included first aid training. She said that not all of the staff is fully trained. Each room with children will have certain hours where there has to be a fully trained person in that room, but some hours it doesn't matter if there is a non-trained person taking care of the children. All of the staff is Danish and there are 100% Danish children. There are half boys and half girls. In the daycare, there are 13 children ages zero to three with three adults and the kindergarten has 22 kids ages three to six with three adults.

This school is located in a high-income area. Illum said that this area does not want to take in any immigrants, therefore explaining the 100% Danish children in the school.

About three years ago, all playgrounds in this area were inspected, and all of them were torn down. As a result, this playground is only three years old. It is very new and extremely well maintained. All of the playgrounds in the commune have to follow the same rules. Since playgrounds were recently abolished in that area, the commune has been very strict on the playgrounds. There are various rules that they want the teachers to follow.

Illum was adamant about making a playground that is challenging enough for the children to enjoy. She stated that if a playground is not challenging and as a result is

boring, then the children would resort to destructive play. A challenging playground also allows the children to learn where their muscles are and to develop their motor skills and balance. One example she gave about destructive behavior was that if the children were bored with the playground, then maybe they would wander off up to the train tracks and see who can out run the train. If their minds wander, then they can get themselves into trouble.

The parents or the staff members bought the toys at the school. They always make sure that the babies and little children do not have access to toys that have little pieces that they can choke on.

Illum said that have not been too many serious accidents have occurred that required emergency room visits. The majority of injuries are falls, scratches, or bruises. She also noticed that boys are much wilder and rambunctious compared to the girls. The most serious accident that happened was a girl fell off of her bike onto the edge of a lawn chair. The metal piece cut open her head and she had to get stitches.

They take many precautions to prevent accidents and children wandering around. The gates to the school have two different places where you have to lift to open the gate. All of the doors also have two different knobs in order to open the doors. This stops the young children from opening the gates or doors. One of the biggest problems with these gates and doors is that the parents always forget to close them.

There is a rule that does not allow children to wear helmets when riding their bikes at the school. This rule came into effect because a child died from wearing a helmet in school. The strap got caught on something and the child choked to death.

Illum said that many parents ask her to make the children wear the helmets, but she cannot because it is a law.

All of the children that are young enough for naps sleep outside. Illum said that this is a tradition of the Danish culture. Even parents do that with their own children. She said that the Danes believe that the cold takes away all bacteria from the child and makes him or her very strong. The little kids do not have a choice in whether or not they want to sleep. They sleep for about four hours every day.

Illum said that these children are very different from the foster children she had to take care of. The foster children had many family problems and were not brought up the way children should be. All of the children had emotional problems and were always fighting, biting, or urinating everywhere. She constantly had to watch them to make sure they didn't run away or get injured. One boy and girl ran away together and stole a boat. The girl ended up drowning, and the boy survived. She said it was awful to have to constantly make sure these children were not getting themselves into trouble or getting hurt. These Danish children in this school are very different says Illum. They are raised with the Danish mentality and are raised in a rich family. They do not have family issues and are not destructive like the foster children. The only problem with these children is that their parents are never around to spend time with them. Since they live in a rich area, they are trying to create a living and a career. They don't have time during the day to watch the children, so they leave them at this daycare and kindergarten.

The National Institute of Public Health Interview Synopsis

Our team interviewed Miguel Mikkelsen, Birthe Møller, and Bjarne Laursen from the National Institute of Public Health (NIPH). The beginning of the interview focused

on the research and observation study run by Mikkelsen and Pia Christensen. Pia Christensen, who was not present at the interview, works as an anthropologist along with Mikkelsen. They received funding to work with the NIPH and to analyze child behavior in classroom and playground settings. Mikkelsen is two and a half months into the current project. For the first couple of months, he observed 10 to 11 year old children from the morning when they were in class until the afternoon, when they were at after-school play programs. He gained the trust and befriended many of the children that he observes. Mikkelsen's research and observation is different from many others because the main information resource comes from the children themselves, not the adults.

Mikkelsen does speak to parents of the children he observes to get an idea of how they perceive risk. He feels, however, that the thoughts of a child on this issue is often overlooked and is valuable information. As a result, Mikkelsen spends minimal time with the adults. Through the four months time, until late June, he will learn much about how children play and perceive risk.

Mikkelsen noticed right away how the children, mostly boys, sometimes play rough with each other. Often they do not realize how hard they hit each other. However, he never observed this being a cause of an accident. A situation in which he found interesting in his observations was the children's commute to and from school. He noticed that more of the boys than the girls take the busier, more dangerous roads. They are still careful, however, while crossing these busier intersections. Situations like this, Mikkelsen explained, show that 10 to 11 year old children are competent in their management of risk.

This ability to manage risk proved to Mikkelsen that increasing the safety standards for children in the 10 to 11 year old age range is wrong. Mikkelsen stated that he is not an advocate of more control because it would make the children unhappy. Also, creating stricter rules will not prevent children from challenging themselves. The reason why is that they will just find other venues less safe than playgrounds in order to explore and have fun. This, in turn, will make the children more susceptible to injury than if they were playing on a playground.

At this point the interview shifted focus to Laursen, Møller and the European Home and Leisure Accident Surveillance System (EHLASS). There were shortcomings with this database that needed some clarification. Laursen and Møller explained to us that the EHLASS comes from the consumer safety section of the European Commission. ULYDIA is the name of actual specific database that our team works with for this study. It was found, from the database research, that it was not possible get too specific due to the risk of person identification. The reason for this is that ULYDIA is in the process of being developed for public access. A database accessible by general public must not have the slightest chance of providing information that could identify an accident victim. Therefore, this limitation was purposefully developed for this database.

The second major limitation that we came across in our analysis of ULYDIA was the fact that we could not research in the category of race. Laursen and Møller explained that race has only recently become an issue in Denmark and is still not a big deal in general. The ULYDIA database does not have race as a category for search. Unlike the United States, the issue of race is still very taboo here and the question of race is seldom

an issue. The NIPH, however, has taken steps to making ethnic background a search topic within the database.

Laursen and Møller also pointed out issues affecting the data coming out of ULYDIA. There are some factors that affect hospital visitations. ULYDIA takes in data from hospitals at various locations, however, accidents can happen anywhere. If an accident occurs closer to a hospital, then the victim is more likely to visit the hospital since it is conveniently close. The victim of an accident happening a good distance away from a hospital will only go if the injury is serious. This shows that some municipalities may have more accidents just because it is an area closer to or containing a hospital. Also, even though filing lawsuits are not a common occurrence as in the United States, teachers still get worried when one of their children get in a accident. When a child gets slightly injured, teachers often take precautions and send the child to the hospital. Even though the child does not necessarily need hospital care, the teacher wants to make sure the job is done right and no one has the ability to file a lawsuit. This could also be a factor in the inflation of accident data within the ULYDIA.

Laursen and Møller explained to always think of the factors affecting the database and to refrain from making quick decisions based on the ULYDIA alone. The coding for accidents in recent years became more efficient, which could play a role if there has been a recent increase in accidents, explained Laursen. The free text information provided by the patient or the guardian of the patient is not always completely accurate and be cautious when making conclusions based on the free text.

Appendix C

Appendix C contains the playground checklists used during playground safety checks. The first checklist is the original one, and the following four are from the low-income area of Nørrebro, the middle-income area of Nørrebro, the middle-income area of Vesterbro, and the high-income area of Gentofte, respectively.

Playground Checklist

Address of Playground _____ **Municipality or Region** _____

Date of Testing _____

			Pass	Fail	Description of area tested
1	**Head Entrapment**				
	a	Head test			
	b	Head test			
	c	Head test			
2	**Head and Shoulder Entrapment**				
	a	Head and shoulder test			
	b	Head and shoulder test			
	c	Head and shoulder test			
3	**Clothing Entrapment**				
	a	Toggle test			
	b	Toggle test			
	c	Toggle test			

			Yes	No	Description of area observed
4	**Protection Against Falling**				
	a	Handrails			
	b	Guardrails			
	c	Barriers			
5	**Structural Integrity**				
	a	Cracks			
	b	Excessive permanent deformation			
	c	Damage			
6	**Adult Access**				
	a	Tunnel longer than 2 m			
	b	Two access openings			
	c	Entrance no less than 500 mm			
7	**Finishing**				
	a	Spinters			
	b	Protruding nails			
	c	Bolt with dome headed nut			
	d	Other -			
8	**Absorbing Surfaces for Falls**				
	a	Turf-topsoil (less than 1 m)			
	b	Bark (less than 3m)			
	c	Wood chips (less than 3m)			
	d	Sand (less than 3m)			
	e	Gravel (less than 3m)			
	f	Other -			

Comments:

Playground Checklist

Address of Playground Norrebro **Municipality or Region** Norrebro

Date of Testing 21-04-2004

			Pass	Fail	Description of area tested
1	**Head Entrapment**				
	a	Head test		x	On climbing structure
	b	Head test		x	On stairs
	c	Head test		x	On barriers
2	**Head and Shoulder Entrapment**				
	a	Head and shoulder test	N/A		
	b	Head and shoulder test	N/A		
	c	Head and shoulder test	N/A		
3	**Clothing Entrapment**				
	a	Toggle test	x		Slide
	b	Toggle test			
	c	Toggle test			

			Yes	No	Description of area observed
4	**Protection Against Falling**				
	a	Handrails	x		
	b	Guardrails	x		
	c	Barriers	x		Whole body can fit through
5	**Structural Integrity**				
	a	Cracks	x		Paint is peeling
	b	Excessive permanent deformation	x		Slide and wood on it is deformed
	c	Damage	x		Semi, just very worn down
6	**Adult Access**				
	a	Tunnel longer than 2 m		x	
	b	Two access openings		N/A	
	c	Entrance no less than 500 mm		N/A	
7	**Finishing**				
	a	Splinters	x		On climbing equipment and trees
	b	Protruding nails		x	
	c	Bolt with dome headed nut	x		
	d	Other -			
8	**Absorbing Surfaces for Falls**				
	a	Turf-topsoil (less than 1 m)		x	
	b	Bark (less than 3m)		x	
	c	Wood chips (less than 3m)		x	
	d	Sand (less than 3m)	x		
	e	Gravel (less than 3m)	x		
	f	Other -			

Comments: Not well maintained in general

Playground Checklist

Name of Playground Ostred **Municipality or Region** Norrebro

Date of Testing 16-04-2004

			Pass	Fail	Description of area tested
1	**Head Entrapment**				
	a	Head test	x		Board where you can put face into
	b	Head test		x	By climbing structure
	c	Head test		x	By ladder
2	**Head and Shoulder Entrapment**				
	a	Head and shoulder test	N/A		
	b	Head and shoulder test	N/A		
	c	Head and shoulder test	N/A		
3	**Clothing Entrapment**				
	a	Toggle test		x	Slide
	b	Toggle test			
	c	Toggle test			

			Yes	No	Description of area observed
4	**Protection Against Falling**				
	a	Handrails	x		
	b	Guardrails	x		
	c	Barriers	x		
5	**Structural Integrity**				
	a	Cracks		x	Still good, but worn down finish
	b	Excessive permanent deformation		x	
	c	Damage		x	
6	**Adult Access**				
	a	Tunnel longer than 2 m		x	
	b	Two access openings	x		
	c	Entrance no less than 500 mm	x		
7	**Finishing**				
	a	Splinters	x		On wooden tree stumps
	b	Protruding nails		x	
	c	Bolt with dome headed nut	x		
	d	Other -			
8	**Absorbing Surfaces for Falls**				
	a	Turf-topsoil (less than 1 m)		x	
	b	Bark (less than 3m)		x	
	c	Wood chips (less than 3m)		x	
	d	Sand (less than 3m)	x		All sand under everything
	e	Gravel (less than 3m)		x	
	f	Other -			

Comments: Part of a larger park

Playground Checklist

Address of Playground Vesterbro **Municipality or Region** Vesterbro

Date of Testing 23-04-2004

1	Head Entrapment		Pass	Fail	Description of area tested
	a	Head test		x	Stairs
	b	Head test	x		Barriers
	c	Head test	x		Climbing equipment
2	**Head and Shoulder Entrapment**				
	a	Head and shoulder test	N/A		
	b	Head and shoulder test	N/A		
	c	Head and shoulder test	N/A		
3	**Clothing Entrapment**				
	a	Toggle test	x		Slide
	b	Toggle test			
	c	Toggle test			

4	Protection Against Falling		Yes	No	Description of area observed
	a	Handrails		x	
	b	Guardrails	x		
	c	Barriers	x		
5	**Structural Integrity**				
	a	Cracks	x		
	b	Excessive permanent deformation		x	
	c	Damage		x	
6	**Adult Access**				
	a	Tunnel longer than 2 m	x		It's ok
	b	Two access openings	x		
	c	Entrance no less than 500 mm	x		
7	**Finishing**				
	a	Spinters	x		On playground equipment
	b	Protruding nails		x	
	c	Bolt with dome headed nut	x		
	d	Other -			
8	**Absorbing Surfaces for Falls**				
	a	Turf-topsoil (less than 1 m)		x	
	b	Bark (less than 3m)		x	
	c	Wood chips (less than 3m)	x		
	d	Sand (less than 3m)		x	
	e	Gravel (less than 3m)		x	
	f	Other -			

Comments: Generally in good condition.

Playground Checklist

Address of Playground Butterfly **Municipality or Region** Gentofte

Date of Testing 26-04-2004

			Pass	Fail	Description of area tested
1	**Head Entrapment**				
	a	Head test	x		
	b	Head test	x		
	c	Head test	x		
2	**Head and Shoulder Entrapment**				
	a	Head and shoulder test	N/A		
	b	Head and shoulder test	N/A		
	c	Head and shoulder test	N/A		
3	**Clothing Entrapment**				
	a	Toggle test	x		
	b	Toggle test	x		
	c	Toggle test	x		

			Yes	No	Description of area observed
4	**Protection Against Falling**				
	a	Handrails	x		
	b	Guardrails	x		
	c	Barriers	x		
5	**Structural Integrity**				
	a	Cracks		x	
	b	Excessive permanent deformation		x	
	c	Damage		x	
6	**Adult Access**				
	a	Tunnel longer than 2 m		x	
	b	Two access openings		N/A	
	c	Entrance no less than 500 mm		N/A	
7	**Finishing**				
	a	Spinters		x	
	b	Protruding nails		x	
	c	Bolt with dome headed nut	x		
	d	Other -			
8	**Absorbing Surfaces for Falls**				
	a	Turf-topsoil (less than 1 m)		x	
	b	Bark (less than 3m)		x	
	c	Wood chips (less than 3m)		x	
	d	Sand (less than 3m)	x		
	e	Gravel (less than 3m)	x		
	f	Other -			

Comments: Excellent condition. Just regulated a year ago. Only two years old.

Appendix D - Accident Data Tables

Number of Admitted Accidents 1998-2003

This chart shows the number of accidents from 1998-2003. It is organized by where the accident occurred and is arranged starting with the municipality with the greatest number of accidents to the municipality with the least amount of accidents.

	Daycares		Playgrounds in institutional areas		Playgrounds in park areas		Playgrounds in residential areas	
	Municipality	**Number**	**Municipality**	**Number**	**Municipality**	**Number**	**Municipality**	**Number**
1	Esbjerg	1436	Esbjerg	990	Anden, uoplyst	126	Esbjerg	402
2	Randers	1172	Randers	721	Ballerup	103	Brøndby	278
3	Ballerup	988	Høje–Tåstrup	442	Gladsaxe	97	Høje–Tåstrup	278
4	Høje–Tåstrup	918	Albertslund	401	Herlev	85	Albertslund	277
5	Gladsaxe	790	Ballerup	375	Esbjerg	84	Anden, uoplyst	207
6	Herlev	780	Brøndby	331	Værløse	28	Ishøj	205
7	Albertslund	760	Gladsaxe	270	Rødovre	22	Randers	184
8	Brøndby	637	Rødovre	268	Ledøje–smørum	21	Ballerup	177
9	Glostrup	559	Ishøj	247	Albertslund	20	Rødovre	123
10	Rødovre	539	Glostrup	245	Brøndby	18	Glostrup	112
11	Anden, uoplyst	516	Anden, uoplyst	242	Randers	17	Herlev	98
12	Ishøj	453	Herlev	241	Varde	11	Gladsaxe	88
13	Frederikssund	373	Frederikssund	167	Ribe	10	Vallensbæk	62
14	Værløse	313	Vallensbæk	144	Bramminge	9	Bramminge	57
15	Vallensbæk	261	Værløse	107	Glostrup	6	Frederikssund	39
16	Ølstykke	258	Ølstykke	105	Høje–Tåstrup	5	Varde	38
17	Frederiksværk	226	Ledøje–smørum	99	Ishøj	4	Ribe	37
18	Ledøje–smørum	214	Frederiksværk	76	Frederikssund	4	Ledøje–smørum	29
19	Slangerup	156	Slangerup	75	Stenløse	4	Ølstykke	29
20	Stenløse	122	Purhus	72	Blåvandshuk	4	Hadsten	29
21	Purhus	118	Stenløse	68	Vallensbæk	3	Frederiksværk	20
22	Jægerspris	114	Nørhald	66	Blåbjerg	3	Værløse	18
23	Nørhald	109	Bramminge	66	Frederiksværk	2	Slangerup	15
24	Varde	85	Hadsten	65	Jægerspris	2	Stenløse	15
25	Hadsten	79	Varde	65	Slangerup	2	Langå	15
26	Farum	70	Ribe	58	Mariager	2	Purhus	15
27	Bramminge	66	Farum	53	Fanø	2	Rougsø	14
28	Sønderhald	64	Langå	53	Farum	1	Blåbjerg	13
29	Langå	57	Sønderhald	48	Skibby	1	Helle	13
30	Skibby	49	Jægerspris	43	Ølstykke	1	Farum	12
31	Hundested	40	Skibby	38	Hadsten	1	Sønderhald	12
32	Ribe	40	Mariager	33	Langå	1	Jægerspris	11
33	Rosenholm	37	Rougsø	26	Nørhald	1	Holsted	11
34	Mariager	36	Rosenholm	24	Rosenholm	1	Skibby	10
35	Rougsø	35	Hundested	21	Rougsø	1	Nørhald	10
36	Helle	19	Helle	21	Holsted	1	Blåvandshuk	7
37	Blåvandshuk	17	Blåvandshuk	14	Hundested	0	Rosenholm	6
38	Skævinge	15	Blåbjerg	12	Skævinge	0	Hundested	4
39	Blåbjerg	11	Holsted	12	Purhus	0	Skævinge	4
40	Holsted	10	Fanø	5	Sønderhald	0	Mariager	4
41	Fanø	7	Skævinge	4	Helle	0	Fanø	2
	Total	12549	Total	6413	Total	703	Total	2980

Schoolyard		Toys		Toys in daycares		Toys in schoolyards	
Municipality	**Number**	**Municipality**	**Number**	**Municipality**	**Number**	**Municipality**	**Number**
Esbjerg	397	Esbjerg	663	Esbjerg	141	Esbjerg	14
Randers	233	Randers	408	Randers	98	Høje–Tåstrup	8
Gladsaxe	215	Høje–Tåstrup	290	Herlev	83	Randers	8
Høje–Tåstrup	207	Anden, uoplyst	254	Ballerup	74	Rødovre	7
Ballerup	189	Ballerup	248	Høje–Tåstrup	73	Brøndby	4
Herlev	179	Albertslund	239	Albertslund	62	Glostrup	3
Brøndby	142	Brøndby	222	Rødovre	53	Ishøj	3
Albertslund	132	Herlev	221	Gladsaxe	51	Herlev	3
Rødovre	131	Rødovre	194	Glostrup	45	Ballerup	2
Ishøj	87	Gladsaxe	188	Anden, uoplyst	40	Gladsaxe	2
Anden, uoplyst	83	Glostrup	142	Brøndby	39	Hadsten	2
Glostrup	76	Ishøj	140	Ishøj	37	Mariager	2
Frederikssund	55	Frederikssund	114	Frederikssund	33	Anden, uoplyst	2
Værløse	52	Værløse	93	Værløse	30	Albertslund	1
Vallensbæk	45	Vallensbæk	84	Vallensbæk	23	Ledøje–smørum	1
Ledøje–smørum	43	Frederiksværk	79	Ledøje–smørum	16	Værløse	1
Bramminge	37	Ølstykke	64	Frederiksværk	13	Frederikssund	1
Varde	33	Ledøje–smørum	61	Slangerup	9	Frederiksværk	1
Stenløse	32	Bramminge	52	Ølstykke	9	Slangerup	1
Ribe	32	Hadsten	44	Stenløse	6	Langå	1
Frederiksværk	28	Varde	43	Purhus	6	Rougsø	1
Hadsten	25	Slangerup	38	Ribe	5	Blåbjerg	1
Ølstykke	22	Purhus	37	Jægerspris	4	Bramminge	1
Sønderhald	21	Nørhald	36	Langå	4	Vallensbæk	0
Nørhald	20	Stenløse	35	Hadsten	3	Farum	0
Purhus	18	Langå	32	Mariager	3	Hundested	0
Slangerup	15	Ribe	32	Nørhald	3	Jægerspris	0
Rosenholm	15	Jægerspris	30	Varde	3	Skibby	0
Farum	14	Sønderhald	25	Rosenholm	2	Skævinge	0
Jægerspris	12	Farum	20	Bramminge	2	Stenløse	0
Langå	11	Rougsø	20	Helle	2	Ølstykke	0
Blåbjerg	11	Mariager	18	Farum	1	Nørhald	0
Rougsø	10	Hundested	16	Hundested	1	Purhus	0
Helle	8	Skibby	15	Skævinge	1	Rosenholm	0
Mariager	7	Helle	15	Rougsø	1	Sønderhald	0
Fanø	6	Rosenholm	10	Skibby	0	Blåvandshuk	0
Skibby	5	Blåbjerg	6	Sønderhald	0	Fanø	0
Hundested	4	Blåvandshuk	6	Blåbjerg	0	Helle	0
Blåvandshuk	4	Holsted	5	Blåvandshuk	0	Holsted	0
Holsted	4	Skævinge	4	Fanø	0	Ribe	0
Skævinge	1	Fanø	2	Holsted	0	Varde	0
Total	2661	Total	4245	Total	976	Total	70

Number of Accidents from Daycares Requiring Overnight Stay at the Hospital

The following charts show the number of accidents that required overnight hospitalization. The arrangement is as follows: 1 day, 2-4 days, 5-9 days, and 10-29 days. This chart shows accidents that occurred at daycares that required hospitalization.

Admitted days, grouped=(1)	Number
Ballerup	16
Brøndby	9
Albertslund	11
Glostrup	8
Høje–Tåstrup	19
Ishøj	8
Vallensbæk	5
Gladsaxe	9
Herlev	11
Ledøje–smørum	3
Rødovre	10
Værløse	3
Farum	1
Frederikssund	6
Frederiksværk	3
Hundested	1
Jægerspris	4
Slangerup	3
Stenløse	2
Ølstykke	6
Hadsten	5
Mariager	1
Nørhald	2
Purhus	3
Randers	12
Rosenholm	2
Sønderhald	3
Blåbjerg	2
Bramminge	2
Esbjerg	21
Holsted	1
Ribe	2
Varde	4
Anden, uoplyst	6
Total	204

Admitted days, grouped=(2–4)	Number
Ballerup	3
Brøndby	3
Albertslund	2
Glostrup	1
Høje–Tåstrup	1
Ishøj	1
Vallensbæk	1
Ledøje–smørum	1
Rødovre	1
Frederiksværk	1
Skibby	1
Randers	3
Blåvandshuk	1
Anden, uoplyst	1
Total	21

Admitted days, grouped=(5–9)	Number
Brøndby	1
Vallensbæk	1
Slangerup	1
Ølstykke	1
Anden, uoplyst	2
Total	6

Admitted days, grouped=(10–29)	Number
Høje–Tåstrup	1
Frederikssund	1
Esbjerg	1
Total	3

Number of Accidents from Playgrounds in an Institutional Area Requiring Overnight Stay at the Hospital

Admitted days, grouped=(1)	Number
Ballerup	14
Brøndby	14
Albertslund	14
Glostrup	4
Høje–Tåstrup	20
Ishøj	4
Vallensbæk	5
Gladsaxe	10
Herlev	2
Ledøje–smørum	5
Rødovre	8
Værløse	2
Farum	5
Frederikssund	3
Frederiksværk	5
Hundested	1
Jægerspris	2
Skibby	1
Skævinge	1
Slangerup	2
Stenløse	3
Ølstykke	7
Hadsten	4
Mariager	2
Nørhald	2
Purhus	1
Randers	15
Rosenholm	1
Rougsø	5
Sønderhald	1
Blåbjerg	1
Blåvandshuk	1
Bramminge	4
Esbjerg	32
Holsted	2
Ribe	2
Varde	4
Anden, uoplyst	9
Total	218

Admitted days, grouped=(2–4)	Number
Ballerup	1
Brøndby	2
Albertslund	2
Glostrup	1
Høje–Tåstrup	3
Vallensbæk	1
Herlev	2
Rødovre	1
Farum	1
Nørhald	1
Randers	2
Esbjerg	5
Holsted	1
Ribe	1
Varde	1
Total	25

Admitted days, grouped=(5–9)	Number
Albertslund	1
Høje–Tåstrup	1
Rødovre	1
Farum	1
Randers	1
Bramminge	1
Esbjerg	2
Total	8

Admitted days, grouped=(10–29)	Number
Albertslund	1
Glostrup	1
Høje–Tåstrup	1
Langå	1
Randers	3
Esbjerg	2
Total	9

Number of Accidents from Playgrounds in Park Areas Requiring Overnight Stay at the Hospital

Admitted days, grouped=(1)	Number	Admitted days, grouped=(2–4)	Number	Admitted days, grouped=(5–9)	Number
Ballerup	1	Herlev	1	Esbjerg	1
Brøndby	1	Værløse	1	Total	1
Gladsaxe	4	Esbjerg	1		
Herlev	4	Total	3		
Langå	1				
Randers	2				
Rosenholm	1				
Bramminge	1				
Anden, uoplyst	8				
Total	23				

Number of Accidents from Playgrounds in Residential Areas Requiring Overnight Stay at the Hospital

Admitted days, grouped=(1)	Number
Ballerup	9
Brøndby	9
Albertslund	17
Glostrup	2
Høje–Tåstrup	8
Ishøj	9
Vallensbæk	2
Gladsaxe	5
Herlev	7
Ledøje–smørum	1
Rødovre	2
Frederiksværk	1
Jægerspris	1
Ølstykke	3
Hadsten	2
Langå	1
Randers	5
Rosenholm	2
Rougsø	1
Sønderhald	2
Bramminge	5
Esbjerg	16
Holsted	2
Ribe	4
Varde	2
Anden, uoplyst	15
Total	133

Admitted days, grouped=(2–4)	Number
Brøndby	1
Albertslund	2
Høje–Tåstrup	2
Ishøj	3
Randers	1
Bramminge	1
Ribe	1
Total	11

Admitted days, grouped=(5–9)	Number
Ishøj	1
Frederikssund	1
Randers	1
Total	3

Admitted days, grouped=(10–29)	Number
Ballerup	1
Høje–Tåstrup	1
Stenløse	1
Esbjerg	1
Total	4

Admitted days, grouped=(30–99)	Number
Esbjerg	1
Total	1

Number of Accidents from SchoolyardsRequiring Overnight Stay at the Hospital

Admitted days, grouped=(1)	Number
Ballerup	6
Brøndby	3
Albertslund	7
Glostrup	5
Høje–Tåstrup	5
Ishøj	3
Vallensbæk	2
Gladsaxe	5
Herlev	4
Ledøje–smørum	3
Rødovre	3
Værløse	1
Farum	1
Frederikssund	2
Frederiksværk	1
Stenløse	1
Ølstykke	3
Hadsten	2
Nørhald	1
Purhus	1
Randers	6
Sønderhald	1
Blåbjerg	1
Bramminge	3
Esbjerg	7
Anden, uoplyst	6
Total	83

Admitted days, grouped=(2–4)	Number
Brøndby	1
Albertslund	1
Høje–Tåstrup	1
Ishøj	1
Ledøje–smørum	1
Stenløse	1
Hadsten	1
Randers	1
Holsted	1
Anden, uoplyst	1
Total	10

Admitted days, grouped=(5–9)	Number
Glostrup	1
Total	1

Admitted days, grouped=(10–29)	Number
Randers	1
Total	1

Admitted days, grouped=(30–99)	Number
Stenløse	1
Total	1

Number of Accidents from Toys that Required Overnight Stay at the Hospital

Admitted days, grouped=(1)	Number
Ballerup	1
Høje–Tåstrup	3
Vallensbæk	2
Gladsaxe	1
Herlev	1
Frederiksværk	1
Jægerspris	1
Ølstykke	1
Hadsten	4
Langå	2
Mariager	1
Purhus	1
Randers	5
Rougsø	1
Sønderhald	1
Bramminge	1
Esbjerg	11
Holsted	1
Ribe	2
Varde	2
Anden, uoplyst	5
Total	48

Admitted days, grouped=(2–4)	Number
Høje–Tåstrup	1
Rødovre	1
Mariager	1
Rougsø	1
Esbjerg	2
Anden, uoplyst	1
Total	7

Admitted days, grouped=(5–9)	Number
Esbjerg	1
Total	1

Number of Accidents from Toys in Daycares that Required Overnight Stay at the Hospital

Admitted days, grouped=(1)	Number	Admitted days, grouped=(2–4)	Number
Høje–Tåstrup	1	Høje–Tåstrup	1
Randers	1	Total	1
Esbjerg	2		
Anden, uoplyst	1		
Total	5		

Number of Accidents from Toys in Schoolyards that Required Overnight Stay at the Hospital

Admitted days, grouped=(1)	Number	Admitted days, grouped=(2–4)	Number
Frederiksværk	1	Anden, uoplyst	1
Total	1	Total	1

Types of Injuries at Daycares from 1998-2003

The following charts show the types of injuries that ocurred at various locations. The information is from children ages 0-9 and from the years 1998-2003.

Lesion type=(Concussion)	Number
Esbjerg	59
Randers	58
Herlev	26
Frederikssund	20
Gladsaxe	19
Ballerup	16
Høje–Tåstrup	14
Albertslund	11
Anden, uoplyst	9
Brøndby	8
Rødovre	7
Purhus	7
Ishøj	6
Vallensbæk	6
Værløse	6
Frederiksværk	6
Ølstykke	6
Nørhald	6
Glostrup	5
Hadsten	5
Sønderhald	5
Skibby	4
Stenløse	4
Mariager	3
Ledøje–smørum	2
Farum	2
Jægerspris	2
Slangerup	2
Blåbjerg	2
Blåvandshuk	1
Bramminge	1
Helle	1
Ribe	1
Varde	1
Total	331

Lesion type=(Contusion, bruise)	Number
Esbjerg	425
Høje–Tåstrup	296
Ballerup	275
Randers	244
Albertslund	214
Herlev	212
Gladsaxe	210
Brøndby	199
Glostrup	181
Rødovre	157
Anden, uoplyst	145
Ishøj	143
Frederikssund	96
Værløse	85
Ølstykke	76
Vallensbæk	68
Ledøje–smørum	64
Frederiksværk	59
Stenløse	45
Slangerup	38
Jægerspris	37
Purhus	28
Nørhald	22
Farum	21
Hadsten	21
Bramminge	20
Varde	17
Skibby	15
Langå	13
Sønderhald	12
Ribe	12
Mariager	10
Hundested	8
Rosenholm	8
Rougsø	8
Skævinge	5
Holsted	5
Blåvandshuk	3
Blåbjerg	2
Helle	2
Fanø	1
Total	3502

Lesion type=(Abrasion)	Number
Randers	110
Ballerup	70
Gladsaxe	57
Herlev	56
Rødovre	32
Esbjerg	29
Høje–Tåstrup	28
Anden, uoplyst	24
Brøndby	20
Glostrup	20
Albertslund	16
Ledøje–smørum	16
Ishøj	14
Værløse	14
Frederikssund	11
Purhus	11
Ølstykke	7
Vallensbæk	5
Stenløse	5
Frederiksværk	4
Hadsten	4
Jægerspris	3
Slangerup	3
Langå	3
Nørhald	3
Rosenholm	3
Hundested	2
Varde	2
Farum	1
Mariager	1
Rougsø	1
Sønderhald	1
Total	576

Lesion type=(Open wound)	Number
Esbjerg	556
Randers	411
Ballerup	374
Høje–Tåstrup	355
Albertslund	329
Gladsaxe	299
Herlev	291
Brøndby	271
Glostrup	234
Rødovre	214
Ishøj	203
Anden, uoplyst	192
Frederikssund	159
Vallensbæk	124
Værløse	123
Ølstykke	89
Frederiksværk	75
Ledøje–smørum	66
Slangerup	59
Nørhald	38
Purhus	35
Jægerspris	33
Varde	23
Farum	19
Bramminge	19
Stenløse	18
Sønderhald	16
Langå	14
Skibby	11
Hadsten	9
Hundested	8
Rougsø	8
Helle	8
Ribe	8
Skævinge	5
Mariager	5
Rosenholm	3
Blåvandshuk	3
Blåbjerg	1
Holsted	1
Total	4709

Lesion type=(Fracture)	Number
Esbjerg	155
Randers	130
Ballerup	107
Høje–Tåstrup	95
Gladsaxe	79
Herlev	74
Anden, uoplyst	65
Albertslund	64
Brøndby	57
Rødovre	39
Frederiksværk	38
Værløse	37
Ishøj	36
Ølstykke	36
Glostrup	33
Ledøje–smørum	33
Slangerup	33
Stenløse	29
Frederikssund	28
Hadsten	26
Varde	23
Vallensbæk	22
Purhus	18
Rosenholm	18
Jægerspris	17
Ribe	17
Bramminge	16
Hundested	15
Farum	14
Nørhald	14
Sønderhald	14
Langå	13
Mariager	9
Rougsø	8
Skibby	6
Blåvandshuk	6
Fanø	5
Helle	5
Blåbjerg	4
Skævinge	3
Holsted	1
Total	1442

Lesion type=(Luxation, dislocation)	Number
Esbjerg	29
Randers	28
Rødovre	25
Ballerup	24
Herlev	24
Høje–Tåstrup	21
Gladsaxe	20
Glostrup	18
Albertslund	17
Anden, uoplyst	17
Brøndby	16
Ishøj	10
Vallensbæk	8
Nørhald	8
Ledøje–smørum	7
Værløse	7
Frederikssund	5
Frederiksværk	5
Stenløse	4
Varde	4
Farum	3
Slangerup	3
Ølstykke	3
Sønderhald	3
Bramminge	3
Jægerspris	2
Mariager	2
Purhus	2
Rougsø	2
Blåvandshuk	2
Skibby	1
Hadsten	1
Langå	1
Ribe	1
Total	326

Lesion type=(Distorsion, sprain)	Number
Randers	103
Esbjerg	102
Albertslund	58
Ballerup	55
Gladsaxe	54
Høje–Tåstrup	51
Herlev	39
Brøndby	35
Anden, uoplyst	32
Glostrup	30
Rødovre	25
Værløse	24
Ølstykke	23
Frederiksværk	22
Ishøj	17
Frederikssund	16
Stenløse	14
Nørhald	13
Vallensbæk	12
Slangerup	12
Purhus	12
Varde	11
Ledøje–smørum	10
Jægerspris	9
Hundested	7
Skibby	7
Hadsten	7
Langå	7
Rougsø	7
Sønderhald	7
Farum	6
Bramminge	6
Mariager	4
Holsted	3
Rosenholm	2
Blåbjerg	2
Helle	2
Skævinge	1
Blåvandshuk	1
Fanø	1
Ribe	1
Total	850

Lesion type=(Lesion of blood vessel(s))	Number
Herlev	1
Total	1

Lesion type=(Lesion of tendon/muscle)	Number
Randers	9
Høje–Tåstrup	5
Ballerup	4
Brøndby	4
Esbjerg	4
Langå	2
Vallensbæk	1
Gladsaxe	1
Rødovre	1
Frederiksværk	1
Slangerup	1
Hadsten	1
Mariager	1
Nørhald	1
Rosenholm	1
Sønderhald	1
Total	38

Lesion type=(Crushing)	Number
Høje–Tåstrup	1
Total	1

Lesion type=(Amputation)
Ballerup
Ledøje–smørum
Anden, uoplyst
Brøndby
Albertslund
Glostrup
Vallensbæk
Frederiksværk
Ølstykke
Esbjerg
Total

Lesion type=(Corrosion)
Esbjerg
Høje–Tåstrup
Gladsaxe
Glostrup
Vallensbæk
Herlev
Rødovre
Farum
Randers
Varde
Total

Number	Lesion type=(Poisoning)	Number	Lesion type=(Burns, scalds)	Number	Lesion type=(No injury diag	Number
4	Høje–Tåstrup	15	Randers	8	Esbjerg	55
2	Herlev	12	Ballerup	5	Ballerup	39
2	Ballerup	11	Albertslund	4	Albertslund	34
1	Gladsaxe	10	Esbjerg	4	Høje–Tåstrup	30
1	Glostrup	8	Høje–Tåstrup	3	Herlev	28
1	Brøndby	7	Anden, uoplyst	3	Gladsaxe	27
1	Albertslund	7	Brøndby	2	Rødovre	26
1	Anden, uoplyst	6	Glostrup	2	Glostrup	25
1	Rødovre	5	Herlev	2	Frederikssund	25
1	Jægerspris	4	Ledøje–smørum	2	Ishøj	20
15	Ølstykke	4	Rødovre	2	Anden, uoplyst	18
	Vallensbæk	3	Frederikssund	2	Brøndby	16
	Esbjerg	3	Ishøj	1	Randers	16
	Ishøj	2	Gladsaxe	1	Ledøje–smørum	10
	Værløse	2	Værløse	1	Værløse	10
	Frederiksværk	2	Frederiksværk	1	Vallensbæk	9
	Skibby	2	Ølstykke	1	Frederiksværk	6
	Ledøje–smørum	1	Purhus	1	Ølstykke	6
	Frederikssund	1	Rosenholm	1	Jægerspris	5
	Purhus	1	Varde	1	Slangerup	4
	Randers	1	Total	47	Nørhald	3
	Total	107			Skibby	2
					Stenløse	2
					Hadsten	2

Number	Lesion type=(Electrocution	Number	Lesion type=(Frostbite)	Number	Langå	2
3	Frederikssund	2	Vallensbæk	1	Varde	2
2	Albertslund	1	Total	1	Farum	1
2	Ishøj	1			Sønderhald	1
1	Rødovre	1			Helle	1
1	Frederiksværk	1			Total	425
1	Sønderhald	1				
1	Total	7				
1						
1						
1						
14						

Lesion type=(Other injury)	Number
Randers	53
Herlev	13
Gladsaxe	11
Albertslund	4
Rødovre	4
Værløse	3
Hadsten	3
Purhus	3
Sønderhald	3
Anden, uoplyst	3
Ballerup	2
Høje–Tåstrup	2
Langå	2
Brøndby	1
Glostrup	1
Ledøje–smørum	1
Farum	1
Frederikssund	1
Frederiksværk	1
Ølstykke	1
Mariager	1
Nørhald	1
Rosenholm	1
Rougsø	1
Total	117

Lesion type=(Unspecified	Number
Esbjerg	11
Frederikssund	7
Ølstykke	5
Frederiksværk	4
Ballerup	2
Jægerspris	2
Herlev	1
Værløse	1
Farum	1
Skibby	1
Skævinge	1
Slangerup	1
Stenløse	1
Blåvandshuk	1
Bramminge	1
Total	40

Types of Injuries at Playgrounds in a Park Area from 1998-2003

Lesion type=(Concussion)	Number
Gladsaxe	5
Esbjerg	3
Anden, uoplyst	2
Ballerup	1
Albertslund	1
Frederikssund	1
Varde	1
Total	14

Lesion type=(Contusion, bruise)	Number
Anden, uoplyst	34
Ballerup	32
Gladsaxe	30
Herlev	30
Esbjerg	21
Albertslund	9
Ledøje–smørum	9
Rødovre	9
Værløse	5
Randers	5
Varde	5
Brøndby	4
Glostrup	4
Stenløse	3
Blåvandshuk	3
Høje–Tåstrup	2
Slangerup	2
Bramminge	2
Ribe	2
Ishøj	1
Vallensbæk	1
Farum	1
Frederiksværk	1
Fanø	1
Total	216

Lesion type=(Abrasion)	Number
Ballerup	6
Herlev	6
Anden, uoplyst	6
Gladsaxe	3
Brøndby	1
Glostrup	1
Ledøje–smørum	1
Rødovre	1
Esbjerg	1
Total	26

Lesion type=(Open wound	Number
Ballerup	30
Anden, uoplyst	24
Gladsaxe	20
Esbjerg	16
Herlev	14
Værløse	11
Rødovre	8
Brøndby	6
Ledøje–smørum	6
Randers	4
Frederikssund	2
Ribe	2
Ishøj	1
Jægerspris	1
Hadsten	1
Rougsø	1
Total	147

Lesion type=(Fracture)	Number
Anden, uoplyst	41
Gladsaxe	24
Esbjerg	24
Herlev	22
Ballerup	20
Albertslund	7
Værløse	7
Randers	7
Ledøje–smørum	5
Bramminge	5
Ribe	5
Rødovre	4
Varde	4
Høje–Tåstrup	3
Blåbjerg	3
Brøndby	2
Vallensbæk	2
Glostrup	1
Ishøj	1
Frederiksværk	1
Jægerspris	1
Skibby	1
Ølstykke	1
Langå	1
Nørhald	1
Rosenholm	1
Blåvandshuk	1
Fanø	1
Holsted	1
Total	197

Lesion type=(Luxation, dislocation)	Number
Ballerup	4
Anden, uoplyst	3
Gladsaxe	2
Værløse	2
Esbjerg	2
Brøndby	1
Albertslund	1
Ishøj	1
Herlev	1
Stenløse	1
Total	18

Lesion type=(Distorsion, sprain)	Number
Esbjerg	15
Anden, uoplyst	14
Gladsaxe	10
Ballerup	8
Herlev	6
Brøndby	4
Værløse	3
Mariager	2
Bramminge	2
Albertslund	1
Randers	1
Ribe	1
Varde	1
Total	68

Lesion type=(Lesion of tendon/muscle	Number
Gladsaxe	1
Total	1

Lesion type=(Poisoning)	Number
Albertslund	1
Herlev	1
Esbjerg	1
Total	3

Lesion type=(Corrosion);	Number
Herlev	1
Total	1

Lesion type=(Suffocation)	Number
Anden, uoplyst	1
Total	1

Lesion type=(No injury diagnosed)	Number
Herlev	4
Ballerup	2
Gladsaxe	2
Frederikssund	1
Total	9

Lesion type=(Other injury)	Number
Esbjerg	1
Total	1

Lesion type=(Unspecified injury)	Number
Anden, uoplyst	1
Total	1

Types of Injuries at Playgrounds in an Instiutional Area from 1998-2003

Lesion type=(Concussion)	Number
Randers	44
Esbjerg	38
Herlev	17
Høje–Tåstrup	14
Anden, uoplyst	11
Rødovre	10
Ballerup	9
Albertslund	8
Vallensbæk	7
Brøndby	6
Gladsaxe	6
Ledøje–smørum	5
Stenløse	5
Langå	4
Nørhald	4
Purhus	4
Farum	3
Hadsten	3
Sønderhald	3
Glostrup	2
Ishøj	2
Værløse	2
Frederiksværk	2
Ølstykke	2
Rougsø	2
Ribe	2
Varde	2
Frederikssund	1
Skibby	1
Slangerup	1
Mariager	1
Blåbjerg	1
Helle	1
Holsted	1
Total	224

Lesion type=(Contusion, bruise)	Number
Esbjerg	276
Høje–Tåstrup	138
Albertslund	136
Randers	135
Ballerup	108
Brøndby	95
Rødovre	92
Glostrup	79
Ishøj	77
Herlev	66
Anden, uoplyst	60
Frederikssund	59
Gladsaxe	57
Vallensbæk	41
Værløse	35
Ledøje–smørum	29
Frederiksværk	29
Ølstykke	29
Bramminge	21
Slangerup	20
Stenløse	19
Varde	19
Skibby	18
Nørhald	15
Purhus	14
Ribe	14
Jægerspris	13
Hadsten	13
Sønderhald	13
Langå	10
Hundested	7
Rougsø	7
Farum	6
Mariager	6
Blåvandshuk	6
Helle	5
Rosenholm	3
Blåbjerg	2
Holsted	1
Total	1773

Lesion type=(Abrasion)	Number
Randers	105
Esbjerg	39
Gladsaxe	32
Ballerup	26
Herlev	22
Albertslund	19
Glostrup	17
Høje–Tåstrup	16
Rødovre	15
Brøndby	13
Anden, uoplyst	12
Frederikssund	9
Hadsten	9
Ishøj	8
Ølstykke	8
Nørhald	8
Purhus	8
Vallensbæk	7
Værløse	6
Slangerup	5
Langå	4
Frederiksværk	3
Rougsø	3
Ledøje–smørum	2
Farum	2
Rosenholm	2
Sønderhald	2
Ribe	2
Jægerspris	1
Mariager	1
Helle	1
Total	407

Lesion type=(Open wound)	Number
Esbjerg	347
Randers	246
Høje–Tåstrup	145
Brøndby	119
Ballerup	117
Albertslund	116
Ishøj	98
Glostrup	93
Gladsaxe	87
Rødovre	86
Anden, uoplyst	75
Herlev	70
Frederikssund	58
Vallensbæk	39
Ølstykke	31
Værløse	30
Slangerup	27
Ledøje–smørum	24
Purhus	20
Frederiksværk	16
Nørhald	15
Stenløse	14
Farum	13
Jægerspris	10
Hadsten	8
Skibby	7
Langå	7
Sønderhald	7
Bramminge	7
Helle	6
Hundested	5
Mariager	5
Rosenholm	5
Ribe	5
Blåbjerg	4
Varde	4
Skævinge	2
Holsted	2
Total	1970

Lesion type=(Fracture)	Number
Esbjerg	166
Randers	101
Høje–Tåstrup	73
Ballerup	71
Brøndby	68
Albertslund	61
Gladsaxe	47
Rødovre	46
Anden, uoplyst	46
Herlev	39
Ishøj	35
Varde	34
Vallensbæk	30
Bramminge	30
Glostrup	29
Ribe	28
Ledøje–smørum	24
Ølstykke	24
Stenløse	23
Farum	21
Frederiksværk	20
Hadsten	20
Langå	18
Purhus	17
Frederikssund	16
Mariager	16
Værløse	15
Slangerup	15
Sønderhald	15
Nørhald	14
Jægerspris	13
Rosenholm	10
Rougsø	10
Holsted	8
Hundested	7
Skibby	7
Helle	7
Blåvandshuk	6
Fanø	5
Blåbjerg	3
Skævinge	2
Total	1240

Lesion type=(Luxation, dislocation)	Number
Brøndby	9
Esbjerg	7
Anden, uoplyst	7
Høje–Tåstrup	5
Vallensbæk	5
Gladsaxe	4
Rødovre	4
Værløse	4
Randers	4
Ballerup	3
Albertslund	3
Glostrup	3
Ledøje–smørum	2
Stenløse	2
Langå	2
Herlev	1
Frederikssund	1
Jægerspris	1
Skibby	1
Ølstykke	1
Hadsten	1
Nørhald	1
Purhus	1
Rosenholm	1
Varde	1
Total	74

Lesion type=(Distorsion, sprain)	Number
Esbjerg	72
Randers	51
Høje–Tåstrup	31
Albertslund	24
Gladsaxe	23
Ballerup	22
Anden, uoplyst	20
Ishøj	17
Glostrup	14
Frederikssund	14
Vallensbæk	11
Herlev	11
Rødovre	9
Værløse	9
Ledøje–smørum	8
Farum	8
Ølstykke	8
Brøndby	7
Hadsten	7
Langå	7
Sønderhald	7
Bramminge	7
Frederiksværk	6
Slangerup	6
Nørhald	6
Ribe	6
Stenløse	5
Purhus	5
Jægerspris	4
Skibby	3
Mariager	3
Rougsø	3
Varde	3
Hundested	2
Rosenholm	2
Blåbjerg	2
Blåvandshuk	2
Helle	1
Total	446

Lesion type=(Lesion of tendon/muscle)	Number
Randers	4
Høje–Tåstrup	3
Vallensbæk	2
Glostrup	1
Varde	1
Total	11

Lesion type=(Poisoning)
Albertslund
Esbjerg
Randers
Brøndby
Anden, uoplyst
Høje–Tåstrup
Ishøj
Gladsaxe
Værløse
Hadsten
Nørhald
Glostrup
Vallensbæk
Herlev
Frederikssund
Slangerup
Mariager
Purhus
Sønderhald
Ribe
Varde
Total

Number	Lesion type=(Burns, scalds)	Number	Lesion type=(Corrosion)	Number	Lesion type=(Suffocation)	Number
25	Albertslund	2	Esbjerg	2	Høje–Tåstrup	1
16	Esbjerg	2	Glostrup	1	Herlev	1
11	Ballerup	1	Total	3	Total	2
9	Brøndby	1				
7	Vallensbæk	1				
6	Ølstykke	1				
3	Rougsø	1				
3	Total	9				
2						
2						
2						
1						
1						
1						
1						
1						
1						
1						
1						
1						
1						
96						

Lesion type=(No injury diagnosed)	Number
Esbjerg	19
Ballerup	15
Gladsaxe	11
Herlev	11
Høje–Tåstrup	10
Ishøj	7
Albertslund	6
Glostrup	5
Rødovre	5
Brøndby	4
Ledøje–smørum	4
Randers	4
Værløse	3
Frederikssund	3
Anden, uoplyst	3
Hadsten	2
Skibby	1
Nørhald	1
Purhus	1
Bramminge	1
Total	116

Lesion type=(Other injury)	Number
Randers	15
Ballerup	3
Albertslund	1
Herlev	1
Ledøje–smørum	1
Rødovre	1
Værløse	1
Frederikssund	1
Ølstykke	1
Langå	1
Purhus	1
Rosenholm	1
Esbjerg	1
Anden, uoplyst	1
Total	30

Lesion type=(Unspecified injury)	Number
Esbjerg	5
Frederikssund	4
Herlev	1
Jægerspris	1
Randers	1
Total	12

Types of Injuries at Playgrounds in a Residential Areas from 1998-2003

Lesion type=(Concussion)	Number
Esbjerg	18
Albertslund	9
Anden, uoplyst	8
Ishøj	7
Randers	5
Brøndby	4
Glostrup	3
Gladsaxe	3
Ølstykke	3
Ballerup	2
Vallensbæk	2
Herlev	2
Sønderhald	2
Høje–Tåstrup	1
Rødovre	1
Frederikssund	1
Hundested	1
Rosenholm	1
Helle	1
Ribe	1
Varde	1
Total	76

Lesion type=(Contusion, bruise)	Number
Esbjerg	128
Brøndby	93
Høje–Tåstrup	85
Albertslund	82
Anden, uoplyst	56
Ishøj	55
Ballerup	50
Rødovre	43
Glostrup	42
Randers	42
Herlev	41
Vallensbæk	27
Gladsaxe	27
Bramminge	16
Frederikssund	13
Ølstykke	9
Purhus	9
Frederiksværk	8
Hadsten	8
Ledøje–smørum	7
Værløse	7
Jægerspris	7
Ribe	7
Varde	7
Langå	5
Rougsø	5
Helle	5
Slangerup	3
Stenløse	3
Hundested	2
Skibby	2
Skævinge	2
Mariager	2
Nørhald	2
Blåbjerg	2
Farum	1
Sønderhald	1
Blåvandshuk	1
Holsted	1
Total	906

Lesion type=(Abrasion)	Number
Randers	18
Høje–Tåstrup	10
Ballerup	9
Brøndby	9
Esbjerg	9
Rødovre	8
Albertslund	6
Ishøj	6
Anden, uoplyst	6
Gladsaxe	4
Herlev	4
Vallensbæk	2
Frederikssund	2
Hadsten	2
Langå	2
Glostrup	1
Ledøje–smørum	1
Værløse	1
Hundested	1
Slangerup	1
Mariager	1
Sønderhald	1
Holsted	1
Ribe	1
Total	106

Lesion type=(Open wound	Number
Esbjerg	101
Albertslund	87
Høje–Tåstrup	84
Brøndby	79
Ishøj	68
Anden, uoplyst	46
Ballerup	44
Randers	39
Glostrup	34
Rødovre	34
Herlev	22
Gladsaxe	19
Bramminge	16
Vallensbæk	11
Frederikssund	11
Ledøje–smørum	8
Frederiksværk	6
Ølstykke	6
Slangerup	5
Hadsten	5
Ribe	5
Stenløse	4
Rougsø	4
Varde	4
Værløse	3
Farum	3
Nørhald	3
Rosenholm	2
Sønderhald	2
Blåvandshuk	2
Holsted	2
Jægerspris	1
Skibby	1
Skævinge	1
Purhus	1
Blåbjerg	1
Helle	1
Total	765

Lesion type=(Fracture)	Number
Esbjerg	97
Anden, uoplyst	69
Høje–Tåstrup	60
Brøndby	58
Albertslund	52
Ishøj	49
Randers	47
Ballerup	35
Gladsaxe	24
Herlev	22
Varde	20
Rødovre	19
Ribe	18
Bramminge	16
Vallensbæk	15
Glostrup	12
Frederikssund	9
Hadsten	9
Stenløse	7
Ledøje–smørum	6
Værløse	6
Farum	6
Ølstykke	6
Langå	6
Blåbjerg	6
Skibby	5
Frederiksværk	4
Sønderhald	4
Holsted	4
Slangerup	3
Rosenholm	3
Rougsø	3
Helle	3
Nørhald	2
Purhus	2
Blåvandshuk	2
Fanø	2
Jægerspris	1
Mariager	1
Total	713

Lesion type=(Luxation, dislocation)	Number
Anden, uoplyst	10
Ballerup	7
Albertslund	7
Esbjerg	7
Brøndby	6
Ishøj	6
Randers	5
Varde	4
Glostrup	3
Høje–Tåstrup	3
Rødovre	3
Helle	3
Gladsaxe	2
Ledøje–smørum	2
Bramminge	2
Holsted	2
Herlev	1
Værløse	1
Farum	1
Frederiksværk	1
Slangerup	1
Hadsten	1
Langå	1
Nørhald	1
Purhus	1
Ribe	1
Total	82

Lesion type=(Distorsion, sprain)	Number
Esbjerg	35
Høje–Tåstrup	27
Albertslund	26
Brøndby	19
Ballerup	18
Randers	13
Glostrup	12
Rødovre	11
Anden, uoplyst	9
Ishøj	8
Bramminge	7
Vallensbæk	5
Ølstykke	5
Gladsaxe	4
Ledøje–smørum	4
Hadsten	4
Blåbjerg	4
Ribe	4
Herlev	3
Frederikssund	2
Jægerspris	2
Skibby	2
Slangerup	2
Nørhald	2
Purhus	2
Rougsø	2
Sønderhald	2
Blåvandshuk	2
Varde	2
Farum	1
Frederiksværk	1
Stenløse	1
Langå	1
Holsted	1
Total	243

Lesion type=(Lesion of tendon/muscle	Number
Albertslund	2
Randers	2
Høje–Tåstrup	1
Gladsaxe	1
Rødovre	1
Esbjerg	1
Total	8

Lesion type=(Amputation)	Number
Randers	1
Esbjerg	1
Total	2

Lesion type=(Poisoning)	Number
Ballerup	3
Brøndby	3
Ishøj	3
Esbjerg	3
Albertslund	2
Glostrup	2
Høje–Tåstrup	2
Randers	2
Herlev	1
Rødovre	1
Anden, uoplyst	1
Total	23

Lesion type=(Burns, scalds)	Number
Høje–Tåstrup	2
Herlev	2
Brøndby	1
Albertslund	1
Glostrup	1
Rødovre	1
Anden, uoplyst	1
Total	9

Lesion type=(Corrosion)	Number
Ishøj	1
Total	1

Lesion type=(Suffocation)	Number
Albertslund	1
Total	1

Lesion type=(No injury diagnosed)	Number
Ballerup	8
Randers	6
Brøndby	5
Gladsaxe	3
Høje–Tåstrup	2
Ishøj	2
Albertslund	1
Glostrup	1
Rødovre	1
Frederikssund	1
Skævinge	1
Esbjerg	1
Anden, uoplyst	1
Total	33

Lesion type=(Other injury)	Number
Randers	4
Ballerup	1
Brøndby	1
Glostrup	1
Gladsaxe	1
Ledøje–smørum	1
Total	9

Lesion type=(Unspecified injury)	Number
Albertslund	1
Høje–Tåstrup	1
Esbjerg	1
Total	3

Lesion type=(Concussion)	Number
Randers	14
Esbjerg	11
Herlev	8
Anden, uoplyst	6
Brøndby	5
Høje–Tåstrup	5
Gladsaxe	5
Ballerup	3
Albertslund	3
Ølstykke	3
Glostrup	2
Vallensbæk	2
Værløse	2
Frederikssund	2
Nørhald	2
Ishøj	1
Ledøje–smørum	1
Rødovre	1
Frederiksværk	1
Stenløse	1
Hadsten	1
Langå	1
Purhus	1
Sønderhald	1
Bramminge	1
Total	83

Lesion type=(Contusion, bruise)	Number
Esbjerg	121
Gladsaxe	80
Høje–Tåstrup	79
Randers	64
Herlev	59
Rødovre	59
Ballerup	55
Brøndby	52
Ishøj	37
Albertslund	36
Glostrup	24
Frederikssund	21
Anden, uoplyst	17
Vallensbæk	16
Ledøje–smørum	12
Værløse	12
Stenløse	11
Bramminge	11
Frederiksværk	10
Ølstykke	8
Ribe	8
Varde	8
Slangerup	7
Hadsten	5
Sønderhald	5
Farum	4
Nørhald	4
Rosenholm	4
Rougsø	4
Helle	4
Jægerspris	3
Blåbjerg	3
Fanø	3
Hundested	2
Langå	2
Mariager	2
Purhus	2
Blåvandshuk	2
Holsted	2
Total	858

Lesion type=(Abrasion)	Number
Randers	25
Ballerup	18
Herlev	18
Gladsaxe	17
Esbjerg	14
Brøndby	8
Albertslund	8
Høje–Tåstrup	8
Rødovre	5
Ledøje–smørum	4
Værløse	4
Frederikssund	4
Slangerup	3
Hadsten	3
Anden, uoplyst	3
Ishøj	2
Langå	2
Nørhald	2
Glostrup	1
Vallensbæk	1
Frederiksværk	1
Ølstykke	1
Rosenholm	1
Rougsø	1
Sønderhald	1
Varde	1
Total	156

Lesion type=(Open wound	Number
Esbjerg	122
Randers	53
Høje–Tåstrup	50
Brøndby	44
Herlev	43
Gladsaxe	42
Ballerup	40
Albertslund	30
Rødovre	29
Glostrup	22
Anden, uoplyst	18
Ishøj	17
Frederikssund	14
Vallensbæk	13
Værløse	12
Ledøje–smørum	11
Stenløse	6
Purhus	6
Farum	5
Ølstykke	5
Bramminge	5
Frederiksværk	4
Ribe	4
Sønderhald	3
Varde	3
Nørhald	2
Helle	2
Jægerspris	1
Skibby	1
Slangerup	1
Hadsten	1
Langå	1
Rosenholm	1
Rougsø	1
Fanø	1
Total	613

Lesion type=(Fracture)	Number
Esbjerg	70
Randers	45
Gladsaxe	39
Ballerup	36
Høje–Tåstrup	31
Herlev	28
Albertslund	27
Anden, uoplyst	24
Glostrup	17
Varde	17
Brøndby	16
Rødovre	16
Ribe	16
Ishøj	15
Værløse	15
Bramminge	12
Stenløse	11
Sønderhald	9
Hadsten	8
Nørhald	8
Ledøje–smørum	7
Vallensbæk	6
Frederiksværk	6
Purhus	6
Frederikssund	5
Mariager	5
Blåbjerg	5
Jægerspris	4
Rosenholm	4
Farum	3
Skibby	3
Langå	3
Rougsø	3
Hundested	2
Slangerup	2
Blåvandshuk	2
Fanø	2
Helle	2
Holsted	2
Skævinge	1
Ølstykke	1
Total	534

Lesion type=(Luxation, dislocation)	Number
Esbjerg	4
Rødovre	3
Randers	3
Ballerup	1
Brøndby	1
Høje–Tåstrup	1
Vallensbæk	1
Herlev	1
Ledøje–smørum	1
Purhus	1
Ribe	1
Varde	1
Anden, uoplyst	1
Total	20

Lesion type=(Distorsion, sprain)	Number
Esbjerg	49
Gladsaxe	28
Høje–Tåstrup	27
Randers	27
Albertslund	26
Ballerup	25
Rødovre	17
Brøndby	16
Herlev	16
Anden, uoplyst	13
Ishøj	11
Glostrup	9
Bramminge	8
Ledøje–smørum	7
Værløse	6
Frederikssund	6
Frederiksværk	6
Hadsten	6
Vallensbæk	4
Jægerspris	4
Rosenholm	4
Ølstykke	3
Blåbjerg	3
Ribe	3
Varde	3
Farum	2
Slangerup	2
Stenløse	2
Langå	2
Nørhald	2
Purhus	2
Sønderhald	2
Skibby	1
Rougsø	1
Total	343

Lesion type=(Lesion of blood vessel(s))	Number
Ballerup	1
Total	1

Lesion type=(Lesion of tendon/muscle)	Number
Albertslund	1
Gladsaxe	1
Herlev	1
Frederikssund	1
Randers	1
Esbjerg	1
Total	6

Lesion type=(Poisoning)	Number
Ballerup	6
Høje–Tåstrup	5
Esbjerg	4
Herlev	2
Ishøj	1
Frederikssund	1
Total	19

Lesion type=(Burns, scalds)	Number
Albertslund	1
Gladsaxe	1
Total	2

Lesion type=(No injury diagnosed)	Number
Ballerup	4
Ishøj	3
Herlev	3
Vallensbæk	2
Høje–Tåstrup	1
Gladsaxe	1
Rødovre	1
Ølstykke	1
Hadsten	1
Randers	1
Rosenholm	1
Esbjerg	1
Anden, uoplyst	1
Total	21

Lesion type=(Other injury)	Number
Glostrup	1
Gladsaxe	1
Værløse	1
Stenløse	1
Total	4

Lesion type=(Unspecified injury)	Number
Frederikssund	1
Total	1

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Lesion type=(Concussion)	Number
Esbjerg	12
Randers	8
Hadsten	4
Nørhald	4
Anden, uoplyst	3
Høje–Tåstrup	2
Gladsaxe	2
Herlev	2
Rødovre	2
Værløse	2
Frederikssund	2
Rougsø	2
Sønderhald	2
Brøndby	1
Albertslund	1
Vallensbæk	1
Hundested	1
Jægerspris	1
Ølstykke	1
Bramminge	1
Total	54

Lesion type=(Contusion, bruise)	Number
Esbjerg	127
Herlev	80
Ballerup	76
Høje–Tåstrup	67
Gladsaxe	62
Randers	57
Albertslund	51
Anden, uoplyst	47
Brøndby	44
Rødovre	43
Glostrup	40
Værløse	35
Ishøj	23
Frederiksværk	22
Frederikssund	18
Ledøje–smørum	16
Vallensbæk	15
Slangerup	10
Stenløse	10
Ølstykke	10
Varde	10
Jægerspris	9
Bramminge	9
Ribe	9
Purhus	7
Nørhald	6
Farum	5
Hadsten	5
Sønderhald	5
Langå	4
Rougsø	4
Skibby	3
Mariager	3
Hundested	2
Blåbjerg	2
Helle	2
Rosenholm	1
Blåvandshuk	1
Total	940

Lesion type=(Abrasion)	Number
Randers	48
Esbjerg	25
Ballerup	21
Herlev	18
Anden, uoplyst	15
Høje–Tåstrup	13
Albertslund	12
Glostrup	11
Rødovre	11
Gladsaxe	9
Hadsten	9
Brøndby	8
Ishøj	5
Værløse	5
Frederikssund	5
Rougsø	5
Stenløse	4
Purhus	4
Vallensbæk	3
Slangerup	3
Ølstykke	3
Helle	3
Ledøje–smørum	2
Frederiksværk	2
Langå	2
Jægerspris	1
Skævinge	1
Mariager	1
Nørhald	1
Sønderhald	1
Bramminge	1
Ribe	1
Varde	1
Total	254

Lesion type=(Open wound	Number
Esbjerg	246
Randers	118
Høje–Tåstrup	90
Anden, uoplyst	87
Ballerup	86
Albertslund	84
Brøndby	80
Herlev	68
Rødovre	67
Gladsaxe	64
Ishøj	58
Glostrup	43
Frederikssund	43
Vallensbæk	34
Værløse	30
Ledøje–smørum	26
Ølstykke	26
Frederiksværk	22
Slangerup	14
Nørhald	14
Purhus	13
Jægerspris	11
Farum	10
Langå	10
Bramminge	10
Varde	10
Skibby	7
Hadsten	7
Sønderhald	7
Stenløse	6
Ribe	6
Hundested	4
Skævinge	3
Mariager	3
Rougsø	3
Helle	3
Rosenholm	2
Blåvandshuk	1
Total	1416

Lesion type=(Fracture)	Number
Esbjerg	50
Randers	35
Høje–Tåstrup	28
Anden, uoplyst	28
Ballerup	18
Brøndby	18
Albertslund	17
Rødovre	12
Ribe	11
Stenløse	10
Herlev	9
Ishøj	8
Vallensbæk	8
Gladsaxe	8
Ølstykke	8
Varde	8
Værløse	7
Hundested	7
Hadsten	7
Bramminge	7
Frederiksværk	6
Langå	6
Mariager	6
Glostrup	5
Frederikssund	5
Purhus	5
Ledøje–smørum	4
Slangerup	4
Farum	3
Jægerspris	2
Rosenholm	2
Sønderhald	2
Helle	2
Nørhald	1
Rougsø	1
Blåbjerg	1
Blåvandshuk	1
Fanø	1
Holsted	1
Total	362

Lesion type=(Luxation, dislocation)	Number
Esbjerg	15
Randers	10
Anden, uoplyst	10
Gladsaxe	4
Herlev	4
Rødovre	4
Ballerup	3
Brøndby	3
Høje–Tåstrup	3
Vallensbæk	3
Varde	3
Albertslund	2
Ishøj	2
Glostrup	1
Jægerspris	1
Hadsten	1
Nørhald	1
Bramminge	1
Helle	1
Total	72

Lesion type=(Distorsion, sprain)	Number
Esbjerg	17
Randers	13
Høje–Tåstrup	12
Anden, uoplyst	12
Brøndby	10
Albertslund	9
Ishøj	7
Gladsaxe	7
Rødovre	7
Glostrup	6
Ballerup	5
Herlev	5
Frederikssund	4
Frederiksværk	4
Ølstykke	4
Ledøje–smørum	3
Værløse	2
Jægerspris	2
Sønderhald	2
Bramminge	2
Ribe	2
Vallensbæk	1
Skibby	1
Stenløse	1
Hadsten	1
Nørhald	1
Purhus	1
Blåbjerg	1
Varde	1
Total	143

Lesion type=(Lesion of tendon/muscle)	Number
Randers	3
Gladsaxe	2
Ballerup	1
Høje–Tåstrup	1
Vallensbæk	1
Frederiksværk	1
Esbjerg	1
Anden, uoplyst	1
Total	11

Lesion type=(Poisoning)	Number
Esbjerg	2
Høje–Tåstrup	1
Blåbjerg	1
Varde	1
Anden, uoplyst	1
Total	6

Lesion type=(Burns, scalds)	Number
Esbjerg	1
Helle	1
Total	2

Lesion type=(Corrosion)	Number
Frederikssund	1
Total	1

Lesion type=(Suffocation)	Number
Albertslund	1
Frederikssund	1
Total	2

Lesion type=(No injury diagnosed)	Number
Esbjerg	142
Høje–Tåstrup	71
Albertslund	61
Brøndby	58
Rødovre	43
Ishøj	37
Glostrup	35
Anden, uoplyst	30
Frederikssund	29
Ballerup	25
Frederiksværk	20
Vallensbæk	17
Bramminge	17
Randers	15
Herlev	14
Gladsaxe	12
Ølstykke	10
Værløse	8
Varde	8
Slangerup	7
Ledøje–smørum	6
Skibby	4
Jægerspris	3
Blåvandshuk	3
Farum	2
Hundested	2
Stenløse	2
Hadsten	2
Helle	2
Holsted	2
Ribe	2
Mariager	1
Rosenholm	1
Blåbjerg	1
Fanø	1
Total	693

Lesion type=(Other injury)	Number
Randers	101
Herlev	20
Gladsaxe	18
Anden, uoplyst	16
Ballerup	13
Langå	10
Hadsten	8
Nørhald	8
Purhus	7
Sønderhald	6
Rødovre	5
Rougsø	5
Ledøje–smørum	4
Værløse	4
Mariager	4
Rosenholm	4
Høje–Tåstrup	2
Frederikssund	2
Albertslund	1
Glostrup	1
Vallensbæk	1
Stenløse	1
Ølstykke	1
Esbjerg	1
Total	243

Lesion type=(Unspecified injury)	Number
Esbjerg	24
Frederikssund	4
Bramminge	4
Anden, uoplyst	4
Frederiksværk	2
Holsted	2
Herlev	1
Stenløse	1
Ølstykke	1
Helle	1
Ribe	1
Varde	1
Total	46

Lesion type=(Concussion)	Number
Esbjerg	4
Gladsaxe	2
Herlev	1
Rødovre	1
Frederikssund	1
Randers	1
Total	10

Lesion type=(Contusion, bruise)	Number
Herlev	34
Ballerup	25
Esbjerg	24
Høje–Tåstrup	12
Gladsaxe	12
Værløse	10
Glostrup	9
Anden, uoplyst	8
Albertslund	6
Ishøj	6
Brøndby	5
Rødovre	5
Frederikssund	5
Vallensbæk	4
Ledøje–smørum	4
Frederiksværk	4
Randers	3
Jægerspris	1
Slangerup	1
Mariager	1
Nørhald	1
Bramminge	1
Total	181

Lesion type=(Abrasion)	Number
Randers	7
Herlev	6
Albertslund	4
Høje–Tåstrup	4
Gladsaxe	4
Værløse	4
Anden, uoplyst	4
Ballerup	3
Glostrup	2
Rødovre	2
Stenløse	2
Esbjerg	2
Brøndby	1
Ishøj	1
Vallensbæk	1
Purhus	1
Total	48

Lesion type=(Open wound	Number
Esbjerg	52
Ballerup	35
Randers	30
Albertslund	26
Rødovre	26
Høje–Tåstrup	25
Herlev	25
Brøndby	20
Gladsaxe	20
Ishøj	17
Anden, uoplyst	16
Glostrup	14
Frederikssund	13
Vallensbæk	10
Ledøje–smørum	9
Værløse	9
Ølstykke	6
Slangerup	5
Frederiksværk	3
Jægerspris	2
Langå	2
Purhus	2
Farum	1
Skævinge	1
Mariager	1
Nørhald	1
Ribe	1
Varde	1
Total	373

Lesion type=(Fracture)	Number
Høje–Tåstrup	8
Randers	5
Esbjerg	5
Ribe	4
Albertslund	3
Stenløse	3
Anden, uoplyst	3
Brøndby	2
Værløse	2
Ballerup	1
Glostrup	1
Vallensbæk	1
Herlev	1
Ledøje–smørum	1
Frederiksværk	1
Hundested	1
Slangerup	1
Ølstykke	1
Hadsten	1
Rosenholm	1
Bramminge	1
Helle	1
Total	48

Lesion type=(Luxation, dislocation)	Number
Randers	2
Ballerup	1
Gladsaxe	1
Rødovre	1
Total	5

Lesion type=(Distorsion, sprain)	Number
Brøndby	2
Høje–Tåstrup	2
Ishøj	2
Rødovre	2
Frederiksværk	2
Anden, uoplyst	2
Ballerup	1
Albertslund	1
Glostrup	1
Gladsaxe	1
Herlev	1
Stenløse	1
Total	18

Lesion type=(Lesion of tendon/muscle	Number
Randers	2
Ballerup	1
Frederiksværk	1
Total	4

Lesion type=(No injury diagnosed)	Number
Esbjerg	47
Høje–Tåstrup	22
Albertslund	21
Glostrup	18
Rødovre	15
Frederikssund	14
Ishøj	11
Brøndby	9
Vallensbæk	7
Herlev	6
Ballerup	5
Gladsaxe	5
Randers	5
Anden, uoplyst	5
Værløse	3
Ledøje–smørum	2
Frederiksværk	2
Slangerup	2
Ølstykke	2
Varde	2
Jægerspris	1
Helle	1
Total	205

Lesion type=(Other injury)	Number
Randers	43
Herlev	8
Gladsaxe	6
Purhus	3
Ballerup	2
Værløse	2
Hadsten	2
Langå	2
Anden, uoplyst	2
Albertslund	1
Rødovre	1
Mariager	1
Nørhald	1
Rosenholm	1
Rougsø	1
Total	76

Lesion type=(Unspecified injury)	Number
Esbjerg	7
Herlev	1
Total	8

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Lesion type=(Concussion)	Number
Brøndby	1
Randers	1
Total	2

Lesion type=(Contusion, bruise)	Number
Rødovre	4
Glostrup	3
Høje–Tåstrup	3
Randers	3
Brøndby	2
Ishøj	2
Esbjerg	2
Ballerup	1
Gladsaxe	1
Herlev	1
Værløse	1
Slangerup	1
Hadsten	1
Bramminge	1
Anden, uoplyst	1
Total	27

Lesion type=(Abrasion)	Number
Esbjerg	2
Gladsaxe	1
Herlev	1
Hadsten	1
Rougsø	1
Total	6

Lesion type=(Open wound	Number
Esbjerg	6
Høje–Tåstrup	3
Randers	2
Ballerup	1
Brøndby	1
Albertslund	1
Ishøj	1
Rødovre	1
Frederikssund	1
Langå	1
Total	18

Lesion type=(Fracture)	Number
Esbjerg	3
Mariager	2
Randers	2
Herlev	1
Rødovre	1
Frederiksværk	1
Anden, uoplyst	1
Total	11

Lesion type=(Distorsion	Number
Høje–Tåstrup	1
Ledøje–smørum	1
Rødovre	1
Blåbjerg	1
Esbjerg	1
Total	5

Lesion type=(No injury diag	Number
Høje–Tåstrup	1
Total	1

Yearly Trend of Accidents at Daycares from 1998-2003 164

The following charts show the yearly trend of accidents that ocurred at various locations. The information is from the years 1998-2003 and children ages 0-9.

	1998	1999	2000	2001	2002	2003	Total
Ballerup	187	164	176	162	153	146	988
Brøndby	105	119	110	101	117	85	637
Albertslund	130	129	145	115	126	115	760
Glostrup	94	90	85	87	107	96	559
Høje–Tåstr	162	141	152	154	139	170	918
Ishøj	80	85	67	66	85	70	453
Vallensbæ	39	31	54	49	48	40	261
Gladsaxe	145	123	137	153	128	104	790
Herlev	187	146	138	99	101	109	780
Ledøje–sm	46	41	28	31	38	30	214
Rødovre	94	106	110	75	68	86	539
Værløse	53	51	64	52	40	53	313
Farum	4	14	14	18	9	11	70
Frederikss	51	76	87	49	53	57	373
Frederiksv	31	52	42	37	33	31	226
Hundested	13	4	8	1	6	8	40
Jægerspris	18	33	22	15	17	9	114
Skibby	9	11	11	6	5	7	49
Skævinge	0	7	1	3	1	3	15
Slangerup	31	33	30	22	23	17	156
Stenløse	18	25	27	22	14	16	122
Ølstykke	44	52	51	50	25	36	258
Hadsten	12	10	11	21	13	12	79
Langå	9	9	9	14	9	7	57
Mariager	3	9	5	6	8	5	36
Nørhald	15	14	23	30	16	11	109
Purhus	24	17	25	22	20	10	118
Randers	204	211	210	203	171	173	1172
Rosenholm	3	8	4	11	7	4	37
Rougsø	7	8	6	4	4	6	35
Sønderhald	17	2	12	11	10	12	64
Blåbjerg	2	4	3	1	0	1	11
Blåvandsh	3	3	1	4	3	3	17
Bramminge	8	14	13	10	7	14	66
Esbjerg	232	249	243	262	253	197	1436
Fanø	0	2	1	3	1	0	7
Helle	4	2	4	3	4	2	19
Holsted	2	5	2	0	0	1	10
Ribe	10	7	5	7	6	5	40
Varde	7	9	17	21	17	14	85
Anden, uop	85	88	94	88	87	74	516
Total	2188	2204	2247	2088	1972	1850	12549

Yearly Trend of Accidents at Playgrounds in an Institutional Area from 1998-2003

	1998	1999	2000	2001	2002	2003	Total
Ballerup	47	54	63	73	54	84	375
Brøndby	50	72	54	55	47	53	331
Albertslund	78	53	80	69	68	53	401
Glostrup	35	50	37	52	45	26	245
Høje–Tåstrup	88	79	63	70	74	68	442
Ishøj	31	49	36	34	52	45	247
Vallensbæk	23	25	21	25	29	21	144
Gladsaxe	11	36	50	65	53	55	270
Herlev	23	51	51	36	32	48	241
Ledøje–smørum	7	23	16	16	15	22	99
Rødovre	35	56	45	41	47	44	268
Værløse	9	17	14	21	21	25	107
Farum	0	1	4	14	21	13	53
Frederikssund	10	6	6	48	53	44	167
Frederiksværk	4	3	1	22	15	31	76
Hundested	2	1	0	6	7	5	21
Jægerspris	2	1	4	10	15	11	43
Skibby	1	2	1	14	13	7	38
Skævinge	0	0	1	2	1	0	4
Slangerup	4	5	6	31	12	17	75
Stenløse	5	4	8	23	13	15	68
Ølstykke	8	7	2	29	28	31	105
Hadsten	6	14	9	18	12	6	65
Langå	7	6	7	13	9	11	53
Mariager	4	7	4	7	3	8	33
Nørhald	11	10	12	7	18	8	66
Purhus	6	7	16	20	15	8	72
Randers	112	110	122	153	118	106	721
Rosenholm	4	3	4	5	5	3	24
Rougsø	5	5	1	5	8	2	26
Sønderhald	12	7	8	9	8	4	48
Blåbjerg	0	3	3	1	3	2	12
Blåvandshuk	3	3	0	2	1	5	14
Bramminge	6	18	17	11	7	7	66
Esbjerg	151	179	177	165	178	140	990
Fanø	0	1	4	0	0	0	5
Helle	1	3	4	5	5	3	21
Holsted	1	1	6	1	1	2	12
Ribe	13	7	8	6	8	16	58
Varde	9	8	13	12	11	12	65
Anden, uoplyst	28	21	30	63	44	56	242
Total	852	1008	1008	1259	1169	1117	6413

Yearly Trend of Accidents at Playgrounds in a Park Area from 1998-2003

	1998	1999	2000	2001	2002	2003	Total
Ballerup	9	7	15	19	36	17	103
Brøndby	12	3	1	0	2	0	18
Albertslund	14	4	2	0	0	0	20
Glostrup	3	0	2	1	0	0	6
Høje–Tåstrup	3	0	2	0	0	0	5
Ishøj	3	0	0	0	1	0	4
Vallensbæk	3	0	0	0	0	0	3
Gladsaxe	2	16	16	22	22	19	97
Herlev	5	14	14	12	24	16	85
Ledøje–smørum	1	3	3	5	5	4	21
Rødovre	3	4	4	3	5	3	22
Værløse	1	2	5	5	10	5	28
Farum	0	0	0	0	1	0	1
Frederikssund	2	0	0	0	1	1	4
Frederiksværk	0	0	0	0	2	0	2
Jægerspris	0	0	0	0	1	1	2
Skibby	0	0	1	0	0	0	1
Slangerup	0	1	0	0	1	0	2
Stenløse	0	0	1	2	1	0	4
Ølstykke	1	0	0	0	0	0	1
Hadsten	0	0	0	0	1	0	1
Langå	0	1	0	0	0	0	1
Mariager	0	0	0	0	0	2	2
Nørhald	0	1	0	0	0	0	1
Randers	8	3	0	2	1	3	17
Rosenholm	0	0	1	0	0	0	1
Rougsø	0	0	0	0	0	1	1
Blåbjerg	0	1	2	0	0	0	3
Blåvandshuk	2	0	0	0	1	1	4
Bramminge	0	0	0	5	2	2	9
Esbjerg	17	6	8	16	24	13	84
Fanø	0	0	1	0	0	1	2
Holsted	0	0	0	1	0	0	1
Ribe	5	1	0	1	2	1	10
Varde	3	0	2	2	1	3	11
Anden, uoplyst	15	13	15	21	27	35	126
Total	112	80	95	117	171	128	703

Yearly Trend of Accidents at Playgrounds in a Residential Area from 1998-2003

	1998	1999	2000	2001	2002	2003	Total
Ballerup	45	26	36	24	25	21	177
Brøndby	38	44	48	47	48	53	278
Albertslund	42	48	51	47	39	50	277
Glostrup	18	26	16	12	23	17	112
Høje–Tåstrup	34	49	54	49	51	41	278
Ishøj	37	35	36	33	31	33	205
Vallensbæk	8	7	12	11	15	9	62
Gladsaxe	19	10	21	13	6	19	88
Herlev	28	19	21	13	8	9	98
Ledøje–smørum	7	3	3	5	7	4	29
Rødovre	23	26	22	20	16	16	123
Værløse	6	1	5	3	2	1	18
Farum	0	1	4	2	1	4	12
Frederikssund	1	4	2	7	16	9	39
Frederiksværk	0	1	2	6	7	4	20
Hundested	0	0	0	0	3	1	4
Jægerspris	0	1	2	4	2	2	11
Skibby	0	1	3	1	3	2	10
Skævinge	0	0	0	1	0	3	4
Slangerup	0	3	1	4	7	0	15
Stenløse	2	0	3	2	1	7	15
Ølstykke	1	0	3	10	10	5	29
Hadsten	10	2	8	3	1	5	29
Langå	6	3	2	2	0	2	15
Mariager	2	1	1	0	0	0	4
Nørhald	4	0	2	0	2	2	10
Purhus	6	1	4	2	1	1	15
Randers	37	37	35	25	21	29	184
Rosenholm	3	0	1	0	2	0	6
Rougsø	2	4	4	1	3	0	14
Sønderhald	0	3	6	1	2	0	12
Blåbjerg	1	1	3	1	2	5	13
Blåvandshuk	0	2	1	1	2	1	7
Bramminge	5	7	14	5	13	13	57
Esbjerg	62	74	84	65	60	57	402
Fanø	0	1	1	0	0	0	2
Helle	1	1	4	3	3	1	13
Holsted	1	0	3	2	3	2	11
Ribe	0	3	13	4	10	7	37
Varde	3	6	9	8	5	7	38
Anden, uoplyst	27	32	45	38	35	30	207
Total	479	483	585	475	486	472	2980

Yearly Trend of Accidents at Schoolyards from 1998-2003

	1998	1999	2000	2001	2002	2003	Total
Ballerup	25	25	26	30	37	46	189
Brøndby	22	26	26	17	32	19	142
Albertslund	21	27	27	13	20	24	132
Glostrup	9	11	13	15	13	15	76
Høje–Tåstrup	16	32	23	43	58	35	207
Ishøj	10	10	13	13	19	22	87
Vallensbæk	9	5	4	9	9	9	45
Gladsaxe	23	37	22	37	49	47	215
Herlev	30	30	28	33	31	27	179
Ledøje–smørum	5	4	5	9	9	11	43
Rødovre	19	18	22	17	30	25	131
Værløse	16	8	6	8	10	4	52
Farum	1	0	3	4	4	2	14
Frederikssund	6	4	12	14	10	9	55
Frederiksværk	0	1	9	5	8	5	28
Hundested	0	0	1	1	1	1	4
Jægerspris	1	0	5	2	2	2	12
Skibby	0	0	0	2	1	2	5
Skævinge	0	0	0	0	0	1	1
Slangerup	0	1	6	4	3	1	15
Stenløse	3	3	14	4	5	3	32
Ølstykke	0	0	7	7	4	4	22
Hadsten	3	2	6	3	6	5	25
Langå	1	3	3	1	3	0	11
Mariager	0	2	0	3	1	1	7
Nørhald	2	4	4	4	1	5	20
Purhus	3	3	1	3	5	3	18
Randers	32	27	49	45	48	32	233
Rosenholm	3	1	1	2	2	6	15
Rougsø	2	2	1	2	3	0	10
Sønderhald	0	2	2	3	6	8	21
Blåbjerg	4	1	1	2	0	3	11
Blåvandshuk	1	1	0	1	0	1	4
Bramminge	7	12	2	6	7	3	37
Esbjerg	57	63	75	58	72	72	397
Fanø	2	1	0	0	1	2	6
Helle	1	2	0	2	1	2	8
Holsted	0	0	1	0	1	2	4
Ribe	7	10	4	6	1	4	32
Varde	5	5	6	7	7	3	33
Anden, uoplyst	11	14	6	15	23	14	83
Total	357	397	434	450	543	480	2661

Yearly Trend of Accidents Involving Toys from 1998-2003

	1998	1999	2000	2001	2002	2003	Total
Ballerup	35	28	48	44	57	36	248
Brøndby	33	34	37	41	49	28	222
Albertslund	45	37	33	46	41	37	239
Glostrup	18	21	25	28	31	19	142
Høje–Tåstrup	42	44	48	65	50	41	290
Ishøj	22	19	31	21	28	19	140
Vallensbæk	17	16	12	13	16	10	84
Gladsaxe	21	30	24	49	36	28	188
Herlev	41	47	35	25	31	42	221
Ledøje–smørum	12	11	4	15	12	7	61
Rødovre	31	30	30	42	32	29	194
Værløse	10	21	14	22	19	7	93
Farum	1	1	1	4	6	7	20
Frederikssund	9	14	17	26	20	28	114
Frederiksværk	5	11	9	20	14	20	79
Hundested	2	1	2	6	3	2	16
Jægerspris	1	4	3	6	8	8	30
Skibby	1	3	1	4	2	4	15
Skævinge	0	1	0	0	1	2	4
Slangerup	6	4	4	8	8	8	38
Stenløse	7	6	4	8	6	4	35
Ølstykke	5	10	10	21	8	10	64
Hadsten	6	7	11	11	6	3	44
Langå	6	4	6	9	4	3	32
Mariager	3	4	2	6	3	0	18
Nørhald	7	6	4	9	5	5	36
Purhus	5	6	6	12	3	5	37
Randers	69	64	45	83	76	71	408
Rosenholm	1	2	2	3	2	0	10
Rougsø	7	3	3	2	2	3	20
Sønderhald	5	6	3	3	3	5	25
Blåbjerg	2	0	1	1	1	1	6
Blåvandshuk	2	1	1	1	1	0	6
Bramminge	8	10	11	9	7	7	52
Esbjerg	88	113	130	145	101	86	663
Fanø	1	0	1	0	0	0	2
Helle	2	1	2	1	5	4	15
Holsted	0	0	1	1	2	1	5
Ribe	4	3	5	5	6	9	32
Varde	7	6	10	11	4	5	43
Anden, uoplyst	32	27	46	44	52	53	254
Total	619	656	682	870	761	657	4245

Yearly Trend of Accidents Involving Toys in Daycares from 1998-2003

	1998	1999	2000	2001	2002	2003	Total
Ballerup	17	9	16	13	12	7	74
Brøndby	7	4	9	8	9	2	39
Albertslund	11	9	10	13	12	7	62
Glostrup	9	5	8	7	7	9	45
Høje–Tåstr	14	9	13	14	12	11	73
Ishøj	9	7	5	4	8	4	37
Vallensbæ	5	3	4	4	6	1	23
Gladsaxe	9	12	4	13	6	7	51
Herlev	24	19	12	7	8	13	83
Ledøje–sm	5	6	0	1	4	0	16
Rødovre	12	7	11	9	7	7	53
Værløse	4	9	5	5	5	2	30
Farum	0	0	0	0	0	1	1
Frederikss	4	5	7	6	3	8	33
Frederiksv	1	1	4	0	2	5	13
Hundested	0	0	1	0	0	0	1
Jægerspris	0	1	1	0	1	1	4
Skævinge	0	1	0	0	0	0	1
Slangerup	3	1	2	1	0	2	9
Stenløse	2	2	2	0	0	0	6
Ølstykke	2	3	2	1	0	1	9
Hadsten	1	0	1	0	1	0	3
Langå	1	0	2	1	0	0	4
Mariager	1	0	0	1	1	0	3
Nørhald	0	1	0	1	1	0	3
Purhus	1	0	1	4	0	0	6
Randers	14	18	16	13	19	18	98
Rosenholm	0	1	0	1	0	0	2
Rougsø	0	1	0	0	0	0	1
Bramminge	0	0	0	1	1	0	2
Esbjerg	24	25	23	27	24	18	141
Helle	1	0	0	0	0	1	2
Ribe	2	1	0	1	0	1	5
Varde	0	1	1	1	0	0	3
Anden, uop	6	7	7	3	7	10	40
Total	189	168	167	160	156	136	976

Yearly Trend of Accidents Involving Toys in Schoolyards from 1998-2003

	1998	1999	2000	2001	2002	2003	Total
Ballerup	0	0	1	1	0	0	2
Brøndby	1	0	1	0	1	1	4
Albertslund	0	1	0	0	0	0	1
Glostrup	0	0	1	2	0	0	3
Høje–Tåstrup	0	1	3	1	2	1	8
Ishøj	0	0	2	1	0	0	3
Gladsaxe	0	2	0	0	0	0	2
Herlev	0	0	0	2	1	0	3
Ledøje–smørum	0	0	0	1	0	0	1
Rødovre	0	1	2	2	1	1	7
Værløse	0	0	0	0	1	0	1
Frederikssund	0	0	0	0	0	1	1
Frederiksværk	0	0	1	0	0	0	1
Slangerup	0	0	0	1	0	0	1
Hadsten	0	0	1	1	0	0	2
Langå	0	0	1	0	0	0	1
Mariager	0	0	0	2	0	0	2
Randers	2	0	2	3	0	1	8
Rougsø	1	0	0	0	0	0	1
Blåbjerg	0	0	0	0	0	1	1
Bramminge	1	0	0	0	0	0	1
Esbjerg	0	0	6	4	1	3	14
Anden, uoplyst	0	0	0	0	1	1	2
Total	5	5	21	21	8	10	70

Mechanism of Injury

This chart shows mechanisms of injury between the years 1998-2003 and children ages 0-9.

	Fall	Contact with object, person, animal	Pinching, cutting, tearing,	Foreign body in	Acute overexertion
Daycare	6263	3046	1704	557	406
Playground in institutional area	3714	1746	445	269	110
Playground in park area, etc.	444	148	45	9	48
Playground in residential area	1993	557	217	55	100
School yard	1590	748	105	48	130
Toys	1440	1318	290	1128	43
Toys in Daycares	216	378	45	329	5
Toys in School yard	24	33	8	1	3

Comarison of Number of Accidents in Daycares Between Boys and Girls Ages 0-9

The following charts show the number of accidents for both boys and girls ages 0-9 in order from the municipality with the most accidents to the municipality with the least number of accidents from 1998-2003.

	Men	Women	Total
Esbjerg	866	570	1436
Randers	750	422	1172
Ballerup	632	356	988
Høje–Tåstr	553	365	918
Gladsaxe	466	324	790
Herlev	503	277	780
Albertslunc	471	289	760
Brøndby	406	231	637
Glostrup	335	224	559
Rødovre	329	210	539
Anden, uop	323	193	516
Ishøj	270	183	453
Frederikss	236	137	373
Værløse	190	123	313
Vallensbæ	150	111	261
Ølstykke	166	92	258
Frederiksv	145	81	226
Ledøje–sm	125	89	214
Slangerup	86	70	156
Stenløse	65	57	122
Purhus	67	51	118
Jægerspris	63	51	114
Nørhald	67	42	109
Varde	54	31	85
Hadsten	51	28	79
Farum	41	29	70
Bramminge	44	22	66
Sønderhald	36	28	64
Langå	30	27	57
Skibby	30	19	49
Hundested	23	17	40
Ribe	16	24	40
Rosenholm	20	17	37
Mariager	16	20	36
Rougsø	17	18	35
Helle	9	10	19
Blåvandsh	12	5	17
Skævinge	9	6	15
Blåbjerg	7	4	11
Holsted	8	2	10
Fanø	2	5	7
Total	7689	4860	12549

Comarison of Number of Accidents at Playgrounds in an Institutional Area Between Boys and Girls Ages 0-9

	Boys	Girls	Total
Esbjerg	652	338	990
Randers	491	230	721
Høje–Tåstrup	302	140	442
Albertslund	240	161	401
Ballerup	232	143	375
Brøndby	210	121	331
Gladsaxe	167	103	270
Rødovre	173	95	268
Ishøj	153	94	247
Glostrup	160	85	245
Anden, uoplyst	150	92	242
Herlev	153	88	241
Frederikssund	109	58	167
Vallensbæk	92	52	144
Værløse	70	37	107
Ølstykke	59	46	105
Ledøje–smørum	64	35	99
Frederiksværk	38	38	76
Slangerup	50	25	75
Purhus	48	24	72
Stenløse	38	30	68
Nørhald	48	18	66
Bramminge	41	25	66
Hadsten	35	30	65
Varde	35	30	65
Ribe	39	19	58
Farum	32	21	53
Langå	34	19	53
Sønderhald	32	16	48
Jægerspris	30	13	43
Skibby	19	19	38
Mariager	20	13	33
Rougsø	13	13	26
Rosenholm	16	8	24
Hundested	14	7	21
Helle	14	7	21
Blåvandshuk	6	8	14
Blåbjerg	10	2	12
Holsted	6	6	12
Fanø	2	3	5
Skævinge	1	3	4
Total	4098	2315	6413

Comarison of Number of Accidents Between Boys and Girls at Playgrounds in a Park Area

	Boys	Girls	Total
Anden, uoplyst	68	58	126
Ballerup	61	42	103
Gladsaxe	50	47	97
Herlev	44	41	85
Esbjerg	45	39	84
Værløse	15	13	28
Rødovre	10	12	22
Ledøje–smørum	9	12	21
Albertslund	12	8	20
Brøndby	9	9	18
Randers	12	5	17
Varde	4	7	11
Ribe	4	6	10
Bramminge	5	4	9
Glostrup	4	2	6
Høje–Tåstrup	2	3	5
Ishøj	4	0	4
Frederikssund	2	2	4
Stenløse	2	2	4
Blåvandshuk	4	0	4
Vallensbæk	1	2	3
Blåbjerg	2	1	3
Frederiksværk	1	1	2
Jægerspris	1	1	2
Slangerup	2	0	2
Mariager	0	2	2
Fanø	1	1	2
Farum	0	1	1
Skibby	1	0	1
Ølstykke	0	1	1
Hadsten	1	0	1
Langå	0	1	1
Nørhald	0	1	1
Rosenholm	0	1	1
Rougsø	1	0	1
Holsted	0	1	1
Total	377	326	703

Comarison of Number of Accidents Between Boys and Girls at Playgrounds in a Residential Area

	Boys	Girls	Total
Esbjerg	246	156	402
Brøndby	154	124	278
Høje–Tåstrup	153	125	278
Albertslund	148	129	277
Anden, uoplyst	108	99	207
Ishøj	109	96	205
Randers	106	78	184
Ballerup	99	78	177
Rødovre	71	52	123
Glostrup	67	45	112
Herlev	51	47	98
Gladsaxe	44	44	88
Vallensbæk	36	26	62
Bramminge	32	25	57
Frederikssund	23	16	39
Varde	23	15	38
Ribe	17	20	37
Ledøje–smørum	17	12	29
Ølstykke	14	15	29
Hadsten	15	14	29
Frederiksværk	7	13	20
Værløse	12	6	18
Slangerup	8	7	15
Stenløse	9	6	15
Langå	5	10	15
Purhus	8	7	15
Rougsø	6	8	14
Blåbjerg	7	6	13
Helle	9	4	13
Farum	5	7	12
Sønderhald	7	5	12
Jægerspris	10	1	11
Holsted	6	5	11
Skibby	4	6	10
Nørhald	5	5	10
Blåvandshuk	2	5	7
Rosenholm	5	1	6
Hundested	3	1	4
Skævinge	3	1	4
Mariager	3	1	4
Fanø	2	0	2
Total	1659	1321	2980

Comarison of Number of Accidents Between Boys and Girls at Playgrounds in a Schoolyard

	Boys	Girls	Total
Esbjerg	261	136	397
Randers	152	81	233
Gladsaxe	118	97	215
Høje–Tåstrup	135	72	207
Ballerup	113	76	189
Herlev	99	80	179
Brøndby	84	58	142
Albertslund	82	50	132
Rødovre	79	52	131
Ishøj	55	32	87
Anden, uoplyst	48	35	83
Glostrup	43	33	76
Frederikssund	28	27	55
Værløse	26	26	52
Vallensbæk	27	18	45
Ledøje–smørum	26	17	43
Bramminge	21	16	37
Varde	17	16	33
Stenløse	18	14	32
Ribe	17	15	32
Frederiksværk	17	11	28
Hadsten	15	10	25
Ølstykke	15	7	22
Sønderhald	14	7	21
Nørhald	9	11	20
Purhus	8	10	18
Slangerup	9	6	15
Rosenholm	5	10	15
Farum	5	9	14
Jægerspris	3	9	12
Langå	6	5	11
Blåbjerg	7	4	11
Rougsø	4	6	10
Helle	6	2	8
Mariager	3	4	7
Fanø	4	2	6
Skibby	5	0	5
Hundested	4	0	4
Blåvandshuk	2	2	4
Holsted	2	2	4
Skævinge	0	1	1
Total	1592	1069	2661

Comarison of Number of Accidents Involving Toys Between Boys and Girls ages 0-9

	Boys	Girls	Total
Esbjerg	378	285	663
Randers	244	164	408
Høje–Tåstrup	187	103	290
Anden, uoplyst	144	110	254
Ballerup	150	98	248
Albertslund	142	97	239
Brøndby	130	92	222
Herlev	151	70	221
Rødovre	122	72	194
Gladsaxe	105	83	188
Glostrup	72	70	142
Ishøj	88	52	140
Frederikssund	69	45	114
Værløse	52	41	93
Vallensbæk	50	34	84
Frederiksværk	46	33	79
Ølstykke	33	31	64
Ledøje–smørum	31	30	61
Bramminge	33	19	52
Hadsten	26	18	44
Varde	24	19	43
Slangerup	24	14	38
Purhus	22	15	37
Nørhald	21	15	36
Stenløse	21	14	35
Langå	15	17	32
Ribe	19	13	32
Jægerspris	17	13	30
Sønderhald	15	10	25
Farum	13	7	20
Rougsø	6	14	20
Mariager	7	11	18
Hundested	9	7	16
Skibby	10	5	15
Helle	9	6	15
Rosenholm	7	3	10
Blåbjerg	3	3	6
Blåvandshuk	5	1	6
Holsted	2	3	5
Skævinge	4	0	4
Fanø	0	2	2
Total	2506	1739	4245

Comarison of Number of Accidents Involving Toys in Daycares Between Boys and Girls ages 0-9

	Boys	Girls	Total
Esbjerg	82	59	141
Randers	54	44	98
Herlev	53	30	83
Ballerup	48	26	74
Høje–Tåstrup	48	25	73
Albertslund	39	23	62
Rødovre	38	15	53
Gladsaxe	33	18	51
Glostrup	24	21	45
Anden, uoplyst	27	13	40
Brøndby	24	15	39
Ishøj	23	14	37
Frederikssund	27	6	33
Værløse	18	12	30
Vallensbæk	14	9	23
Ledøje–smørum	8	8	16
Frederiksværk	7	6	13
Slangerup	7	2	9
Ølstykke	6	3	9
Stenløse	4	2	6
Purhus	3	3	6
Ribe	3	2	5
Jægerspris	3	1	4
Langå	2	2	4
Hadsten	0	3	3
Mariager	1	2	3
Nørhald	2	1	3
Varde	1	2	3
Rosenholm	2	0	2
Bramminge	1	1	2
Helle	1	1	2
Farum	1	0	1
Hundested	0	1	1
Skævinge	1	0	1
Rougsø	0	1	1
Total	605	371	976