

The Development of Art Design for Waiting Area of Pediatric: Analysis from the Perspective of Quality Waiting and Art Installation

Xia Yingqiao¹, Saiful Hasley Bin Ramli², Zurina binti Zainudin³
Faculty of Design and Architecture, Universiti Putra Malaysia, Serdang, Malaysia^{1,2}, Faculty
of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Malaysia³
Corresponding Author: Saiful Hasley Bin Ramli

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Abstract

This study extensively examines the importance of integrating art design into pediatric waiting areas with a specific focus on quality waiting and art installation. The initial phase involves a thorough investigation into the existing challenges prevalent within these waiting areas. Subsequent to this, a detailed analysis takes place, centering on the various factors that impact the configuration of these spaces. Essential among these factors are safety, amusement, and functionality, each contributing significantly to waiting satisfaction, overall experiential quality, the perceived waiting duration, and subsequent behavioral responses of the occupants. Furthermore, the study takes into account children's artistic preferences, a key component that informs the design analysis. The assessment thoughtfully incorporates these preferences, recognizing their pivotal role in shaping an environment that promotes a positive waiting experience for young patients. This research makes a substantial contribution by introducing and exploring the practical implementation of art installations within pediatric waiting areas. This innovative approach presents an alternative path to expanding the realm of art design in the pediatric care context. Through a meticulous examination of art installation application, this study adds another layer of complexity to the evolution of art design principles within pediatric waiting areas. This effort enhances the understanding of how art, when integrated thoughtfully, can redefine the waiting experience for both children and their caregivers.

Keywords: Pediatric, Waiting area, Quality Waiting, Art Design

Introduction

Over a significant period, hospital waiting rooms have maintained their status as crucial healthcare environments for individuals seeking medical care, especially, within densely populated countries, the increasing patient influx has precipitated a shifting of expectations regarding the waiting encounter within medical facilities (Chaikew et al., 2011; Santos et al.,

2015). Within numerous healthcare institutions, pediatric departments frequently contend with substantial levels of congestion (Guilhem et al., 2021). Owing to an initial lack of comprehensive planning and design, these areas have been characterized by rudimentary spatial utilization concepts, as a result, the waiting spaces lack distinct attributes, manifesting a singular purpose and restricted visual impact (Prugsiganont & Jensen, 2019). This gradual trend leads to an array of usage-related complexities, which not only compromise the aesthetic allure of the medical surroundings but also introduce concerns pertaining to hygiene and safety (Milia et al., 2014).

Prolonged waiting duration, particularly for patients such as children, give rise to disillusioning experiences, prior research concerning hospital waiting areas has predominantly centered on the perceptions of adult patients (Gregory et al., 2009). Despite the bustling nature of numerous pediatric departments at present, there has been a surge in the demand for enhanced waiting experiences for children (Chan, 2009). A pivotal contributing factor to this demand is the inability of waiting individuals to access satisfactory waiting encounters.

Significance of the Art Design for Waiting Area

The significance of this study lies in uncovering the intrinsic importance of art design in the pediatric waiting area, aimed at enhancing the quality of waiting experiences for both children and their companions, thereby improving the overall waiting experience for medical treatment. This initiative contributes to facilitating seamless medical treatment access for children while concurrently fostering their well-being. For hospital administrators, a recommendation is proposed to incorporate art installations within a play area situated in the pediatric waiting room (Robinson et al., 2018). This strategy serves as guidance for hospital administrators in designing a more engaging and enriching environment for children (Khodeir et al., 2019). Regarding parents and children, the renovation of the children's waiting area coupled with the inclusion of art installation designs serves to divert children's attention and mitigate the emergence of negative emotions experienced during extended waiting periods (Salmi & Hanson, 2021). Additionally, this renovation eases the burden on accompanying parents and enhances communication between healthcare professionals and parents, ultimately fostering a more conducive medical environment (Salas et al., 2013).

Current Research of Pediatric Waiting Areas

Outpatient waiting areas serve as the inaugural point of interaction for patients within a hospital setting, thus assuming a pivotal role in the overall design of healthcare facilities (McDonald et al., 2020). In particular, pediatric waiting areas in some medical institutions are often marked by heightened levels of commotion and congestion, potentially culminating in a vexing waiting encounter for young patients (Jacobson, 2004). Owing to children's relatively underdeveloped emotional regulation capabilities, pediatric waiting areas tend to exhibit elevated noise levels, thereby adversely impacting the overall comfort quotient of these spaces (Von et al., 2012 ; Ying et al., 2019).

Historically, explorations into hospital waiting areas have predominantly emanated from Western cultural contexts. However, given the concentrated populace in Asia, which accounts for nearly half of the global population, there exists a pronounced necessity for research endeavors that specifically probe into the ramifications of the physical environment on the waiting experience (Ramalingaswami, 2010 ; Valisena & Fusetti, 2016). This pertinence is particularly emphasized within densely populated regions such as the Eastern hemisphere. Children navigating through pediatric waiting areas grapple with a diverse array of

psychological pressures, encompassing fear and anxiety, both of which have the potential to impede the enhancement of the medical visit experience (Mckague et al., 2021). Substantial evidence attests to the significant influence exerted by the physical attributes of the waiting area upon patients' broader encounters within healthcare facilities (Jing et al., 2015). For instance, a study has effectively underscored that exposure to ambient noise can exacerbate psychological symptoms, including feelings of depression and heightened anxiety levels (Golmohammadi et al., 2021).

Art Design Factors for Pediatric Waiting Area

a) Safety

In the process of design, paramount attention should be devoted to safety considerations, with the objective of establishing a relatively enclosed and insulated activity space that is less susceptible to external influences (Stanton et al., 2016). For instance, The minimization of sharp corners and rigid surfaces within this area is essential to mitigate the occurrence of collisions (Daemei, 2019).

b) Amusement

Vivid and dynamic hues possess the capability to transmit optimistic and constructive psychological sensations, which in turn exert a positive influence on the psychological recuperation of pediatric patients or the companions (Robinson et al., 2018). Many pediatric healthcare institutions incorporate murals featuring cartoon themes, adhesive decals on walls floors and ceilings, alongside elements or installations designed to amuse, thereby cultivating a visually rich, dynamic, and captivating medical setting (Allani et al., 2016 ; Mark et al., 2014). These design components effectively divert the attention of young patients, alleviating sensations of restlessness and irritability.

c) Functionality

In the context of designing areas for children's activities, the paramount significance of infection control cannot be overstated. Architectural elements and materials should be conducive to facile cleaning, disinfection, and routine maintenance, thereby precluding the occurrence of cross-contamination (Nikki et al., 2014). Furthermore, the design of spaces intended for the waiting of family members should be accorded careful consideration and should not be disregarded (Biddiss et al., 2019).

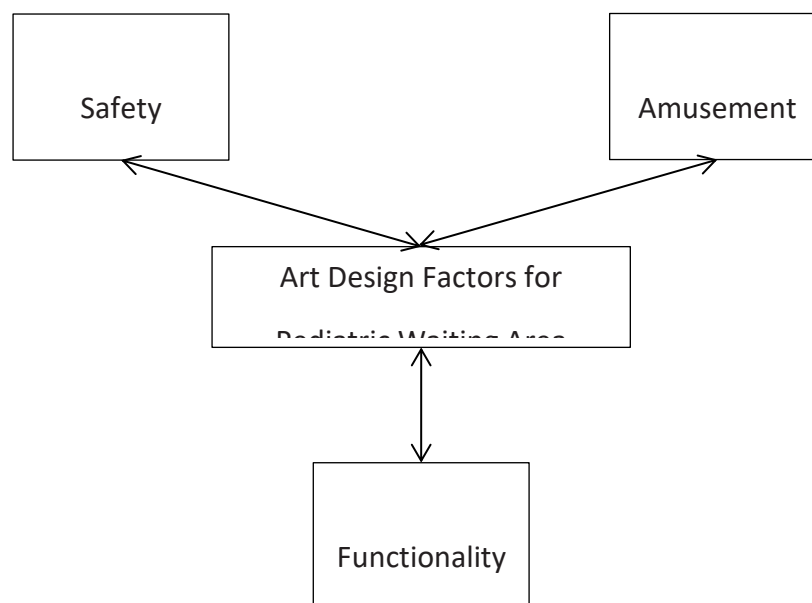


Figure 1. The Structure of Art Design Factors for Pediatric Waiting Area

Art Design Factors based on children's needs

a) Thoughtful Functional Zoning with Emphasis on Traffic Flow

During the initial phases of design, it is imperative to prioritize safety considerations, aiming to create a circular space that minimizes interior corners and bolsters security. Subsequently, the area can be effectively compartmentalized into dynamic and serene zones (Gordon, 2018). The central dynamic zone should be tailored to accommodate play facilities for children, while the serene zone situated in the southwestern corner can feature tables, chairs, children's bookshelves, and an automated water dispenser (Gordon, 2018). This thoughtful design not only enriches the area's functionality but also embodies a human-centered approach (Nikki et al., 2014). The reasonable layout prevents interference between the activity area and external surroundings, facilitates swift evacuations during emergencies, and ensures a seamless flow of pedestrians for patients and the families entering and exiting the activity area (Hahn & Krarup, 2001).

b) Augmented Spatial Enclosure for Enhanced Child Safety

Pre-design research underscored the inadequacy of the existing low plastic fencing, as identified by outpatient management staff due to its instability. In response, the previously insufficient plastic fencing has been replaced with a high enclosure (Mohrman & Mohrman; 2019; Alvarez, 2013). This enhancement serves as a formidable barrier against unauthorized access by parents wearing shoes and curbs the possibility of young patients running out freely. Additionally, foam cushions, matching the height of the fence, have been affixed on the inner side to mitigate the risk of children getting injured, thereby elevating safety (Mohrman & Mohrman; 2019; Alvarez, 2013).

c) Elevated Convenience for Accompanying Parents and Enhanced Human-Centric Services

Considering the common practice of parents accompanying their children, the constraints of the waiting area's previous design necessitated a reconsideration of space utilization (Merkelwalsh, 2017; Simpson, 2004). For instance, the fence could be ingeniously transformed into an ergonomic counter, each stools boasting a wide surface suitable for support and

belongings, This strategic addition not only expands waiting facilities for parents but also empowers them to closely monitor the children (Mayer et al., 2017; Mitanchez, 2010).

d) Introduction of Practical Amenities for Upholding Hygiene

With infection control in mind, the substitution of the previous, difficult-to-clean outdoor mats with indoor foam mats has been executed (Yang et al., 2011). In addition, shoe cabinets have been thoughtfully incorporated on both sides of the fence entrance, gently reminding individuals to remove the shoes before entering, this measure promotes proper hygiene and prevents environmental contamination. This modification not only aids in enforcing regulations but also streamlines maintenance and disinfection procedures, thereby diminishing the risk of secondary infections among patients (Githinji et al., 2014).

e) Enriched Color Palette to Cultivate a Vibrant and Entertaining Space

In the revamped design, the removal of cluttered stickers has paved the way for the incorporation of large illustrations, onto the glass panels, complementing this, the floor features a medley of colorful rubber mats adorned with cartoon themes (Whitt et al., 2017). The ceiling has been creatively adorned with comprehensive painted murals, infusing the entire area with a playful and childlike ambiance, the serene zone has also been thoughtfully furnished with cartoon-style, child-specific seating, enhancing the aesthetics of the environment, delighting young patients, and mitigating tension and restlessness (Abuqamar et al., 2016).

f) Reinforced Signage Guidance for Nurturing a Distinctive Environment

In the context of signage design for the pediatric waiting area, a fusion of vibrant colors and distinct cartoon elements has been implemented to captivate the attention of young patients and guide them effectively, thereby fostering a unique and engaging atmosphere (Kambezidis et al., 2002).

g) Integration of Health Education for Augmented Humanistic Content

Beyond its medical treatment mandate, the hospital shoulders the responsibility of providing health education to visiting patients and their families (Dai et al., 2019). As part of the renovation blueprint, health education cartoon illustrations have been thoughtfully positioned on walls, columns, and glass surfaces (Xiao, 2015). This arrangement facilitates enjoyable learning experiences, subsequently enhancing the educational and cultural dimensions of the area.

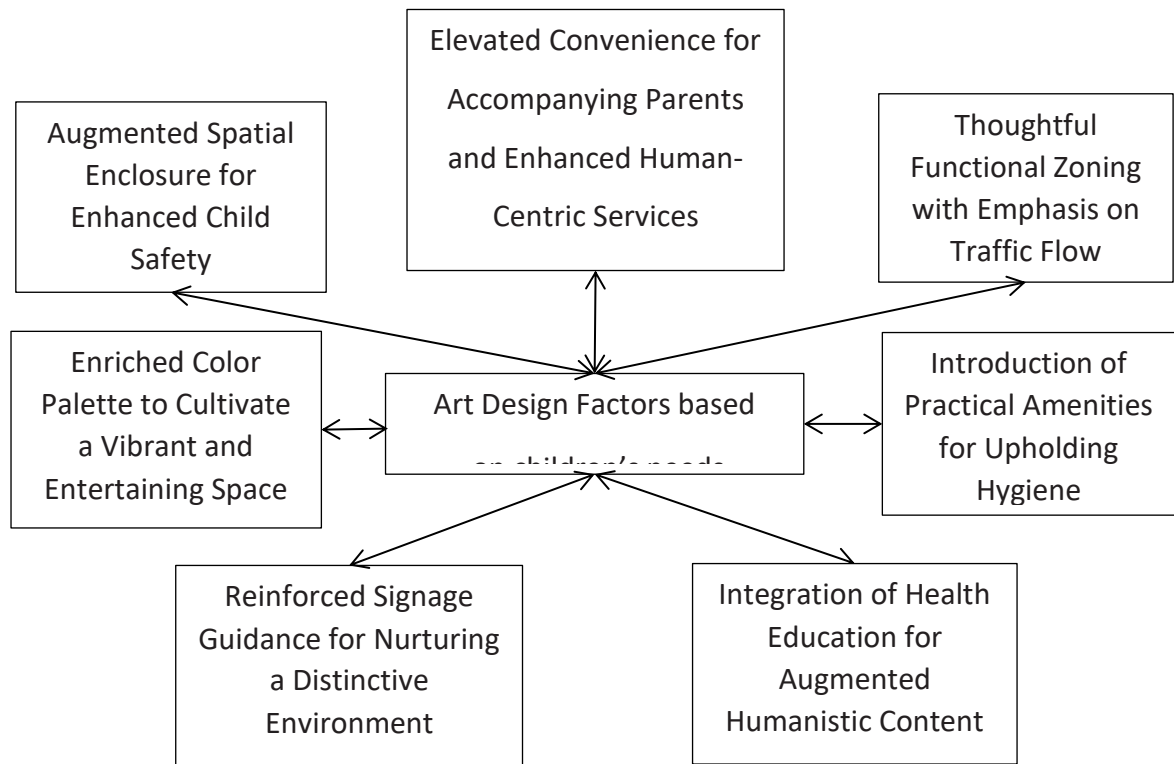


Figure 2. Structure of Art Design Factors based on children's needs

Application of Art Installations in Pediatric Waiting Areas

a) Novelty of Art Installations

Currently, many conventional pediatric waiting spaces suffer from issues like repetitive design and uniformity, leading to a diminishing appeal for waiting individuals. To address this, a variety of fresh elements can be appropriately introduced into the waiting space and environment. The facade of contemporary pediatric waiting areas can differ from the ordinary, incorporating elements that children find attractive (Gupta et al., 2013). For instance, incorporating trendy interactive entertainment installations for children can significantly enhance the novelty of the pediatric waiting area and make the waiting experience more engaging (Shireen et al., 2020 ; Arslan & Fatma, 2011).

b) Experiential Impact of Art Installations

In the present scenario, the layout of traditional pediatric waiting areas no longer suffices to accommodate the needs of a larger group of children waiting together. Gathering more children in one space leads to increased noise and relatively disorderly conditions within the waiting area. However, when art installations become part of the pediatric waiting space, art installations can transform the experiential effect of the conventional waiting area (Kyoichi, 2012). These installations not only engender a heightened artistic ambiance within the waiting environment but also present patients with an entirely fresh waiting encounter. Upon their ingress into such designated waiting zones, patients are promptly enveloped by a distinctly unique atmosphere. Notably, art installations possess the capacity to seize children's focus, thereby amplifying the waiting experience, as evidenced by studies conducted by scholars (Shireen et al., 2020 ; Arslan & Fatma, 2011).

c) Immersive Quality of Art Installations

Immersive experiences generate positive and affirmative psychological feelings. By utilizing sensory and cognitive experiences, these experiences foster an ambiance suitable for children, allowing them to relish the joy brought by art installations (Dalsgrd & Halskov, 2006). Engaging with art installations not only brings participants immense pleasure but also prevents restlessness that often arises from idleness during waiting. In terms of expressing this immersive quality, the introduction of art installations, themed narratives, and spatial scene creation evoke people's imaginative spaces. Art installations are often designed based on various thematic stories, leveraging transcendent narratives to captivate waiting individuals, thereby eliciting unique observations, thoughts, and emotions within each art installation space (Choi & Young, 2009).

Summary for related research of art design factors and application for waiting area of pediatric

The related Art Design for Waiting Area of Pediatric results were summarized in the 25 articles (see Table 2). Integration of Health Education were introduced by the scholar (Xiao, 2015; Dai et al., 2019). Signage Guidance were designed to improved a distinctive environment Kambezidis et al., 2002; Dan & Zhong, 2019. Hospital facility layout were in different research to optimize the layout function of hospital (Hahn & Krarup, 2001; Vahit et al., 2020; Vimal et al., 2021; Zuo et al., 2019). To many scholar child safety is key (Mohrman & Mohrman; 2019; Alvarez, 2013; Gringras et al., 2017; Park & Kim, 2017). Enhance waiting experiences (Shireen et al., 2020 ; Arslan & Fatma, 2011) and children amusement (Xu., 2020; Jeong et al., 2018) are considered in their research. Waiting area function (Nikki et al., 2014; Biddiss et al., 2019)and art installations (Dalsgrd & Halskov, 2006; Choi & Young, 2009; Kyoichi, 2012; Shireen et al., 2020 ; Arslan & Fatma, 2011) are high mentiioned in the design of pediatric waiting area or hospital. Immersive waiting (Brinker et al., 2018) and function layout (Noll et al., 2016) are also one of the research factors that related to the research

Table 2.

Overview of related research of art design factors and application for waiting area of pediatric

Art Design for Waiting Area of Pediatric	Frequency	Reference
Integration of Health Education	2	Xiao, 2015; Dai et al., 2019
Signage Guidance	2	Kambezidis et al., 2002; Dan & Zhong, 2019
Hospital facility layout	4	Hahn & Krarup, 2001; Vahit et al., 2020; Vimal et al., 2021; Zuo et al., 2019
Child Safety	4	Mohrman & Mohrman; 2019; Alvarez, 2013; Gringras et al., 2017; Park & Kim, 2017
Enhance waiting experiences	2	Shireen et al., 2020 ; Arslan & Fatma, 2011
Amusement	2	Xu., 2020; Jeong et al., 2018
Waiting area function	2	Nikki et al., 2014; Biddiss et al., 2019
Art Installations	5	Dalsgrd & Halskov, 2006; Choi & Young, 2009; Kyoichi, 2012; Shireen et al., 2020 ; Arslan & Fatma, 2011
Immersive waiting	1	Brinker et al., 2018
Function layout	1	Noll et al., 2016

The integration of art installation and Pediatric Waiting Area

The integration of art installations in pediatric waiting areas enhances the waiting experience for children and companions (xuan et al., 2021). By strategically incorporating art, healthcare facilities create visually appealing, engaging spaces that alleviate monotony and anxiety (Diaconu, 2017 ; Pedro et al., 2007). Vibrant colors, dynamic patterns, and imaginative designs capture attention and reduce restlessness. Art installations introduce interactivity and immersion, engaging multiple senses and transporting children into a creative world that distracts them from waiting. A positive distraction is a significant environmental feature that introduces positive feelings by diverting attention from stress or anxious thoughts (jiang, 2020). They also foster communication among patients, parents, and healthcare professionals, creating a sense of community. Collaborations between artists, designers, and healthcare experts ensure installations align with pediatric preferences, are strategically placed for visibility, and adhere to safety standards. Maintenance and durability are crucial considerations (Johnson et al, 2008).

In conclusion, integrating art installations transforms pediatric waiting areas into dynamic, visually stimulating environments. This creative approach not only distracts and entertains children but also contributes to a positive healing atmosphere (Awtuch & Janowicz, 2017). As healthcare facilities strive to enhance patient experiences, art installations emerge as a powerful tool to create impactful waiting spaces for children and caregivers. According to the

analysis above, main benefits of art installations of pediatric waiting areas could be summarized (Councill, 2003)(see Table 1).

Table 1.

Key Benefits of Art Installations in Pediatric Waiting Areas

1	Enhance visual appeal and atmosphere
2	Alleviate monotony and anxiety
3	Capture attention with vibrant colors and designs
4	Offer distraction and entertainment
5	Create an immersive experience
6	Foster communication and community
7	Collaborate with experts for effective design
8	Ensure safety, visibility, and accessibility
9	Contribute to a positive healing environment

Conclusion

In conclusion, this study underscores the critical significance of incorporating art design into pediatric waiting areas, focusing on the concept of Quality waiting. By addressing prevailing challenges within these spaces and considering factors such as safety, amusement, and functionality, this research provides valuable insights into the enhancement of waiting experiences for both children and their companions. By taking into account children's artistic preferences, the study ensures a more comprehensive and effective design analysis. The art installations within pediatric waiting areas offers a promising approach to improving the waiting experience. This innovative strategy not only introduces novel elements that capture children's attention and imagination but also transforms the experiential impact of waiting. By immersing waiting individuals in engaging and visually appealing environments, art installations offer enjoyment and alleviate restlessness associated with waiting. The practical implications of this research are substantial. For hospital administrators, the recommendation to incorporate art installations within a play area in pediatric waiting rooms provides a tangible way to create a more enriching and engaging environment.

Research Contribution

The envisaged knowledge contributions of this investigation encompass providing a more scholarly and rational basis for the conceptualization of waiting areas tailored for pediatric use. Additionally, this study seeks to proffer design suggestions pertinent to the integration of artistic installations within hospital waiting rooms intended for pediatric patients. Furthermore, the research strives to ameliorate the ambiance of waiting spaces designed for pediatric use and to establish a dedicated play zone for children, consequently heightening their waiting encounter. Ultimately, to refine both the waiting area designed for pediatric patients and the waiting experience by means of incorporating artful design principles and captivating artistic installations within the designated pediatric waiting space can improve the quality of waiting in pediatric.

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Declaration of Interests

We confirm the absence of any pertinent financial or non-financial conflicts of interest to disclose.

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