

Development and Validation of the Youth Purpose Orientation Scale Among Chinese Sample

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Introduction: Purpose orientation has an important impact on the development of adolescence. An effective instrument is needed to describe the purpose orientation of youth. The aim of this research is to develop a reliable and valid scale to measure life purpose orientations of youth.

Methods: Study 1 established a preliminary pool of items based on a literature review, an open-form questionnaire, and some expert opinions. Study 2 used exploratory factor analysis and performed internal consistency and reliability tests. The sample consisted of 442 young Chinese students, divided into males (49.3%) and females (50.7%) with an age range of 13 to 22 years. Study 3 performed confirmatory factor analysis and tested the scale's calibration validity and test-retest reliability. The confirmatory sample comprised 91,635 young Chinese students, divided into males (43.2%) and females (56.5%) with an age range of 12 to 23 years. The calibration validity sample consisted of 572 participants, aged 12 to 22. The test-retest reliability sample consisted of 200 participants.

Results: Through exploratory factor analysis, the four-factor structure revealed contains personal growth, social promotion, family well-being, and personal well-being purpose orientations. This four factor-structure revealed a 65.26% cumulative variance. The four factors' alpha reliability was 0.89 for personal growth, 0.87 for social promotion, 0.86 for family well-being, and 0.87 for personal well-being, respectively. Confirmatory factor analysis showed that the model fitting index had a good four-factor structure. The calibration validity and test-retest reliability were acceptable.

Conclusion: These findings demonstrated that the 19-item findings demonstrated that the Youth Purpose Orientation Scale is a valid and reliable measure. In future research, it can be used to measure purpose orientation in youth.

Keywords: purpose, purpose orientation, youth, factor analysis

Introduction

The purpose, as a unique psychological structure, was first put forward after the rise of meaning therapy.¹ Since then, this field of study has received a lot of attention from empirical researchers. Traditionally, the purpose of life is found to be a process of development. Many theoretical and empirical studies indicate that early purpose can emerge during late childhood or adolescence.²⁻⁵ During this period, young people can develop a strong identity and a clear sense of direction as they build their future lives by shaping their identities with unwavering values and a commitment to something beyond themselves.² Indeed, as the individual's mind develops during adolescence, individuals begin to pursue the meaning of life proactively. The psychosocial development theory states that healthy identities and life purpose growth frequently coincide.^{6,7} In support of this view, recent empirical evidence has found that identification and purpose advancement are interconnected procedures, and steadily increasing commitment to the identification factor also tends to improve adherence to the purpose factor.⁸

Similarly, clarifying the life purpose is also believed to help address the adolescent crisis.⁶ According to the classical lifespan development theory, individuals face identity crises and confusion in adolescence and emerging adulthood. To deal with such a crisis, adolescents must decide "who they are". During this process, individuals must specify their life

goals from this point on and start reflecting on what makes life more meaningful. When considering what they want to be, adolescents automatically reflect on what they want to achieve.⁹ Based on the above, scholars seem to be especially curious to know how purpose sense promotes mental health development in the 2nd and 3rd decades of life.²

More crucially, finding a sense of purpose is believed to be critical to the development of youth.^{10,11} For example, the life purpose can provide youths with a coherent and organized vision of the future connected to their current activities in a meaningful way.¹² Beyond that, previous research has also found that a self-transcendence purpose in school can promote academic achievement and self-regulation.¹³ Unlike young people without goals, young people with goals find coursework more engaging and meaningful.¹⁴ Adolescents who have a greater sense of purpose in life tend to have higher life satisfaction;¹⁵ more hopeful;¹⁶ and greater happiness.^{17,18} Simultaneously, individuals with a more heightened sense of purpose reported less distress and lower levels of anxiety and depression.¹⁸ In youth, having any life goal, as opposed to none, is associated with positive effects.¹⁵

However, not all life purposes are equally meaningful. Recent evidence regarding the effect of the meaning of life has found that purpose orientations can serve as a boundary condition that moderates the effect of the meaning of life. Purpose orientations, defined as the content of purpose,¹⁹ would result in different life patterns and be correlated with well-being in various ways. For example, compared with pursuing intrinsic (e.g., kinship, health) goals, seeking extrinsic (e.g., money, appearance) goals was associated with lower well-being and more significant pain-related outcomes.²⁰ Prosocial purposes are associated with greater well-being.^{21–23} The socially-oriented purpose is associated with higher well-being, while the self-oriented meaning is associated with lower well-being.²⁴ Furthermore, different purpose orientations also affect academic performance.^{13,25} A study on goal content suggests that it is more important to determine “what” the essence of one’s purpose is instead of merely “how much” a person possesses, since specific goal contents might predict an individual’s well-being.²⁶ It can be seen that measuring the purpose of life should consider not only the overall feeling of purpose but also the specific orientation of the purpose of life. Therefore, it is important to distinguish different forms of purpose orientation when examining their impact on developing purpose in life.

Until now, there have been numerous empirical studies on purpose orientation. Since the purpose is defined as a stable and generalized intention to accomplish something meaningful to the self and of consequence to the world beyond the self,¹⁰ previous researchers paid too much attention to self-transcendence purpose orientation and lacked focus on the other purpose orientation, leading to a similar limitation of current measurement tools such as the Prosocial Youth Purpose Scale, the Claremont Purpose Scale, and the Sense of Purpose Scale.

The Prosocial Youth Purposes Scale consists of ten purposes, and requires participants to select the three most important purposes.³ Participants were evaluated as purposeful if they chose or described a goal that transcended themselves. Adolescents are considered to have no purpose if the selected purpose is a self-focused orientation. One obvious limitation of this study is that it does not examine how adolescents hold multiple life goals across different domains because its focus is merely on the binary presence/absence of beyond-the-self goals.²³ The Claremont Purpose Scale measured three factors: goal-directedness, personal meaning, and beyond the self.²⁷ Its sample questions involve, “How clear is your sense of purpose in your life?”, and “How often do you find yourself hoping that you will make a meaningful contribution to the broader world?”. Despite its three dimensions, the Claremont Purpose Scale’s items capture respondents’ “feeling purpose” without considering the content.²⁸ Another metric is the Sense of Purpose Scale, which divides purpose into three dimensions: purpose consciousness, purpose awakening, and charitable purpose.²⁹ Although the goal in life is divided into dimensions, the question is: “How clear is the sense of purpose in life?”, “How much effort have you put into achieving your goals?” This scale measures the overall feeling of the sense of purpose. Although the self-transcendence orientation is reflected in the dimensions, it is not reflected in the specific items. As can be seen, the above three tools only consider the purpose orientation of self-transcendence and do not consider the direction of other purposes.

In addition, the purpose orientation is also defined as the content of purpose. Under such a framework, purpose in life is indicated more by people’s multiple and often related life goals than by a single plan.²² Based on this definition, previous researchers have developed tools for measuring purpose in life orientation. First, the life purpose orientation questionnaire divided life purpose orientation into creative, prosocial, financial, and personal recognition.²² This tool analyzed life-goal data from the 1748 undergraduate seniors’ survey that the Higher Education Research Institute

collected. Similarly, another tool using the 2002 Educational Longitudinal Study database (ELS:2002) conducted a factor analysis of the 14 different purpose types and reported four purpose orientations: career, interpersonal, generous, and self-oriented. One of the limitations of the two studies described above is that their assessment of purpose orientation was limited to pre-developed surveys.³¹ And because of the limited items in the database, the reliability of self-orientation and altruistic purpose is low, and the results of their study might not have fully captured the essence and role of these two purpose orientations.^{30,31} Subsequently, the Measure of Adolescent Purpose was developed and has a single item to measure adolescents' purpose orientation.²⁸ This study limitation has only one question about life purpose orientation, which cannot fully reflect adolescent life purpose orientation.²⁸ Another life purpose orientation questionnaire for Chinese college students was created.²⁴ The questionnaire has five dimensions: pleasure-seeking, self-strengthening, family harmony, social recognition, and social dedication. The limitation of this questionnaire is that its items show up as measures of value on specific dimensions.^{24,31}

To sum up, it is not difficult to find that the research on life purpose orientation is still in its infancy.^{24,31} Although there have been studies on measurement tools that have made important contributions to purpose orientation in youth, current assessments of purpose orientation still have some limitations. First, the measurement instruments primarily focused on the self-transference of purpose orientation and lacked attention to other purpose orientation dimensions.^{5,28,29} Second, although there are tools for measuring other content of purpose (including various purpose content such as self-transcendence), these scales are compiled based on existing items in existing databases, which have low reliability due to the limited number of items.^{19,30} Third, although there is a life purpose orientation questionnaire that is not based on existing databases, their measurement content is confused with other constructs such as life values.^{24,31}

Given these constraints, the current study sought to create and validate a scale measuring purpose orientations in youth students. Study 1 was a pilot study. The purpose was to base on a literature review, an open-form questionnaire, and some expert opinions to establish a pool of purpose-oriented items. Study 2 conducted an exploratory factor analysis and further refined it. A four-factor model was initially obtained. Study 3, confirmatory factor analysis, and calibration validity tests were carried out.

Materials and Methods

Study I

Study Ia

In the first step, in order to generate the item pool, an open-ended questionnaire and literature review were used. An open-form questionnaire was distributed to 6749 youth students (junior high school = 1809 [26.8%]; high school = 2120 [31.4%]; college = 2820 [41.8%]). Samples were collected from Xiamen, Changchun, Jilin, and Harbin, China. They were asked four open-ended questions: 1. Describe your life in 10 sentences. 2. When you see these words (life, goals, and the future), what comes into your mind? 3. Please list three to five meaningful things that have recently happened in your life, or are going to happen. 4. Write a small essay titled "My philosophy". All subjects were asked to write their answers on the questionnaire. All the content was in the text version and has been sorted out and summarized. The responses to the questionnaire were analyzed using conventional content analysis methods.³² The data collected through this open-form questionnaire was analyzed, and the main themes were extracted to create an item pool.

Furthermore, based on the literature review,^{22,24,28,33} and consultation with expert opinion (two professors), we developed a list of 58 items in the initial pool. The 58 items corresponded to the multidimensional conceptualization of purpose orientation previously mentioned. To assess the topic's relevance and life purpose orientation, we used expert evaluation methods (psychology professors, associate professors, middle school psychology teachers, Ph.D. students in psychology, and a total of 20 people with a scientific research background in psychology). The expert finalized 50 items and demonstrated complete agreement with them due to their good face and content validity. The 5-point Likert scale (1 = Extremely unimportant, 5 = Extremely important) was decided as the response format of the Youth Purpose Orientation Scale (YPOS). The study explained the purpose of this study and the tasks that students had to complete for all participants. Students were assured that any information they provided would be kept

strictly confidential and used for research purposes only. This study was carried out with students who provided informed verbal consent before completing the questionnaire, while those who were under the age of 18 received their school administrators, teachers, and parental or legal guardian consent. Students responded anonymously, and their answers were completely voluntary and kept private. The study protocol has been approved by the Ethics Committee of the School of Psychology, Northeast Normal University (Reference No. 201915). The research was carried out in line with the Helsinki Declaration. The sample for all three studies was gathered after receiving ethical permission.

Study 1b

Pilot study. A trial study was conducted on 50 items of the YPOS items to eliminate ambiguity, uncertainty, and two-pronged statements and confirm the scale items' accuracy and comprehensibility. A total of 410 students were selected as the preliminary sample in Changchun. In addition to the above scales, we randomly placed five items throughout the questionnaire to reduce social desirability. Individuals who answered an average of four of these five items in a contradictory fashion were excluded from the sample. This procedure was performed for all questionnaire administration in this study and invalid subjects were deleted according to the average score of five lie detection questions greater than or equal to four. Participants included 352 students aged 13 to 21 years old, with 49.4% men and 50.6% women.

Participants were given fifty items and asked to respond to and provide feedback on them. A preliminary study was conducted to determine the feasibility of the items on the YPOS. Ten of the 50 items were removed because all participants responded similarly. Items that were responded too similarly by all participants have been deleted, and only those items that could make a difference between participants have been chosen. Seven items were discarded after participants deemed them inappropriate. A 33-question preliminary questionnaire was composed. Then, we formally tested the questionnaire in Study 2.

Study 2

Participants

Participants were 497 students (from junior high school through college). Overall, 55 returned questionnaires were discarded because of invalid responses. Thus, the final sample comprised 442 student participants in China (junior high school = 145; high school = 147; college = 150). 49.3% were males, and 50.7% were females, with the age range of 13–22 ($M_{age} = 16.31$, $SD = 2.34$).

Procedure

The questionnaire was administered online, and each item was stated on a 5-point scales ranging from 1 = extremely important to 5 extremely unimportant. There were 6 special items in the questionnaire for examining whether participants were serious about their answers, which was essential for reducing social desirability effects. The added items were “I never eat snacks.”; “Occasionally, I would gossip about others behind their backs.”, “I never miss an appointment.”, “Sometimes I also tell lies.”; “I never cry.” and “I never curse.” If participants complete the questionnaire carefully, they will receive a small payment.

Statistical Analysis

Study 2 aimed to see how many potential variables were highlighted in the developed item set and to pick the best performers. First, in order to test whether each item in the questionnaire has sufficient discriminative power, the critical value analysis method was used. Suppose the critical ratio is higher than 3.0 and the p-value is less than 0.05. In that case, the mean difference between the high-scoring group (the first 27%) and the low-scoring group (the last 27%) on the item is significant enough to indicate that the thing is well discriminated.³⁴ Second, to confirm the factor structure of the measure of youth purpose orientation scale, we conducted exploratory factor analyses (EFA) using SPSS 22.0. Exploratory factor analysis (EFA) was performed with principal component analysis extraction and Promax rotation, an oblimin rotation that allows for measuring the correlation between the purpose-created measures.³⁵ To decide the

scale's factor structure, we examined the eigenvalues and scree plot. In addition, Cronbach's alpha value was used to check the internal consistency of items within each element.

Results

Due to insufficient item discrimination power, two items were deleted based on the critical value analysis criteria. Kaiser Meyer-Olkin (KMO) and Bartlett's test of sphericity suggested the data was suitable for factor analysis (KMO = 0.95, Chi-square = 5693.16, df = 190, $p < 0.001$). When allowed to freely rotate, four factors emerged based on the Kaiser rule and an examination of the scree plot. The following criteria should be adopted in the selection of factors: First, we removed items with low factor loadings (< 0.45) and items with high cross-loading (> 0.30 on more than one factor).^{24,36,37} Second, factors were determined by using multiple criteria. Items were examined based on conceptual reviews and statistical considerations to optimize scale length. Third, each factor had to include at least three items. In total, we removed 12 of the 31 questions. The remaining 19 questions were loaded onto four distinct factors. Table 1 provides the results of the exploratory factor analysis. As can be seen from Table 1, four dimensions finally emerged, with 19 items accounting for 65.26% of the total variance.

Finally, four factors are formed. They are personal growth (pursuing personal growth and progress), social promotion (seeking to help others and doing beneficial things), family well-being (seeking the happiness and well-being of our families), and personal well-being (seeking fun and exciting things).

The personal growth domain, which consisted of five personal growth orientation items, explained 41.42% of the variance, with factor loadings ranging from 0.62 to 0.83. The social promotion domain, which consisted of five social promotion orientation items, explained 9.14% of the variance, with factor loadings ranging from 0.52 to 0.82. The family well-being domain, which consisted of four family well-being orientation items, explained 7.74% of the variance, with factor loadings ranging from 0.51 to 0.84. The personal well-being domain, which includes five personal well-being orientation items, explained 6.97% of the variance, with factor loadings ranging from 0.56 to 0.80. Cronbach's alphas

Table 1 Exploratory Factor Analysis Results of Purpose Orientation

Item	Communality	Personal Growth	Social Promotion	Family Well-Being	Personal Well-Being
27. Improve your personal abilities.	0.75	0.83	-0.12	0.07	-0.05
29. Increase your own experience.	0.66	0.80	0.03	0.08	0.06
21. Have a satisfying job.	0.63	0.74	0.06	-0.16	0.13
32. Improve your personal character and cultivation.	0.65	0.67	0.11	0.12	0.10
23. Realize your ambitions.	0.63	0.62	0.22	0.10	0.07
8. Make a significant contribution to society.	0.73	0.04	0.82	-0.15	0.14
20. Make the hometown more prosperous and robust.	0.68	-0.01	0.77	0.04	0.05
4. Make society a better place.	0.61	-0.02	0.71	0.11	0.09
10. Help others.	0.65	0.11	0.64	0.06	0.03
30. Caring for those who have suffered misfortune.	0.60	0.28	0.52	0.10	-0.11
17. Have a satisfying marriage.	0.72	-0.06	-0.07	0.84	0.24
13. Have a sweet relationship.	0.78	0.14	-0.03	0.80	0.03
31. Have children of my own.	0.53	0.17	0.09	0.64	-0.06
1. Have a happy family.	0.47	-0.14	0.22	0.51	-0.07
11. Live an interesting and exciting life.	0.69	0.01	-0.09	0.17	0.80
3. Live a colorful life.	0.55	-0.02	0.12	-0.15	0.76
7. Live a passionate life.	0.68	-0.03	0.05	0.05	0.72
19. Live a very colorful life.	0.72	0.18	-0.06	0.09	0.60
14. Live a creative life.	0.67	0.11	0.14	0.03	0.56
Eigenvalues		7.76	1.76	1.55	1.26
Variance explained		41.42%	9.14%	7.74%	6.97%

Note: Bold represented items' factor loadings were over 0.45.

were computed for each subscale, showing that Cronbach's alphas were 0.89 for the personal growth purpose orientation subscale, 0.87 for the social promotion purpose orientation subscale, 0.86 for the family well-being purpose orientation subscale, and 0.87 for the personal well-being purpose orientation subscale. The validity and reliability of this preliminary questionnaire were examined in Study 3.

Study 3

Participants

Sample 1 was used to confirm the confirmatory factor analysis. Participants were $n = 104,377$; The invalid subjects were deleted based on an average score of five lie measurement questions greater than 4. Get effective participants: $n = 91,635$ (males = 39,862[43.5%]; females = 51,773[56.5%]), including junior high school students, high school students, and college students (junior high school = 36,551; high school = 29,334; college = 25,750) whose ages ranged from 12 to 23 years (Mage = 16.61 years, SD = 2.70). 31.7% of the participants were in early adolescence (12–14 years), 31.9% were in mid-adolescence (15–17 years), 33.9% in late adolescence (18–21 years), and 2.5% in young adulthood (22–23 years). The sample was broadly representative of adolescents as it was drawn from 311 schools geographically distributed in the 31 provinces, municipalities, and autonomous regions of the Chinese mainland. They were located in Beijing, Tianjin, Hebei, Shanxi, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Shandong, Henan, Hubei, Hunan, Guangdong, Guangxi, Hainan, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shanxi, Gansu, Qinghai, Ningxia, Xinjiang.

Sample 2 was used for the calibration validity test. The participants in this study were 655 students. Overall, 83 returned questionnaires were discarded because of invalid responses. Thus, the final sample consisted of 572 participants, aged 12 to 22, including junior high school students ($n = 187$), high school students ($n = 191$), and college students ($n = 194$). Among them, 49.5% were males, and 50.5% were females.

Sample 3 focused on test-retest reliability. The questionnaire was retested with 200 participants from one junior high school, one high school, and one university, with an interval of four weeks. Mage = 16.82, SD = 2.50; 50.4% females, 49.6% males.

Procedure

After obtaining informed consent, teachers and parents invited all students from different schools to complete an online questionnaire containing the above scales after class. We posted our questionnaires via wjx (<https://www.wjx.cn>), which has been widely used in previous studies.³⁸ In addition to the above scales, we included five items randomly placed throughout the question (i.e., “I have never cried.”; i.e., “I have never missed an appointment.”; i.e., “I never scold people.”; i.e., “I never eat snacks.”; i.e., “I have never lied.”). Individuals who answered an average of four of these five items in a contradictory fashion were excluded from the sample. Participants were promised that they would receive the questionnaire results upon completing the survey.

Personal Meaning Profile

The revised version of the questionnaire was used in the Personal Meaning Profile Brief (PMPB).³⁹ There were 21 items in the questionnaire, consisting of 7 dimensions, with three items in each size. These include achievement (e.g., I like challenging things), interpersonal relationships (e.g., I have many good friends), spirituality (e.g., I obey the guidance of the heavens), self-transcendence (e.g., I believe I can let the world be different), self-acceptance (e.g., I admit that some things cannot be changed), intimacy (e.g., I love each other with my family, lovers, etc.), and fairness (e.g., life is fair to me). The Cronbach's alphas for the seven factors ranged from 0.74 to 0.84.

Meaning in Life

The Meaning in Life Questionnaire (MLQ) included 5 MLQ-P items (e.g., “I understand my life's meaning”) and 5 MLQ-S items (e.g., “I am always looking to find my life's purpose”).⁴⁰ Participants were asked to respond about how they felt on a scale from 1 = absolutely untrue to 7 = absolutely true. MLQ-P and MLQ-S Cronbach's alphas were 0.79 and 0.87.

Satisfaction with Life

The Satisfaction with Life Scale (SWLS) measures how satisfied you are with your life. It was five items and Likert 7 points, for example, “I am satisfied with my life.” From 1 = strongly disagree to 7= strongly agree.⁴¹ Cronbach’s alphas for the five questions were 0.86, indicating that the questionnaire was reliable.

Statistical Analysis

Sample 1 of the confirmatory factor analysis was carried out to further determine the above four models of youth purpose orientation. The confirmatory factor analysis (CFA) was calculated to test the fit of the measurement model and used maximum likelihood estimation. A structural equation model was fitted using Mplus 8.0.

Because the Chi-square test is susceptible to sample size, we used the following fit indices for the CFA to assess model fit: root means a square error of approximation (RMSEA index, values of 0.08 or lower indicate good fit, and values of 0.05 or lower indicate excellent fit), the comparative fit index (CFI of 0.90 and 0.95 and above represent good and perfect model fit), the Tucker–Lewis Index (TLI of 0.90 and 0.95 and above represent good and excellent model fit), and the Standardized Root Mean Square Residual (SRMR < 0.08) for assessing the fit of the model. Additionally, to further examine the factorial validity of the scale. A multiple group of CFA was conducted to test gender and age differences in measurement equivalence.⁴² They are configural invariance (Model 1), metric invariance /weak invariance (Model 2), scalar invariance /strong invariance (Model 3), and error variance invariance /strict invariance (Model 4). As the Chi-square test is susceptible to the influence of sample size, even small differences will yield significant results with an increase in sample size.^{43,44} Therefore, this study used the model fit index CFI and the difference in TLI (Δ CFI, Δ TLI) values, to evaluate the equivalence of measurements. The equivalent model is considered acceptable when Δ CFI \leq 0.01 and Δ TLI \leq 0.01.⁴⁵

Sample 2 provides evidence of the validity of the scale. Criterion validity was assessed by calculating the correlation relationship between the YPO scale, Personal Meaning Profile, Meaning in Life Questionnaire, and the Satisfaction With Life Scale. All analyses were conducted using SPSS 22.0.

Sample 3 focused on test-retest reliability. The intraclass correlation coefficient (ICC) was used to examine the extent to which measurements could be replicated. The ICC is a widely used reliability metric that has been used to assess test-retest reliability.^{46,47} It avoids the limitations of Pearson product-moment correlation in test-retest reliability analysis, such as the inability to detect the presence of systematic errors.^{46,47} All analyses were conducted using SPSS 22.0.

Results

Structure Validity Analysis

The results of the CFA revealed a good fit, Satorra-Bentler scaled chi-square ($S-B\chi^2$) = 64769.01, $p < 0.001$. When the model’s fit indices were considered, the p level for the χ^2 value was examined. If this value is $p > 0.05$, it shows a good fit. However, as this value is likely to be significant ($p < 0.05$) for large sample sizes, it is suggested that other fit indices should be evaluated. Root Mean Square Error of Approximation (RMSEA) = 0.058 (90% confidence interval [0.056, 0.066]); Standardized Root Mean Square Residual (SRMR) = 0.044; Comparative Fit Index (CFI) = 0.93; Tucker-Lewis Index (TLI) = 0.92. Although the results showed a significant chi-squared, the RMSEA, comparative fit indices CFI, and TLI indicated a good fit.

Table 2 Measurement Invariance of YPQ Across Sex

Model	S- $B\chi^2$	df	CFI	TLI	RMSEA (90% CI)	SRMR	Model Comparison	Δ CFI	Δ TLI
Model 1	58224.90	285	0.940	0.928	0.067[0.066, 0.067]	0.047			
Model 2	59982.33	301	0.938	0.929	0.066[0.065, 0.066]	0.054	2vs.1	-0.002	0.001
Model 3	61115.78	316	0.937	0.931	0.067[0.066, 0.067]	0.056	3vs.2	-0.001	0.002
Model 4	63713.21	335	0.929	0.925	0.069[0.069, 0.070]	0.061	4vs.3	0.008	-0.006

Note: Model 1= Configural Invariance; Model 2= Metric Invariance; Model 3= Scalar Invariance; Model 4= Error Variance Invariance.

Table 3 Measurement Invariance of YPQ Across Age Groups

Model	S-B χ^2	df	CFI	TLI	RMSEA (90% CI)	SRMR	Model Comparison	Δ CFI	Δ TLI
Model 1	64947.82	429	0.934	0.921	0.067[0.066, 0.067]	0.051			
Model 2	68383.35	459	0.931	0.922	0.068[0.067, 0.068]	0.053	2vs.1	−0.003	0.001
Model 3	69394.20	489	0.930	0.926	0.067[0.066, 0.067]	0.056	3vs.2	−0.001	0.004
Model 4	73350.69	527	0.922	0.919	0.069[0.069, 0.070]	0.059	4vs.3	−0.006	−0.007

Note: Model 1= Configural Invariance; Model 2= Metric Invariance; Model 3=Scalar Invariance; Model 4= Error Variance Invariance.

Tables 2 and 3 provide the results of the gender and age-invariant equivalence tests, respectively. They show that Δ CFI and Δ TLI were less than 0.01 in each step of the measurement equivalence test for gender and grade groups. Therefore, measurement invariance tests across age and gender groups were completely valid.

Calibration Validity Analysis

Table 4 provides the results of calibration validity. It can be seen that all factors were positively correlated. The correlations between the four factors of adolescent life purpose orientation and the seven factors of PMB ranged from 0.17 to 0.50, providing criterion validity. The correlations between the four-factor adolescent life purpose orientation and the MIL ranged from 0.24 to 0.41. Correlations between the adolescent life purpose orientation four elements and the SWLS ranged from 0.21 to 0.56. The reliability and validity of the 19-item purpose orientation Questionnaire were estimated among Chinese adolescents. Within a four-week interval, the results suggested the ICC (two-way mixed effects, consistency, multiple measurements) were 0.71 for the personal growth purpose orientation subscale, 0.79 for the social promotion purpose orientation subscale, 0.74 for the family well-being purpose orientation subscale, and 0.64 for the personal well-being purpose orientation subscale. Taken together, the results indicate that the adapted measure was reliable and valid.^{46,47}

Discussion

Purpose in life is crucial to the development of adolescents.¹⁰ However, different life purpose orientations have different influences on the development of adolescents.^{11,13} So, the purpose of the current study is to develop and validate the Purpose Orientation Scale for young students (junior, senior, and college). Only a few scales have been developed to measure purpose orientation, and there are limitations in their measurement of student purpose orientation in young students. This study first improves on the previous findings that there is only a single dimension of life purpose orientation. In addition, this study was based on 6749 open-form questionnaires and established an

Table 4 Criteria Correlation Analysis

	Personal Growth	Social Promotion	Family Well-Being	Personal Well-Being
PMP-self-transcendence	0.25***	0.50***	0.41***	0.30***
PMP-achievement	0.50***	0.39***	0.39***	0.33***
PMP-Intimate Relationship	0.43***	0.42***	0.57***	0.39***
PMP-interpersonal relationship	0.17**	0.25***	0.44***	0.20***
PMP-spirituality	0.19**	0.34***	0.39***	0.24***
PMP-self-acceptance	0.23***	0.32***	0.32***	0.22***
PMP-fair shake	0.23***	0.42***	0.33***	0.26***
MLQ-presence of meaning	0.25***	0.29***	0.41***	0.24***
MLQ-search for meaning	0.35***	0.30***	0.31***	0.34***
SWLS	0.21***	0.26***	0.56***	0.21***

Note: ** $p < 0.01$ *** $p < 0.001$.

Abbreviations: PMP, Personal Meaning Profile; MLQ, Meaning in Life Questionnaire; SWLS, Satisfaction with Life Scale.

item database by reviewing previous literature. This study also increased the reliability, which was low in previous findings due to the use of existing databases and the limited number of entries. Last, during the preparation of the preliminary questionnaire, the items that may be confused with the values were eliminated through evaluation and student evaluation. The conceptual confusion with values has been effectively improved.

In Study 1, we created the item pool. In study 1a, items were generated based on open-ended questionnaires, some expert opinions, and a review of previous literature. In study 1b, based on participants' responses and feedback, some items were deleted. In study 2, exploratory factor analysis was performed to determine the factor structure of the questionnaire. In Study 3, confirmatory factor analysis was used to test the factor structure identified in Study 2 with an independent selection of junior high school, high school, and college students from 31 provinces in mainland China. Importantly, the measure showed measurement invariance for the combination of age and sex. The calibration validity test and the test-retest reliability test were carried out, and the results were acceptable. As a result, the 19-item Youth Purpose Orientation Scale was administered to Chinese junior high, high school, and college students. They covered four aspects of life purposes (i.e., personal growth, social promotion, family well-being, and personal well-being). The current findings supported the claim that people express their life purposes by pursuing multiple but related life goals.¹⁹ Purpose orientation can be defined as the underlying intention driving people's long-term goals, whether self-oriented or others-oriented.^{10,22,24} However, the test-retest reliability is not perfect, which may be due to several reasons. On one hand, the purpose orientations might be relatively more labile than initially hypothesized. Previous studies on values have found that the test-retest reliability ranges from 0.50 to 0.78 within a four-week interval,⁴⁸ suggesting those constructs may not be as stable as we presumed.²⁴ On the other hand, as the subjects experienced the test after a four-week interval, their pursuit of personal well-being changed. As the subjects experienced the test after a four-week interval, their pursuit of personal well-being changed. Therefore, the test-retest reliability of personal well-being is not that good. Overall, statistics show that the questionnaire was valid and reliable, implying that it could be used to assess life purpose orientation.

During the item development and content validation phases, it is assumed that the item will focus on the six dimensions of purpose orientation, ie, interpersonal connection, career achievement, growth, pleasure, service to others, curiosity and innovation, and aesthetics. Study 2 exploratory factor analysis revealed four different factors of purpose orientation: interpersonal connection, career achievement, pleasure, and service to others. Specifically, the two dimensions of curiosity and innovation, as well as aesthetics, were deleted because they could not be aggregated. This indicates that the pursuit of curiosity and innovation, as well as the pursuit of aesthetics, are not the main life purpose orientation of young people. At the same time, these two dimensions are also not present in the current questionnaire on life purpose orientation.^{22,24,28} Study 2 finally identified four dimensions of life purpose orientation.

Among them, "achievement" and "growth" are aggregated and merged into one personal growth dimension. For pursuing self-growth during adolescence can result in more significant accomplishments, so combining the two is reasonable. Although other studies have found similar dimensions,^{22,24,28,30,31} they are not exactly the same as the pursuit of personal development and progress that this study points to. According to previous research, developmental tasks in early adulthood (roughly ages 18–40) are distinguished by focusing on growth (i.e., developmental gains).^{49,50} This growth mindset enables young adults to acquire new skills and realize their full potential.⁵¹ It's worth noting that, unlike self-orientation in the Western context, Chinese adolescent and college self-growth includes spiritual and mental development. In the present study, personal growth is the desire to improve oneself and find inner harmony constantly. This perspective is consistent with the Chinese concept of happiness, which includes mental cultivation and enlightenment (at least according to Taoist and Buddhist teachings).⁵² According to the Book of Changes, gentlemen constantly strive for self-improvement. The goal of personal growth orientation in this study is for people to engage in constant motivation that can positively change the essence of their lives. Humanist philosophers believe this is the key to inspiring people to embrace the infinite power of life in the face of adversity and persevere.⁵²

Service to others was renamed "social promotion", and it refers to the goal of life as making contributions to others in the pursuit of social progress and development. The purpose framework that a beyond-The-self purpose could indicate for young people purposes.² This has been mentioned in previous research.^{22,24,28,30,31} Both China and the West have this dimension. It perfectly fits the purpose definition.¹⁰ This is also consistent with the "goodness" that humans seek.

Since the remaining items on interpersonal connection were all about families, they were renamed “family well-being”. It refers to the pursuit of intimacy and happiness among family members. This is not the same as the dimension of interpersonal relationships in previous questionnaires.^{11,24} This is consistent with family as the main body in Chinese tradition. The idea of family well-being orientation is always popular among the Chinese. According to the Chinese, collectivism is founded on the family.^{53,54} Chinese young students place a high value on the collective while also beginning to focus on themselves. The orientation of their life purpose emerges at a stage of unity of contradictions and opposites between collectivism and individualism as society changes and Western concepts are integrated.

Pleasure has been renamed “personal well-being” and refers to the pursuit of events or activities that add variety, pleasure, or interest to one’s life. No other studies of western culture have similar dimensions.^{22,27,28,30,31} Another instrument has similar dimensions in the context of Chinese culture, but they are different.²⁴ In particular, some researchers do not consider pleasure-seeking a life purpose because all people’s motivation stems from a more primal drive, so there is no individual difference in pursuing these basic needs.⁵⁵ However, although pleasure is an instinctive drive, it does not guarantee that everyone will choose a lifestyle centered on the pursuit of happiness; as the ancient Chinese philosopher put it, “Life is short; enjoy it as much as you can.”⁵⁶ So pleasure can also be a reasonable purpose in life. Therefore, we adopted it as a purpose orientation. However, research has shown that hedonistic goals do not lead to long-term happiness gains.⁵⁷ Our research subjects are adolescents and college students, and it is reasonable to assume that the purpose of pursuing happiness exists in young people. But further caution should be adopted regarding whether teens should be led to pursue this goal. Future research may shed light on this.

Study 3 included confirmatory factor analysis, calibration validity analysis, and a retest reliability test. The results of confirmatory factor analysis show that the model fits well. The personal meaning inventory scale, Life meaning scale, and life satisfaction scale showed a significant positive correlation. It indicates that adolescents with higher levels of four life purposes have a more heightened sense of meaning and life satisfaction.^{14,58} The calibration validity is good. Further analysis shows that the adolescents who take family well-being as their life purpose have a higher sense of life meaning and life satisfaction than those who take the other three life goals as their life purpose, indicating that family plays a vital role in pursuing happiness in Chinese adolescents. This accords with our country’s traditional home standard collective idea.

Based on our findings, we believe the YPOS will be a valuable new tool for developmental scientists’ research purposes. This scale, in general, better reflects the specific orientation of young students’ life purposes, whether in structure or content. It can be used for additional research.

Limitations and Future Directions

These findings should be interpreted in light of the study’s limitations. First, this scale has only been validated and used by young students and not by others. Second, the psychological robustness of this scale deserves further verification. Third, only self-report methods, such as surveys and open-ended questionnaires, were used in this study. The effect of social desirability bias, which cannot be avoided entirely despite our efforts to reduce it, is a significant methodological limitation of self-report in life purpose research.

In view of the limitations of the above research, future research can be carried out in the following aspects: First, the scale would need further investigation to determine whether it could be used with other adult populations. Furthermore, when extending the results of this study, the Life Purpose Orientation questionnaire was subject to additional psychometric robustness tests for further revision as a new measure. Therefore, other research is required to assess this tool as a valid measure of purpose orientation. In addition, alternative methods, such as observational and controlled experiments, should be used in future research to compensate for the limitation of current methods and reduce social expectation bias. Last, since the existing purpose dimension includes dimensions that may be unique to Chinese young students, cross-cultural research can be considered in future research to further determine whether there are cultural differences in purpose orientation. Overall, future research should be conducted to validate this scale. Despite these minor limitations, we believe that the YPOS contributes to the study and assessment of meaning among young students by measuring all four dimensions of purpose orientation.

Conclusion

Our study was conducted to develop and validate a scale to measure purpose orientation in youth. The results showed that the items on the purpose orientation scale could evaluate four distinct purpose factors in life orientation (i.e., social promotion, personal growth, family well-being, and personal well-being). Practitioners and researchers can use the 19-item instrument to assess youth purpose. This measure can help build knowledge about positive human functioning and wellness studies.

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Disclosure

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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