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A Study on the Enhancement of Students' Quality of Life by College Housing Environment Promoted by the Shuyuan System Educational Philosophy

Gang Deng[1,*] and Qian Chen[2]
[1] CHONGQING UNIVERSITY OF TECHNOLOGY, School of Foreign Languages, Chongqing, 400054, China
[2] Chongqing Arts and Crafts School, Chongqing, 400050, China

Corresponding authors: (e-mail: denggang198606@126.com).

Abstract This paper proposes a multivariate linear regression model for college housing environment and students' quality of life from the concept of educating people in the Shuyuan system. A university is selected as the research object, and the housing environment is divided into five dimensions: building layout, architectural style, building colour, building density and building greenery. Determine the data source, adopt multiple linear regression model to quantitatively explore the role relationship between college housing environment and students' quality of life. The regression equation for the regression of college housing environment and students' quality of life is 0.237+0.146*building layout (Q1)+0.297*architectural style (Q2)+0.184* architectural colour (Q3)+0.102*architectural density (Q4)+0.121*architectural greenery (Q5), and the variable VIF satisfies the condition of 1<VIF<5, which indicates that the regression equation does not have multiple covariance. This paper demonstrates the quantitative mechanism of action between college residential environment and students' quality of life in all aspects, so that people have a clearer perception of college residential environment and students' quality of life.

Index Terms architectural style, building density, building layout, quality of life, university housing

I. Introduction

The dormitory environment in colleges and universities has an important impact on the quality of life of students. A good dormitory environment can provide a quiet, clean and comfortable learning environment, promote communication and cooperation among students, and improve their physical and mental health [1]-[3]. Dormitory environment is not only a simple accommodation place, but also an important factor that can influence the overall development of students. In university life, we should pay attention to the dormitory environment, and try to create a harmonious and comfortable living atmosphere, so that every college student can grow up in this warm family [4]-[6].

As a part of university life, dormitory environment directly affects students' study, life and development. A good dormitory environment not only provides space for study and rest, but also promotes the formation of social relationships, enhances the sense of responsibility and self-care ability, facilitates cultural exchange and collision of ideas, and enhances the quality of life and sense of well-being. The quality and atmosphere of dormitory environment play a crucial role in the growth and development of college students [7]-[10]. Therefore, colleges and universities should pay attention to the improvement of the dormitory environment, strengthen dormitory management, provide necessary facilities and services, encourage cooperation and mutual assistance among students, and provide psychological counselling support in order to improve the quality of life of students [11], [12]. By creating a harmonious and warm dormitory environment, this can not only meet students‘ learning and living needs, but also promote students' all-round development, so that college students can better integrate into the collective life, cultivate the spirit of teamwork and social skills, and improve their comprehensive quality and competitiveness [13]-[15].

Literature [16] examined the impact of different dimensions of the quality of dormitories provided by colleges and universities on students, using cross-sectional surveys and structured questionnaires on residential and non-residential students, and the results showed that students valued the quality of dormitory facilities the most, followed by safety, environment and so on. Literature [17] aims to understand the needs of students and their aspirations and needs for accommodation adaptability, emphasising that more adaptable accommodation will be better able to ‘adapt’ to their changing hostel environment. Literature [18] aims to investigate students' satisfaction with the accommodation services provided by the university. The results of an online questionnaire survey of students

indicated that students' satisfaction with the residence hall experience was influenced by the perceived quality of their personal services. Literature [19] describes the development of exclusive student communities internationally, analysing several case studies and the website and marketing strategy of a large corporation, indicating that this exclusive type of student accommodation and its associated lifestyle is becoming a barrier between students and cities, and that there is an urgent need for a response from the policy side. Literature [20] takes a cross-sectional sample of students in shared accommodation in the North West of England and discusses the impact that the accommodation environment has on students' mental health based on the concept of relational space. The results suggest that a low sense of belonging and comfort in a university halls of residence environment can lead to high levels of depression, anxiety and even loneliness, which must be changed in order to promote healthy student development. Literature [21] assessed the quality and facilities of hostels provided by a university through a simple random sampling technique to examine their suitability for study and research. The relationship between quality of hostel and facilities and performance was examined by investigating the performance of students before and after moving into the hostel using regression analysis and the results verified a positive correlation between the two and made recommendations to improve academic performance through maintenance of student hostels. Literature [22] lies in understanding the level of anger and satisfaction with life of students. By collecting informative data from university students and testing it using descriptive statistics and multivariate analysis of variance, the results showed that students' satisfaction with life is not related to gender, while students in hostel environment are more likely to be angry than at home. Literature [23] adopted the WHOQOLBREF questionnaire to assess the quality of life of residential and owner-occupied students in different schools during the New Crown epidemic. Student's t-test and multiple linear regression were used to compare and assess the data and the results showed that students rated their quality of life favourably, while there was a large difference between the two groups of students. Literature [24] elucidated the facilitation done by colleges to support students with disabilities. Based on the case of reasonable accommodation it was found that adjusting the balance between accommodation and safety of students in experimental and graduation studies is quite important. A questionnaire revealed that providing opportunities for this group of students to embrace different values is essential in order to enrich their university life. Literature [25] reviewed students' satisfaction with the quality of services in private accommodation settings. The data were analysed through frequencies and tables and descriptive statistical procedures and mean item scores were used. The results highlighted that electricity supply, wifi connectivity, etc. are important factors affecting students' satisfaction and the management should improve the hostel appropriately based on students' needs.

This project first traces the origin and connotation of the concept of Shuyuan system of education, and establishes a multiple linear regression model oriented towards the college housing environment and students' quality of life. A university was selected as the research subject, and subsequently the architectural layout, architectural style, architectural colour, architectural density, and architectural greenery in the university housing environment were set as the independent variables of the model, the sample characteristics as the control variables of the model, and the quality of students' life as the dependent variable. The university's forum website was used as a source of data to empirically analyse the university housing environment and students' quality of life using a multiple linear regression model.

II. Research project selection and model setting

II. A. Philosophy of education under the Shuyuan system

II. A. 1) Origins

As an educational system with a long history of origin, the Shuyuan system in colleges and universities is mainly an inheritance of the educational resources of the ancient Shuyuan from its historical origin. Ancient academy is an important carrier of Confucianism for social indoctrination, integrating lecturing, academic research, book collection, book carving and rituals, and as an institutional model, its education and teaching are particularly important functions. The establishment of the Shuyuan system in colleges and universities is based on the ancient Shuyuan and the Western “residential college system”, but not to copy the ancient Shuyuan and the Western “residential college system”, but in the spirit of “establishing morality and educating people” and “three-dimensional education”. Rather, it should be based on the educational concepts of “establishing virtue and educating people” and “educating people in the three aspects”, based on tradition, drawing on foreign countries, taking the name of the academy, integrating the educational tradition of the ancient Chinese academies and the institutional advantages of the western “residential academy system”, and realizing the creative transformation and innovative development of traditional Chinese academy education. It is a realization of the creative transformation and innovative development of traditional Chinese academy education.

II. A. 2) Connotations

From the perspective of education generation process, the concept of Shuyuan system is an innovation to the rigidity of professional education, infiltrating diversified educational values by injecting cultural concepts and other spirits, and at the same time using the community or dormitory space as a rallying point to break down the barriers of separation of colleges and professions, gather individuals with different knowledge backgrounds, and provide external environmental support for the intrinsic connection between disciplines. The functions of student management and life guidance are not only continued, but also encompass a full range of functions, such as guiding students in their studies and improving their abilities.

II. B.Detailed Overview of the Higher Education Housing Environment

II. B. 1) Project background

A college flat is located at the intersection of Qiu Tao Road and Feng Shan Qiao Zhi Street in Shangcheng District, Hangzhou. There are many neighbouring communities and the infrastructure facilities are relatively well built. In terms of traffic and travelling, there are 8 bus stops near the university flat, and the nearest underground is about 570 meters away in a straight line, but due to the traffic route, it takes an average of 18 minutes to ride and about 25 minutes to walk, making travelling very convenient. It meets the daily needs of the users of the settlement and feeds the public resources of the city. It makes the university flats serve the guaranteed population as well as the local population with openness, sharing and accessibility, and creates a comfortable, energetic, diversified and shared housing environment for the guaranteed university housing.

II. B. 2) Building layout

(1) Undergraduate student apartments

(a) undergraduate apartments are arranged in the inner corridor type, the basic unit is a two-room layout, Figure 1 is the partial plan of the building unit, 5.2m openings, each living in four students, in order to make full use of the space, each living unit are used in the “upper beds and lower living” double-layer combination of furniture, in the upper layer of the beds are arranged below the necessary furniture, such as writing desks, bookshelves, standing cabinets, so that the room is fully functional and neatly arranged. Writing desk, bookshelf, standing cabinet and other necessary furniture are arranged under the upper beds, making the room fully functional and neatly arranged.

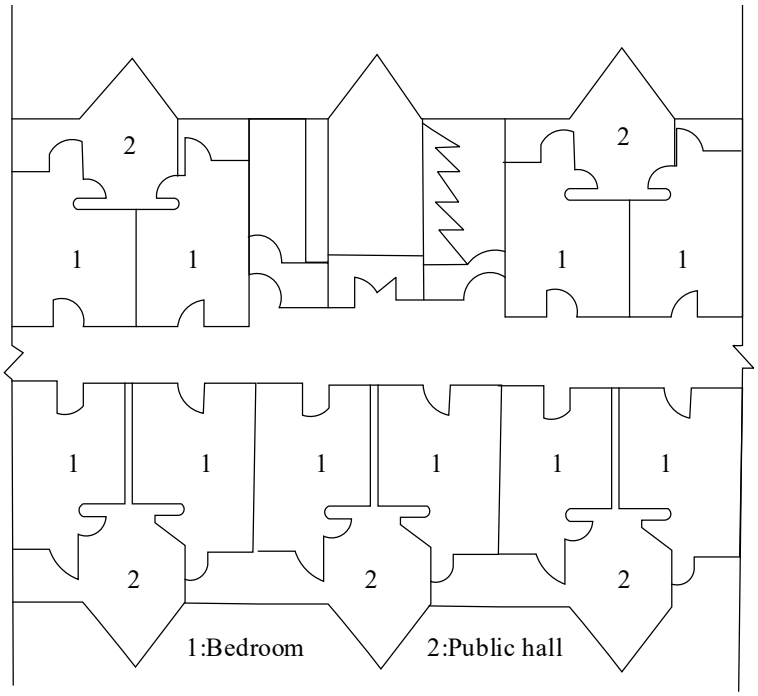

Figure 1: Local plan of building monomer

(b) Two bedrooms share a small hall of about 13 m², which is furnished with a long table for eight students to eat, discuss, entertain, watch television and other activities.

(c) According to the requirements of the flat design, the undergraduate flat adopts the way of sharing a bathroom with several bedrooms. In the layout, the bathroom is combined with the staircase on the north side of the aisle,

which not only saves the valuable south-facing surface, but also facilitates the use of students and the property management staff to carry out cleaning in a unified way.

(2) Apartments for International Students and Continuing Education Students

(a) International students and continuing education students are accommodated in 3m rooms, but there are four types of use: a single room for one person with a separate bathroom, a single room for two people with a common bathroom, two rooms for two people with a bathroom and kitchen, and two rooms for a family.

(b) In addition to student activity rooms on each floor of the six slab-type high-rise buildings, there is also a dedicated communication space on the first floor of each building for students to have meals, discussions and entertainment.

(c) Two speciality restaurants are interspersed throughout the six slab high-rise buildings, offering Chinese, Western and Islamic catering, where students can both dine and interact with each other in their daily lives.

(d) Each block of flats is connected by a two-storey steel structure glass corridor, through which students can come directly to the two student canteens between the buildings, which is convenient for students and adds a bright element in terms of architectural shape.

(3) Master's Apartments and Doctoral Apartments

(a) Master's degree students have one dormitory for two persons, and doctoral students have one dormitory for each person, with each dormitory sharing a hall, and the dormitories also have independent bathrooms, which are convenient to use and hygienic to clean.

(b) The two flats are connected by the plan form of folded corridors, which maximises the number of south-facing rooms and floor space. People enter the traffic core from the south side of the building, and the rooms are surrounded by geometric courtyard greenery, which gives people a very novel and unique spatial experience.

(c) From the lounge space on the south side of the top floor of the 14-storey student residence, the whole campus can be seen from the south, and the novel and beautiful image of the student living area can be appreciated from the downward view.

II. B. 3) Architectural style

(a) In the undergraduate flats, the hall between every two rooms is protruding in the shape of a triangle, and the numerous triangles form a formal contrast with the spreading folded plane, which is full of a sense of jumping in the era. Although the traditional sloping roof is adopted for the consideration of heat insulation and waterproof effect, large glass windows are designed in the façade treatment, and the modern treatment of frameless glass is adopted at the corners of the halls in order to obtain the ideal visual effect.

(b) The International Students' Apartment, the Continuing Education Students' Apartment and the Postgraduate Students' Apartment are all high-rise buildings, which are formed in a simple and upright manner, reflecting the characteristics of modern education buildings. From the detailed treatment, the external facade is made of modern perforated aluminium panels. On the one hand, due to the limitation of the area index, it is not possible to arrange the balcony, but in order to solve the problem of sunbathing, the perforated aluminium panels can be used as the external stalls of the sunbathing racks, and on the other hand, the metallic texture of the perforated aluminium panels in the sunshine and the texture of the wall contrast with each other, which makes the building more with the atmosphere of the times.

(c) In the design of supporting public buildings, the modern design approach is still continued. For example, in the design of the student canteen, modern materials such as aluminium panels, metal louvers and large-area glass are used, which reflect the water surrounding the canteen.

II. B. 4) Architectural colours

In terms of building colour, taking into account the characteristics of the northern region in winter when the surrounding environment is relatively monochromatic, the entire building within the student residence emphasises colour contrast and basically adopts a two-stage tone, i.e. darker-coloured exterior bricks are used at the bottom, while lighter exterior paint is used at the top. For example, in the colour treatment of the undergraduate flats, the overhead floor and the ground floor are made of coarse textured orange-red bricks, and the upper part is white exterior paint and black window frames, which not only makes the whole building look stable, but also facilitates the maintenance and cleanliness of the bottom wall, and also makes a colourful echo with the old Tsinghua campus's clear-water brick wall buildings, which fully reflects the free-flowing and appropriate design purpose.

II. B. 5) Building density

The net density of buildings within the HEI housing environment can be modelled on the standards, which provide for residential densities for multi-storey dwellings. The building density of the university housing environment should be controlled at 20-30 per cent, and the plot ratio should be controlled at 1.5-2.0. Excessive building density can

not properly deal with lighting and ventilation problems, but also bring discomfort to the students' spatial feelings, and even produce a sense of oppression. Moreover, too high a building density can easily lead to too many students living in the building, which brings great pressure on other auxiliary service facilities in the university housing environment and the logistics management of the university.

II. B. 6) Greening of buildings

If there is enough public green space within the housing environment of higher education institutions, it can reduce the interference of noise in apartment complexes. In the implementation of greening of the site, not simply planting trees, paving grass, but should consider making ecological greening and landscape greening combined, planting more trees that can release beneficial gases or can reduce dust, the use of the role of dust absorption, dust reduction, and improve atmospheric freshness. Walking in them during leisure time is conducive to the students to regulate the nervous mood, completely relax the body and mind, in order to reserve more sufficient energy for learning and life.

II. C.Data sources and mathematical modelling

II. C. 1) Data sources

The data came from the university's forum website, which included students' general descriptions of the university's housing environment, and based on these descriptions of the housing environment, the research data can be specifically classified into architectural layout, architectural style, architectural colour, architectural density, architectural greenness, and overall quality of life. The source of the research data was clarified to provide data support for subsequent research analysing the enhancement of students' quality of life by the university's housing environment.

II. C. 2) Mathematical modelling

Regression algorithms are relative to classification algorithms and are related to the type of value of the target variable Y that is to be predicted. If the target variable Y is a categorical variable, such as predicting the gender of the user, predicting the colour of the flowers, etc., a classification algorithm is needed to fit the data and make a prediction; if Y is a continuous variable, such as predicting the revenue of the product, predicting the performance of the sales, etc., a regression model is needed. Linear regression is a simple, versatile and easy to understand model [26]. The equation is obtained by using Y as the dependent variable and X as the independent variable.

$$Y = \alpha + \beta X \tag{1}$$

When parameters α and β are given, a straight line is displayed within the coordinate plot. When only one value of X is used to predict the value of Y, it is known as univariate regression and the univariate regression equation is shown in Figure 2. Univariate linear regression is a calculation to find the most appropriate a straight line to fit the data [27]. Assuming that there is a scatter plot based on a set of data, one-dimensional linear regression is to find a straight line that fits the data points in the scatter plot as closely as possible, and the difference between the calculated theoretical data and the actual value is the error, which is denoted by μ in statistics. The equation is then obtained: $Y = \alpha + \beta X + \mu$. The focus of linear regression analysis is to find the best straight line that fits the actual data. Here it is necessary to introduce the concept of residuals, the residuals are the difference between the true value and the predicted value, which can be understood as the distance or gap between the two, as shown below:

$$e = y - \hat{y} \tag{2}$$

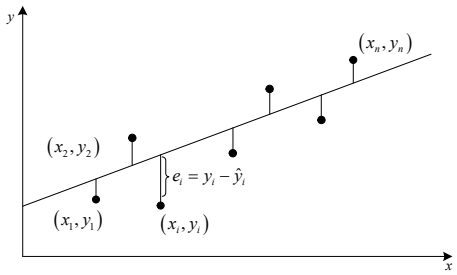

Figure 2: One dollar regression equation

For the dependent variable x_1, there is a corresponding independent variable y_1, and the prediction derived from $\hat{y}_i$, after calculating the value of $e_i = y_i - \hat{y}_i$, and then squared, and then calculate each point in the data, and finally add all the e_i^2 can be calculated between the fitted straight line and the actual value of the error. And the so-called best-fitting straight line is the smaller the value of the calculated sum of squares of the residuals, i.e. the smaller the error the better the fit [28], [29]. In order to calculate to obtain the smallest sum of squares of residuals, you can make $Q = \sum_{i=1}^{n}\left[y_i - (\alpha + \beta x_i)\right]^2$, the use of calculus for the principle of the extreme value, the α and β partial derivatives, and make its first-order derivatives equal to 0 to solve α and β, that is, the least squares estimation method:

$$\frac{\partial Q}{\partial \alpha} = 2\Sigma(y_i - \alpha - \beta x_i)(-1) = 0 \tag{3}$$

$$\frac{\partial Q}{\partial \beta} = 2\Sigma(y_i - \alpha - \beta x_i)(-x_i) = 0 \tag{4}$$

When there are two or more independent variables, a computational analysis of multiple linear regression is required. Multiple linear regression analyses address the following issues: 1) Determining whether there is a correlation between several specific variables. 2) Predicting or controlling the value of one variable based on the value of one or more variables and knowing the accuracy of the same. 3) Factor analyses of which factors are important and which are minor for the joint influence of multiple independent variables on one variable.

In multiple linear regression, a dependent variable begins to be jointly influenced by multiple independent variables, so the form of the equation becomes:

$$y = \beta_0 + \beta_1 x_1 + \cdots \beta_n x_n + \in \tag{5}$$

$$E(y) = \beta_0 + \beta_1 x_1 + \cdots \beta_n x_n \tag{6}$$

Since an observation in multiple linear regression is no longer a scalar but a vector, the observations of the independent variables become $(1, x_{11}, \cdots, x_{1n})$, $(1, x_{21}, \ldots, x_{2p})$, while the observations of the corresponding dependent variables remain unchanged, and thus each row of these observations is superimposed to become a vector or matrix. I.e.:

$$y = \begin{bmatrix} y_1 \\ y_2 \\ \vdots \\ y_n \end{bmatrix} X = \begin{bmatrix} 1 & x_{11} & \cdots & x_{1p} \\ 1 & x_{21} & & x_{2p} \\ \vdots & & \vdots & \\ 1 & x_{n1} & \cdots & x_{rp} \end{bmatrix} \tag{7}$$

$$\in = \begin{bmatrix} \in_1 \\ \in_2 \\ \vdots \\ \in_n \end{bmatrix} \beta = \begin{bmatrix} \beta_0 \\ \beta_1 \\ \vdots \\ \beta_n \end{bmatrix} \tag{8}$$

After determining the multiple regression equation, the coefficient of determination r^2 and the standard error of estimate can be used to determine the goodness of fit of the equation. The coefficient of determination is used to explain how much of the variation in Y is explained by the variation in the selected independent variable, and if the value of r^2 is too large, the presence of multicollinearity between the variables needs to be considered: the standard error of estimation is used to explain the average deviation between the actual value of Y and the estimated value of Y_i when the independent variable is given.

Multiple linear regression equations are tested in the same way as a univariate linear model by using t to test the individual partial regression coefficients and F to test the significance of the entire multiple regression model. The significance test of the equation is used to test whether the equation is valid or not, if the test shows that it is not significant, then the equation is not valid. F test: used for all the independent variables $(x_1, \cdots, x_s)$ in the whole for the y linear significance, F test need to look at the Significant F value. P-value and Significant F value is generally required to be less than 0.05, the smaller the result the more significant.

After determining the multiple regression equation, it is also necessary to calculate the variance inflation factor (VIF) of each independent variable to determine whether there is a correlation between the independent variables, if there is a high degree of correlation or complete correlation between the independent variables, then there is a multicollinearity between the independent variables, and the effect of each variable on the dependent variable cannot be accurately distinguished. The existence of multicollinearity between each independent variable can be

determined based on the variance inflation factor [30]. It is determined whether the VIF of each independent variable is greater than 5, if it is, then this variable needs to be eliminated, and if the VIF is less than 5, then it can be assumed that the multiple regression equation that has been determined does not suffer from severe multicollinearity.

Residual analysis is used to evaluate the goodness of fit of the linear regression model to the actual data. When testing a multiple linear regression model, the residual plots of the simple linear regression equation between each independent and dependent variable can be analysed separately. Such a multiple linear regression model can be considered valid if the scatter in the residual plots shows a relatively random pattern and it is not obvious that there is a certain pattern in the scatter.

III. Empirical analysis of the housing environment and students' quality of life

III. A. Descriptive statistical analyses

III. A. 1) Descriptive statistical analysis of sample characteristics

Taking 500 students of a university as a research sample, the descriptive statistical analysis of the sample characteristics is shown in Figure 3. Based on the performance of the data in the figure, the number of male respondents (number 348, percentage: 69.60%) is slightly higher than that of female (number 152, percentage: 30.40%). In terms of the age distribution of the students, there is not much difference in the number of people in each age group, with the largest number of people in the age group of 20-22, whose number is 112, accounting for 22.40 per cent. Next, in terms of education level, the number of students with bachelor's degree (234) is the highest, accounting for 46.80%, followed by postgraduates (198, accounting for 39.80%), and then PhDs (68, accounting for 13.60%), which can reflect the fact that students with higher education level seldom choose to live in the school flats. Finally, from the viewpoint of students' living expenses, the number of students whose living expenses are 2,000 yuan is high (135 students, accounting for 27.00%), which can be summarised that students living in school flats have low living expenses, which is very much in line with the concept of school consumption.

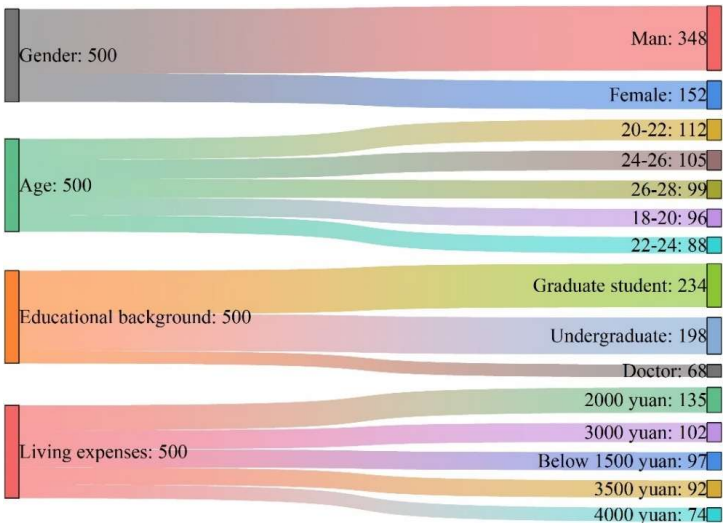

Figure 3: Descriptive statistical analysis of sample characteristics

III. A. 2) Descriptive statistical analysis of variables

The data on building layout, architectural style, building colour, building density, building greenery and overall quality of life mentioned in subsection 2.3.1 were analysed descriptively using SPSS software and the results of the descriptive statistical analysis of the variables are shown in Figure 4. As can be seen from the data in the figure, the standard deviation of the mean values of building layout, architectural style, architectural colour, building density, building greening and overall quality of life are 2.976±0.247, 2.736±0.219, 2.519±0.229, 2.169±0.223, 2.911±0.208, 2.756±0.241, respectively, which systematically describes the distribution of quantitative values of the various distribution of quantitative values of the study variables.

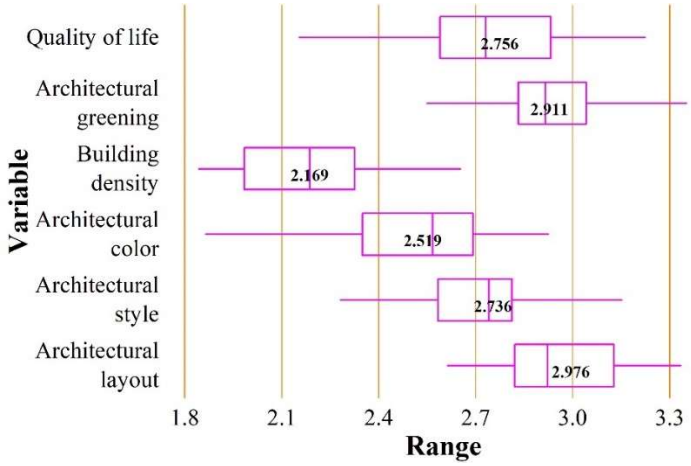

Figure 4: Descriptive statistical analysis of variables

III. B. Correlation and regression analyses

III. B. 1) Correlation analysis

Based on the Pearson's correlation coefficient theory, the correlations of building layout, building style, building colour, building density, building greenery, and overall quality of life are analysed. Here, for the convenience of recording each variable, building layout, building style, building colour, building density, building greening and overall quality of life are represented by Q1, Q2, Q3, Q4, Q5 and Q6, respectively, and the results of the correlation analysis of each variable are visualized with the help of matrix scatter plot, and the results of the correlation analysis of each variable are shown in Figure 5. According to the data in the figure, it can be seen that the Pearson correlation coefficients of building layout (Q1), architectural style (Q2), architectural colour (Q3), building density (Q4), building greening (Q5) and quality of life (Q6) are -0.075, -0.216, 0.484, 0.056, 0.064, while the corresponding Sig values are 0.001, 0.023, 0.042, 0.018, 0.005, indicating that architectural style (Q2), architectural colour (Q3), architectural density (Q4), architectural greenery (Q5) and quality of life (Q6) are significantly correlated, and in addition, it also confirms that the research variables selected in the previous section can be used for regression analysis.

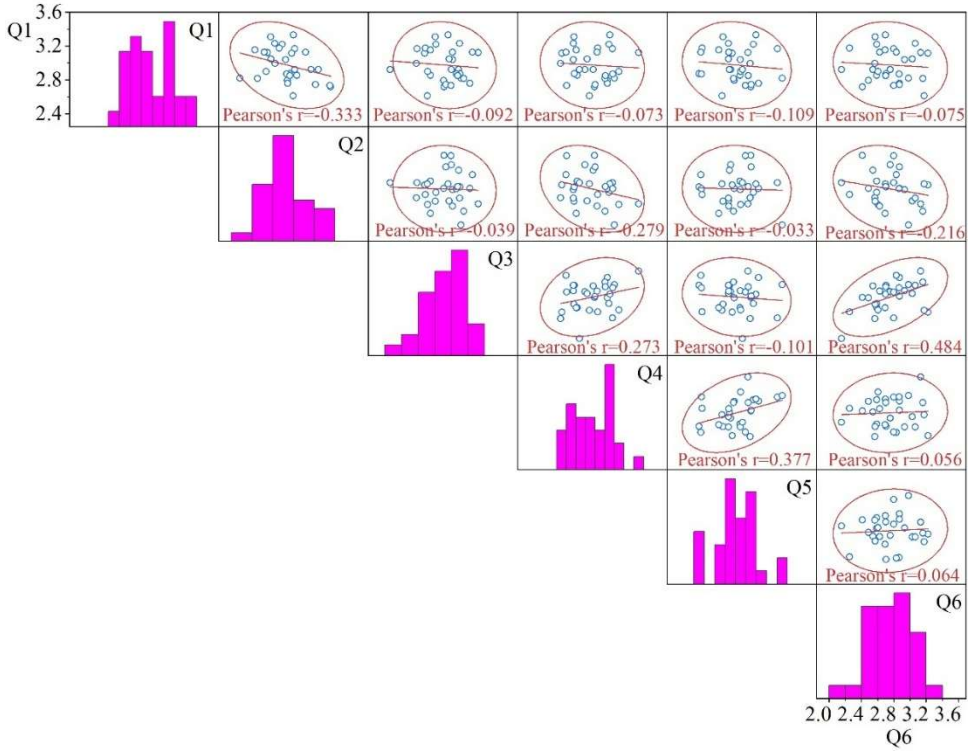

Figure 5: The analysis results of each variable correlation analysis

III. B. 2) Regression analysis

Based on the theoretical knowledge of the multiple linear regression model, the sample characteristics outlined in the previous section (gender, age, education, cost of living) are set as control variables, the independent variables are building layout (Q1), architectural style (Q2), building colour (Q3), building density (Q4), and building greenery (Q5), and the final dependent variable is quality of life (Q6). After setting up each variable, all the above data and multiple linear regression model were combined to explore the relationship between college housing environment on students‘ quality of life, and the results of regression analysis between college housing environment and students’ quality of life are shown in Table 1. According to the data in the table, it can be seen that among all the dimensions of the housing environment, the architectural style (Q2) has the greatest influence on the quality of life of students, as reflected in the regression coefficient, the value of which is 0.297, and P=0.041 to satisfy P<0.05, which indicates that it is significant. It can also be seen that the regression equation for the regression of university housing environment and students' quality of life is 0.237+0.146*Building Layout (Q1)+0.297*Architectural Style (Q2)+0.184* Architectural Colour (Q3)+0.102*Architectural Density (Q4)+0.121*Architectural Greenery (Q5), and since the variable VIF satisfies 1<VIF<5, the various variables do not have multicollinearity. The adjusted coefficient of determination is 0.811, indicating that the explanatory power of the independent variables for the dependent variable is 81.10%. The role of university housing environment on the improvement of students' quality of life is demonstrated in the form of a mathematical model.

Table 1: The housing environment and the students' quality of life regression analysis

Variable	Regression coefficient	Standard error	T-Value	P-Value	VIF
Constant term	0.237	0.071	1.939	0.035	1.078
Gender	0.231	0.036	2.444	0.027	1.315
Age	0.283	0.046	0.893	0.014	1.429
Educational background	0.242	0.084	1.496	0.001	1.226
Living expenses	0.134	0.035	2.857	0.006	1.342
Architectural layout	0.146	0.029	0.969	0.009	1.446
Architectural style	0.297	0.072	1.821	0.041	1.479
Architectural color	0.184	0.044	2.519	0.025	1.409
Building density	0.102	0.073	1.524	0.028	1.255
Architectural greening	0.121	0.041	3.954	0.011	1.359
Determinant coefficient R2					0.812
Adjust determinant coefficient R2					0.811
F-Value					3.219
N					500

IV. Conclusion

In this paper, multiple linear regression models are used to investigate the role relationship between college residential environment and students' quality of life under the concept of Shuyuan system of parenting. The Pearson's correlation coefficients of building layout (Q1), architectural style (Q2), architectural colour (Q3), building density (Q4), building greenery (Q5) and quality of life (Q6) are -0.075, -0.216, 0.484, 0.056, 0.064, respectively, and satisfy the condition of Sig<0.05, i.e., there is a significant correlation between the variables, and meanwhile, the university The regression equation of the regression of housing environment and students‘ quality of life reveals the quantitative role relationship between college housing environment and students’ quality of life, which in turn enhances people's knowledge of the role mechanism of college housing environment and students' quality of life, and has a guiding value for the humanised design and construction of college housing environment.

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