

Principles of Designing Outdoor Playgrounds for Orphans Living in Nurseries

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Abstract

Introduction: creating a safe environment to enhance cognitive and emotional development of orphan and improve their skills and capabilities in keeping with the rest of society -which results in increased levels of self-confidence- was the main objective of the present study.

Methodology: in the present cross-sectional descriptive study, the required data to analyze the optimal environmental and equipment conditions in nurseries were collected through field studies, library research and observations in the case of Ali Asghar (PBUH) Nursery.

Results: the results showed that more than 70% of outdoor playground equipment in the examined nursery had risks to the children. The observed risky items included not considering enough space between pieces of play equipment, inappropriate flooring, obstacles between pieces of play equipment, use of inappropriate and dangerous materials, inappropriate design of play equipment for children (e.g. having complex forms in 75% of the cases) and use of multiple colors.

Conclusions: according to the results of this study, it is important to consider both objective and subjective dimensions of safety when designing playgrounds for Orphans. In this regard, in addition to the consideration of children's cultural characteristics, the ISIR (initial sample inspection report) -based on the DIN (Deutsches Institut für Normung) standards- can be used. Furthermore, issues related to children's subjectivity, including subjective safety, must be considered when designing playgrounds for Orphans. This study ended up in providing strategies for appropriate designing of outdoor playgrounds for the target group.

Key words: Playing Equipment, Outdoor, Orphans, Self-Confidence

INTRODUCTION

Human needs movement and action, and play an important part of this need. every person needs thought and thinking for physical and psychological growth, and the play is basis of thought and think[1]. With playing, children have a chance to realize their beliefs, emotions and problems and learn life skills. The American Academy of Pediatrics states that childhood play is "essential for helping children reach important social, emotional, and cognitive developmental milestone as well as helping

them manage stress and become resilient. Marianne B. Staempfli states that not only is play important for brain development, but play also helps children develop "flexible and divergent thinking" which then provide children with the ability to solve real world problems. Bidy Youell states that play is a form of cognitive development and play can be considered a form of experimentation with real-life situations. Youell concludes that "play and playfulness in a child's early relationships is of crucial importance in the development of... a secure sense of self or self esteem[2]. Play is fuelled by curiosity and is driven by it. play begins simple and grows more complex as the child grows[3]. play shouldn't always be seen as a silly, extracurricular, optional activity, but rather an essential tool in a child's development. Research shows that outdoor free play gives kids many valuable, including the development of physical, emotional, social and cognitive Skills. Playing in outdoor play areas plays an important role in children's emotional development. By considering

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the importance of play and playground; In this research has pointed to three areas, the area of play; building self confidence and esteem; experimenting with various emotions. The target group consisted of Orphans living in nurseries. Studies have shown that free play affects a child's confidence, intelligence and ability to articulate. Play helps children develop language and reasoning skills, encourages autonomous thinking and problem solving as well as helps improve their ability to focus and control their behavior[4]. play is an excellent vehicle for helping children with their emotional development. children can master emotional issues such as anxiety, frustration, normal developmental conflicts, traumatic situations, unfamiliar concepts, and overwhelming experiences in their play. That is, play helps children find new ways of dealing with their emotions and their reality. another major emotional benefit of play is that it gives children numerous opportunities to feel good about themselves[5]. The benefits of outdoor play, Obvious examples are improved cardiovascular and gross motor benefits. Less obvious is the role of outdoor play in children's cognitive, emotional, and social development. Physical activity promotes increased blood flow to the brain, leading to cognitive development. In addition to this, children are able to engage in risk taking behaviors outdoors that would be impossible indoors, challenging themselves in ways which lead to improved self-esteem and self-confidence[6]. Bartlett suggests that found spaces outdoors can act as opportunities for this therapy play[7]. Such reasons demand that outdoor play remain an integral part of children's schooling in order to promote physically and psychologically healthy children, who then have a much better chance to become healthy adults[8]. Free play has proven to be therapeutic for children who are emotionally distressed from traumatic situations like child abuse, family disruptions and/or the experience of natural disaster or war[9]. Many child sociologists and psychologists believe that play can serve as a type of therapy, allowing children who suffer from high-stress situations to recover. Outdoor play offers children a richer and more diverse play environment than indoor[10].

LITERATURE REVIEW

Developing theory shows that child and teenage psychopathologies actually associated with exposure to environmental stressors which is actually reinforced by proof through community_based studies in the developed world. Psychosocial development means prepare of children for their admittance in to modern society. Orphaned and vulnerable children are one of the most developmental challenges affecting developing countries worldwide. The effects of parental death often compound children's various

social and psychological problems. The evolution of emotional thinking is probably slower in orphans[11]. The orphan proves to be a figure of concern across cultures, throughout history, and in the contemporary world. The orphan is defined by the deprivation of parents, and is commonly understood to be a child who has lost both parents to death. However, historians and organizations such as UNICEF include the child who has lost one parent, often termed a "half" or "single" orphan, in the definition of "orphan" [12]. According to UNICEF, Sub-Saharan Africa has the largest orphan burden with over 70 million children who have lost one or both parents (State of the World's Children, 2011). In addition, Asia-Pacific is home to greatest number of orphaned children, 75 million (State of the World's Children, 2011). Multiple studies revealed that orphans suffer higher levels of psychosocial distress than their non-orphans peers. In particular, maternal and double orphans are more likely to experience behavioral and emotional difficulties, suffer abuse, and report lower rates of trusting relationships with caregivers. Although the HIV/AIDS is epidemic is the most prevalent cause of orphan-hood, most children are orphaned by other causes such as natural disasters, conflict, and other health conditions. Therefore, the loss of a parent can have a grave impact on the psychosocial well-being of a child. Many OVC¹ internalize problems, resulting in symptoms of depression, anger, hopelessness, loneliness, low self-esteem, and suicide ideation[13]. Parental death affects the life of children in many ways, one of which is self-esteem problems. Providing psychosocial support and equipping orphan Psychosocial support can provide the opportunity for the children to develop skills in order to adjust their life. play a vital role in their lives. Baumeister and et al stated that a healthy self-esteem is strongly associated with happiness and confidence. Rosenberg and Owens reported that a healthy self-esteem is an important variable in protecting these children against secondary problems, such as depression, lack of motivation, dropping out of school, and engaging in risky behaviors. According to the report by the World Health Organisation, psychosocial support plays a vital role in mental health promotion, can assist greatly in developing personality by enhancing life skills – such as cognitive functioning, help to develop positive self-esteem, provide social and personal problem-solving skills, and provide the ability to manage major changes and stresses in life[14]. In line with their abilities, early childhood plays help children better understand their lives' tragic events and try to search for alternative positive feelings and give up negative emotions. Children who regularly play outdoors, develop stronger immune systems, play more creatively, have more active imaginations, report lower stress levels, and demonstrate greater respect for themselves and

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others[16]. Play equipment is supposed to help children extract new ideas. Developing creativity in children helps them grow and promote joy and happiness in their lives[17].

The Importance of Playgrounds and Play Equipment

Playgrounds are places where children's play can take off and flourish. Outdoor environments fulfill children's basic needs for freedom, adventure, experimentation, risk-taking, and just being children[18]. Recent design and planning research has shown that the environment used for play is important[19]. When young children have access to play spaces designed with intentionality they can increase their physical activity[20]. Playgrounds provide crucial and vital opportunities for children to play. There is substantial research showing the clear link between play and brain development, motor-skills, and social capabilities[21].

Objective and Subjective Safety

There are two dimension to safety-objective and subjective. Objective safety can be assessed by behavioural and environmental objective parameters, whereas subjective safety refers to feeling of safety of the population[22]. Safety and perception of safety, are undoubtedly two important factors in outdoor play. The perception of safety is as important as physical safety of environments and equipment. There is an urgent need to address the problem of injuries to children and adolescents across the world. 28500 children in Canada receive hospital treatment each year for playground related injuries[23]. The majority of playground injuries (about 79 percent) are caused by falls[24]; therefore, it is necessary to consider safety and security issues when designing play equipment.

METHODOLOGY

Creating an optimal safe outdoor environment for Orphan children to improve their skills and capabilities in keeping with the rest of society was the main objective of the present study. According to a report provided by the office of children's affairs of Iran Welfare Organization, 25,000 Orphans are supported by the State Welfare Organization [25]. In the present study, the population consisted of all abandoned pre-school children living in Ali Asghar (PBUH) Nursery; the target group included children between the ages of 3 and 5 years. In the present cross-sectional descriptive study, the outdoor play area of Ali Asghar (PBUH) Nursery was considered as the case study. The optimal environmental and equipment conditions were examined through observations. There were about 80 children (30 females and 50 males) in Ali Asghar (PBUH) Nursery whose average age was less than 5 years. In the examined nursery, there were pieces of play equipment gradually added to the collection.

Those pieces were not adequately safe and ergonomic for the children.

RESULTS

The results showed that more than 70% of outdoor playground equipment in the examined nursery had risks to the children. For example, regarding the objective dimension of safety, there were unnecessary objects (e.g. a wheelbarrow or poles) in the middle of the play area, while no obstacle should have been placed there based on the standards; pieces of the examined outdoor playground were not designed appropriately for the age range of children who used them (i.e. <5 years); the slid height was more than 2 meters, while it should have been under 2 meters for children under 5 years of age; there was no protective horizontal bar at the top of the slide; the distance between the two swings (i.e. the minimum distance between two neighboring swings' seats) (s) was less than what was required based on the formula ' $s > 20\%H + 300$ ' [26]; the swings were located beside the slide, while they should not

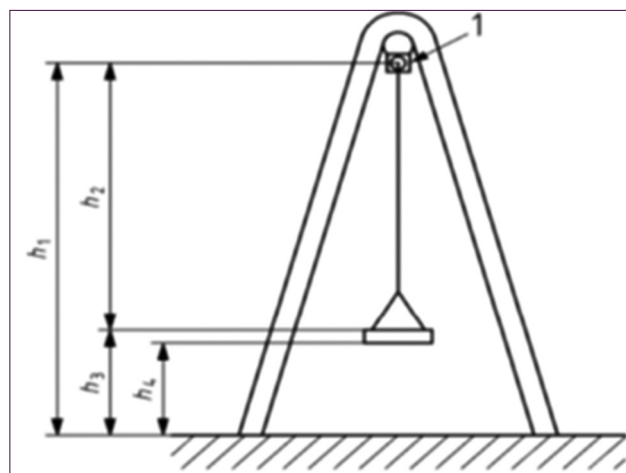


Figure 1. Height dimensions

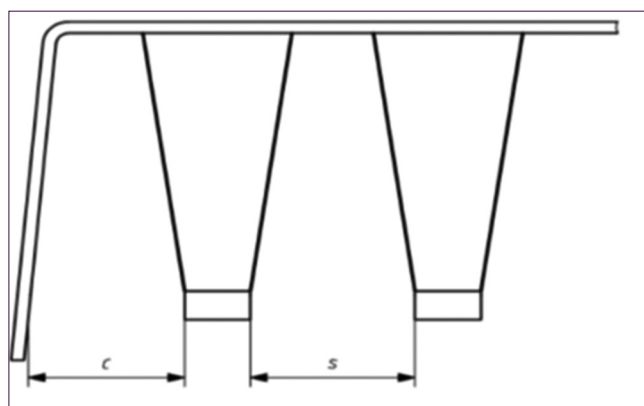


Figure 2. The minimum space between two neighboring swings' seat

have been placed there based on the standards, because the possibility of children injuries increases due to crowding; pieces of metal play equipment were not covered; the flooring material was old and damaged with low elasticity; there was no flooring under some pieces; and pieces of play equipment were made of PVC which is no longer used for children. Regarding aesthetic issues, play equipment pieces in the examined nursery were complicated in form in more than 75% of the cases; the play set was not visually harmonious, making it difficult to supervise the children when playing; and numerous and conflicting colors were used in the play set.

CONCLUSIONS

According to the results of this study, it is important to consider both objective and subjective dimensions of safety when designing playgrounds for Orphan children. In this regard, in addition to the consideration of children's cultural characteristics, the ISIR¹ -based on the DIN (Deutsches Institut für Normung) standards- can be used. Furthermore, issues related to children's subjectivity, including subjective safety, must be considered when designing playgrounds for Orphans. This study ended up in providing strategies for appropriate designing of outdoor playgrounds for the target group. According to cognitive sciences, emotions are important components of everyday life and they have a great impact on human thoughts and behaviors. Emotions make children smarter and they can easily communicate with products and methods creating positive emotions in them. Attractive products can also be used better and their attraction creates positive emotions for people who use them. Therefore, people become more creative and more tolerant of small problems by using such products. When consumers do not receive appropriate feedbacks, their negative feelings confuse them and their confusion leads to anger. Children's products are usually shiny, delightful and different, because they are produced based on instinctive designing. In fact, attractiveness and good graphic effects are very important in instinctive designing. play equipment pieces have smooth and polished lines that make them lovable for children. Being involved in attractive entertainments, children can enjoy playing. Positive emotions have many benefits; for example, they can relieve anxiety and mental tensions. Positive emotions increase intellectual capacity of individuals and encourage them to experience new things in their lives [27]. Simple forms create a sense of security and relaxation. Simple circular or curved forms are more effective in controlling children's activities. Colors are very important for children and, thus, must be considered seriously when designing playground equipment. Color is the first attribute that attracts the attention of a child. Up to the age of 4, children

recognize and compare things based on their colors [28]. In terms of emotional development, which is of internal benefit of playing playground equipment like climbers and overhead hanging apparatuses would cause physical challenges and make kids take the risk and overcome the challenges which leads to higher self-esteem. The Tunnels in this model are designed in a way that make kids experience different feeling and outcomes, which is therapeutic for children who are emotionally distressed from traumatic situations like child abuse, family disruptions and/or the experience of natural disaster or war. To increase development cognitive, playground equipment like climbers, Intellectual panels, rotating chair, Repetitive motions from the climbing staircase up and down are designed which contribute to a variety of skills and independent thinking processes and the ability to solve the problem and make decisions and perceptual ability and creativity of children. creating creativity would cause new ideas and promote joy and happiness.

Recommendations

With regard to the above mentioned factors, six essential principles are recommended for designing outdoor playground equipment for Orphans:

- ü Outdoor play equipment must be durable, simple, light, efficient, high-quality and performance-oriented;
- ü Pieces of outdoor play equipment must be designed in a way that children easily find how to use them;
- ü Pieces of outdoor play equipment must be designed with no visual or structural complexity;
- ü Ratios of the designed equipment components must be structurally harmonious;
- ü By using glossy materials and attractive forms, pieces of outdoor play equipment must be designed in such a way so as to attract children;
- ü It is important to use colors more wisely and avoid conflicting or intense colors when designing outdoor playground equipment for children.

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