

Research on the Operation Model, Effectiveness, and Optimization Strategies of Love Summer Care Classes from the Perspectives of Dual Employee Families and Volunteers

Wuyue Zhang ^{*}, Menglan Wu [†], Yihe Liu [†]

School of Economics and Management, Shanghai University of Political Science and Law,
Shanghai, 201701, China

^{*} Corresponding author: Wuyue Zhang

[†]These authors contributed equally to this work

Abstract. This study mainly focuses on the Love Summer Nursery Class in Hongkou District, Shanghai. Through field research, multivariate statistical analysis techniques such as KMO test and decision tree model, the needs of parents and volunteer motivation were analyzed, and the core concerns and attitude needs of parents towards "safety", "curriculum", and "fees" were explored. The operation mode and effectiveness of the class were further explored. This study focuses on the actual service effectiveness and social value of summer care classes. Firstly, it analyzes their functions and room for improvement from three aspects: alleviating family care problems, the role of volunteers, and practical effects. The results show that the Love Summer Care Class has significant effects in alleviating the pressure of dual employee family care, but there are shortcomings in service quality, policy promotion, and other aspects. Secondly, this study summarized the advantages and disadvantages of the Love Summer Care Class from the aspects of promotion, service optimization, and volunteer management. Finally, this study proposes suggestions for improving the optimization of summer daycare service models, providing practical guidance for the future development of daycare services.

Keywords: Dual Income Families; Summer Daycare; Love Summer Care Class; Volunteer Service.

1. Introduction

In recent years, with the rapid development of the economy and society, dual income families have gradually become an important part of China's family structure. Under the policy of promoting the healthy growth of children and adolescents, summer daycare classes have been established in various regions. Taking Shanghai as an example, the government has increased its support for summer daycare classes, increased the number of summer daycare class locations in various districts of the city, increased the allocation of class locations and resources, standardized the course process and standards, strengthened training and evaluation mechanisms, and other measures, vigorously promoting the development of summer daycare classes. Since its official establishment in 2014, the summer daycare program has opened a total of 3733 summer (winter) daycare classes, serving over 350000 primary school students and attracting more than 85000 college and high school student volunteers to participate.

In addition, the acceleration of urbanization has brought about the dilemma of children from dual income families being left unattended during summer vacation, and the demand for summer daycare classes in society is urgently increasing. The new model of summer daycare classes has emerged and received widespread attention from the whole society, becoming an important way to meet the current needs of family education.

In the current market, summer daycare services are diverse in form and supply, including various types such as interest expansion, as well as participation from educational institutions, social organizations, and local governments. The involvement of the Internet has also made the combination of online and offline models continue to develop, meeting the needs of different families and children. The diversified supply model enhances market competitiveness and also promotes innovation and service quality improvement in the entire industry.

With the gradual popularity of the summer custody market, more and more venture capital and funds are entering this market. Social capital not only brings stronger market vitality and resource integration capabilities, but also promotes the standardized and standardized development of summer daycare classes, improves the overall service level of the market, and promotes the healthy development of the industry.

With the implementation of the "Three Year Action Plan for Promoting Child Friendly City Construction in Shanghai (2023-2025)", the Shanghai Municipal Government has taken the lead in establishing and promoting summer daycare classes, providing summer care support for dual income families, exploring the "Shanghai experience", and providing a good demonstration for other regions.

The main objectives and contributions of this study are as follows:

1. This study will be based on an in-depth investigation of the needs of dual income families, exploring their pain points in the actual caregiving process, such as their needs in terms of course quality, caregiving time arrangements, and caregiving expenses, and identifying the shortcomings of the existing daycare model [1].

2. This study conducts an in-depth analysis of the motivation, service experience, and personal growth of college student volunteers, revealing their positive role in alleviating family caregiving pressure, improving the quality of daycare services, and further exploring how to better attract, manage, and motivate volunteers to provide sustained human resources support for summer daycare services.

This study will evaluate the actual effectiveness of summer daycare classes in caring for children, supporting families, and cultivating volunteers through multi-dimensional data analysis. This study summarizes the advantages and disadvantages of Shanghai summer daycare classes in practice, providing a scientific basis for optimizing the daycare model. The research findings can help improve the service model of daycare centers, enhance the effectiveness of summer care, and promote their sustainable development in the future [2].

2. Methods

The method used in this study aims to comprehensively and deeply understand the social value of caring summer care classes. This study conducted field research and data analysis on the Love Summer Care Class in Hongkou District, in order to gain a deeper understanding of its role in solving the problem of summer care for dual income families, and explore strategies for its development and improvement. This section will introduce the classic domestic and foreign literature and research referenced in this study, and provide an in-depth introduction to the research methods and ideas.

2.1 Literature Review

The development status of summer care classes abroad: The development status of summer care classes abroad presents diverse characteristics, especially in regions such as the United States, Canada, and Europe. In these countries, summer daycare classes are often seen as an important component of children's education and community service, aimed at providing a safe, fun, and educational vacation environment for school-age children. In the United States, Summer Camps include day camps and residential camps, which can fully meet the needs of children to participate in activities such as art, sports, science, and outdoor exploration. In Canada, summer daycare programs not only focus on children's entertainment needs, but also emphasize cultivating their teamwork, leadership skills, and environmental awareness[3]. In Europe, summer care classes place greater emphasis on cultural and educational elements, with many programs incorporating local history and cultural heritage, providing activities such as language learning, art workshops, and historical exploration.

The development status of domestic summer daycare classes: In China, as a holiday education service for school-age children, summer daycare classes have gone through a process of development from scratch, from single to diverse. In recent years, domestic summer care classes have shown a

trend towards diversification and marketization, operated by educational and training institutions or private enterprises, providing more personalized and distinctive services, such as interest cultivation and skill training in fields such as art, sports, and technology[4]. Taking Shanghai as an example, a comprehensive public service system has been established to meet the diverse needs of students of different age groups, with a greater emphasis on their all-round development. The operation mode is also diversified, standardized, and intelligent.

2.2 Research Ideas

This study conducted field research and data analysis on the Love Summer Care Class in Hongkou District, in order to gain a deeper understanding of its role in solving the problem of summer care for dual income families, and explore strategies for its development and improvement.

Research direction: Firstly, based on the research hotspots, this study proposes three questions and determines the research direction as analyzing the market demand for summer care services, understanding the main factors affecting parents' choice of summer care services, and improving the direction of the summer care service market.

Data collection: This study used stratified sampling and multi-stage sampling methods to obtain sample data. At the same time, text mining techniques are used to analyze the feedback and needs of parents and volunteers for summer daycare services, in order to understand the true views of different groups on summer daycare services.

Data analysis: Firstly, this study will use SPSS to conduct descriptive analysis on the characteristics of the sample population, the situation of summer care services, and the feedback from parents and volunteers. The reliability and validity will be evaluated based on KMO test and Bartlett sphericity test. Secondly, this study used a decision tree model to analyze the main factors affecting parental satisfaction, a random forest model to identify key factors for parents to choose summer care classes, and K-means clustering analysis to explore the diverse needs of parents, providing data and scientific basis for the refinement and improvement of summer care classes[5]. Finally, this study will integrate the results of the questionnaire survey and text analysis to draw research conclusions, and propose future improvement directions and suggestions for the Love Summer Nursery Program from the aspects of promotion, service optimization, and volunteer management.

2.3 Research Plan Design

This social survey mainly adopts the methods of literature review, questionnaire survey, interview survey, and mathematical statistics. Among them, literature review method refers to obtaining relevant literature materials related to the research topic, understanding the knowledge and scholars' views in the field, and preparing for the design of a questionnaire survey report. In terms of questionnaire surveys, this research conducted two surveys, namely preliminary surveys and formal surveys. The investigators conducted statistical analysis and systematic organization of the data provided by the collected questionnaires to obtain research results[6]. In the interview survey, the researchers distributed questionnaires and conducted in-depth face-to-face interviews with the respondents to gain a more comprehensive and in-depth understanding of the implementation status of the Love Summer Nursery Class in Hongkou District. At the same time, they hoped to explore and discover in-depth information beyond the questionnaire survey through interviews and conversations, in order to improve the research content.

2.4 Sampling Plan Design

Sampling method: This survey adopts a combination of stratified sampling and multi-stage sampling to select some dual income families and related participants in Hongkou District, Shanghai for observation and analysis, in order to comprehensively understand the role and implementation effect of caring summer care classes in alleviating the problem of caregiving difficulties in dual income families.

Pre survey sampling: Pre survey is the process of sampling a small sample before a formal survey to test whether the questionnaire design is reasonable, and to modify basic errors that may exist in the questionnaire, such as unclear meaning, multiple semantic areas, or overly specialized language that makes it difficult for respondents to understand. Based on this, the sampling method and sampling box designed in the previous section are tested for their scientific validity and feasibility[7]. The research scope covers densely populated areas such as streets and schools where the Love Summer Nursery Class is located in Hongkou District.

Sample size determination: Based on the preliminary feedback from parents on summer daycare services in the pre survey, the sample ratio is determined. The calculation formula for the optimal sample size before correction is:

$$n_0 = \frac{t^2(1-p)p/d^2}{1 + \frac{1}{N}[\frac{t^2(1-p)p}{d^2} - 1]}$$

Among them, n_0 is the overall quantity, N is the absolute allowable sampling error, and d is the sample ratio. By consulting literature [10] and based on the pre survey results, the sampling ratio p is determined to be 0.2. If the confidence level is 95%, t can be determined as 1.96. In the sampling process, assuming an absolute allowable error of 3%, due to the total population of Shanghai N being 24874000. The approximate optimal sample size can be obtained as follows:

$$n_0 = \frac{t^2(1-p)p}{d^2} = \frac{1.96^2 \times 0.8 \times 0.2}{0.03^2} = 682.95$$

Due to $\frac{n_0}{N} \ll 0.05$, no further adjustments will be made to the sample size, and an approximate optimal sample size of 683(n_0) will be determined.

Assuming $Deff=1.4$, the effective sample size that should be collected can be calculated as:

$$n' = 683 \times 1.4 = 956.2$$

Assuming a response rate of 80% for the questionnaire, the actual number of questionnaires that should be distributed can be calculated as:

$$n = 956.2 \div 0.8 = 1195.25$$

According to the previously calculated sampling ratio, a total of 1196 questionnaires should be distributed to all streets.

Formal sampling survey: A total of 1546 questionnaires were distributed in this field survey, with 1360 valid questionnaires and a valid questionnaire response rate of 87.9%. A total of 1017 valid questionnaires were distributed to volunteers, 240 to parents, and 103 to summer daycare management personnel.

2.5 Questionnaire Content Design

The quality of questionnaire design is closely related to the effectiveness of information collection, and its content design is the core to ensure the accuracy and effectiveness of research results. This questionnaire is designed around the implementation effect of the "Love Summer Nursery Class" project, parental needs, volunteer feedback, and educational resource allocation. It is divided into two parts: the pilot questionnaire and the formal questionnaire.

Text mining: Text mining analyzes text data to uncover hidden information and assist in questionnaire design. Collect relevant information on the Love Summer Nursery Class as source data, use natural language processing technology to extract keywords and analyze high-frequency vocabulary and phrases, clarify the concerns of parents and volunteers about "safety", "curriculum", "fees", etc., and conduct emotional analysis to understand their attitudes and potential problems, analyze their needs and expectations, and provide guidance for questionnaire design.

Questionnaire design: Based on the survey purpose, convert the survey items into questionnaire form and design the questionnaire according to certain principles, including lead questionnaire and formal questionnaire. The questionnaire adopts the combination of closed and open, including Single

choice question, multiple choice, matrix scale, etc. [11], and the questionnaire framework is shown in Figure 1.

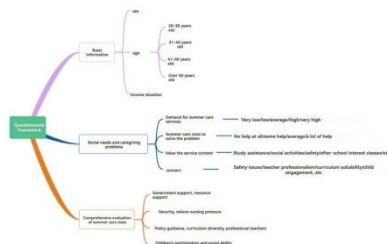


Figure 1. Questionnaire framework diagram

2.6 Processing and Verification of Survey Data

Pre survey data processing and testing: Questionnaires are commonly used tools in survey research, and the key to ensuring the analytical value of collected data lies in their reliability and validity. To improve the effectiveness of questionnaires and data in actual surveys, our team selected a small sample from the target audience for pre survey after completing the preliminary design to identify potential issues. Taking the questionnaire for volunteers as an example, a total of 134 questionnaires were distributed in this pre survey, and 123 were ultimately collected, with an effective response rate of 91.79%. After verification, the pre survey data showed good reliability and validity, which can support subsequent formal investigations.

Formal survey data processing and verification: In formal sampling surveys, a combination of probability sampling and non probability sampling is used, and an IP address is used to limit one respondent to only answer the questionnaire once to avoid duplication. A total of 1546 questionnaires were actually distributed, and 1360 valid questionnaires were collected. The effective questionnaire collection rate was 87.9%, which is relatively ideal. A total of 1017 valid questionnaires were distributed to volunteers, 240 to parents, and 103 to summer daycare management personnel.

Data processing: Firstly, conduct integrity and quality checks on the collected questionnaires. The members of the investigation team selected valid questionnaires from the collected questionnaires according to project requirements, and classified the questionnaires into three categories based on their filling status: valid questionnaires, obviously invalid questionnaires, and questionnaires whose validity cannot be confirmed. Secondly, export the collected questionnaire data to an Excel file and perform data encoding and assignment processing. After completion, import the cleaned data into SPSS for analysis. Finally, by searching for and correcting outliers and inconsistent data, the data purification work is completed. The specific operations include: using descriptive statistical analysis to identify outliers, creating a cross tabulation to exclude mutually exclusive options, identifying and deleting duplicate cases.

Data analysis method: In terms of qualitative analysis, the inductive analysis method is first used to deeply explore the current situation of summer daycare services by extrapolating from individual to general reasoning. Secondly, a comparative analysis method is used to compare the views of different groups and clarify the research focus and improvement direction. Finally, the structural analysis method is used to analyze the various components of summer daycare classes, such as curriculum, service quality, volunteer participation, etc., to explore their practical benefits and future development potential for dual income families, and further grasp the optimization space of daycare services. In terms of quantitative analysis, descriptive statistical analysis and model analysis are mainly used.

Data validation: This study conducted reliability and validity tests as well as run length tests. Taking the volunteer oriented questionnaire as an example, the reliability and validity of the questionnaire scale were tested using SPSS software. The test results are shown in Tables 1 and 2.

Table 1. Reliability analysis results of each variable

project	Number questions	Cronbach a	Reliability evaluation
Policy support and resource allocation	three	0.898	good
Service Quality and Curriculum Design	three	0.898	good
Family needs and participation experience	three	0.898	good
Volunteer Service and Social Contribution	three	0.898	good

Table 2. KMO value sample detection and Bartlett sphericity test

KMO sampling suitability quantity		Approximate chi square	Significance
Bartlett sphericity test	Approximate chi square	66.000	0.000
	freedom	6	0.000
	Significance	0.000	0.000

According to the test results, the reliability and validity are within the scope of research, so the data collected using this questionnaire has analytical value.

Run test: In order to ensure the randomness of the survey sampling, the research team conducted run tests on categorical variables. Run length test sorts sample data by size and divides the data into two groups based on the median, namely the parts greater than and less than the median. Then, by calculating the number of times these parts alternate (i.e., the number of runs), it is determined whether the sample data conforms to a random distribution. The results of the run test showed a p-value of 0.860, significantly greater than 0.05, indicating that the order of gender in the sample is random. Further use of SPSS software conducted the same run test on other categorical variables, and the results showed that the order of most variables conforms to randomness. Therefore, there was no significant deviation in the data order of this survey, which confirms the high degree of randomization of the survey and the validity of the survey results.

3. Results and Discussion

3.1 Descriptive Statistical Analysis

1) Questionnaire analysis for college student volunteers

In terms of grade distribution, the proportion of freshmen and sophomores is around 19%, while the proportion of juniors and seniors is around 30%. Taking into account the factors of enrollment time in junior and senior years and the possibility of an increase in the number of volunteers, the sample has good representativeness and there is no significant difference in grade proportion. In terms of participation frequency, 79.3% of the respondents have participated 1-2 times. In the statistical analysis of the motivation for volunteering in summer daycare classes, it was found that social responsibility ranked first with a proportion of 30.18%, indicating the respondents' emphasis on social responsibility. Secondly, personal growth motivation accounts for 27.98%, reflecting their desire for self-improvement. The motivation for learning experience is closely followed by 22.94%, indicating the respondents' desire to pursue knowledge.

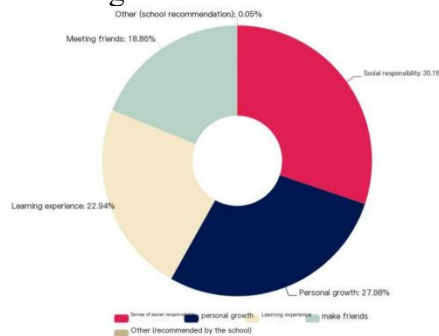


Figure 2. Motivation for participating in summer daycare volunteer activities

In the satisfaction survey of service experience, only 0.1% expressed "very dissatisfied", while nearly 90% of participants expressed satisfaction or very satisfaction with the service experience,

reflecting the overall recognition of the quality of summer daycare services. In addition, during the implementation of summer daycare classes, over 80% of respondents believed that they had a positive impact on children's growth, especially in improving social skills and overall quality. Data shows that "children's handicrafts" and "movie appreciation" are the most popular activities, accounting for 16.20% and 15.56% respectively, followed by "martial arts" and "calligraphy and painting", reflecting children's love for diverse activities.

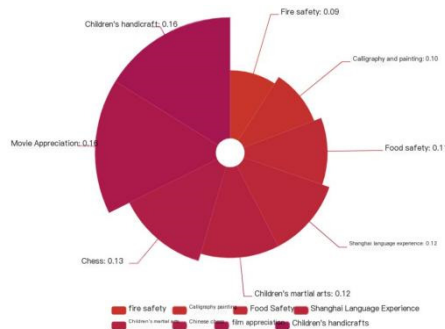


Figure 3. Activities loved by children in summer daycare classes

We encountered some major difficulties during the implementation process. According to statistics, personnel shortage is the most prominent difficulty, accounting for 21.31%; Next are funding shortages and security management issues, accounting for 19.80% and 15.81% respectively. In addition, difficulties in communicating with parents and unreasonable arrangement of course content have been repeatedly mentioned. The existence of these issues has affected the overall effectiveness of summer daycare classes. It is recommended to strengthen resource allocation and teacher training in future planning, and optimize course settings to further improve the quality and safety of activities.

In terms of comprehensive evaluation, based on the above scale data, the overall service quality and policy support have been recognized to some extent, but there is still room for improvement. Especially in terms of "policy support" and "financial support", the high scores indicate that participants are generally satisfied with the current policies.

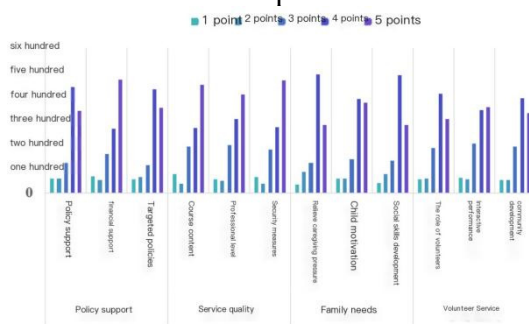


Figure 4. Scale feedback

Although there has been positive feedback in terms of "course content" and "professional level", it is still important to focus on improvement in order to ensure the maximization of children's learning outcomes. In terms of service quality, there is a significant difference in the scores related to "safety measures" and "family needs", indicating that further efforts are needed to strengthen child safety and mental health care. Especially the low score for "relieving caregiving pressure" highlights the importance of increasing parental support and participation. In the field of volunteer service, the scores for "interactive performance" and "social development" are similar, which reflects the significant promoting effect of volunteers' active participation on activities. When organizing follow-up activities, more attention should be paid to volunteer training and support, enhancing their interactivity and contribution in service. Meanwhile, paying attention to volunteer feedback will help enhance the impact and popularity of the event.

2) Questionnaire analysis for parents of dual income families

In terms of gender and age distribution, among the respondents, males accounted for 41.25% (99 people) and females accounted for 58.75% (141 people), indicating that there were relatively more female participants and the overall participation was relatively balanced. In terms of personal monthly income, overall, a large proportion of participants have a monthly income between 6000 yuan and 12000 yuan, reflecting a strong willingness of families in this income range to participate in summer daycare activities. In terms of age distribution, participants aged 20-30 accounted for 26.7% (64 people), those aged 31-40 accounted for 42.1% (101 people), those aged 41-50 accounted for 16.7% (40 people), and those aged 50 and above accounted for 14.6% (35 people). Overall, the age distribution of participants is quite diverse, covering multiple age groups, reflecting the broad appeal of the activity. In terms of caregiving service demand, feedback from participants showed that 5.4% of respondents rated the demand as "very low", 7.1% rated it as "low", 20.0% rated it as "average", while 41.3% and 38.8% of participants rated the demand as "high" or "very high", indicating a significant proportion of families have an urgent need for related services. In the evaluation of service satisfaction, 7.1% of participants believed that summer daycare classes were "completely unhelpful", 8.8% said "somewhat helpful", and 19.6% thought the service was "average". At the same time, 38.8% and 25.0% of participants respectively gave positive feedback on the effectiveness of the service, stating that their overall satisfaction is relatively high, but there is still room for improvement. Meanwhile, 32.47% of parents hope to provide more academic support to promote their children's learning progress. Secondly, 18.92% of parents are calling for increased social activities to help children improve their social skills and strengthen friendships. Meanwhile, 26.9% of families expect to strengthen safety measures to ensure the safety of their children during activities. In addition, 21.7% of parents hope to enrich extracurricular interest classes to stimulate their children's personalities and talents. The main concerns about summer daycare classes are that 22.97% of families are concerned about safety issues, especially facility and food safety. Secondly, 23.83% of families hope that teachers have higher professional qualities. In addition, 18.31% of participants hope that the course content can be diversified to meet the personality development of children.

3) Questionnaire analysis for summer daycare leaders

In a survey targeting the leaders of summer daycare classes, questionnaires were distributed to class teachers and management personnel, with valid questionnaires accounting for 59.41% and 40.59%, respectively. In terms of policy evaluation, 37.9% of respondents stated that policies have a significant impact on the business environment, while 41.8% believed that the impact is very significant. In terms of satisfaction with resource allocation support, 54.4% of respondents expressed satisfaction, 45.6% were very satisfied, but about 17.5% expressed dissatisfaction, reflecting that there is still room for improvement in policy support and resource allocation. A survey on whether the curriculum meets students' needs shows that only 10.7% of respondents believe that the curriculum arrangement does not meet their needs at all, 7.8% are dissatisfied, 39% are generally satisfied, 38.8% are satisfied, and 38.8% are completely satisfied. Overall, the satisfaction with the curriculum is relatively high. In addition, in managing classes, the main challenges faced by respondents include personnel shortage (40.8%), funding shortage (45.6%), and safety management issues (63.1%), indicating that although satisfaction with course offerings is high, management still needs to pay attention to personnel and funding shortages.

3.2 Analysis of Parents' Needs in Summer Nursery Classes Based on Decision Tree Model

Through decision tree model analysis, reveal the key factors influencing parents' choice of summer daycare classes. We collected data on various factors that parents consider when choosing summer daycare classes through questionnaire surveys and interviews, including parents' age, family income, intensity of caregiving needs, safety issues (facilities, food, etc.), professionalism of teachers or volunteers, suitability of course content, etc. as characteristic variables, with whether parents choose summer daycare classes as the target variable[8].

Construction and Analysis of Decision Tree Model: A decision tree consists of multiple nodes and branches, with orange nodes representing decision nodes and blue nodes representing leaf nodes.

Starting from the root node, layer by layer segmentation is carried out based on different features, and finally the prediction result of whether parents choose summer care classes is obtained at the leaf node. For example, in the upper nodes of the decision tree, the first division may be based on the age of the parents, and older or younger parents may be directed to different child nodes, which are further subdivided based on other factors such as household income.

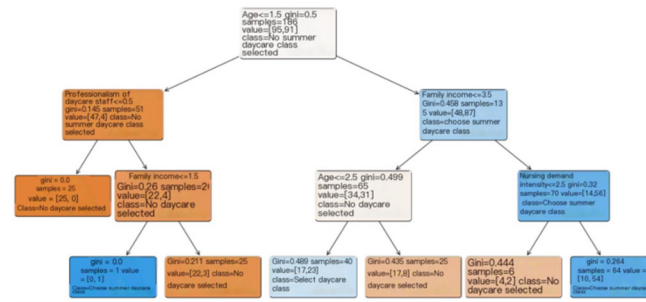


Figure 5. Simplified decision tree diagram

Decision tree structure: The confusion matrix of the predicted results of a decision tree. The accuracy of the model can be evaluated through the confusion matrix. The decision tree model has shown some effectiveness in predicting the selection of summer daycare classes, but there are still some misjudgments in the model.

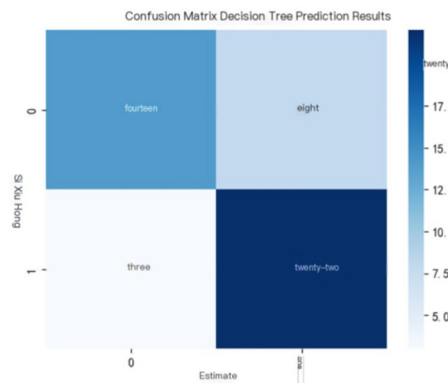


Figure 6. Decision Tree Model

The accuracy of the model is 0.7659, indicating that the model has a certain degree of accuracy in overall prediction. The recall rate reaches 0.88, indicating that the model performs well in capturing samples for selecting summer care classes and can effectively identify most cases of selecting summer care classes[9]. The F1 value is 0.8, reflecting that the model has achieved a good balance between accurate prediction and recalling positive cases.

Characteristic importance analysis: Age is crucial in parents' decision to choose summer daycare classes, and its impact is significantly higher than other factors. Older parents, due to their experience and knowledge, tend to be more cautious and meticulous when choosing summer daycare classes, preferring mature operating models, good reputation, and comprehensive safety guarantees. Young parents are more concerned about whether the curriculum is novel and interesting, and whether it can meet their children's diverse interests and development needs. Family income has a significant impact on choosing summer daycare classes. High income families value quality and service, and are willing to pay higher fees for high-quality educational resources, professional teachers, and comfortable environments. When choosing, high-end and personalized services are important considerations. Low income families value cost-effectiveness more and seek affordable summer care classes that can provide basic care and educational functions. One of the important factors affecting parental decision-making is the intensity of caregiving needs. Parents who are busy with work and

have high caregiving needs should prioritize the safety and reliability of summer daycare classes. They expect comprehensive safety measures and sufficient staffing to ensure their children's safety and receive adequate attention. The suitability of course content affects parents' choices, as appropriate courses can enhance children's knowledge and skills, stimulate their interest and potential in learning. The professionalism of teachers or volunteers is also a key concern for parents. Professional teachers can provide high-quality teaching services and create a good learning atmosphere. Safety issues (facilities, food, etc.) account for a certain proportion of parents' considerations. Parents hope that the environment and facilities of summer daycare classes are safe, to avoid accidents, to pay attention to food hygiene and nutrition, and to ensure that their children's diet is safe and healthy.

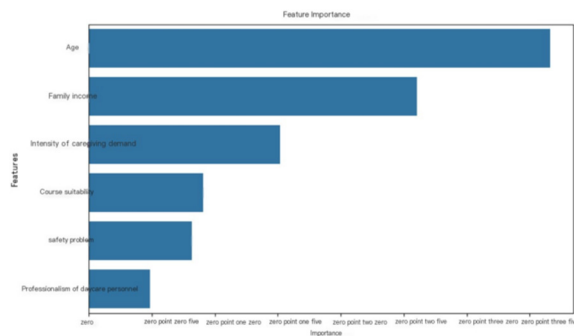


Figure 7. Importance level of features

3.3 Case analysis of the Love Summer Care Class in Hongkou District

The Love Summer Care Class in Liangcheng Xincun Street, Hongkou District is a typical representative of the Shanghai Love Summer Care Class project, with high social recognition and public welfare value. It not only effectively alleviates the caregiving pressure of dual income families during the summer, but also provides a rich and colorful curriculum experience for community children, while building a valuable platform for practical services for college student volunteers.

Characteristic analysis of daycare classes: Firstly, the curriculum design is a highlight of daycare classes, covering interest courses such as handicrafts, chess, calligraphy, and film appreciation, as well as popular science and safety education activities such as fire safety and food safety. The courses that children love can cultivate their interests, exercise their skills, meet the needs of different age groups, and make their holidays more fulfilling. Secondly, the safety management measures are improved. The venue has undergone fire safety inspection, surveillance, and anti-collision measures for doors, windows, and seats. Healthy drinking water, lunch and Dim sum are provided, and the selection and cooking of food materials are strictly in accordance with food safety standards. Volunteers and class teachers accompanied throughout the activity, and there were dedicated personnel to maintain order during outdoor activities. Emergency plans were in place, and security and hygiene teachers were provided, which was highly recognized by parents. Thirdly, summer daycare classes actively integrate community resources, rely on multi-party support to build a collaborative service system, jointly managed by the government, Youth League District Committee, and social organizations, enriching service content and improving quality. Good interaction and cooperation among all parties, social organizations arrange age appropriate courses and fun activities for children, optimize resource allocation, and improve service coverage and sustainability.

The practical role of daycare in family caregiving: Firstly, to alleviate caregiving pressure. The Hongkou District Love Summer Nursery Class has high public welfare value and effectively alleviates the caregiving pressure of dual income families. More than 90% of parents recognize its positive impact on their children's summer life, especially in terms of caregiving, and most parents believe it is of great help. Secondly, provide stable care. Summer daycare classes provide stable daytime care for dual income families, allowing parents to work without worrying about their children's safety and management issues, greatly reducing the burden of caregiving, especially for families with difficult working hours and holiday arrangements. Thirdly, promote children's

development. Tutoring not only provides a safe place for care, but also enriches the curriculum and promotes children's physical and mental development. Children gain positive experiences through activities, enhance their hands-on and teamwork abilities, have a more outgoing personality, improve their communication skills, and increase parental satisfaction. Science popularization and safety education courses enhance children's safety awareness and common sense of life, cultivate good habits, and make daycare an important space for promoting children's growth. Fourth, the advantage of economic public welfare. The economic and public welfare benefits of daycare make it an ideal choice for dual income families. Compared with high priced private custody institutions, low-cost operation with the support of the government and social forces reduces the economic burden on families. Against the backdrop of strong demand for social care, its popularization enhances family happiness and security, and enhances community cohesion.

Volunteer participation and feedback: Firstly, the extensive participation of college student volunteers is a characteristic of this project. They are both service providers and beneficiaries of personal growth, responsible for course guidance, activity organization, and classroom management, assisting in the development of interest courses, maintaining order, and bringing rich experiences and emotional support to children. Secondly, the survey shows that volunteers have diverse motivations for participation, with 61.8% considering it as social responsibility and 27.98% considering it as an opportunity for personal growth, indicating their high enthusiasm and expectation to enhance their abilities through service. The daycare program creates conditions for them to improve their social, teamwork, and organizational skills. In terms of service experience and improvement suggestions, the overall satisfaction of volunteers is high, with some satisfied and some very satisfied. However, some volunteers also pointed out that there is room for improvement in personnel configuration and activity coordination, such as increasing the number of people, providing more detailed activity arrangements, and communication training to improve service efficiency and experience quality. Overall, volunteers actively participate in injecting vitality into daycare centers, bringing communities and families closer together. This is an essential part of daycare centers, improving overall service quality and making them a mutually beneficial platform. Volunteers gain practical experience and contribute to the development of daycare centers.

4. Conclusion and Future Work

Existing problems and limitations: Firstly, the service quality and effectiveness are not satisfactory. At present, although the Shanghai Love Summer Care Class has developed for nearly a decade, there is still room for improvement in terms of course content and service format. Some parents and children have provided feedback that the content of summer daycare classes is relatively limited, making it difficult to meet diverse learning needs. At the same time, some volunteer teams have insufficient experience, which affects the quality of service. Secondly, policy support and social recognition need to be improved. Although the summer daycare program has been included in the city's livelihood project, some community residents have limited knowledge about it [10]. A survey shows that due to limited publicity channels and efforts, some parents still have doubts about the public welfare, curriculum content, and teaching staff of the Love Summer Nursery Class, which has affected the social recognition of the project. Finally, the service coverage does not match the actual needs. According to the completion status of the Shanghai Municipal People's Livelihood Project in 2024, there are a total of 699 caring summer daycare centers in the city. However, for 800000 primary school students, the service coverage still needs to be improved. Especially in some remote communities and areas with high demand for dual income families, the supply-demand contradiction of summer daycare services is more prominent, which limits its popularity and influence.

Countermeasures and suggestions: In terms of optimizing course design, firstly, set up diversified courses. The curriculum of summer daycare classes should cover multiple disciplines to meet the needs of students of different age groups and interests. In practical operation, summer daycare classes can offer courses covering art, science, literature, sports, and other aspects. Secondly,

attach importance to quality education. The current society has more dimensional requirements for children's growth, no longer limited to subject knowledge, but comprehensive development. Summer daycare classes can consciously incorporate content on teamwork, leadership, self-management, and other aspects into their curriculum design. The inclusion of such quality education content can cultivate children's social skills, emotional intelligence, and self-confidence, laying a foundation for their future social life. Secondly, optimize teaching methods. Summer daycare classes are different from traditional classrooms, as students have higher learning initiative and participation during holidays. Therefore, it is recommended to adopt innovative methods such as project-based learning and gamified teaching. Finally, adapt to personalized needs. Students in summer daycare classes have significant differences in their learning levels and interests. To ensure the effectiveness of the course, attention should be paid to individual differences among students. In course design, the content can be adjusted appropriately according to students' learning progress and needs[11].

In improving management and service efficiency: Firstly, strengthen management systems and job responsibilities. At present, through enterprise WeChat communication and application, it is necessary to further refine the responsibilities of volunteers, course teachers, and class leaders. At the same time, improve volunteer training, increase the content of standardized use of enterprise WeChat, and combine various training methods and simulated assessments to enhance their abilities. Secondly, introduce an information management system. Integrate enterprise WeChat and application functions with the new information management platform. The new platform synchronizes data with the application application interface and embeds enterprise WeChat communication function. Real time monitoring of course schedules, attendance, and parental feedback. Teachers can update course schedules with just one click and push them to parents. Attendance status is automatically reported, and parental feedback is promptly processed to improve management efficiency. Finally, increase parental involvement. On the basis of continuing to use methods such as parent meetings, WeChat communication groups, and parent volunteers, fully utilize the functions of enterprise WeChat and the application platform to expand parental participation channels.

In terms of improving policy support and social propaganda: Firstly, we need to strengthen publicity and promotion efforts. It is suggested that the organizers strengthen publicity through news reports, special promotional videos, and other means. At the same time, convenient consultation points should be set up in street communities to provide parents with detailed information about the specific content and registration process of summer daycare classes, helping parents to have a deeper understanding of the advantages and service characteristics of summer daycare classes[12]. Secondly, establish a long-term cooperation mechanism. Establish long-term cooperative relationships between government led units and the operating institutions of summer care classes, as well as communities, schools, and social organizations. Support the construction of summer care classes through the introduction of various forces such as social love organizations and educational training institutions, especially in terms of curriculum design and teacher allocation, and explore joint construction mechanisms. In addition, social resources can be utilized to enrich the recreational activities of summer daycare classes, such as museum visits, technological experiences, etc., providing students with more diverse learning experiences. Finally, actively respond to the actual needs of parents. By regularly conducting parent demand surveys, collecting feedback from parents on the content and form of summer care services through questionnaire surveys, community interviews, and other forms, we can grasp the actual needs of parents and provide scientific basis for the development of summer care services in the future. Based on feedback from parents, continuously optimize service content and management processes to enhance the targeted and effective service of summer daycare classes.

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