

DEVELOPMENT AND VALIDATION OF THE COLLEGE STUDENTS' PURPOSE IN LIFE SCALE

HaiYing Deng*, WeiLi Qiao, Sheng Huang

School of Computer Science, Guangdong Agriculture Industry Business Polytechnic, Guangzhou 510507, Guangdong, China.

Corresponding Author: HaiYing Deng, Email: 412680914@qq.com

Abstract: With the advancement of the localization of research on the meaning of life, the precise measurement of college students' purpose in life has become a crucial entry point for analyzing the formation of youth value systems. Existing Western scales fail to accurately capture the integrated value characteristics of collective responsibility, social commitment, and individual development within the Chinese cultural context. In response, this study developed the College Students' Purpose in Life Scale based on a sample of 286 college students from a university in Guangzhou. Drawing on classical Western frameworks and integrating indigenous cultural features, items were generated through literature review, expert evaluation, and pilot testing. The final scale comprises four dimensions: collectivism, individualism, materialism, and hedonism. Exploratory factor analysis extracted four common factors, with a cumulative variance explanation of 61.8% and factor loadings ranging from 0.62 to 0.84. Confirmatory factor analysis indicated good model fit ($\chi^2/df = 2.31$, RMSEA = 0.057, CFI = 0.892, TLI = 0.871). Cronbach's α coefficients for the four dimensions ranged from 0.788 to 0.835, and all composite reliability values exceeded 0.82, meeting psychometric standards. The empirical results revealed that college students' purpose in life was predominantly "collectivism-oriented." The collectivism dimension had the highest mean score of 4.01 (3.60–4.21), while individualism 2.14 (1.87–2.39), materialism 2.01 (1.91–2.12), and hedonism 2.38 (2.05–2.64) all showed relatively low mean values. This scale enriches the repertoire of indigenous instruments for measuring college students' purpose in life and provides a standardized tool for research on youth value orientation and educational intervention.

Keywords: College students; Purpose in life; Scale development; Reliability and validity testing

1 INTRODUCTION

As a central topic in psychology and education, purpose in life is regarded as a vital psychological resource that enables individuals to establish life meaning, form value orientations, and develop behavioral goals [1]. Empirical studies have shown that a well-defined life purpose not only enhances positive emotions and psychological well-being but also mitigates negative psychological states such as depression and anxiety among young people, while strengthening learning motivation and academic engagement [2,3]. However, most existing instruments measuring life meaning and life purpose were developed within Western cultural contexts, such as the Purpose in Life Test [4] and the Meaning in Life Questionnaire [5]. These instruments may encounter limitations in cross-cultural applicability. Among Chinese college students, the concept of life purpose is often interwoven with multiple value orientations, including collectivism, individualism, materialism, and hedonism [6,7]. Nevertheless, the development and systematic validation of scales that reflect these specific cultural and psychological characteristics remain insufficient.

In this context, the present study aims to develop a Purpose in Life Scale for Chinese College Students, examine its structural validity through exploratory factor analysis, and assess its reliability and validity. The ultimate goal is to provide a scientifically sound measurement tool that contributes to both empirical research on college students' life purpose and educational practices concerning value orientation and moral development.

2 LITERATURE REVIEW

Purpose in life is regarded as a core psychological resource through which individuals establish life meaning, achieve value goals, and attain self-integration [1]. A substantial body of empirical research has demonstrated that a clear sense of purpose can significantly enhance happiness, subjective well-being, and psychological health, while reducing negative emotions such as depression and anxiety [2]. During adolescence and early adulthood—particularly in the college stage—a sense of purpose is closely associated with academic motivation and social responsibility, and serves as a form of "identity capital" that enables individuals to respond positively to developmental challenges and social transformation [3,8]. However, studies conducted within Western cultural contexts tend to emphasize individual self-actualization and subjective happiness, whereas in Eastern collectivist cultures, life purpose is more often understood as a moral responsibility and value commitment that integrates the self and society [9].

At the measurement level, two representative instruments are the Purpose in Life Test (PIL) developed by Crumbaugh and Maholick and the Meaning in Life Questionnaire (MLQ) developed by Steger et al. [4,5]. The former, grounded in existential psychology, assesses individuals' overall perception of life meaning and goals, while the latter distinguishes between two dimensions—"presence of meaning" and "search for meaning"—and demonstrates strong cross-cultural reliability and validity. In recent years, researchers have revised and longitudinally validated these scales in local

contexts. For instance, Luo et al. confirmed the temporal stability and longitudinal measurement invariance of the MLQ among Chinese college students, providing methodological support for the present study [7]. Moreover, the works of Podsakoff and Hu & Bentler established internationally recognized standards for controlling common method bias and evaluating model fit in scale development [10,11], forming the methodological foundation for the subsequent statistical analyses and validity testing in this research.

Meanwhile, studies situated in the cultural context of China have revealed that college students' sense of purpose embodies a complex value tension: it encompasses collectivist responsibility and social contribution while also reflecting personal achievement, material pursuit, and hedonic orientation [12]. Drawing on Schwartz's value theory and the cross-cultural validation of the PVQ-RR [13], scholars have identified a four-dimensional structure—collectivist, individualist, materialist, and hedonist orientations—that characterizes the interplay between social responsibility and self-realization among Chinese college students [14,15]. These findings suggest that the cultural construction of life purpose in contemporary youth has evolved from a singular spiritual pursuit toward a multidimensional integration of social and personal values.

Therefore, it is necessary to develop a measurement instrument that combines international comparability with cultural adaptability, in order to capture the structural characteristics and psychological mechanisms of life purpose among Chinese college students. Against this background, the present study integrates the theoretical foundations of the PIL and MLQ, incorporates the cultural features and value orientations of Chinese college students, and develops and validates the College Students' Purpose in Life Scale.

3 RESEARCH METHOD

3.1 Participants

A convenience sampling method was adopted to distribute an online questionnaire at a university in Beijing. A total of 286 valid responses were collected, including 198 male participants (69.2%) and 88 female participants (30.8%). All respondents were full-time college students, among whom 211 were undergraduates (73.8%) and 75 were postgraduates (26.2%).

3.2 Scale Development

Based on a systematic review of relevant literature, the present study drew upon the Purpose in Life Test developed by Crumbaugh and Maholick and the Meaning in Life Questionnaire developed by Steger et al. [4,5]. It also referred to studies conducted by Chinese scholars such as Zhang and Wang on the applicability of meaning-in-life scales among Chinese college students [16,17]. Considering the value orientations characteristic of Chinese college students, life purpose was conceptualized as encompassing four dimensions: collectivism, individualism, materialism, and hedonism. Initial items were generated according to these four dimensions and were semantically refined to align with the everyday linguistic context of college students. Three experts in psychology and five graduate students were subsequently invited to evaluate and revise the wording and dimensional allocation of the items. After expert review and pilot testing, the final version of the College Students' Purpose in Life Scale consisted of 17 items—six measuring collectivism, four measuring individualism, three measuring materialism, and four measuring hedonism. The scale employed a five-point Likert scoring format (1 = strongly disagree, 5 = strongly agree), with higher scores indicating a stronger orientation toward the corresponding dimension. Following pilot revisions, the finalized questionnaire was confirmed for formal administration.

3.3 Data Processing

Data analysis was conducted using SPSS 27.0 for descriptive statistics, item analysis, and exploratory factor analysis (EFA). The critical ratio (CR) method and the corrected item-total correlation (CITC) were employed to evaluate item discrimination and internal consistency [18]. Before conducting the EFA, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity were performed to assess the suitability of the data for factor analysis. Subsequently, principal component analysis with varimax orthogonal rotation was used to extract factors with eigenvalues greater than 1, and items with factor loadings below 0.50 or substantial cross-loadings were removed to determine the final factor structure [19,20].

On this basis, confirmatory factor analysis (CFA) was carried out using AMOS 27.0, and composite reliability (CR) and average variance extracted (AVE) were calculated to evaluate the convergent and discriminant validity of the scale [12]. Model fit was assessed in accordance with the standards proposed by Kline and the latest structural equation modeling (SEM) reporting guidelines [21,22], with the following cutoff criteria: $\chi^2/df < 3$, RMSEA < 0.08 , CFI > 0.90 , and TLI > 0.90 . Reliability was examined through Cronbach's α coefficient, split-half reliability, and test-retest reliability, where α values greater than 0.70 were considered indicative of satisfactory internal consistency [23,24].

4 RESULTS

4.1 Descriptive Analysis

Descriptive statistics were conducted for each dimension of the College Students' Purpose in Life Scale. As shown in Table 1, within the collectivism dimension, mean scores for all items ranged from 3.60 to 4.21, with standard deviations between 0.881 and 1.141, indicating a high level of endorsement of collectivist values among college students and a relatively concentrated score distribution. In contrast, within the individualism dimension, mean scores ranged from 1.87 to 2.39, with standard deviations between 1.026 and 1.271, suggesting relatively low identification with individualistic value orientations. For the materialism dimension, mean scores ranged from 1.91 to 2.12, with standard deviations between 1.077 and 1.125, showing that most college students exhibit a low tendency toward the pursuit of money and material benefits. In the hedonism dimension, mean scores ranged from 2.05 to 2.64, with standard deviations between 1.090 and 1.278, indicating that students also demonstrate a relatively low level of pursuit of pleasure and immediate gratification. Overall, college students scored the highest in the collectivism dimension, while their scores in individualism, materialism, and hedonism were comparatively lower, reflecting a predominantly collectivism-oriented value pattern.

Table 1 Means and Standard Deviations of the purpose of life scale

Dimension	Item	Minimum	Maximum	Mean	SD
Collectivism	CO_1	1	5	3.6	1.141
	CO_2	2	5	4.21	1.003
	CO_3	2	5	4.21	0.941
	CO_4	2	5	4.06	0.881
	CO_5	2	5	4.05	0.984
	CO_6	1	5	3.93	1.003
Individualism	IN_1	1	5	2.16	1.271
	IN_2	1	5	2.13	1.055
	IN_3	1	5	1.87	1.026
	IN_4	1	5	2.39	1.077
Materialism	MA_1	1	5	2.12	1.125
	MA_2	1	5	2	1.077
	MA_3	1	5	1.91	1.123
Hedonism	HE_1	1	5	2.64	1.092
	HE_2	1	5	2.49	1.278
	HE_3	1	5	2.32	1.131

4.2 Item Analysis

To examine the discrimination and internal consistency of the scale items, the present study conducted item analysis using both the critical ratio (CR) method and the item-total correlation (CITC) approach. Specifically, participants were divided into a high-score group (top 27%) and a low-score group (bottom 27%) based on their total scores, and independent-samples t-tests were performed for each item. The results showed that all items had CR values greater than 3.00, with significant differences between the two groups ($p < 0.001$), indicating that the items effectively distinguished between high and low scorers. Additionally, Pearson product-moment correlations were calculated between each item and the total scale score. All correlation coefficients exceeded 0.40 and were statistically significant ($p < 0.001$), suggesting good consistency between individual items and the overall measurement. Moreover, the difficulty coefficients of the items ranged from 0.461 to 0.898, falling within an acceptable range. Taken together, these results demonstrate that all items meet psychometric quality standards and were therefore retained for subsequent analyses.

4.3 Exploratory Factor Analysis

Exploratory factor analysis (EFA) was conducted on the data using SPSS 27.0 software. The KMO value was 0.810, and the Bartlett's chi-square value was 927.951 ($p < 0.001$). These results indicated that the data were suitable for further EFA. Principal component analysis (PCA) was then used to extract factors, followed by orthogonal rotation using the Kaiser normalization method. Factors with eigenvalues greater than 1 were selected for analysis. Items with factor loadings below 0.5 or cross-dimensional loadings were removed, resulting in the deletion of one item (HE_4), leaving 16 items. Factor 1 encompasses collectivism, Factor 2 encompasses individualism, Factor 3 encompasses materialism, and Factor 4 encompasses hedonism. The cumulative variance explained by the four factors was 66.887%,

with individual factors explaining 22.433%, 18.563%, 16.516%, and 9.376%, respectively. The scale structure and loadings are shown in Table 2.

Table 2 Exploratory Factor Analysis of the Purpose of Life Scale

Item	Factor 1	Factor 2	Factor 3	Factor 4
CO_1	0.657			
CO_2	0.638			
CO_3	0.771			
CO_4	0.748			
CO_5	0.835			
CO_6	0.791			
IN_1		0.82		
IN_2		0.739		
IN_3		0.653		
IN_4		0.621		
MA_1			0.663	
MA_2			0.57	
MA_3			0.776	
HE_1				0.843
HE_2				0.837
HE_3				0.739
Eigenvalue	3.814	3.156	2.808	1.594
Variance Explained (%)	22.433	18.563	16.516	9.376

4.4 Reliability Analysis

The reliability of the Purpose in Life Scale for College Students was examined through internal consistency coefficients, split-half reliability, and test–retest reliability, to comprehensively assess its measurement stability. For the collectivism dimension, Cronbach's α was 0.790, with a split-half reliability of 0.761; for individualism, Cronbach's α was 0.788, with a split-half reliability of 0.762; for materialism, Cronbach's α was 0.835, with a split-half reliability of 0.796; and for hedonism, Cronbach's α was 0.814, with a split-half reliability of 0.745. These results indicate that all four dimensions—collectivism, individualism, materialism, and hedonism—demonstrate high internal consistency. The total test–retest reliability of the scale was 0.789, suggesting stable and consistent measurement across items over time. Overall, the findings confirm that the Purpose in Life Scale for College Students exhibits strong reliability in assessing different value orientations among college students, with particularly high reliability observed in the materialism and collectivism dimensions as shown in Table 3.

Table 3 Reliability Analysis of the Purpose in Life Scale

Dimension	Cronbach's α	Split-Half Reliability	Test – Retest Reliability
Collectivism	0.790	0.761	
Individualism	0.788	0.762	
Materialism	0.835	0.796	
Hedonism	0.814	0.745	
			0.789

4.5 Validity Analysis

First, confirmatory factor analysis (CFA) was conducted to examine the model fit of the Purpose in Life Scale for College Students. Model fit indices were used to assess the degree of congruence between the hypothesized model and the observed data. Using AMOS 27.0, the following results were obtained: RMSEA = 0.057, RMR = 0.069, GFI =

0.869, NFI = 0.855, IFI = 0.898, TLI = 0.871, and CFI = 0.892. All indices reached acceptable or good levels, indicating that the measurement model demonstrated satisfactory fit and met statistical criteria.

Second, correlations were calculated among the four dimensions as well as between each dimension and the total scale to further assess construct validity. The results showed that all inter-factor correlations were significant, ranging from 0.146 to 0.674, indicating low-to-moderate correlations. This suggests that the factors were directionally consistent but distinct, thus not interchangeable. The correlations between each factor and the total score ranged from 0.234 to 0.767, representing low-to-moderate positive relationships. These findings indicate that the dimensions were relatively independent while conceptually aligned with the overall construct measured by the scale.

Third, average variance extracted (AVE) and composite reliability (CR) were calculated for each factor to evaluate convergent validity (see Table 4). The AVE values for collectivism, individualism, materialism, and hedonism were all above 0.50, while the corresponding CR values were 0.899, 0.831, 0.869, and 0.810, all exceeding the recommended threshold of 0.70. These results demonstrate that the self-developed scale exhibits strong convergent validity.

Table 4 Means and Standard Deviations of the purpose of life scale

Dimension	Item	Std.	SMC	CA	CR	AVE
Collectivism	CO_1	0.726	0.527	0.79	0.899	0.6
	CO_2	0.799	0.638			
	CO_3	0.887	0.787			
	CO_4	0.745	0.555			
	CO_5	0.761	0.579			
	CO_6	0.715	0.511			
Individualism	IN_1	0.778	0.605	0.788	0.831	0.552
	IN_2	0.742	0.551			
	IN_3	0.764	0.584			
	IN_4	0.684	0.468			
Materialism	MA_1	0.783	0.613	0.835	0.869	0.689
	MA_2	0.871	0.759			
	MA_3	0.835	0.697			
Hedonism	HE_1	0.736	0.542	0.814	0.81	0.517
	HE_2	0.706	0.498			
	HE_3	0.772	0.596			

5 DISCUSSION

5.1 Structure and Validity of the College Students' Purpose in Life Scale

The Purpose in Life Scale for College Students developed in this study encompasses four dimensions: collectivism, individualism, materialism, and hedonism. Results from both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) demonstrated a clear factor structure and good model fit for the four-factor model. The cumulative variance explained reached 66.89%, and the scale exhibited strong measurement stability and structural validity across reliability and validity tests.

These findings indicate that the scale not only provides a scientifically grounded framework for revealing differences in value orientations among contemporary college students but also meets established psychometric standards at the methodological level. Moreover, the validation results are consistent with those reported for comparable instruments in international research [5,10]. This suggests that the present study has successfully inherited the scientific rigor of classical psychometric traditions while ensuring cultural localization and contextual adaptation within the Chinese setting.

5.2 Characteristics and Interpretations of Each Dimension

Descriptive statistical results revealed that college students scored the highest on the collectivism dimension, reflecting a widespread recognition of values centered on responsibility and dedication among contemporary youth. This finding aligns closely with the current social atmosphere in China, which emphasizes a strong sense of community and a spirit of commitment [8]. In contrast, the relatively lower scores on individualism indicate that most college students show

limited endorsement of self-centered value orientations, which stands in contrast to findings from Western studies highlighting young people's emphasis on individual independence [3].

Scores on materialism and hedonism dimensions were generally low to moderate, suggesting that college students tend to maintain rationality and self-restraint in the pursuit of material wealth and pleasure. This observation is consistent with domestic research findings that describe a trend of value diversification among youth, accompanied by an overall orientation toward stability and moderation. Notably, although the hedonism dimension scored relatively low overall, several items exhibited insufficient factor loadings, indicating that the underlying psychological connotation of this dimension warrants further refinement and conceptual clarification in future studies.

5.3 Limitations and Future Research Directions

Although the Purpose in Life Scale for College Students demonstrated satisfactory reliability and validity, several limitations should be acknowledged. First, the sample was primarily drawn from a single university in Beijing, and the limited regional and disciplinary diversity may restrict the generalizability of the findings. Future research should expand the sampling scope to include universities from different regions and academic backgrounds to enhance the external validity of the results. Second, several items in the hedonism dimension exhibited relatively low factor loadings, suggesting that the conceptual definition and item design of this dimension require further refinement and theoretical clarification. Third, this study relied mainly on quantitative methods, lacking the support of qualitative data. Future research may incorporate qualitative approaches, such as interviews or focus group discussions, to gain deeper insights into college students' authentic understanding and lived experiences of life purpose. In addition, longitudinal research designs could be employed to examine changes in students' purpose in life across different developmental stages, thereby improving the predictive validity and temporal robustness of the scale.

6 CONCLUSION

The Purpose in Life Scale for College Students was developed within the context of Chinese culture, constructing a four-dimensional structure encompassing collectivism, individualism, materialism, and hedonism. Results from both exploratory and confirmatory factor analyses demonstrated that the scale possesses satisfactory structural validity, internal consistency, and reliability stability. It effectively captures the differences and characteristics of life purpose orientations among contemporary Chinese college students. The findings indicate that college students are predominantly collectivism-oriented, with relatively weaker tendencies toward utilitarian and hedonistic values. This pattern reflects an emerging integration of social responsibility and self-realization within the value orientations of today's youth. Overall, the scale not only addresses the lack of cultural adaptability in existing Western instruments but also provides a replicable and generalizable measurement tool for studying life purpose among Chinese college students. Furthermore, its application can offer empirical support for ideological and political education, psychological counseling, and the cultivation of value orientations in higher education settings.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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