

An Empirical Study on Quality of Life Among Chinese University Students: Application of the KIDSCREEN-52 Instrument

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Abstract

This study aims to assess the quality of life (QoL) of Chinese university students using the KIDSCREEN-52 questionnaire and to explore its applicability in the context of higher education in China. Through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), seven key dimensions of QoL were identified: emotional well-being and self-perception, family and peer relationships, psychological health, school environment, physical health, autonomy, and financial resources. Although the standardized regression weights showed strong associations between individual items and their respective dimensions, the overall model fit indicated that the direct application of the KIDSCREEN-52 in China requires further adjustment. Certain items need to be reclassified or removed to better align with the cultural and contextual realities of Chinese university students. The findings emphasize the importance of social support, school environment, and psychological health in shaping overall QoL, while also highlighting challenges in emotional well-being, self-perception, and financial stability. This research provides theoretical and practical insights for localizing the KIDSCREEN-52 questionnaire and designing targeted interventions to enhance the QoL and well-being of Chinese university students.

Keywords: KIDSCREEN-52 Instrument, Chinese University Students, quality of life (QoL).

Introduction

The World Health Organization (2024) defines quality of life as the degree of awareness and satisfaction with a person's current social status and living situation in the context of his or her values, cultural system, and living conditions.[1] The significance of quality of life lies in its extensive impact on an individual's well-being, education, psychological health, and social participation, especially within the educational sector.[2]

Considering the importance of quality of life in the field of education, extant studies have also investigated the dimensions and indicators of quality of life in the education study. Research has found that quality of life directly affects students' academic performance, learning motivation, and mental and physical health.[3] For instance, there is a significant relationship between quality of life and students' academic achievements and learning motivation; a high-quality life helps reduce anxiety and enhance academic performance.[4][5][6]

Many studies currently focus on analyzing different factors related to quality of life. Since the 1960s, research on quality of life has been conducted in fields such as sociology, psychology, economics, political science, health and medicine, planning, management, and marketing (Land et al., 2011).[7] However, most of these studies have been conducted in Western countries, and their conclusions may not apply to China's educational environment. Moreover, most existing research on quality of life has been conducted among medical students, thus these findings cannot be generalized to university students of other disciplines (Li and Zhong, 2022).[8] Therefore, the quality of life of Chinese university students seems to be insufficiently studied.

However, as a specific and large student population, exploring the quality of life of Chinese university students and understanding their potential risks is of great significance. Researching and understanding the quality of life of Chinese university students not only promotes their overall development but also has important implications for the improvement of the educational system and the sustainable development of

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society. The quality of life of Chinese university students today is influenced by academic pressure, job prospects, economic stress, and concerns about future development. Surveys show that over 60% of Chinese university students have felt low quality of life in the past year, primarily troubled by academic and employment pressures.[9] Studies indicate that 75% of university students believe that job stress negatively impacts their quality of life, and 50% feel uncertain about the future, greatly affecting their mental health and overall quality of life.[10][11] Therefore, understanding the current status of Chinese university students' quality of life and its influencing factors is crucial for developing effective intervention and support measures.

To assess the quality of life of Chinese university students, this study has chosen the KIDSCREEN-52 questionnaire. The KIDSCREEN-52 covers various dimensions including physical well-being, psychological well-being, moods and emotions, self-perception, autonomy, parents relation and home life, financial resources, social support and peers, school environment, social acceptance and bullying, providing a comprehensive assessment of students' quality of life.[12] Compared to other quality of life questionnaires designed for special populations, KIDSCREEN-52 is more suitable for general students.[13][14] Moreover, this questionnaire can effectively capture the stress and anxiety caused by academics, social interactions, and future development that Chinese university students commonly face, ensuring the validity and relevance of the research results (Mansoor et al., 2019). Thus, this study aims to use the KIDSCREEN-52 to evaluate the quality of life of Chinese university students, explore its influencing factors, and identify potential risks. By gaining a deeper understanding of the quality of life of Chinese university students, this research hopes to provide scientific evidence and practical guidance for improving Chinese university education and student mental health.

Chapter 2 Literature Review

Quality of life is a broad and multidimensional concept that includes an individual's overall well-being and satisfaction with life (Davison et al., 2023; Rodríguez Fernández et al., 2017).[15][16] Quality of life is subjective and varies from person to person, encompassing various aspects. This broader perspective recognizes that students' experiences both inside and outside the university significantly impact their quality of life. The multidimensional concept of quality of life is well-documented in previous literature (Muda et al., 2015; Ring et al., 2007).[17][18] Academic literature has identified several core dimensions that are crucial for understanding and assessing the quality of life of university students (Caron et al., 2012).[19]

Generally, previous literature has identified four basic components of quality of life: health and functioning, life satisfaction, and the educational environment. Firstly, health and functioning are vital to students' quality of life, including physical and mental health (Morales et al., 2013; Rodríguez Fernández et al., 2017).[20][21] The transition to university often brings lifestyle changes that can affect students' health, such as irregular eating and sleeping patterns, reduced physical activity, and increased stress. Mental health issues, including anxiety and depression, are particularly concerning in this population, affecting not only their academic performance but also their overall quality of life (Ring et al., 2007).[18] Secondly, life satisfaction represents the psychological and subjective dimensions of quality of life; high self-esteem and life satisfaction are associated with better stress management, greater resilience, and improved academic performance (Henrich and Herschbach, 2000)[22]. These factors are influenced by a range of experiences, including social support, achievements, and personal development opportunities. Moreover, the educational environment plays a significant role in shaping students' quality of life (Tempski et al., 2015)[23]. This includes the quality of academic programs, availability of support services, campus culture, and opportunities for engagement and personal growth. Positive experiences within the university environment can enhance students' sense of belonging, contributing to their personal and professional development and improving their overall quality of life. Recently, Magiera and Pac (2022)[13] systematically summarized ten dimensions of quality of life. Table 1 summarizes the dimensions of quality of life based on the study by Magiera and Pac (2022).

Table 1. Dimensions of Quality of Life

Dimensions of Quality of Life	Explanations	Authors
Physical Well-Being	The overall state of physical health and vitality. It includes factors such as fitness levels, absence of illness or disabilities, nutrition, and access to healthcare.	Rodríguez-Fernández et al. (2017)
Psychological Well-Being	Psychological well-being pertains to the state of mental health and emotional stability. It is characterized by feelings of satisfaction, contentment, and resilience, enabling individuals to cope with the challenges of life.	Ring et al. (2007)
Moods and Emotion	This dimension addresses the range and intensity of emotions an individual experiences, covering a spectrum that includes happiness, sadness, anger, anxiety, and the ability to manage stress.	Davison et al. (2023)
Self-Perception	Self-perception involves how individuals view themselves, affecting their self-esteem, self-confidence, and sense of identity. This facet encompasses body image, self-worth, and beliefs about their capabilities and potential.	Muda et al. (2015)
Autonomy	Autonomy is defined as the level of independence and control individuals possess over their own lives. It includes the ability to make decisions, express opinions, and perform actions that are in harmony with personal values.	McCabe et al. (2021)
Parent Relation and Home Life	This dimension reflects the quality of relationships with parents or caregivers and the atmosphere within the home environment, including communication, support, warmth, and stability.	Badia et al. (2016)
Financial Resources	Financial resources concern the availability of material wealth and economic stability. This includes access to essential needs such as food, shelter, and education, along with opportunities for economic advancement.	Caron et al. (2012)
Social Support and Peers	Social support involves a network of relationships with friends, family, and peers who provide emotional, instrumental, and informational backing.	Morales et al. (2013)
School Environment	The school environment covers the physical, social, and academic aspects of educational institutions. It includes considerations such as safety, inclusivity, quality of teaching, and opportunities for personal and academic growth.	Pauli et al. (2020)
Social Acceptance and Bullying	This relates to the degree to which individuals feel accepted and valued by their peers and society at large. It also examines experiences of exclusion and bullying, which can adversely affect well-being.	Silva et al. (2020)

Source: Magiera and Pac (2022)

Based on the discussions above, this study aims to assess the quality of life of Chinese university students using the KIDSCREEN-52 questionnaire and to explore "What are the important dimensions of quality of life in the context of Chinese university education?" and "Is the KIDSCREEN-52 questionnaire applicable to Chinese university students?"

Chapter 3 Methodology

Questionnaire Design

The KIDSCREEN-52 questionnaire is a tool specifically designed to assess the quality of life of children and adolescents and is widely used in healthy populations. It comprehensively covers various aspects of quality of life through ten dimensions, including physical well-being, psychological well-being, moods and emotions, self-perception, autonomy, parents relation and home life, financial resources, social support and peers, school environment, social acceptance and bullying.

The KIDSCREEN-52 questionnaire encompasses ten dimensions that cover different aspects of quality of life. Specifically, the Physical Well-being dimension is assessed through 5 questions evaluating an individual's physical abilities, health status, and daily vitality; the Psychological Well-being dimension includes 6 questions focusing on emotional states and psychological health; the Moods and Emotions dimension is examined through 7 questions looking into states of anxiety, depression, and their impacts; the Self-Perception dimension uses 5 questions to assess individuals' perceptions of their self-image and capabilities; the Autonomy dimension is reflected through 5 questions showing an individual's independence and freedom to express desires; the Parent Relation and Home Life dimension has 6 questions measuring the impact of family support and home environment on well-being; the Financial Resources dimension includes 3 questions evaluating the impact of economic status on quality of life; the Social Support and Peers dimension is explored through 6 questions assessing the individual's social network and supportive relationships; the School Environment dimension with 6 questions analyzes students' attitudes towards school and its impact on their lives; and finally, the Social Acceptance and Bullying dimension through 3 questions assesses the level of social acceptance in the environment and the impact of bullying experiences on quality of life.[12]

Due to its multidimensionality and comprehensiveness, the KIDSCREEN-52 questionnaire captures a variety of factors related to quality of life and serves as an effective assessment tool in the fields of education and mental health.

This study's questionnaire includes 56 questions, adding 4 demographic questions to the original KIDSCREEN-52 to ensure the representativeness of the sample and enhance the diversity of the research.

Sampling

This study employed convenience sampling to collect 265 valid questionnaires from Chinese university students aged between 18 and 25. The sample covers students from various cities and disciplines across China, ensuring diversity and representativeness. The respondents are currently receiving higher education, primarily from 10 cities with a high proportion of university students, while excluding individuals who, due to cognitive impairments, language barriers, or other reasons, could not provide reliable data. The study follows the principle of voluntary participation, allowing participants to withdraw at any time without any consequences.

For quantitative analysis, the sample size was determined based on the general characteristics of the population and practical feasibility. The sample size of 265 participants was established based on the needs for statistical power and representativeness. According to Singh, et al. (2014), the commonly recommended ratio is at least 5 respondents per variable, with 10 respondents per variable being preferable. For this study, the rule of thumb suggests a minimum of 200 participants (Singh, et al., 2014), ensuring sufficient data for analysis and representative findings.

Data Analysis Method

The study analyzed data using SPSS 25.0 and AMOS 24.0 software, employing exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to identify key dimensions of quality of life. EFA, as a dimension-reduction technique, serves in this research to explore the dimensions of quality of life of Chinese university students as measured by the KIDSCREEN-52 questionnaire, identifying the underlying structure of variables and providing theoretical support for subsequent confirmatory factor analysis (CFA). CFA then verifies the fit of these dimensions with the research hypotheses, ensuring the consistency of the theoretical framework with empirical data. This analysis process provides crucial evidence for testing the

applicability of the KIDSCREEN-52 questionnaire among Chinese university students, while also enhancing the reliability and interpretability of the results through model testing and adjustments.

Chapter 4. Data Analysis and Findings

Frequency Analysis

This study collected 265 valid questionnaires, and demographic characteristics of the participants were analyzed through frequency analysis. Males dominate the sample (67.5%), while females account for 32.5%. The age of participants is concentrated between 18 to 19 years old, with 19-year-olds being the most common at 43.0%; followed by 18-year-olds at 25.7%. In terms of academic majors, engineering students constitute the majority (51.3%), followed by agriculture (21.1%), with other majors being less represented. Geographically, the majority of the participants are from Guangzhou, accounting for 82.3%, with the remainder primarily from Tianjin, Wuhan, and other cities. These data indicate that the sample has representative characteristics in terms of gender, age, major, and geographical location, providing a comprehensive background of the participants for the study.

Table 4.1 Frequency Analysis

Demographic Analysis	Frequency	Percentage
Gender		
Male	179	67.5%
Female	86	32.5%
Age		
18	68	25.7%
19	114	43.0%
20	41	15.5%
21	12	4.5%
22	4	1.5%
23	3	1.1%
24	5	1.9%
25	18	6.8%
Major		
Engineering	136	51.3%
Agriculture	56	21.1%
Economics	21	7.9%
Interdisciplinary Studies	13	4.9%
Management	10	3.8%
Others	29	11%
City		
Guangzhou	218	82.3%
Tianjin	8	3.0%
Wuhan	7	2.6%
Others	32	12.1%
Total	265	100%

Descriptive Analysis

This study utilized 52 items from the KIDSCREEN-52 questionnaire to measure various dimensions of Quality of Life (QoL), with each dimension calculated as the mean of relevant items. The highest mean scores were observed in “Parents Relation and Home Life” (3.9761), “Social Support and Peers” (3.8818), and “Psychological Well-being” (3.8384), indicating strong family and social support, as well as positive psychological well-being among participants. Conversely, the lowest mean scores were in “Moods and

Emotions” (3.3245), “Self-perception” (3.5147), and “Financial Resources” (3.6063), highlighting challenges in emotional well-being, self-esteem, and financial stability.

The overall QoL mean score was 3.6935, reflecting a moderate to high perception of life quality. The greatest variation was seen in “Financial Resources” (SD = 1.06468), indicating diverse opinions, while “Parents Relation and Home Life” showed the least variation (SD = 0.89686), reflecting consistent views. These findings provide insights into both the strengths and challenges in participants' QoL, emphasizing the need to address emotional well-being, self-perception, and financial stress to enhance overall life quality.

Table 4.2 Descriptive Analysis

Variables	Items (Questions)	Mean	Standard Deviation	Skewness	Kurtosis
Physical well-being	Q5, Q6, Q7, Q8, Q9	3.6611	1.02012	-0.149	-0.967
Psychological well-being	Q10, Q11, Q12, Q13, Q14, Q15	3.8384	0.95268	-0.397	-0.454
Moods and emotions	Q16, Q17, Q18, Q19, Q20, Q21, Q22	3.3245	1.04530	0.175	-0.572
Self-perception	Q23, Q24, Q25, Q26, Q27	3.5147	0.99611	0.017	-0.597
Autonomy	Q28, Q29, Q30, Q31, Q32	3.6770	0.93960	-0.123	-0.507
Parents Relation and Home Life	Q33, Q34, Q35, Q36, Q37, Q38	3.9761	0.89686	-0.519	-0.366
Financial Resources	Q39, Q40, Q41	3.6063	1.06468	-0.376	-0.238
Social Support and Peers	Q42, Q43, Q44, Q45, Q46, Q47	3.8818	0.88469	-0.327	-0.524
School Environment	Q48, Q49, Q50, Q51, Q52, Q53	3.6503	0.92611	-0.078	-0.360
Social Acceptance and Bullying	Q54, Q55, Q56	3.8050	0.98052	-0.449	-0.249
Overall Quality of Life	Q5-Q56 (Total 52 Items)	3.6935	0.82848	0.025	-0.427

Reliability Test

This study employed the Cronbach Alpha Test to evaluate the reliability of the variables, which measures the internal consistency and stability of a scale. Using SPSS, the Cronbach Alpha coefficients for each Quality of Life (QoL) dimension were calculated, with values above 0.9 indicating excellent reliability and values between 0.8 and 0.9 considered good. Results showed that all dimensions, except Social Acceptance and Bullying (0.890), demonstrated excellent reliability, with coefficients above 0.9. The Social Acceptance and Bullying dimension still displayed good reliability. These findings confirm the high reliability of the measurement instruments, ensuring consistent and dependable results for assessing QoL in this study.

Table 4.3 Reliability Test based on Cronbach Alpha Test

Variables	Cronbach Alpha
Physical well-being	0.935
Psychological well-being	0.963
Moods and emotions	0.948
Self-perception	0.915
Autonomy	0.943
Parents Relation and Home Life	0.945
Financial Resources	0.948
Social Support and Peers	0.945
School Environment	0.949

Social Acceptance and Bullying	0.890
Overall Quality of Life	0.958

Independent Sample T-Test

This section employs the Independent Sample T-Test to analyze whether gender and age influence the quality of life among Chinese college students. This statistical method compares the means of two independent groups to identify significant differences, commonly used in social science research. The analysis examines overall quality of life scores by gender and age, as well as individual dimensions such as physical well-being, psychological well-being, moods and emotions, self-perception, and others, to determine specific areas where differences may exist. This detailed approach provides insights into how gender and age impact various aspects of students' quality of life.

The Impact of Gender on Dimensions of Quality of Life

Before conducting the Independent Sample T-Test, a means analysis revealed differences in Quality of Life (QoL) scores across genders. Male students consistently scored higher than females across all dimensions, including physical well-being (male: 3.8715, female: 3.2233), psychological well-being (male: 3.9423, female: 3.6221), and overall QoL (male: 3.8054, female: 3.4607). The highest mean for males was in "Parents Relation and Home Life" (4.0885), while the lowest was in "Moods and Emotions" (3.4908). For females, the highest mean was in "Social Support and Peers" (4.0885), and the lowest was also in "Moods and Emotions" (2.9784). These findings indicate that male students perceive higher QoL across all dimensions compared to their female counterparts.

Table 4.4.1a Means for Quality of Life Across Male and Females

Dimensions of Quality of Life	Gender	Mean
Physical well-being	Male (179)	3.8715
	Female (86)	3.2233
Psychological well-being	Male (179)	3.9423
	Female (86)	3.6221
Moods and emotions	Male (179)	3.4908
	Female (86)	2.9784
Self-perception	Male (179)	3.6413
	Female (86)	3.2512
Autonomy	Male (179)	3.7408
	Female (86)	3.5442
Parents Relation and Home Life	Male (179)	4.0885
	Female (86)	3.7422
Financial Resources	Male (179)	3.7318
	Female (86)	3.3450
Social Support and Peers	Male (179)	3.9264
	Female (86)	3.7888
School Environment	Male (179)	3.7542
	Female (86)	3.4341
Social Acceptance and Bullying	Male (179)	3.8659
	Female (86)	3.6783
Overall Quality of Life	Male (179)	3.8054
	Female (86)	3.4607

The Independent Samples T-Test results indicate significant gender differences in most dimensions of quality of life (QoL), with males reporting higher scores than females. Significant differences were observed in psychological well-being, physical well-being, moods and emotions, self-perception, financial resources,

parental relations and home life, and the school environment, all with p-values less than 0.01. For overall QoL, males had a significantly higher mean score, with a mean difference of 0.34461. However, no statistically significant gender differences were found in autonomy, social support and peers, or social acceptance and bullying dimensions ($p > 0.05$). These findings suggest that males generally perceive their QoL more positively across most dimensions, except for a few areas where differences were not significant.

Table 4.4.1b Independent Sample T-Test

Dimensions of Quality of Life	Mean Difference (Male minus Female)	T-value	P-value
Physical well-being	0.64825	5.064	0.000
Psychological well-being	0.32018	2.589	0.010
Moods and emotions	0.51242	3.832	0.000
Self-perception	0.39018	3.031	0.003
Autonomy	0.19660	1.599	0.111
Parents Relation and Home Life	0.34621	2.986	0.003
Financial Resources	0.38688	2.805	0.005
Social Support and Peers	0.13768	1.187	0.236
School Environment	0.32008	2.664	0.008
Social Acceptance and Bullying	0.18763	1.462	0.145
Quality of Life (Overall)	0.34461	3.226	0.001

The Independent Sample T-Test results reveal significant gender differences in several dimensions of quality of life, with males reporting higher scores in physical well-being, psychological well-being, moods and emotions, self-perception, parental relations and home life, financial resources, school environment, and overall quality of life. These findings indicate that males generally perceive their quality of life more positively across these dimensions.

The Impact of Age on Dimensions of Quality of Life

This section conducts an Independent Sample T-Test to examine the impact of age on quality of life by comparing two age groups: 18-21 and 22-25 years old. The division reflects differences in psychological development, academic stages, social roles, and coping mechanisms. Younger students (18-21) are transitioning into university life, often relying on family support and focusing on social activities, while older students (22-25) are more mature, financially independent, and dealing with graduation, career decisions, and long-term relationships. These distinctions may lead to variations in stress levels, life satisfaction, and coping strategies. By analyzing these groups, the study aims to understand how age-related changes influence quality of life, providing insights for targeted interventions and support strategies.

Table 4.4.2a compares the mean scores for various quality of life dimensions across two age groups, 18-21 and 22-25 years old. The younger group (18-21) reported the highest mean score in social support and peers (4.0444), reflecting positive perceptions of peer relationships and social networks, likely due to their active engagement in social activities. However, their lowest mean score was in moods and emotions (3.2810), indicating challenges in managing emotional well-being. The older group (22-25) had the highest mean score in psychological well-being (3.8511), suggesting better stress management and coping mechanisms, while their lowest score was also in moods and emotions (3.3301), showing that emotional challenges persist across both groups. Overall, the findings highlight age-related variations in quality of life, with each group exhibiting unique strengths and challenges.

Table 4.4.2a Means for Quality of Life Across Different Age Groups

Dimensions of Quality of Life	Age	Mean
Physical well-being	18~21 (235)	3.6267
	22~25 (30)	3.6655

Psychological well-being	18~21 (235)	3.7389
	22~25 (30)	3.8511
Moods and emotions	18~21 (235)	3.2810
	22~25 (30)	3.3301
Self-perception	18~21 (235)	3.5267
	22~25 (30)	3.5132
Autonomy	18~21 (235)	3.7067
	22~25 (30)	3.6732
Parents Relation and Home Life	18~21 (235)	4.0278
	22~25 (30)	3.9695
Financial Resources	18~21 (235)	3.5222
	22~25 (30)	3.6170
Social Support and Peers	18~21 (235)	4.0444
	22~25 (30)	3.8610
School Environment	18~21 (235)	3.8111
	22~25 (30)	3.6298
Social Acceptance and Bullying	18~21 (235)	3.9222
	22~25 (30)	3.7901
Quality of Life (Overall)	18~21 (235)	3.7208
	22~25 (30)	3.6900

The results of the Independent Sample T-Test indicate no significant differences in quality of life between the two age groups, 18-21 and 22-25 years. Although the 18-21 age group reported slightly higher mean scores in certain dimensions, such as social support and peers, school environment, and social acceptance, these differences were not statistically significant. The lack of significant differences suggests that shared university experiences and environments contribute to similar perceptions of quality of life across both age groups. Overall, age does not appear to play a significant role in determining the quality of life among the students surveyed in this study.

Table 4.4.2b Independent Sample T-Test

Dimensions of Quality of Life	Mean Difference (Age Group 18~21 minus Age Group 22-25)	T-value	P-value
Physical well-being	-0.03887	-0.196	0.845
Psychological well-being	-0.11217	-0.607	0.545
Moods and emotions	-0.04914	-0.242	0.809
Self-perception	0.01348	0.070	0.945
Autonomy	0.03348	0.183	0.855
Parents Relation and Home Life	0.05827	0.335	0.738
Financial Resources	-0.09480	-0.459	0.647
Social Support and Peers	0.18345	1.070	0.286
School Environment	0.18132	1.010	0.313
Social Acceptance and Bullying	0.13215	0.694	0.488
Quality of Life	0.03072	0.191	0.849

The Impact of Gender and Age on Overall Quality of Life

This section examines the impact of gender and age on overall quality of life. Results show that males report a higher overall quality of life (mean = 3.8054) compared to females (mean = 3.4607), indicating more positive perceptions of well-being among males. Regarding age, the younger group (18-21 years) reports a slightly higher overall quality of life (mean = 3.7208) compared to the older group (22-25 years, mean = 3.6900). However, the difference between the age groups is minimal, suggesting that age has little influence

on overall quality of life among the surveyed students. Overall, gender shows a more pronounced effect on quality of life, while age differences are negligible.

Table 4.4.3a Means for Quality of Life Across Different Gender and Age

Construct	Gender	Mean
Overall Quality of Life	Male (179)	3.8054
	Female (86)	3.4607
Construct	Age	Mean
Overall Quality of Life	18~21 (235)	3.7208
	22~25 (30)	3.6900

The Independent Sample T-Test results reveal that gender significantly impacts overall quality of life, with males reporting higher scores than females (mean difference = 0.34461, $p = 0.001$). In contrast, age does not significantly influence overall quality of life, as the difference between the 18-21 and 22-25 age groups (mean difference = 0.03072, $p = 0.849$) is not statistically significant. These findings suggest that males generally perceive their quality of life more positively, while perceptions remain consistent across age groups within the surveyed participants.

Table 4.4.3b Independent Sample t-test

Dimensions of Quality of Life	Mean Difference (Male minus Female)	t-value	p-value
Gender Group Comparison	0.34461	3.226	0.001
Dimensions of Quality of Life	Mean Difference (Age Group 1 minus Age Group 2)	t-value	p-value
Age Group Comparison	0.03072	0.191	0.849

Correlation Analysis

The correlation analysis reveals strong positive relationships between overall quality of life and its various dimensions, with Pearson correlation coefficients indicating significant associations. Social support and peers (.894) and school environment (.893) exhibit the strongest correlations with overall quality of life, highlighting their critical importance. Other dimensions, such as psychological well-being (.879), moods and emotions (.878), and self-perception (.861), also show strong positive correlations. Furthermore, significant inter-correlations among all dimensions (ranging from .569 to .834) suggest that improvements in one aspect of quality of life are likely to enhance others. These findings underscore the interconnected nature of quality of life dimensions.

Table 4.5 Correlation Analysis

	Quality of Life	Physical well-being	Psychological well-being	Moods and emotions	Self-perception	Autonomy	Parents Relation and Home Life	Financial Resources	Social Support and Peers	School Environment	Social Acceptance and Bullying
Quality of Life	1										
Physical well-being	.805**	1									
Psychological well-being	.879**	.758**	1								
Moods and emotions	.878**	.744**	.776**	1							
Self-perception	.861**	.647**	.705**	.834*	1						
Autonomy	.852**	.619**	.744**	.717*	.722**	1					
Parents Relation and Home Life	.834**	.600**	.685**	.622*	.651**	.680**	1				
Financial Resources	.819**	.569**	.662**	.668*	.677**	.667**	.687**	1			
Social Support and Peers	.894**	.637**	.767**	.682*	.694**	.764**	.794**	.736*	1		
School Environment	.893**	.699**	.763**	.764*	.704**	.729**	.726**	.690*	.826**	1	
Social Acceptance and Bullying	.829**	.581**	.654**	.657*	.696**	.653**	.717**	.618*	.774**	.745**	1

** . Correlation is significant at the 0.01 level (2-tailed)

Exploratory Factor Analysis

This study utilized Exploratory Factor Analysis (EFA) to reveal the underlying structure of quality of life among Chinese university students, identifying seven key dimensions: Moods and Self-Perception, Family and Peer Relationships, Psychological Health, School Environment, Physical Health, Autonomy, and Financial Resources. The results of the EFA showed that different questionnaire items clustered within their respective dimensions according to their factor loadings, demonstrating the multifaceted characteristics of quality of life. For example, items related to moods and self-perception clustered together, indicating that these items collectively represent a dimension of quality of life associated with emotional and self-perceptual well-being. Meanwhile, some items (such as "Social Support and Peers 1" and "Social Support and Peers 2") were considered to have a lesser impact on the overall quality of life measurement due to lower factor loadings. Overall, these results emphasize the multidimensionality of quality of life among Chinese university students and the contribution of each dimension to the whole.

Table 4.6 Exploratory Factor Analysis

Factors	1	2	3	4	5	6	7
Moods and emotions 2	0.656						
Moods and emotions 3	0.632						
Moods and emotions 4	0.536						
Moods and emotions 5	0.642						
Moods and emotions 6	0.711						
Moods and emotions 7	0.676						
Self-perception 1	0.605						
Self-perception 2	0.652						
Self-perception 3	0.728						
Self-perception 4	0.632						
Self-perception 5	0.727						
Parents Relation and Home Life 1		0.686					
Parents Relation and Home Life 2		0.767					
Parents Relation and Home Life 3		0.725					
Parents Relation and Home Life 4		0.674					
Parents Relation and Home Life 5		0.765					
Parents Relation and Home Life 6		0.729					
Social Support and Peers 3		0.595					
Social Support and Peers 4		0.579					
Social Acceptance and Bullying 2		0.559					
Social Acceptance and Bullying 3		0.511					
Psychological well-being 1			0.711				
Psychological well-being 2			0.690				
Psychological well-being 3			0.641				
Psychological well-being 4			0.626				
Psychological well-being 5			0.704				
Psychological well-being 6			0.699				
Moods and emotions 1			0.560				

Social Support and Peers 5				0.564			
Social Support and Peers 6				0.601			
School Environment 1				0.617			
School Environment 2				0.509			
School Environment 3				0.659			
School Environment 4				0.626			
School Environment 5				0.629			
School Environment 6				0.689			
Social Acceptance and Bullying 1				0.560			
Physical well-being 1					0.567		
Physical well-being 2					0.621		
Physical well-being 3					0.773		
Physical well-being 4					0.717		
Physical well-being 5					0.690		
Autonomy 1						0.614	
Autonomy 2						0.739	
Autonomy 3						0.663	
Autonomy 4						0.671	
Autonomy 5						0.742	
Financial Resources 1							0.645
Financial Resources 2							0.724
Financial Resources 3							0.730
Social Support and Peers 1							
Social Support and Peers 2							
Extraction Method:	Principal Component Analysis.						
Rotation Method:	Varimax with Kaiser Normalization.						
a. Rotation converged in 9 iterations.							

Note: Only display absolute values below 0.5

Confirmatory Factor Analysis

The study used Confirmatory Factor Analysis (CFA) to validate whether the ten dimensions of the questionnaire could cohesively form a quality of life (QoL) index. The results of the CFA indicated that the model fit was generally acceptable but still had room for improvement. Model fit indices showed that CMIN/DF (2.786) and RMSEA (0.082) were within acceptable limits but slightly inadequate, while CFI (0.873), TLI (0.863), and NFI (0.816) were below the ideal threshold (0.90), suggesting the model has potential for improvement. FMIN (12.971) and NCP (2195.317) further reflected the model residuals and discrepancies, indicating that the model is applicable in the Chinese context but not yet optimized.

Table 4.7a Model Fit (Default model)

CMIN/DF	2.786
RMSEA	0.082
CFI	0.873
TLI	0.863
NFI	0.816
FMIN	12.971
NCP	2195.317

Standardized regression weight analysis showed that all items had factor loadings above 0.7, ranging from 0.733 (Self-Perception) to 0.975 (Financial Resources), indicating significant relationships between items and their respective factors. This result supports that the questionnaire items reliably reflect their respective dimensions and collectively construct a quality of life index for Chinese university students. Overall, although there is room for improvement in model fit, the confirmatory factor analysis confirmed the structural validity of the questionnaire and the effectiveness of its items.

Table 4.7b Standardized Regression Weights: (Group number 1 - Default model)

Estimate			Estimate
Q5	<---	physical_wellbeing	.873
Q6	<---	physical_wellbeing	.930
Q7	<---	physical_wellbeing	.843
Q8	<---	physical_wellbeing	.774
Q9	<---	physical_wellbeing	.908
Q10	<---	psychological_wellbeing	.864
Q11	<---	psychological_wellbeing	.876
Q12	<---	psychological_wellbeing	.865
Q13	<---	psychological_wellbeing	.926
Q14	<---	psychological_wellbeing	.959
Q15	<---	psychological_wellbeing	.909
Q16	<---	moods_and_emotions	.814
Q17	<---	moods_and_emotions	.876
Q18	<---	moods_and_emotions	.848
Q19	<---	moods_and_emotions	.891
Q20	<---	moods_and_emotions	.793
Q21	<---	moods_and_emotions	.861
Q22	<---	moods_and_emotions	.884
Q23	<---	self_perception_	.877
Q24	<---	self_perception_	.901
Q25	<---	self_perception_	.874
Q26	<---	self_perception_	.733
Q27	<---	self_perception_	.758
Q28	<---	autonomy_	.849
Q29	<---	autonomy_	.889
Q30	<---	autonomy_	.896
Q31	<---	autonomy_	.875
Q32	<---	autonomy_	.881
Q33	<---	parents_relationship_and_home_life	.858
Q34	<---	parents_relationship_and_home_life	.870
Q35	<---	parents_relationship_and_home_life	.875
Q36	<---	parents_relationship_and_home_life	.851
Q37	<---	parents_relationship_and_home_life	.845
Q38	<---	parents_relationship_and_home_life	.881
Q39	<---	financial_resources	.840
Q40	<---	financial_resources	.971
Q41	<---	financial_resources	.975

			Estimate
Q42	<---	social_support_and_peers	.808
Q43	<---	social_support_and_peers	.744
Q44	<---	social_support_and_peers	.928
Q45	<---	social_support_and_peers	.933
Q46	<---	social_support_and_peers	.883
Q47	<---	social_support_and_peers	.887
Q48	<---	school_environment	.898
Q49	<---	school_environment	.854
Q50	<---	school_environment	.879
Q51	<---	school_environment	.896
Q52	<---	school_environment	.797
Q53	<---	school_environment	.910
Q54	<---	social_acceptance_and_bullying	.765
Q55	<---	social_acceptance_and_bullying	.919
Q56	<---	social_acceptance_and_bullying	.892

Chapter 5 Implications and Conclusion

Implications for Research and Practices

This study indicates that while the KIDSCREEN-52 questionnaire's items can reflect specific dimensions of quality of life, combining them into a single holistic dimension is not entirely suitable for the context of Chinese university students. The analysis of model fit shows that while the current model is acceptable, it is not optimal and requires adjustments based on actual conditions. This aligns with the results from the initial exploratory factor analysis, indicating that some items need to be removed or regrouped to optimize the model structure. Although the existing model has certain adaptability, further refinement and optimization can significantly improve its fit and explanatory power, with directions for adjustments informed by the exploratory analysis results of this study.

Conclusion

This study assessed the quality of life of Chinese university students using the KIDSCREEN-52 questionnaire, identifying seven key dimensions, including moods and self-perception, family relationships, and psychological health. The results show that the KIDSCREEN-52 is somewhat applicable in the Chinese context but requires adjustments to some items to optimize model fit. The study also highlights the importance of dimensions such as social support and the school environment in overall quality of life, while identifying areas for improvement in moods, emotions, and self-perception. This research provides a basis for the localization of the KIDSCREEN-52 in China and offers theoretical support for strategies to improve university students' quality of life and psychological health interventions. It lays the groundwork for future optimization of measurement tools and the design of targeted intervention strategies, while providing practical guidance for promoting university students' mental health and overall well-being.

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Appendix. Online Questionnaire

Exploration of Factors Influencing Quality of Life among Chinese College Students Questionnaire

Section A: Demographic Information

Gender.

Male

Female

Preferred Gender []

Other

Age? (Must be over 18 years old)

Province: []

Major: []

Section B: Physical well-being

Do you think your health in general is....?

excellent -> bad

Physical health

Were you feeling well and physically fit?

not at all -> extremely

Physical health

Were you physically active (e.g. running, swimming, dancing)?

not at all -> extremely

Physical health

Were you able to run?

not at all -> extremely

Physical health

Were you full of energy?

never -> always

Physical health

Section C: Psychological well-being

Was your life full of joy?

not at all -> extremely

Mental well-being

Did you feel happy to be alive?

not at all -> extremely

Mental well-being

Did you feel satisfied with your life?

not at all -> extremely

Mental well-being

Were you in a good mood?

never -> always

Mental well-being

Were you cheerful?

never -> always

Mental well-being

Did you have fun?

never -> always

Mental well-being

Section D: Moods and emotions

Did it feel like you were doing everything wrong?

never -> always

Moods and emotions

Did you feel sad?

never -> always

Moods and emotions

Did you feel so bad that you didn't want to do anything?

never -> always

Moods and emotions

Did you feel like everything was going wrong in your life?

never -> always

Moods and emotions

Did you feel like you were fed up with everything?

never -> always

Moods and emotions

Did you feel lonely?

never -> always

Moods and emotions

Have you felt overwhelmed by problems?

never -> always

Moods and emotions

Section E: Self-perception

Were you happy with the way you were?

never -> always

About yourself

Were you happy with your clothes?

never -> always

About yourself

21. Were you worried about your appearance?

never -> always

About yourself

Did you envy the appearance of other girls and boys?

never -> always

About yourself

Would you like to change something in your body (e.g. body structure)?

never -> always

About yourself

Section F: Autonomy

Have you had enough time for yourself?

never -> always

Independence

Were you able to do whatever you wanted in your free time?

never -> always

Independence

Have you had enough opportunities to leave the house?

never -> always

Independence

Did you have enough time to meet with friends?

never -> always

Independence

Were you able to decide what you would do in your free time?

never -> always

Independence

Section G: Parents Relation and Home Life

Did your parents understand you?

not at all -> extremely

Relationships with parents and life at home

Did you feel loved by your parents?

not at all -> extremely

Relationships with parents and life at home

Were you happy at home?

never -> always

Relationships with parents and life at home

Did your parent(s) have enough time for you?

never -> always

Relationships with parents and life at home

Did your parent(s) treat you well and fairly (equally with others)?

never -> always

Relationships with parents and life at home

Could you talk to your parent(s) whenever you wanted?

never -> always

Relationships with parents and life at home

Section H: Financial Resources

Did you have enough money to do what your friends did?

never -> always

Financial resources

Did you have enough money for your expenses?

never -> always

Financial resources

Did you have enough money to do something together with your friends?

not at all -> extremely

Financial resources

Section I: Social Support and Peers

Did you spend time with your friends?

never -> always

Social support and peers

Did you do various jobs together with other girls or boys?

never -> always

Social support and peers

Did you have fun with your friends?

never -> always

Social support and peers

Did you and your colleagues help each other?

never -> always

Social support and peers

Could you talk about everything with your friends?

never -> always

Social support and peers

Could you rely on your friends or colleagues?

never -> always

Social support and peers

Section J: School Environment

Were you happy when you were at school?

not at all -> extremely

School environment

Did you do well at school?

not at all -> extremely

School environment

Were you satisfied with your teachers?

not at all -> extremely

School environment

Were you able to look and listen carefully?

never -> always

School environment

Did you enjoy going to school?

never -> always

School environment

Were your relationships with teachers good?

never -> always

School environment

Section K: Social Acceptance and Bullying

I was not afraid of other girls or boys.

strongly disagree -> strongly agree

Social acceptance (bullying)

Other girls or boys did not make fun of me.

strongly disagree -> strongly agree

Social acceptance (bullying)

Other girls or boys did not bully me (did not do things that made me feel bad).

strongly disagree -> strongly agree

Social acceptance (bullying)

Thank you for taking the time to complete this survey. Your feedback is invaluable to our research.

Appendix. CEA Data

