Research Article

A Bibliometric Analysis of Interior Design And Colour in Children's Rooms In China

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Abstract

Children's room as the main activities of children in the family, is an important space for children's life, play a key role in the growth and development of children. With the development of the times, people's living and cultural standards are also constantly improving, economic development has led to the prevalence of interior design industry, children's room interior design has also been considerable attention. Children's room economic development, people's concern for children in the continuous improvement, in order to children have a better family living environment, people are constantly researching the relevant areas. Color is an important part of interior design elements, especially in the current requirements of people's lives, color has become a decisive and important part of interior design. It is an important part of design to scientifically match the color of indoor space interface of children's room. This thesis will analyze the relevant historical literature on the color of the spatial interface, explore the influence of color on the interior design of children's rooms, and do research on the interior design of children's rooms from the perspective of the influence of color on children's growth, as well as to meet the needs of children's growth, and to promote children's physical and mental health and growth.

Keywords: Interior Design, Children's Room, Color, Space, Interface.

1. Introduction

Interior design industry is developing rapidly, and its professional standard is also constantly improved in the face of the needs and demands of modern society. In the 1990s was a decade of rapid development of interior design in China, and the market economy also led to business competition (Xu, 2018). With the deepening of reform and opening up and the accelerating pace of economic development, the people's living standards continue to improve. People's demand for interior design is constantly improving in all aspects, and the design of children's room is also emphasized accordingly. As the main place for children to live and study, children's room plays a key role in children's physical and mental growth. Children's rooms must function as dynamic environments that evolve with their occupants' developmental needs（Falkenberg et al., 2023.

Although the interior design of children's rooms is part of the interior design of residential spaces, it is also designed and considered independently and specifically to meet the needs of children in response to their rapid growth and development. The focus is to combine the child's age, gender, and other factors for coherent design. Children's room is mainly for children to rest, study and play, is completely independent of children's space.

Color can directly stimulate human visual organs and provoke various emotional responses in the mind（Li, 2023）. Color is one of the indispensable elements in interior space design, which not only affects people's emotions and perceptions, but also shapes the atmosphere and style of the space. The ultimate goal of children's room color design is for children to live in comfortably with joy. Age-appropriate color choices are necessary, and dynamic adjustments in children's room colors can foster independence and adaptability as they grow (Thompson & Lee, 2023). Since children's cognitive understanding of and sensitivity to color vary across age groups, the color palette for children's rooms should be adapted accordingly.

Most of children's activities are indoors, and indoor colors have a large impact on their activities, as well as on their level of comfort and pleasure. For children's room indoor space environment, color expression is an important part, the color of the indoor space environment has a great influence on the spatial sense, comfort, environmental atmosphere, efficiency of use of children's room interior design, and on human physiology and psychology (Yi, 2019). Therefore, in the interior design of children's room, the space interface should be reasonably designed to meet the growth needs of children.

The color design of interior space should consider the functionality of different spaces comprehensively, so that the overall color tone of the space is unified, and the color of each partition is relatively independent (Guan, 2021).
Color is one of the indispensable elements in interior space design. It can not only affect people's emotions and psychological state, but also change the atmosphere and feeling of the space (Zhang, 2023). There are countless studies on color in interior design, there are not many studies on children's room and color, and there are only 152 studies related to “color in children's room” retrieved from Chinese CNKI database, and the growth trend is slow in recent years. This study aimed to research on color and interior design of children's rooms in the last 30 years (1995-2024); Secondly, this study examined the themese on children and color related topics; Finally it summarised the color related topics in children's rooms.

2. Research Methods

According to the research content of the article on interior design and color bibliometric analysis, in the children and the impact of color to the number of literature for comparison, and finally the children's room color bibliometric analysis. When conducting the analysis, the accuracy of the data and the scientific nature of the analysis method should be ensured. The results of the analysis should be presented in an objective and neutral way to avoid subjective bias. Bibliometric analysis is a dynamic process, and the results may change as new literature is released and the research field evolves. Therefore, regular updating of the analysis is necessary.CNKI data visualization presents information visually in the form of charts, graphs and images, making complex data and research results easier to understand and remember.

By searching the literature related to the color of children's room to study the research on children's room and color, the data of this paper comes from the Chinese domestic literature data CNKI academic journals database, this paper adopts the research method of combining Bibliometric analysis and literature review. in order to study the development trend and research hotspots within China.

2.1 Database Selection

Database selection CNKI, CNKI was chosen because it is the largest academic literature database in China, which has wide influence in China and contains a large amount of Chinese literature. It brings together a large number of academic journals, dissertations, conference papers, patents and other academic literature resources from different fields, which reflect the latest research trends and academic discussions in China.

2.2 Defining Keywords

In this study, focusing on the research with color in the interior design of children's rooms, keywords were chosen to highlight the main focus and contribution of the study. “interior design”, ‘children's room’, ‘child development’, ‘color’, “space” and ‘interface’ are the keywords of this study. These keywords not only help to understand the core of this paper, but also provide practical references for researchers in related fields.

In this study, search attempts were made in the CNKI database using Chinese language, and the time frame of the search was set as 1995-2024, and the bibliometric analysis covered a 30years timeline.The study made a preliminary search attempt for some keywords in order to get more appropriate and precise keywords. For example: using the keyword “children's growth and color” search, only 72 pieces of related literature; using the keyword “space interface color” search, only 50 pieces of related literature; using the keyword “indoor space interface color “ search, there are only 8 pieces of related literature; the use of keywords “children's room space color” search, there are only 2 pieces of related literature; the use of “children's room space interface color” search, there are 0 pieces of related literature.

It can be seen that the amount of data retrieved using the above keywords is small and less representative, which cannot provide effective data for the study.
At the same time, the use of the keyword “spatial color” search is too vague, and the retrieved literature involves more research fields, which cannot provide effective data for the study.

Therefore, the keywords were adjusted, and the keywords searched through CNKI were: 1, interior design and color; 2, children and color; 3, children's room color; 4, interior space color.

3. Bibliometric Analysis Of “Interior Design And Color”

Taking “interior design and color” as the search keyword, 8497 results were found. Referring to the distribution of literature topics in Figure1, “interior design” accounted for the highest proportion in the first place, with 2586 articles. There are 462 articles on “interior space”, 423 articles on “modern interior design”, 279 articles on “interior space design”, 235 articles on “indoor environment” and 235 articles on “interior design”.

There are 235 articles in “Interior Environment” and 221 articles in “Interior Environment Decoration Design”. Although these latter topics do not account for as much literature as the first one, “interior design”, the quantity of literature does not always indicate the quality of research, and the lesser literature may be equally important and influential.

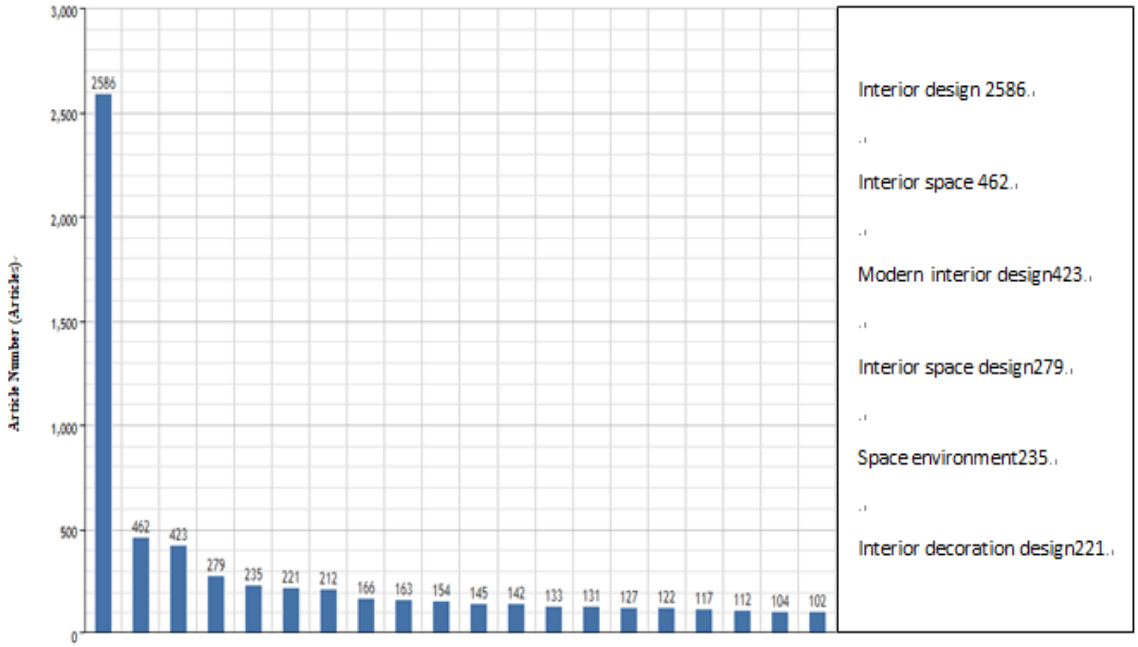

Figure1 Distribution of Major Themes in the Literature

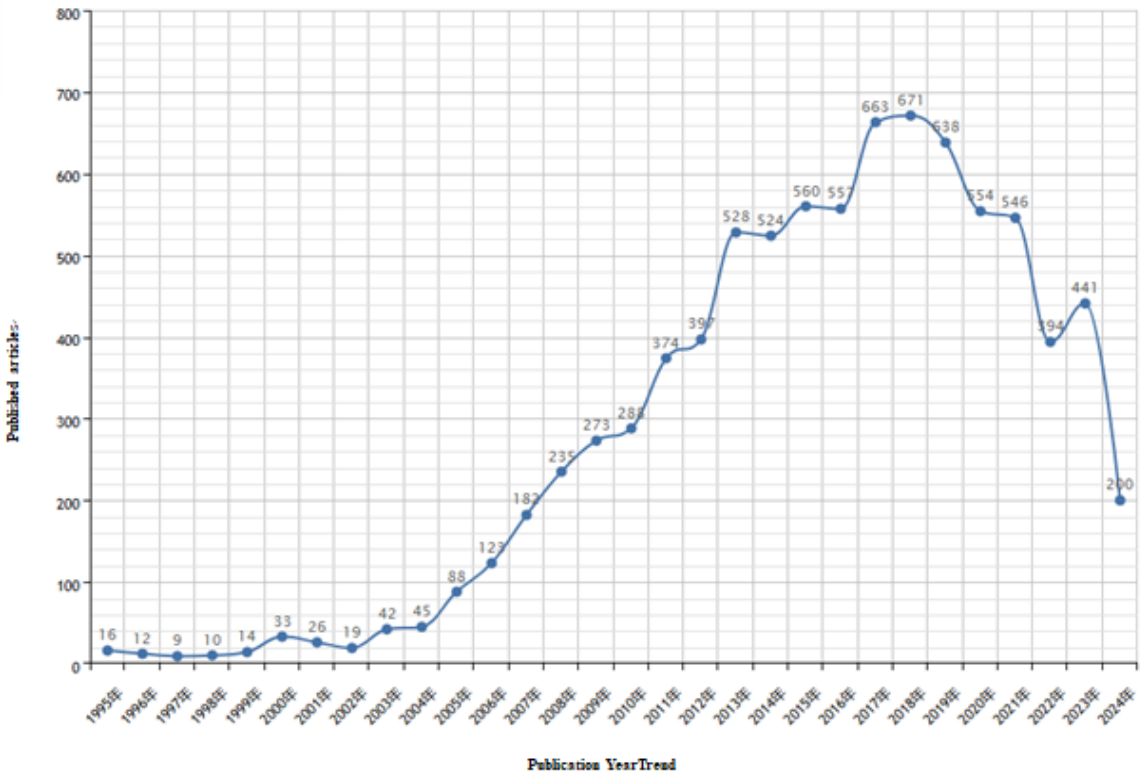

Figure2: Distribution of literature by year of publication

From Figure2 literature publication year distribution can be seen in 1995-1999 in this period of time, the research output did not have significant progress or growth, belongs to stagnation, 2000 began with the recovery of China's economy, the development of the renovation industry began to pay attention to the interior design, so the 2000s began to have a small fluctuation to 2001-2005 year by year slowly increased to 220 articles.

2006-2010 the number began to show a positive growth trend to reach 1101 documents, 2011 began a surge in the number of documents, research output is accelerating, the number of documents also increased, from 2011 to 2015 has accumulated 2,383 articles, followed by 2016 experienced a small decline to only 557 articles in that year, to 2017-2018 another wave of small peak reached 1334 articles, but from the beginning of the epidemic in 2019, a clear and gradual decline, to 2021 accumulated to 1,738 articles, 2022 the number of literature has declined to only 394 articles in that year, 2023 to 2024 so far the total number of literature is only 641 articles.

A review of the literature on interior design and color shows that from the year 2000 was the era when interior design began to develop rapidly and our research on interior decoration emerged and began to develop rapidly. However, the construction industry faced delays in many construction projects due to embargoes and restrictions caused by the beginning of the epidemic. Then it also affected the interior design industry. So it led to a decline in literature output. The literature review provides a deeper understanding of the importance of color and interior design.

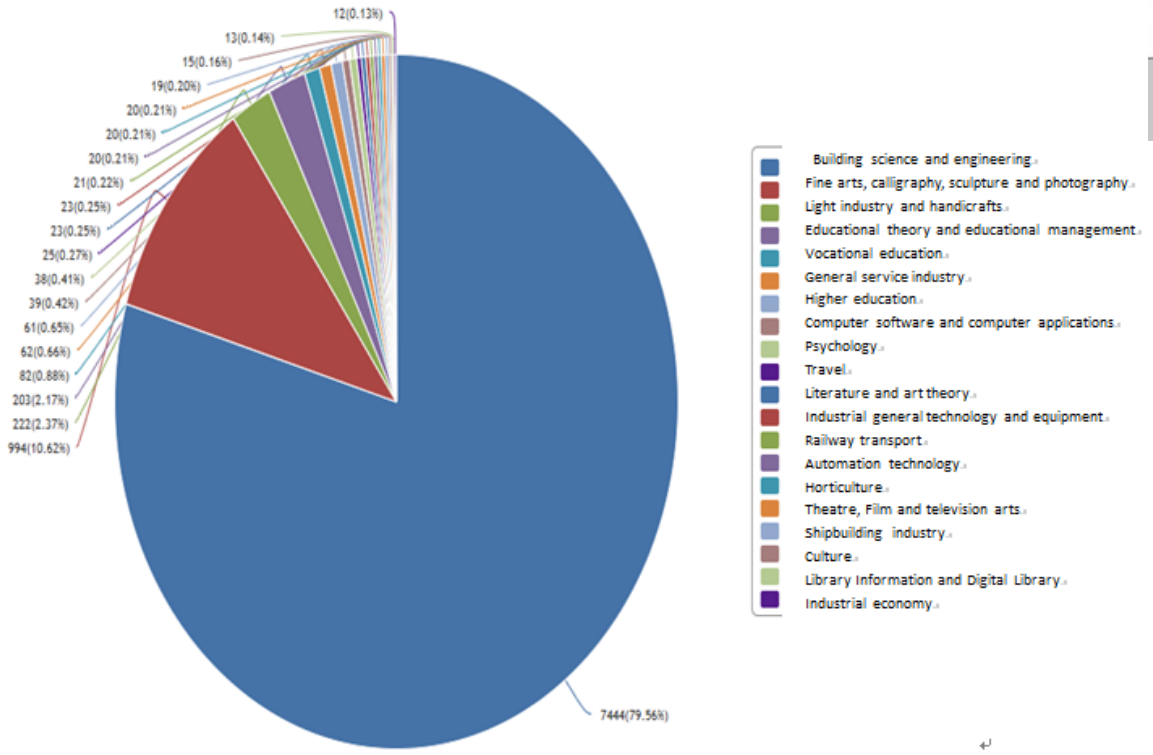

Figure3 Distribution of disciplines in the literature

In Figure3 literature discipline distribution, in which the proportion of building science and engineering is the highest, accounting for 79.56%, the number of literature has 7444 articles, building science and engineering is a comprehensive discipline, which combines art, science, technology and social needs, this interdisciplinary nature makes its research field is wide, and the output of the literature is naturally more.

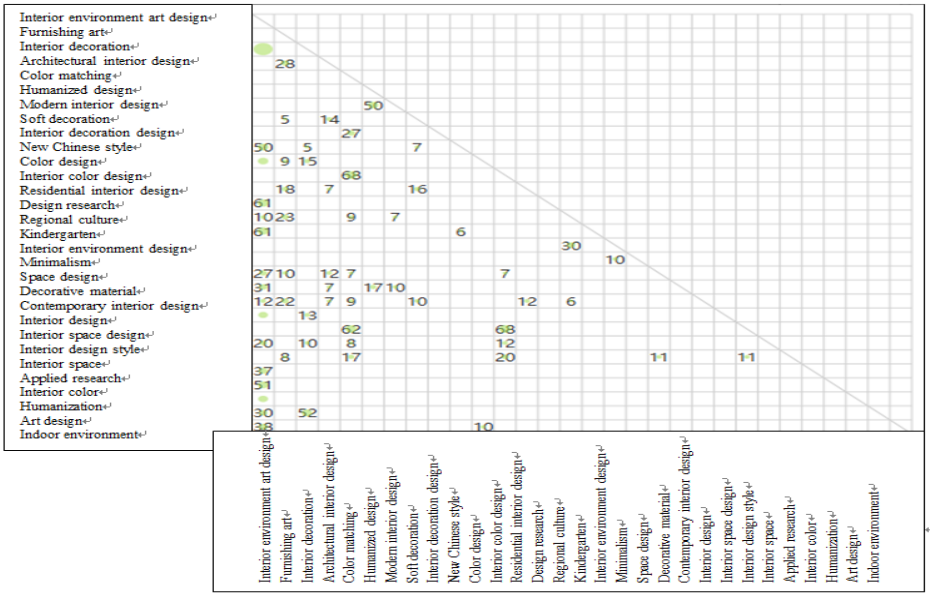

Figure 4 Literature theme co-occurrence matrix analysis

In Figure 4, the top three themes for interior design and color were “interior design color and color palette” with 68 occurrences, “interior space design and interior color design” with 68 occurrences, “interior space design and color palette” with 68 occurrences, and “interior space design and color palette” with 62 occurrences. “Interior space design and color matching” appeared 62 times. The thematic co-occurrence analysis reveals that interior design is a specialized field that encompasses a wide range of styles and approaches, and that interior space design is a core component of interior design. And color demonstrates that it plays a crucial role in interior design in specific data. The application of color in interior space as an important part of interior design plays an important role in the expression of interior design concepts (Dan, 2022).

Color has a profound effect on the atmosphere, emotion and functionality of a space. In the co-occurrence matrix analysis, although “design research” and “interior environmental art design” appeared 62 times, “interior color” and “interior environmental art design” appeared 51 times. Artistic design of interior environments” appeared 51 times, even though the number of occurrences is not high, they may play a key role in a particular context, and it is recognized that the number of occurrences is not the only criterion. As an important element of interior art design, improving the level of interior art design is one of the keys (Di, 2019).

4 Bibliometric Analysis Of “Children And Color”

The relationship between children and color can be said to be complementary, children perceive the world through color and also express their personality by choosing colors (Gao,2017). Compared with adults, children's sensitivity and attention to color is more prominent, and they are more able to sensitively perceive the difference between colors, and from another perspective, the influence of color on children's muscles, psychology, emotion and daily behavior and action is more significant.

When searching for the keyword “children and color” in Figure5, the search yielded 7102 results, of which the number of “design research” reached 405, “children's picture books” and “kindergarten” reached 405, and the number of “children's picture books” and “kindergarten” reached 405. The themes of “children's picture books” and “kindergarten” reached 330 and 251 articles respectively, the theme of “spatial design” had 193 results, and the theme of “preschool children” had 165 results. The theme of “space design” has 193 literature results, and the theme of “preschool children” has 165 literature results. The theme of “children's furniture” has 138 articles. These themes are linked to color in many ways, and these elements together form an important part of the environment in which children grow up.

Design research is also multifaceted in relation to children and color, and it involves multiple fields such as psychology, education, and environmental design. Color is considered to be a powerful expression of emotion, and in interior environments, different colors can trigger different emotions and feelings, and different color choices and combinations can create diverse atmospheres and emotional experiences (Ren, 2023). Children's picture books and nurseries need to attract children's attention.

The use of bright, contrasting colors can catch children's eyes and stimulate their interest. Color choices in space design should help children identify shapes, colors, and patterns and promote their visual discrimination. Color among preschoolers not only adds visual appeal, but also has a profound effect on children's cognitive development, emotional experience and learning. Children's furniture in the color and children's development is closely related to different genders, different ages of children's perception of color experience is different, and its perception depends on the children's body sensory response to it.

Children's perception of color is actually the physical color in the human body's psychological response. Different stages of development have different perceptual properties of color, thus producing different cognitive effects.

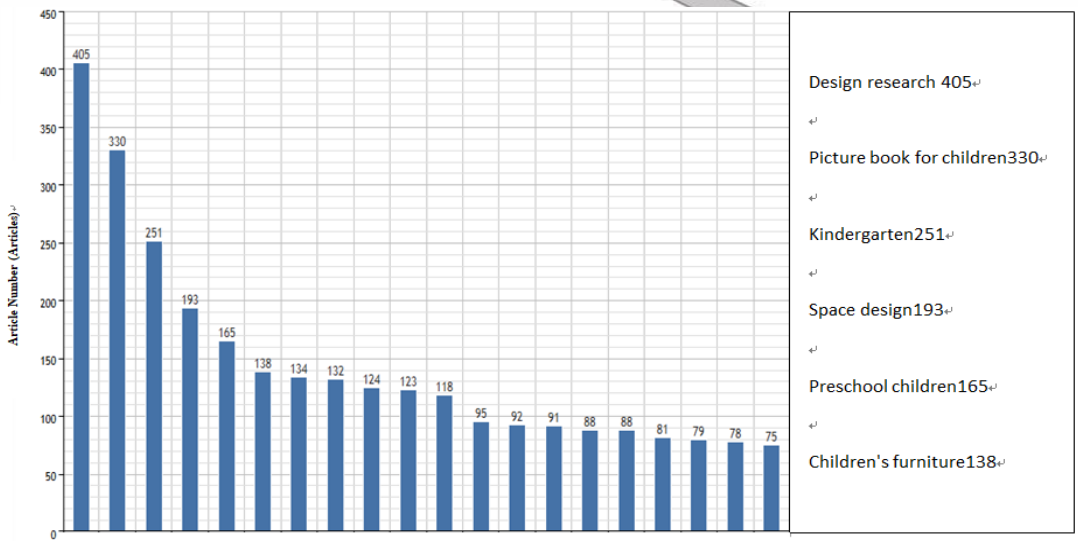

Figure5 Distribution of major themes in the literature

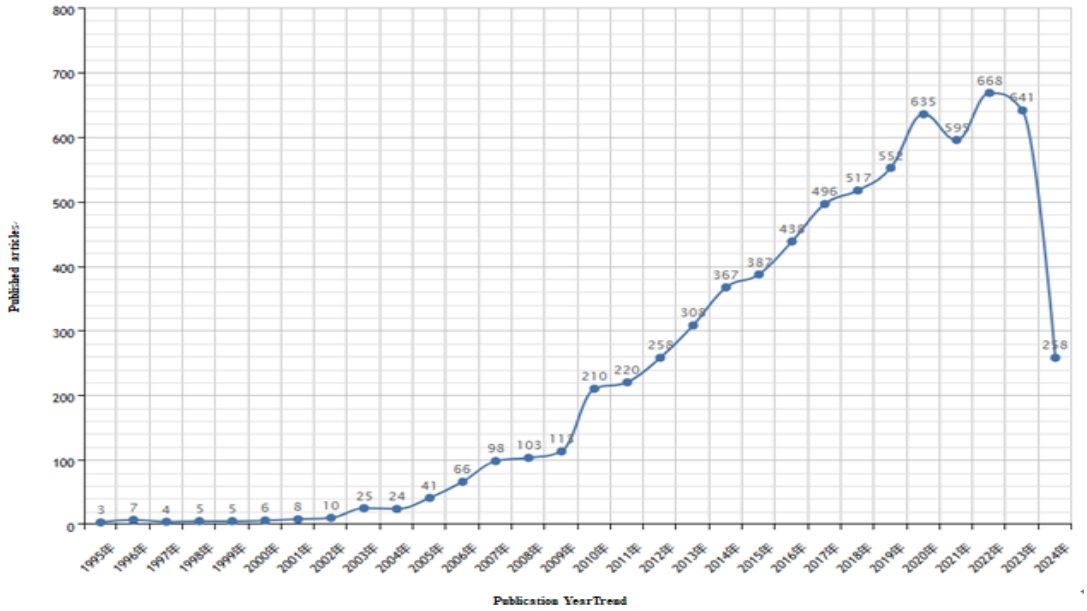

Figure6 Distribution of literature by year of publication

In the distribution of Figure6 literature publication year, the literature has been hovering in the number of 5 to 10 articles from 1995 to 2002, until 2003 began to gradually rise, reaching 66 articles in 2006, 103 articles in 2008, 210 articles in 2010, reaching a small peak of 367 articles in 2014, another small peak of 635 articles per year in 2020, and a small drop to 595 articles per year in 2022, and a small peak of 641 articles per year in 2024 to 2021 a small decline to 595 articles per year, 2022 and gradually began to rise to 668 articles per year, 2023 ushered in the highest peak of 641 articles, 2024 to December 1 as of now there are only 258 documents.

It can be seen that as time progresses people are beginning to pay more attention to the relationship between color and children. There is a growing concern for children's physical and mental health, and color is believed to positively influence children's emotional and mental health. Different color environments have a significant effect on the cognitive abilities of young children (Jiang, 2024).

Color education is also seen as a way to develop children's understanding of and respect for different cultures in contemporary social environments. Modern educational philosophies increasingly emphasize individualized and multi-sensory learning, so color, as an important part of the visual element, is considered an effective tool for promoting children's learning and development. It is because of the combined effect of these factors that society's emphasis on the role of color in children's development has been promoted, and so has fostered the development of research and practice in related fields.

5. Bibliometric Analysis Of “Children's Room Color”

Children's room is the place where children stay for a long time and spend at least half of their family activities. Reasonable and beautiful children's room design can develop children's independent living ability. Children are more sensitive to color perception and will be attracted by some bright colors, and many bright colors promote the development of children's visual imagination (Liu, 2023). Children's room as a place for children to read, play and sleep, the color design is different from the color of the environment where adults live. Children are in the period of growth and development, active by nature, observe things more sensually, and feel more simple and sensitive to color.

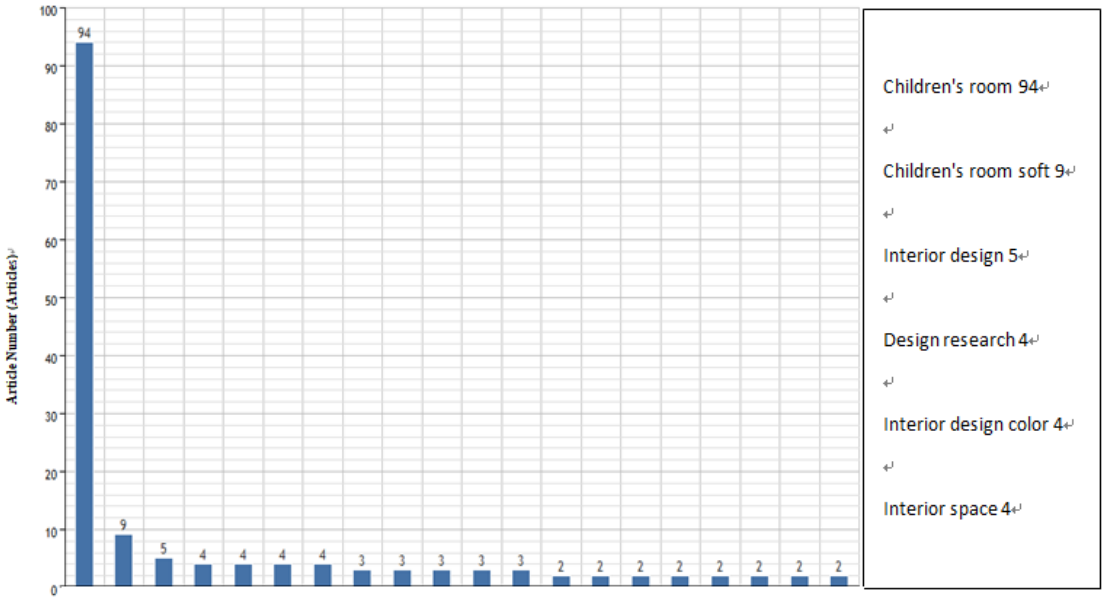

Figure7 Distribution of Major Themes in the Literature

In the Chinese CNKI search, with “children's room color” as the keyword, 146 relevant results were retrieved, and the distribution of literature topics in Figure7 showed that “children's room” accounted for the highest proportion of 94 documents, “children's room soft furnishings” had 9 documents, and “interior design” had 5 documents. The theme of “children's room soft furnishings” has 9 documents, and the theme of “interior design” has 5 results. The theme of “design research” has 4 literature results, and the theme of “interior color design” has 4 literature results.

Because the color of children's room is a relatively new field of study, it has not received enough attention and development, so the literature on the topic of children's room color is relatively insufficient, but as people pay more attention to children's growing environment and mental health, more and more studies have begun to explore the impact of different colors on children's cognition, emotion and behavior, so the research in this field is gradually increasing.

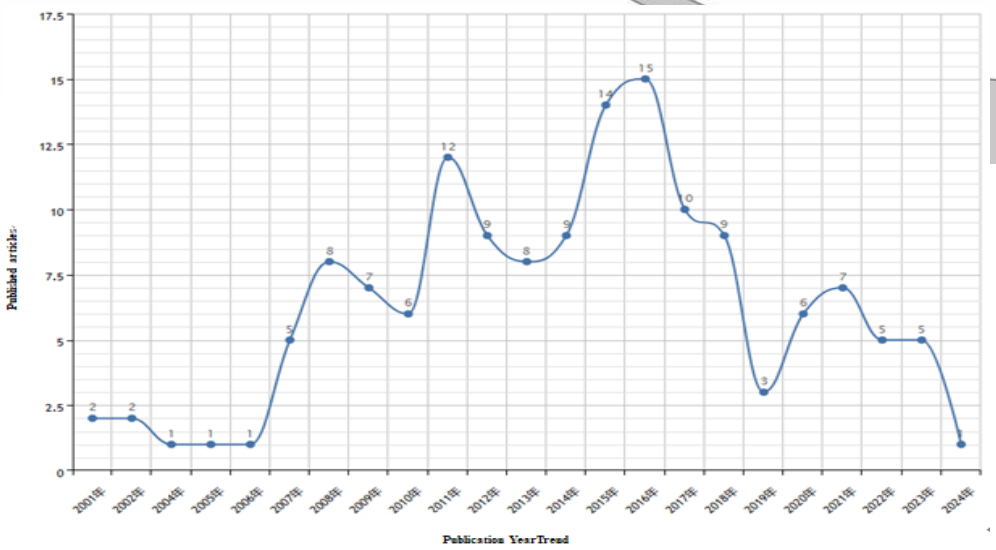

Figure8 Distribution of literature by year of publication

As seen in the distribution of Figure8 literature publication years, the children's room color literature only began to be published in 2001, but has been in a slump, to a small increase in 2008 published 8, 2010 fell to 6, 2011 rose to 12, 2013 and then fell to 8, 2015 began to rise to 14, 2017 fell to 10. In 2021, 7 articles were published and by 2023 only 5 articles were published. The instability and frequent changes in the distribution of years can be seen in the graph of the distribution of years of publication in the literature. The instability and frequent changes indicate that over time, children's room color in researching different topics can lead to a change in the trend of literature publication. Also the research methodology may lead to instability in the year distribution of literature. Therefore, instability and frequent changes in the distribution of literature years may also be the result of a combination of factors, which reflects the dynamic changes and trends in the field of research.

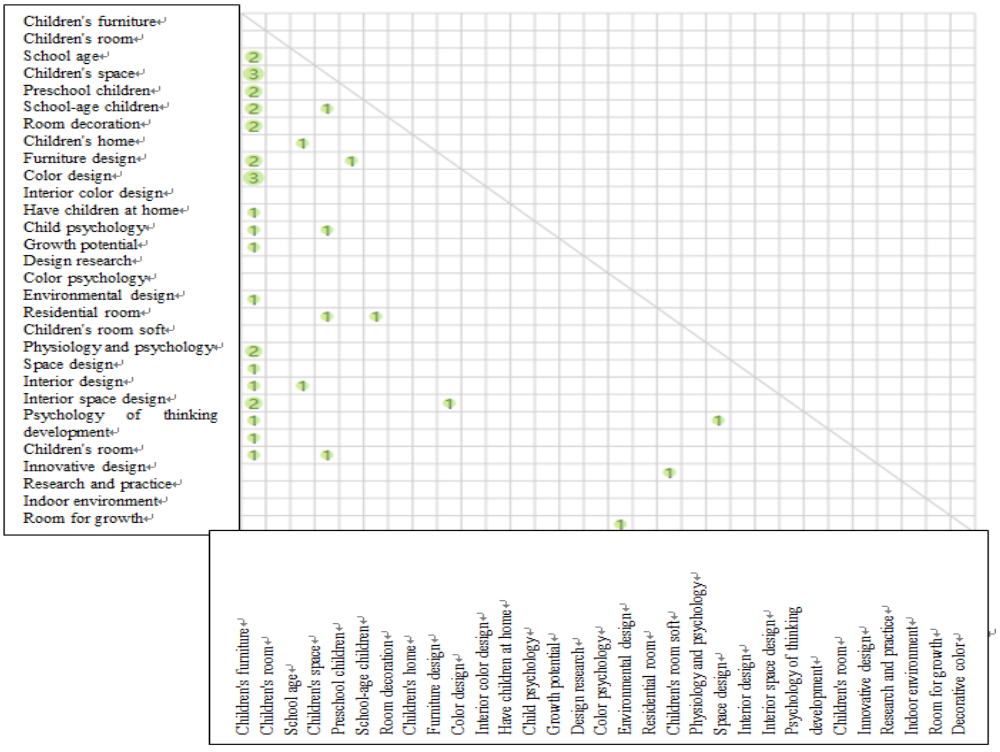

Figure 9 Literature theme co-occurrence matrix analysis

In the analysis of Figure 9 theme co-occurrence matrix, we can see that “children's space” and “children's furniture” co-occur 3 times, “color design” and “children's furniture” co-occur 3 times, and “physiology and psychology” and “children's furniture” co-occur 2 times. “children's furniture” 3 times, ‘physiology and psychology’ and ‘children's furniture’ 2 times, from which it can be seen that the choice of color in children's room needs to be coordinated with the children's spatial environment, to form a unified and harmonious visual effect, as well as a unified and harmonious visual effect. From this, it can be seen that the choice of color in children's room needs to be coordinated with the children's spatial environment to form a unified and harmonious visual effect, as well as the color has an important influence on children's physiology and psychology.

6. Discussion

This section is a review and discussion of the literature related to the impact of color on children's room interior design on children's room interior spaces. Color matching has a profound impact on the visual image shaping of interior space and the psychological feeling of users (Zhao,2024). Interior design relies heavily on color schemes because they are key factors in expressing emotions and creating visual impact in a space (Enwin et al.,2023).

In interior design, color schemes can not only create a design atmosphere, shape the design style, highlight the designer's aesthetic ability, and reveal the user's own personality, but also the characteristics of color, can regulate and arrange the space, light and shadow, enhance the aesthetics of the design, improve the comfort of use, and make the design more in line with people's psychological comfort zone (Chen,2022).

Color brings spirit and vitality to interior space, how color is used is very important for interior design, regardless of the size of the space, color can be used to create and change its tone. They are a very powerful tool in interior design and therefore can create various illusions in a space, if the color is not chosen correctly, a small room may appear larger or smaller, one of the most important solutions is color when the architecture itself does not allow for changes and flexibility (Ćurčić et al.,2019). In the section 3 of this study, the bibliometric analysis of “interior design and color” shows that “interior design and color” is of interest to researchers, and the research is influenced by the industry.

In the indoor space environment, by choosing the right color, it can affect the emotional state and psychology of the occupants, in the children's room in the indoor space environment color is related to the visual and cognitive development of children, but also related to children's psychological and physiological, then for the color design of children's room, it is important to consider that the color in the indoor space environment has an impact on the physical and mental health of children as well. Color psychology is a discipline that studies color as a determinant of human behavior, and every color has a certain psychological value (Kraus, 2019). In section 4 of this study, the bibliometric analysis of “children and color” shows that there is a growing concern for children's physical and mental health, and that color is believed to have a positive impact on children's emotional and mental health.

Over time, people's psychological perception of the color of the interior environment can change dramatically, affecting not only the visual aesthetics of the interior design, but also its practical usability. Different colors have different impacts and associations in people's psychology, and the lightness and darkness of colors can also have an impact on mood (Ren, 2023). While satisfying the functionality of the space, the matching and use of colors from safety to personalized considerations affect children's personality and mood, and play an important role in children's growth (Fan, 2021).

Therefore, when using color psychology, designers can better design children's rooms to meet children's physiological and psychological needs, and at the same time improve the overall quality of the children's room spatial environment. In section 5 of this study, the bibliometric analysis of the literature on “color in children's rooms” shows that color in children's rooms is a relatively new field of study that has not yet received enough attention and research.

Living space and indoor spatial environment are closely linked, while the living space is also part of the indoor spatial environment, the indoor spatial environment determines the basic characteristics of the living space, and together they build a complete living environment. The children's room is a separate area in the living space.

Children's room is the space used by children in different periods, which is not only the children's bedroom, but also the children's communication site, learning occasion, game occasion, rest occasion (Lan, 2017). The color of children's living space is particularly important for the indoor spatial environment, not only to meet the children's current living needs, but also must consider their needs change (Xu, 2017). With the growth of age, children's perception and preference for color is bound to change. In the living space, the children's room as one of the areas, the color should be coordinated with the color scheme of the entire living space, so as to be integrated into the entire range of colors of the indoor spatial environment, in order to maintain the overall beauty and consistency.

In the interior color only give full play to the functional characteristics of color, rational use of color, in order to achieve unexpected results, together to create a comfortable and perfect space. Interior design is inseparable from color, especially in the application of children's room design. Color on children's psychology, health and cognitive development and the overall spatial atmosphere have an impact on the role of color in the indoor environment and the impact of color is also the result of the feeling of color, the color of the indoor environment will have a direct impact on the physiology and psychology of people and many aspects of behavior. Therefore, the color in interior design is the role and influence of the close combination of color and environment.

6.1 Research Gaps

In the analysis, color has an effect on both the space and furniture of children's rooms, and these factors affect children's psychological and physiological health, but there are relatively few studies on the long-term psychological and physiological effects of children's room color design on children, and there is only one piece of literature retrieved from China's CNKI database, so we need to find out the long-term impacts of color design on children's growth and development by conducting more long-term tracking studies. Therefore, more long-term follow-up studies are needed to understand the long-term effects of color design on children's growth and development.

Educational issues and living environments are important, especially children's rooms where children spend a long time in contact, and their color schemes have an important impact on children's physical and mental growth (Lv, 2019). Psychologists have found that color has a regulating effect on children's mental activities, influenced by the color of the surrounding environment, children in the process of development and growth, the change of color has a significant significance on the development of the child's right brain development, physiological and psychological health and personality personality development (Zhen, 2017).

Color is not only a visual language, it is a way to spread emotions, it has a more rapid communication ability than language, so in the design of children's room space, color can be used as a bridge of communication, as a special way to communicate with children. Color not only affects the visual aesthetics of interior design, but also affects its practical usability. However, in the past 30 years, there have only been 146 studies on "children's room color", which requires more researchers to pay more attention and research. Children's room color design is affected by children's age, personality, physiological and psychological aspects, so it is necessary to give comprehensive consideration to a variety of factors, in order to meet the practicality of the basis of designing a living space more in line with the physiological and psychological development of children, to maximize the value of color, so as to improve the overall quality of the children's room (Guan, 2021).

In the design of children's space, it is necessary to choose the color carefully, consider whether the color will have a physiological impact on children's healthy development, and choose the color suitable for children, so as to create a warm and comfortable spatial environment for children (Dai et al., 2021).

Currently, we have limited knowledge of how color in children's rooms systematically shapes children's psychological state and physical health during their growth. Therefore, these studies should fill the existing knowledge gaps and reveal the complex relationship between color environments and children's long-term psychological adaptation, emotional regulation, cognitive ability, and physiological health, so as to provide proper guidance for the design of children's rooms.

6.2. Research Limitations And Recommendations

As children grow into an individual, the color scheme in a child's room environment can have an impact on them. However, there are a number of challenges to studying this area, and ensuring the continuity and reliability of data becomes critical in this long-term research process. Relatively few studies have been conducted on the long-term psychological and physiological effects of color in children's rooms; children's development is a long-term process, and sample attrition and difficulties in tracking are a challenge when studying the long-term effects of children's room design and color on children.

It is recommended that long-term tracking studies be conducted according to the research objectives in order to observe the effects of children's room design and color on children's long-term development. A combination of quantitative and qualitative research methods is used to gain a more comprehensive understanding of children's responses to children's room design and color.

7. Conclusion

This study depicts bibliometric analysis of the literature related to interior design and color in children's rooms in China. Through the bibliometric analysis of the literature related to interior design and color in children's rooms in China, we not only reveal the research trends, hotspots, and gaps in the field, but also provide useful references for future research directions. From distribution of the main topics in the literature, distribution of literature by year of publication and iterature theme co-occurrence matrix analysis it is understood that the research on interior design and color of children's rooms in China has shown a growing trend year by year, and the scope of research is gradually expanding. This study not only helps us to understand more comprehensively the importance of children's room interior design and color in children's development, but also provides interior designers and parents with a scientific basis to guide more rational and effective children's room design.

8. Reference

1. Chen, L. (2022). Research on the Application of Color in Interior Design. *Shoe Technology and Design*, (06), 150 - 152.
2. Ćurĉić, A., Kekovic, A., Ranđelović, D., & Momcilovic-Petronijevic, A. (2019). Effects of color in interior design. Zbornik radova Građevinskog fakulteta, 35, 867-877.
3. Dai, X., Zou, N., Zhao, L., & **e, C. (2021). On the Application of Color in Children's Space. space, 3(5), 31-34.
4. Enwin, A. D., Ikiriko, T. D., & Jonathan-Ihua, G. O. (2023). The role of colors ininterior design of liveable spaces. *European Journal of Theoretical and Applied Sciences, 1*(4), 242-262.
5. Falkenberg, H., Johnson, M. L., & Chen, W. (2023). Adaptive children's rooms: Designing for developmental stages from infancy to adolescence. *Journal of Interior Design, 48*(3), 32-50. https://doi.org/10.1111/joid.12378
6. Fang, Y. H. (2021). A Brief Discussion on the Research of Indoor Color Environment Design for Children's Rooms. *Fashion Colour*, (06), 66 - 67.
7. Gao, Y. N. (2017). The Influence of Indoor Environment Colors on Children's Psychology. In Proceedings of the 2017 China International Fashion and Creativity Forum (pp. 100 - 108). Academy of Arts & Design, Tsinghua University
8. Guan, L. Y. (2021). Research on the Color Design of Children's Rooms Based on Children's Physiology and Psychology[J]. Beauty & Times (Upper), (09), 75 - 76.
9. Hu, X. J., & Zhang, L. L. (2024). Application of Colors in Furniture and Interior Decoration Design. *Housing Studies*, (19), 12 - 15.
10. Huang, Q. Y. (2023). Analysis of the Application of Color in Indoor Furniture Design. *Fashion Colour*, (01), 57 - 59.
11. Jiang, L., Cheung, V., Westland, S., Rhodes, P. A., Shen, L., & Xu, L. (2020). The impact of color preference on adolescent children's choice of furnit ure. *Color Research & Application*, *45*(4), 754-767.
12. Jiang, S. T. (2024). Research on the Influence of Color Application in Daily Life on Children. *Color*, (02), 132 - 134.
13. Kraus, M. (2019, September). Color as a Psychological Agent to Perceived Indoor Environmental Quality. In *Materials Science and Engineering Conference Series* (Vol. 603, No. 5, p. 052097).
14. Lan, T., Wang, D. L., Wang, J. S., & Liu, F. F. (2017). Design Exploration for Age - appropriate Decoration of Children's Rooms. *Art Science and Technology*, (10), 32.
15. Li, J. (2023). Color Representation in the Indoor Environment. *Color*, (10), 77 - 79.
16. Li, X. C. (2023). The Application of Color Composition in Interior Design. Art Panorama, (31), 78 - 80.
17. Li, X. Y. (2024). Color Matching in Furniture Art Design. Footwear Technology and Design, (03), 120-122.
18. Li, X. Y. (2024). Color Matching in Furniture Art Design. *Shoe Technology and Design*, (03), 120 - 122.

19. Liu, X. C. (2023). The Application of Color Art in Children's Rooms. *Art Panorama*, (08), 88 - 90.
20. Lv, J. Y. (2019). Research on Color Matching in Children's Living Indoor Environments. *Home Drama*, (11), 127, 129.
21. Ma, Y., & Sun, R. (2020). Cognitive Analysis of the Color Semantics of Indoor Children's Furniture. In Proceedings of the 2020 China Color Academic Papers (Outstanding Papers) (pp. 97 - 102). School of Fashion and Art Design, Xi'an Polytechnic University. DOI: 10.26914/c.cnkihy.2020.024096
22. Ren, W. (2023). Research on Color Psychology and Spatial Emotion in Contemporary Interior Design. *Color*, (07), 68 - 70.
23. Ren, W. (2023). Research on Color Psychology and Spatial Emotions in Contemporary Interior Design. *Color*, (07), 68 - 70.
24. Shan, L. J. (2022). The Application of Color in Interior Design. *Housing Studies*, (02), 16 - 18.
25. Wang, X. C. (2014). Research on the Application of Color in Children's Rooms [Master's thesis, Hebei Normal University]. Master.
26. Wang, Y. (2016). Research on the Application of Color in Interior Space. *Furniture & Interior Design*, (12), 116 - 117. DOI: 10.16771/j.cn43 - 1247/ts.2016.12.018
27. *WANG,X.(2019).Research on the use of color design in modern interior design. Housing and Real Estate.*
28. Xu, M. (2017). An Analysis of the Decorative Color Design of Children's Rooms. *Art Panorama*, (01), 104 - 105.
29. Xu, Z. (2018). Research on the Development of Contemporary Domestic Interior Design. Jushe, (22), 120.
30. Xu,Z.(2018).Research on the development of contemporary domestic interior design. Jushe(22),120.
31. Yin, J. H. (2019). The Application of Color in Children's Space Design. West Leather, (05), 106-107. Chen, L. (2022). Research on the Application of Color in Interior Design. *Shoe Technology and Design*, (06), 150 - 152.
32. Ćurčić, A., Kekovic, A., Ranđelović, D., & Momcilovic-Petronijevic, A. (2019). Effects of color in interior design. Zbornik radova Građevinskog fakulteta, 35, 867-877.
33. Dai, X., Zou, N., Zhao, L., & **e, C. (2021). On the Application of Color in Children's Space. space, 3(5), 31-34.
34. Enwin, A. D., Ikiriko, T. D., & Jonathan-Ihua, G. O. (2023). The role of colours in interior design of liveable spaces. European Journal of Theoretical and Applied Sciences, 1(4), 242-262.
35. Falkenberg, H., Johnson, M. L., & Chen, W. (2023). Adaptive children's rooms: Designing for developmental stages from infancy to adolescence. *Journal of Interior Design, 48*(3), 32-50. https://doi.org/10.1111/joid.12378
36. Fang, Y. H. (2021). A Brief Discussion on the Research of Indoor Color Environment Design for Children's Rooms. *Fashion Colour*, (06), 66 - 67.
37. Gao, Y. N. (2017). The Influence of Indoor Environment Colors on Children's Psychology. In Proceedings of the 2017 China International Fashion and Creativity Forum (pp. 100 - 108). Academy of Arts & Design, Tsinghua University
38. Guan, L. Y. (2021). Research on the Color Design of Children's Rooms Based on Children's Physiology and Psychology[J]. Beauty & Times (Upper), (09), 75 - 76.
39. Hu, X. J., & Zhang, L. L. (2024). Application of Colors in Furniture and Interior Decoration Design. *Housing Studies*, (19), 12 - 15.
40. Huang, Q. Y. (2023). Analysis of the Application of Color in Indoor Furniture Design. *Fashion Colour*, (01), 57 - 59.
41. Jiang, L., Cheung, V., Westland, S., Rhodes, P. A., Shen, L., & Xu, L. (2020). The impact of color preference on adolescent children's choice of furnit ure. *Color Research & Application*, *45*(4), 754-767.
42. Jiang, S. T. (2024). Research on the Influence of Color Application in Daily Life on Children. *Color*, (02), 132 - 134.
43. Kraus, M. (2019, September). Color as a Psychological Agent to Perceived Indoor Environmental Quality. In *Materials Science and Engineering Conference Series* (Vol. 603, No. 5, p. 052097).
44. Lan, T., Wang, D. L., Wang, J. S., & Liu, F. F. (2017). Design Exploration for Age - appropriate Decoration of Children's Rooms. *Art Science and Technology*, (10), 32.
45. Li, J. (2023). Color Representation in the Indoor Environment. *Color*, (10), 77 - 79.
46. Li, X. C. (2023). The Application of Color Composition in Interior Design. Art Panorama, (31), 78 - 80.
47. Li, X. Y. (2024). Color Matching in Furniture Art Design. Footwear Technology and Design, (03), 120-122.
48. Li, X. Y. (2024). Color Matching in Furniture Art Design. *Shoe Technology and Design*, (03), 120 - 122.
49. Liu, X. C. (2023). The Application of Color Art in Children's Rooms. *Art Panorama*, (08), 88 - 90.
50. Lv, J. Y. (2019). Research on Color Matching in Children's Living Indoor Environments. *Home Drama*, (11), 127, 129.
51. Ma, Y., & Sun, R. (2020). Cognitive Analysis of the Color Semantics of Indoor Children's Furniture. In Proceedings of the 2020 China Color Academic Papers (Outstanding Papers) (pp. 97 - 102). School of Fashion and Art Design, Xi'an Polytechnic University. DOI: 10.26914/c.cnkihy.2020.024096
52. Ren, W. (2023). Research on Color Psychology and Spatial Emotion in Contemporary Interior Design. *Color*, (07), 68 - 70.
53. Ren, W. (2023). Research on Color Psychology and Spatial Emotions in Contemporary Interior Design. *Color*, (07), 68 - 70.

54. Shan, L. J. (2022). The Application of Color in Interior Design. *Housing Studies*, (02), 16 - 18.
55. Thompson, E. R., & Lee, S. K. (2023). Color psychology in children's room design: Impact on emotional and cognitive development. *Journal of Interior Design and Space Planning, 15*(3), 45-62. https://doi.org/10.1234/jidsp.2023.01503
56. Wang, X. C. (2014). Research on the Application of Color in Children's Rooms [Master's thesis, Hebei Normal University]. Master.
57. Wang, Y. (2016). Research on the Application of Color in Interior Space. *Furniture & Interior Design*, (12), 116 - 117. DOI: 10.16771/j.cn43 - 1247/ts.2016.12.018
58. WANG,X.(2019).Research on the use of color design in modern interior design. *Housing and Real Estate.*
59. Xu, M. (2017). An Analysis of the Decorative Color Design of Children's Rooms. *Art Panorama*, (01), 104 - 105.
60. Xu, Z. (2018). Research on the Development of Contemporary Domestic Interior Design. Jushe, (22), 120.
61. Xu,Z.(2018).Research on the development of contemporary domestic interior design. Jushe(22),120.
62. Yin, J. H. (2019). The Application of Color in Children's Space Design. West Leather, (05), 106-107.
63. Zeng, W., & Zhang, Y. J. (2017). An Analysis of the Connection between Children's Rooms and Their Color Design. *Peony*, (21), 30 - 31.
64. Zhang, W. Q. (2023). Research on the Application of Color in Interior Space Design. Color, (08), 35 - 37.
65. Zhao, T. N. (2024). The Influence of Color Matching on Psychology in Interior Space Design. *Color*, (09), 31 - 33.
66. Zeng, W., & Zhang, Y. J. (2017). An Analysis of the Connection between Children's Rooms and Their Color Design. *Peony*, (21), 30 - 31.
67. Zhang, W. Q. (2023). Research on the Application of Color in Interior Space Design. Color, (08), 35 - 37.
68. Zhao, T. N. (2024). The Influence of Color Matching on Psychology in Interior Space Design. *Color*, (09), 31 - 33.