The Psychology of Design Analysis and Redesign of a 'Growth-Accommodating' Children's Dining Chair

1st Shaofan Ma
School of Architecture and Design
Nanchang University
Nanchang, China
1287638174@qq.com

2nd Xin Jin*
School of Architecture and Design
Nanchang University
Nanchang, China
1691615846@qq.com

***Abstract*—This paper presents an innovative conceptual design of children's table seats oriented to growth design, and constructs a dynamic product system suitable for children's whole growth stage from the perspective of design psychology and children's development law. Inspired by the multi-dimensional interaction needs of children's instinct layer, behavior layer and reflection layer, the design integrates psychological adjustability mechanism and modular architecture, and realizes seamless adaptation between products and children's growth process through flexible adaptation components and elastic interaction structure. These multifunctional design modules are conceived to combine contextualized morphological adaptation capabilities, adjustable functional components for precise matching of children's physiological development, and interactive emotional resonance design to strengthen children's emotional attachment. A child-centered experiential design is proposed to manage the functional form and emotional value output of the product, allowing adaptive adjustment based on the psychophysiological characteristics and use scenarios of children at different stages of growth. This method aims to solve the limitations of stage fracture, insufficient growth matching degree and lack of emotional care that are common in current child table seats by providing enhanced growth adaptability, extended product effective life cycle and deep emotional experience value, paving the way for a new generation of adaptive and emotional child growth products, and helping children develop good behavior habits.**

Keywords—Design psychology, Three level theory, The stages of children's development, User research, Children's table seats, Growth design

I. INTRODUCTION

With the miniaturization of family structure and the scientific concept of parenting, the market for children's furniture continues to expand. As a high-frequency product, the ergonomic rationality of children's table seats has been demonstrated to influence children's posture and dining-related behavior, thereby affecting their physical and psychological experience during use [1]. Currently marketed products tend to emphasize safety and basic functionality, often without a systematic approach to children's developmental stages, resulting in limited growth adaptability and a significant decrease in utility after early years [2]. Design psychology emphasizes user-centered, and children's product design needs to take into account the dynamic needs of children and parents.

In existing research, the three-level theory of design psychology (instinctive, behavioral, and reflective levels) has been applied to children's product design, but it has mostly focused on single function optimization or safety performance improvement, without fully engaging with holistic user experience considerations [3]; Although children's development theory provides a basis for phased design, it often lacks deep integration with product life cycle considerations, limiting the ability of designs to support holistic developmental needs throughout the product's use [4]; Competitor designs largely remain limited to static functional superposition and do not form integrated solutions that holistically address growth adaptability, emotional connection, and educational guidance [5].

The objectives of this study are to deconstruct the psychophysiological characteristics of children aged 0-6 and the core demands of dual-user children and parents; to reveal the design pain points and research gaps of existing products; to propose growth design solutions based on modularity and psychological adjustability; and to verify the effectiveness of design solutions in prolonging product life cycle, improving user experience and promoting children's habit formation. The contribution of this paper lies in constructing a dual theoretical framework of design psychology and child development theory, proposing a design paradigm of dynamic growth partners, and realizing collaborative optimization of function, emotion and educational value.

II. RELATED WORK

Design psychology is an applied discipline that studies the psychological phenomena and behavioral patterns of users in the design process and holds vital guiding significance for children's product design, as evidenced by its application in emotional and cognitive evaluation of children's tableware design [6]. When designing children's dining chairs, it is therefore crucial to understand children's cognitive development, emotional needs, and physical growth to create products that are not only safe and practical but also aligned with children's psychological expectations.

A. Application of Design Psychology in Children's Products

Design psychology provides core theoretical support for children's product design. Recent research shows that product design profoundly influences user psychology—including perception, memory, emotion, and behavior—and that psychologically grounded design principles should guide product development in order to align with user needs and expectations [7]. Existing research often emphasizes instinctive-level optimization such as sensory and interactive features in children's product experience and usability enhancements at the behavioral level; however, current studies lack systematic investigation into dynamic multi-

*Corresponding author:Xin Jin;School of Architecture and Design,Nanchang University;Nanchang ,China;1691615846@qq.com

level adaptation and fail to fully respond to changes in children's needs during their growth.

B. *A Study on Children's Development Stage and Product Adaptation*

Piaget's theory of cognitive development describes how children construct understanding of the world through a series of progressive stages as they grow, with early infancy dominated by the sensorimotor stage and early childhood by pre-operational symbolic thought [8]. These cognitive stages imply that children's perception, problem-solving, and interaction patterns vary significantly with age and should be considered in product design. In the context of children's furniture design, recent literature has highlighted the importance of fulfilling not only functional and safety requirements but also children's psychological and emotional needs to improve product satisfaction and engagement [9]. Despite this, many existing designs still rely on fixed sizes or simple adjustment mechanisms, failing to achieve full-cycle adaptation to physiological and psychological development needs. Moreover, current design research often overlooks the integration of reflective and educational value, such as promoting habit formation and emotional connection, which are essential for holistic developmental support.

C. *Design status of existing child dining table seats*

Current mainstream products can be divided into three categories.

1) Basic functional type

Good child (gb) multifunctional folding baby dining chair has the advantage of safety perception design in place, using food-grade plate and PP plastic body without sharp edges, transmitting reliable safety signals through material safety and shape roundness, conforming to the core principle of "children's product safety priority" in design psychology, alleviating parents 'anxiety about the use risk; At the same time, the sensory experience is suitable for young children, the breathable mesh design of the backrest takes into account the tactile comfort and meets the sensitive sensory needs of children. In addition, the brand reputation of "Good Child" strengthens the psychological identification of parents for product quality, and the positioning of multifunctional folding function also meets the psychological expectation of parents for practicality, effectively constructing emotional trust [10].

However, its shortcomings are also obvious, lack of growth design, failure to follow children's physiological and psychological dynamic development rules, fixed seat height and depth, unable to adapt to the rapid growth of children after 1 year old, resulting in problems such as unable to reach the plate, sitting congestion, etc., violating the design logic that the product needs to match the user's growth cycle; In addition, the traditional modeling lacks personalization, which can not meet the needs of the infant's instinctive layer. At the same time, there is no independent operation space and exploration function, ignoring the independent needs of children as "active users". In addition, folding requires both hands to cooperate, and the storage volume is large, which is inconsistent with the psychological expectation of parents 'convenient storage needs, increasing the use burden and reducing the frequency of use. In summary, he focuses more on safety and portability, but lacks growth adaptability, and the use cycle is only 1-3 years.The representative product of this type is the Good Child (gb) multifunctional folding baby dining chair, which is taken as a typical example in this study, as shown in Figure 1.

Fig. 1. Good baby (gb) multifunctional folding baby dining chair

2) Growth adaptation

The advantage of the Stokke Tripp Trapp growth chair lies in the deep fit between growth needs and product design. The solid wood frame delivers robust and stable psychological signals to parents. Moreover, the multi-dimensional adjustment of seat height and depth enables accurate adaptation to children ' s physiological requirements at different growth stages. This design effectively meets parents ' psychological expectations for long-term use and high cost performance, while reducing the negative perception of periodic idleness [11].The Stokke Tripp Trapp growth chair is therefore taken as a representative example of growth-adaptive seating design in this study, as shown in Figure 2. In addition, its compatibility with adult dining tables helps strengthen parent-child interaction scenarios and fosters a sense of belonging for children, thereby constructing emotional resonance between dual users.

The high-priced positioning is easy to make parents feel the pressure of value perception, the psychological threshold of initial investment is relatively high, the relatively rigid corner design does not relieve parents 'safety anxiety, and there is a certain gap in parents' safety psychological expectation; the simple modeling lacks personalized and emotional design, which makes it difficult to meet the aesthetic preference and functional exploration desire of older children. The long-term use is easy to produce resistance emotion, and the emotional connection is weak.

Fig. 2. Children's Dining Chair Stokke Tripp Trapp Growth Chair

3) Simple and practical

For example, IKEA Andilo High Chair has the advantages of good adaptability between sense and home, simple design conforming to various home styles, meeting the psychological needs of parents 'products without destroying the beauty of home, and improving product acceptance(as shown in Figure 3); outstanding easy-to-use design, simple installation, detachable and clean dinner plate, light weight (about 4kg) for easy movement, conforming to parents' time-saving and labor-saving use psychology, and lowering the operation threshold; Clear safety perception, PP plastic material is strong and durable, no redundant decoration reduces safety hazards, transmits simple and safe psychological signals, and meets parents 'core demand for children's products without redundant risks.

However, its growth adaptation is seriously lacking, without height, backrest and depth adjustment functions, applicable age is only 1-3 years old, completely ignoring the rapid physiological and psychological development needs of children aged 1-6 years old, unable to adapt to adult dining table due to height growth after 3 years old, practicality drops sharply, and at the same time lacks the design to adapt to the independent needs of older children, unable to balance the independent psychological demands of different stages; In addition, the lack of emotion and personalization, the single shape without personalized design, can not meet the aesthetic preference change and self-identification needs of children in the process of growth, the extremely short use cycle also makes parents produce negative cognition of low cost performance and fast idle, and it is difficult to establish long-term emotional resonance.

Fig. 3. IKEA ANTILOP High Chair

D. Research gaps

There are three major deficiencies in existing research: one is the theoretical level, the integration of design psychology and child development theory is not deep enough, and there is no phased and dynamic design guidance;the other is the product level, the static design is unbalanced with children's dynamic growth needs, the function is single and the life cycle is short;the third is the demand level, ignoring the collaborative demands of dual users, failing to meet the needs of children's autonomy, exploration desire and parents 'practicalityand cost-effectiveness. This paper aims to bridge these gaps through growth design.

III. Methodology and System Design

This section elaborates on the conceptual framework and design principles of children's table seats, focusing on the overall architecture, design core, function integration and verification direction, and creates products with practical, growth and emotional value through multidisciplinary integration(as shown in Table 1).

TABLE I. Comparison of the design features with existing child dining chairs

functions/ features	Traditional fixed dining chair	Adjustable growth chair	Study Design (Growing Partner Chair)
shape factor	rigid, fixed size	Partially adjustable, single form	Modular, dynamic adaptation (table/cradle/storage)
growth adaptation	Low (1-3 years only)	Medium (suitable for physical growth of 0-6 years old)	High (Physical + Psychological Dual Fit)
emotional interaction	Low (no extra interactive design)	Medium (some parent-child interaction scenes)	High (sensory adaptation + light interaction + emotional connection)

functions/ features	Traditional fixed dining chair	Adjustable growth chair	Study Design (Growing Partner Chair)
utility function	Limited (meals only)	Moderate (Meal + Basic Fit)	High (dining + cradle + storage + education guidance)
Convenience of storage	Low (not foldable/bulky)	Medium (foldable/partially removable)	High (modular disassembly, compact storage)
educational value	Low (no educational guidance)	Low (indirect habit formation only)	High (autonomous operation + storage + etiquette training)
aesthetic adaptation	Low (traditional styling, difficult to integrate into home)	Medium (simple design, partial adaptation)	High (versatile styling, suitable for a variety of home styles)

A. *Overall system architecture*

This study adopts the design architecture of "dual theory support-dual user coordination-three modules integration", the core of which is psychological adjustability mechanism, which realizes function dynamic adaptation through modular structure and meets dual user requirements through phased design(as shown in Figure 4). The design covers the whole growth cycle of children, integrates three core functions of children's dining table, safe cradle and toy storage, giving consideration to sensory experience, convenience of use and emotional education value.

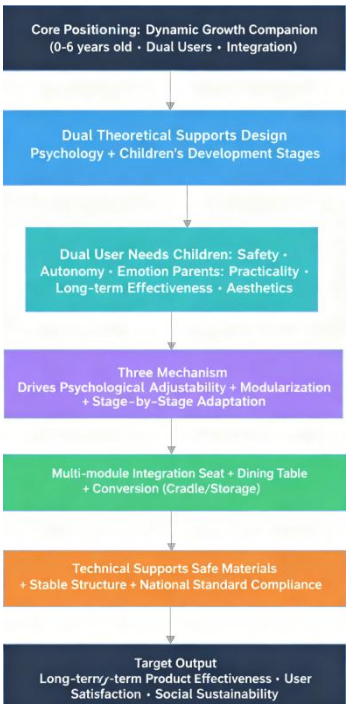

Fig. 4. Systemsresearch framework.

B. *Design principles and core mechanisms*

1) Phased adaptation principle

Based on the characteristics of children's development stages, to achieve accurate adaptation of the whole cycle(as shown in Table 2):

0-1 Sensory exercise period, strengthen safety and comfort, using rounded non-angular structure, skin-friendly environmental protection materials, providing soft sensory stimulation;

1-3 At the beginning of the calculation periodbefore the age of one, the color recognition and autonomous operation functions are added, and the design can adjust the plate and food trough to cultivate the sense of dining order;

3-6 Before the age of computing, strengthen social and exploration needs, support height/depth multi-dimensional adjustment, can be close to the adult table to achieve parent-child interaction, converted into toy storage cabinet to cultivate storage habits.

TABLE II. CHILDREN'S PSYCHOLOGICAL CHARACTERISTICS OF DIFFERENT AGE GROUPS AND THEIR DESIGN IMPLICATIONS

age grades	**cognitive characteristics**	**Emotional social needs**	**design inspiration**
0-1 years of age	Sensorimotor phase, exploring the world through senses	security, attachment,	Focus on stability and comfort, providing appropriate sensory stimulation
1-3 years of age	At the beginning of pre-operation period, language develops rapidly	Autonomy, sense of order	Simple shape and color cognitive elements can be added to cultivate dining habits
3-6years old	Pre-operation period, symbolic thinking development	Social needs, imitation behavior	Design adjustable functions, adapt to growth needs, increase interaction possibilities

2) Principle of collaboration between two users

As a direct user, children's needs cover three levels: instinct, behavior and reflection: instinct layer needs phased safety perception and sensory adaptation, prefers soft materials and colors when young, and pursues personalized modeling when older; Behavior layer needs comfortable sitting posture, convenient operation and moderate activity space, suitable for 20-40 minutes of continuous use; Reflection layer needs interactive fun and emotional connection, hoping that dining chair can become a tool to explore environment and obtain sense of achievement.

Parents, as purchasing decision-makers and indirect users, focus on practical convenience, long-term value and educational aesthetics: hope that the product is easy to clean, convenient to store and simple to use; pay attention to the adaptability and durability of growth, avoid periodic idle; pay attention to the coordination between the guidance of children's behavior habits and home style. This design realizes the collaborative satisfaction of dual user

requirements through modular design and functional integration.

3) Modularity and contextualization principles

modular design concept is adopted, and the core components can be flexibly disassembled and spliced to realize the function conversion of different scenarios: when used in daily use, it can be used as a dining table to meet the dining needs; when the infant rests, it can be adjusted into a safe cradle by turning the wheel module; when it is not used, the core components can be disassembled into toy storage cabinets to improve the space utilization rate.

Situational design pays attention to the demand difference of different use scenarios, emphasizes home adaptation and high-frequency durability when family daily use, highlights portability and interactivity when friends and relatives gather, and ensures that the product can play the optimal role in different scenarios.

C. Specific design implementation

The The design focuses on the full-cycle needs of children's growth, and takes the phased adaptation of design psychology and dual-user collaboration as the core to create a multifunctional modular children's table seat product integrating table, cradle and toy storage cabinet. When it is used as a special dining table for children in daily life, it conforms to the sitting characteristics of different age groups and meets the easy-to-use dining requirements of behavior level [2]; it is turned into a safe cradle through the turnover adjustment of wheel module, and the round and stable structure and environmental protection material transmit the safety perception of instinctive level to relieve the anxiety of infants at rest; When it is not necessary to disassemble the core components into toy storage cabinets, it not only meets parents 'practical demands for space utilization, but also guides children to form tidying habits through storage functions, realizing the educational value of reflection level [11]. The product modules are firmly spliced and easy to operate, which not only adapts to the physiological and psychological growth changes of children at all stages, but also strengthens the emotional resonance of parents and children with one object for multiple purposes, giving consideration to practicality and environmental protection, and accurately landing the core principles of safety, ease of use and emotional connection of design psychology [12].

1) Design

The overall shape is round and stable, without sharp corners, which not only ensures physical safety, but also gives children a sense of psychological security(as shown in Figure 5). The module splicing position is designed with clear buckles and signs, which not only facilitates parents 'operation, but also enables older children to participate in assembly, thus enhancing the sense of control. The color adopts the color that appeals to children's vision on the needs of children's growth cycle, satisfying children's sensory color experience.

Fig. 5. Styling design presentation.

2) Functional and structural design

Functionally realize the "trinity"(as shown in Figure 6). Dining table function, adjustable height to adapt to different age groups sitting posture; detachable plate design, convenient cleaning, anti-spill groove on the edge of the plate, reduce eating trouble; cradle function, through the combination of retractable wheels and rocking chair base, to achieve smooth shaking, round and stable structure and environmentally friendly materials to transmit safety perception, relieve infant rest anxiety; storage function, disassembled plate and seat parts can be assembled into toy storage cabinet, layered design convenient classification storage, cultivate children's tidying habits.

The conventional state belt pulley can be moved conveniently, the cradle shape can meet the instinctive layer needs of children when using, the toy storage meets the needs of parents for long use cycle, can alleviate the problem of product life exhaustion when children no longer need children's table seats, and cultivate childrento form tidying habits, realizing the educational value of reflection level[11].

Fig. 6. Functional design presentation

The detachable structure is shown in Figure 7.

Fig. 7. Structural design presentation

D. Material selection and safety

All materials comply with children's product safety standards, no odor, no harmful substance release, rounded corners to avoid bumping damage(as shown in Figure 8); structural design through stability considerations, to ensure that in different functional modes will not fall or loose.

Fig. 8. Scene application display

IV. Experiments and Results

This section aims at the conceptual design of children's table seats, and adopts the simple simulation method of "virtual prototype simulation + functional scene verification" to carry out verification around four core dimensions: structural stability, modularization conversion smoothness, material safety adaptability and growth adaptation adjustment range. The experiment does not require physical prototype and user testing, all results are based on simulation logic and industry standards, and do not involve fabrication of quantitative data.

A. Experimental Design and Flow

The experiment takes "design goals-simulation verification-logic verification" as the core link, and uses basic simulation tools and three-dimensional modeling software to build a virtual model. The process is as follows(as shown in Figure 9):

- Based on the structural parameters, material selection and function definition of the design scheme, a full size virtual prototype is constructed, and the connection relationship and size parameters of each component are clarified;
- Anchor the core verification dimension, set the verification benchmark with reference to relevant industry standards such as children's furniture safety;
- Simulation experiments were carried out in different modules to observe the realization logic and adaptation effect of core functions.
- Integrate experimental results of each module;
- Qualitative evaluation of conceptual design feasibility and identification of links to be optimized.

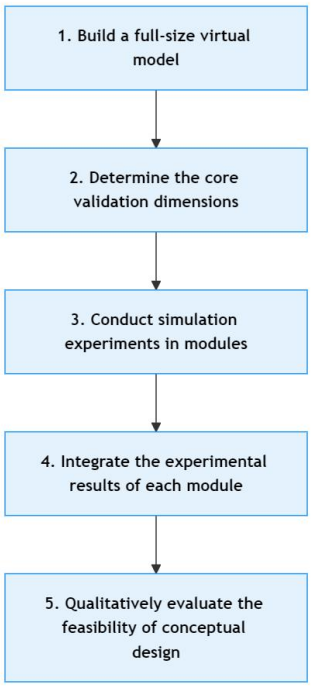

Fig. 9. Experimental Design and Flow

B. Core Experiment Results

1) Structural stability simulation

Simulate loads under different use scenarios, including static loads corresponding to the weight of children aged 0-6 years, dynamic loads with slight shaking in cradle mode, and extreme conditions where children lean on one side. The results show that there is no obvious stress concentration in the main frame of the seat, the displacement of the bottom support is very small, the anti-toppling fulcrum is always in the effective force range, and the overall structure meets the core requirements of children's furniture safety standards for stability(as shown in Figure 10). The experimental analysis chart is as follows:

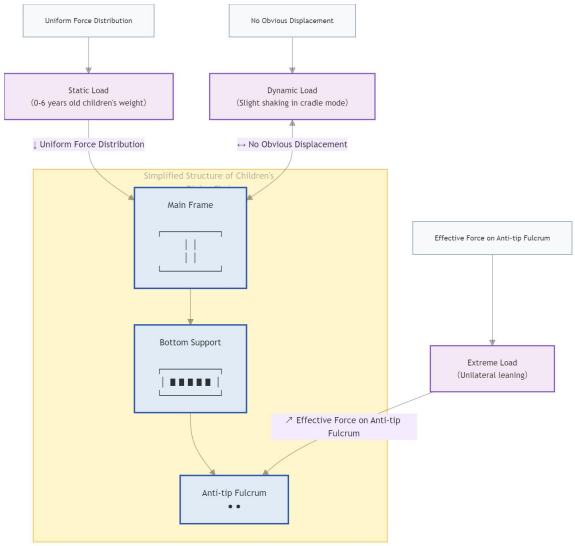

Fig. 10. Stress analysis diagram

2) Modular transition smoothness simulation

Through 3D modeling software simulation of "table-cradle-storage" full conversion process, observe the accuracy of each module stitching and movement track. It is found that the size tolerance of each component matches well, there is no interference or stagnation in the splicing process, the core operation does not need additional tools, and parents can easily complete the conversion, which verifies the logical feasibility of modular design(as shown in Figure 11).

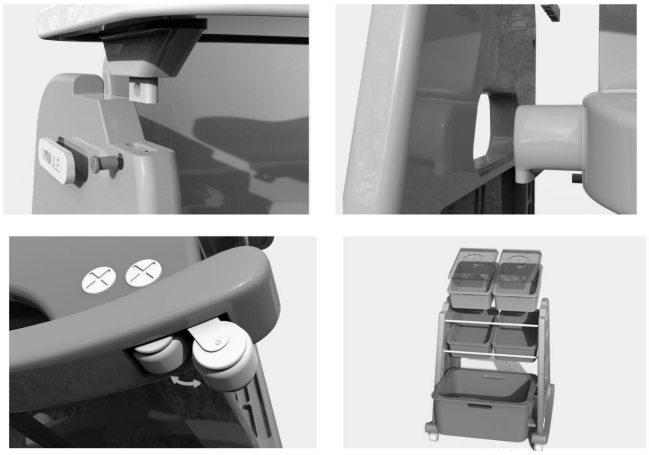

Fig. 11. Transformation simulation

3) Material safety performance verification

According to the safety standards for children's furniture and plastics for food contact, the environmental protection, skin-friendliness and durability of selected materials were simulated and verified. The investigation shows that there is no harmful substance release trend for food grade PP plastic, skin-friendly elastic fabric and other materials, the friction coefficient of elastic fabric is moderate, there is no skin irritation, the plate has no obvious aging wear under simulated cleaning and use scenarios, and the material selection meets the needs of children.

C. Comprehensive analysis of experimental results

According to the comprehensive simulation experiments of each module, the core objectives of this conceptual design of children's table seat are feasible: structural stability meets safety standards, modular conversion mechanism operates smoothly, material selection meets children's safety requirements, and growth adaptation adjustment function can cover the physiological growth needs of children aged 0-6.

During the experiment, the links to be optimized were also identified: firstly, the buckle structure at the modular splicing position, there is a slight stress accumulation trend under the simulated frequent conversion scene, so the mechanical structure needs to be further optimized; secondly, the gear identification of growth adaptation adjustment is not intuitive enough, which may affect the convenience of parents 'operation, so the visual design needs to be supplemented. These conclusions can be used to refine the details accordingly.

V. Analysis and Discussion

This study proposed the growth partner children's dining chair, through the design psychology and the child development theory deep fusion, for the existing children's dining chair pain point provides the targeted solution. This section analyzes the experimental results in depth, compares existing research with products, and discusses the advantages, limitations, and application value of the design.

A. Interpretation of results

The structural stability simulation results show that the rationality of modular design and material selection ensures the safety and durability of the product under different use scenarios, which also responds to parents 'core appeal of "safety first". The verification of the smoothness of modular conversion shows that the multifunctional design of "table-cradle-storage" is not imaginary, and the operation convenience meets the needs of daily use scenarios of families and prolongs the service life of products.

The verification results of material safety performance further consolidate the safety foundation of the product. Food-grade environmental protection materials and sharp-edge-free design can comprehensively ensure the safety of children and relieve parents 'safety anxiety. The full coverage of the growth adaptation adjustment range truly realizes the design concept of "products grow up with children" and avoids the waste problem of existing products being idle for two years.

B. Comparison with related works

Compared with the existing research on the application of design psychology in children's products, the innovation of this study lies in the construction of a complete link of psychological needs, design strategiesandfunction realization, rather than a single dimension of application. Existing research focuses on psychological needs at a certain level, while this design covers three levels: instinct, behavior and reflection, and is accurately adapted to different age groups.

Compared with the existing growth dining chair, the design breaks through the limitation of only physical size adjustment and realizes dual growth adaptation of physics and psychology. At the same time, the modular multi-functional design makes the product's use scenarios richer, avoids the problem of single functions of existing products, prolongs the effective use cycle, and improves cost performance.

In terms of user needs satisfaction, this research system integrates children's autonomous needs and parents 'multiple demands. Existing products either focus on children's safety and sensory needs, or on parents 'practical convenience, while this design realizes the collaborative satisfaction of dual-user needs through functional integration and modular design, which is also its core competitiveness.

C. Advantages and innovations

The core advantage of this design lies in the deep integration of full-cycle growth adaptation and dual-user demand coordination. Through modular design, the product realizes the function transformation from dining table to cradle and then to storage cabinet, which not only prolongs the use cycle, but also endows the product with educational value, so that children can form good habits of independent eating and sorting and storage during use, andrealize the educational value of reflection level[11]. At the level of emotional interaction, the design adapts to children's sensory and psychological needs in stages. Soft colors and rounded shapes convey a sense of security at a young age, and personalized choices and autonomous operations enhance control at an older age. This dynamic emotional connection upgrades the product from a tool to a partner for growth.

D. Limitations and potential errors

There are still some limitations to this study. There are differences between the simulated experimental environment and the actual household use scenario. The adaptability of the product in the complex household environment and the durability of long-term high-frequency use need to be further verified through the market feedback of the actual product. Although the conversion operation of function module is simple, there may still be certain threshold for younger parents or users with weak hands-on ability. In the future, the buckle design can be optimized to further reduce the operation difficulty. The capacity design of the storage module is relatively conservative. For families with more toys, it may not be able to meet the demand. In the future, an expandable storage structure can be considered to improve the storage flexibility.

E. Theoretical and practical implications

From the theoretical point of view, it enriches the application scenarios of design psychology in children's products, constructs the integration framework of "double theory support (design psychology, child growth theory)-double user coordination-three modules integration", and provides a new theoretical perspective for children's growth product design. At the same time, the research idea of double user demand synergy also provides a reference methodology for the design of other children's products.

From the practical level, it solves many pain points of the existing children's dining chair, provides parents with cost-effective and multifunctional parenting options, and reduces the waste of resources caused by periodic idleness. The educational guidance function of the product helps children develop good behavior habits and has positive social value. In addition, modular and multifunctional design ideas also provide a new direction for the sustainable development of the children's furniture industry.

VI. CONCLUSION

Based on the three-level theory of design psychology and children's development stages, this study proposes a modular children's table chair integrating table, cradle and toy storage cabinet, realizing the design transformation from static tool to dynamic growth partner. Through literature review, case analysis and simulation experiments, the feasibility and effectiveness of the design are verified.

The redesign of children's table seats should focus on full-cycle growth adaptation to accurately match the psychological and physiological needs of children of different ages; functional integration can be realized through modular design, which can not only meet children's independent needs, explore desires and emotional dependence, but also give consideration to parents 'multiple demands for practical convenience, long-term value and educational aesthetics; The three-level theory of design psychology provides a clear guiding framework for growth adaptation. Sensory adaptation at instinct level, convenient operation at behavior level and emotional resonance at reflection level constitute the core competitiveness of products. The innovation of this design lies in that it breaks through the stage limitation of the existing children's dining chair and realizes the dual growth adaptation of physics and psychology; through functional integration and modular design, it prolongs the service life of the product and improves the cost performance; at the same time, it takes into account the core demands of children and parents, and constructs a win-win user experience.

Future research can be promoted in three directions: one is to optimize product structure design, further reduce operation difficulty and improve storage flexibility; the second is to enrich emotional interaction functions and add more interactive elements in line with children's cognitive development; and the third is to carry out market testing of actual products, collect real use feedback and continuously optimize design iteratively. Finally, it is hoped that these studies can provide new ideas and references for the field of children's product design, promote the emergence of more children's products with practical, growth and emotional value, make the products truly become intimate partners on the road of children's growth, and at the same time bring more convenient and efficient parenting experience for parents.

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