

A Study on Structural Exploration and Measurement Tool Development of Core Self-Evaluation in College Students

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Abstract: Starting from the concept of core self-evaluation, this study identified four factors, namely self-esteem, self-efficacy, cognitive intelligence, and emotional intelligence, to construct a model of core self-evaluation for Chinese college students. Based on the four-factor structure of core self-evaluation in college students, this study developed an initial questionnaire consisting of 37 items. Through item analysis, factor analysis, and tests of reliability and validity, a final version of the questionnaire with 22 items was refined, demonstrating good reliability and validity.

1. Introduction

Over the past decades since its inception, core self-evaluation has increasingly interfaced with other domains, continuously validating its theoretical and practical significance^[1-3]. Judge and colleagues extracted the concept of self-evaluation from Packer's Core Evaluation Theory and defined it as the most fundamental assessment and estimation that individuals hold about their own abilities and worth^[4]. In the initial years when core self-evaluation entered researchers' perspectives, it was primarily used in studies related to work variables^[5]. However, as research expanded and deepened, it was found to have significant predictive effects not only in work-related variables but also in other domains such as life satisfaction^[6], physical and mental health^[7], and academic behaviors^[8].

Regarding the structure of core self-evaluation, Judge and colleagues proposed that it consists of a certain number of trait factors, and these factors should meet at least three criteria simultaneously, namely evaluation-focus, fundamentality, and scope. Guided by these three criteria, Judge and others suggest that self-esteem^[9], locus of control^[10], neuroticism^[11], and general self-efficacy^[12] are the best structural components of core self-evaluation⁰. Individuals with high core self-evaluation tend to be confident, have a high sense of self-worth, believe in their capabilities, experience low anxiety, and maintain a positive attitude toward themselves in various situations.

Judge and colleagues developed a Core Self-Evaluations Scale (CSES)^[13] consisting of 12 items^[5]. This scale has demonstrated good internal consistency reliability, test-retest reliability, structural validity, and criterion-related validity. Psychologists in China have increasingly focused on the concept of core self-evaluation^[14-16], there is currently no universally accepted measurement tool for this construct^[17].

Based on the classic structure of core self-evaluation, self-esteem, locus of control, general self-

efficacy, and emotional stability constitute a higher-order personality concept aimed at measuring variables related to an individual's assessment and estimation. When interpreting self-esteem and self-efficacy conceptually, it becomes evident that both emphasize characteristics indicative of evaluation and judgment, making them suitable candidates for inclusion in the factor structure of core self-evaluation. Conversely, locus of control and emotional stability have been associated with issues of localization within the Chinese context, with fuzzy positioning or incomplete coverage of the concept extension related to core self-evaluation. Therefore, this study seeks to reposition the factor structure of core self-evaluation for Chinese college students and develop a corresponding measurement tool.

(1) The factor of emotional stability, as traditionally conceptualized within core self-evaluation, primarily focuses on an individual's tendency to maintain specific emotional states. However, recent researches^[18-19] have suggested that the concept of "emotional intelligence" captures a broader perspective on the significance of emotions in an evaluative context. The definition of emotional intelligence^[20] encompasses an individual's ability to accurately assess their own and others' emotions, appropriately express emotions, regulate both their own and others' emotions, and apply emotional understanding to cognitive, emotional, and behavioral problem-solving. This definition aligns more closely with the requirements of core self-evaluation in terms of evaluating orientation and estimation. In this study, "emotional intelligence" is used as the term for the emotional factor.

(2) Given the study's focus on core self-evaluation among college students, the research seeks to identify alternative variables from this specific group's developmental characteristics. Among the three confirmed factors of core self-evaluation for college students, self-esteem, self-efficacy, and emotional intelligence each explore self-evaluation from the perspectives of values, behaviors, and emotions. However, there is a lack of cognitive aspects within the realm of psychological theories. Considering that college students are primarily engaged in academic learning, it is essential to incorporate cognitive elements into their self-evaluation structure. Among the various cognitive concepts, only the evaluation and estimation of one's cognitive abilities are deemed to fall within the concept scope of core self-evaluation for college students. Consequently, this study introduces the concept of "cognitive intelligence" to represent college students' evaluations and estimations of their intellectual abilities, placing it on the same evaluative and estimative brightness level as self-esteem, self-efficacy, and emotional intelligence.

Based on these considerations, the study proposes a hypothetical theory of core self-evaluation for Chinese college students, as shown in Figure 1.

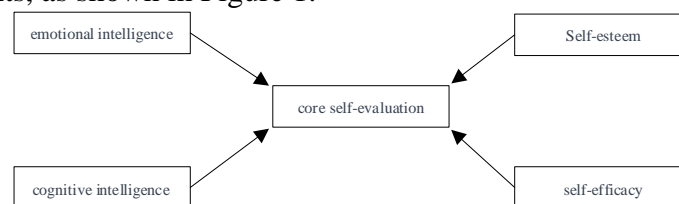


Figure 1: Hypothetical Theory of Core Self-Evaluation for Chinese College Students.

In this study, it is emphasized that core self-evaluation is not merely a self-concept but rather a personality concept. Furthermore, in line with the operational definition of Core Self-Evaluation (CSE), this study defines it as a measurable level of personality traits.

2. Development of the Core Self-Evaluation Scale for College Students

2.1 Sources of Items for the Core Self-Evaluation Scale for College Students (Initial Version)

The development of the Core Self-Evaluation Scale for college students draws from two main sources: (1) Extraction and selection of relevant items from existing scales: including the classic Core

Self-Evaluations Scale (CSES)^[13], Rosenberg's Self-Esteem Scale^[21], Zhang Jianxing's version of Schwarzer's General Self-Efficacy Scale^[22], the Eysenck Personality Questionnaire^[23], and others. (2) Conducting interviews with college students: Researchers conducted interviews with college students to obtain their expressions of self-evaluation and estimation regarding vectors such as self-intelligence and emotions.

2.2 Testing the Predictive Version of the Core Self-Evaluation Scale for College Students

2.2.1 Participants

The participants for the predictive version questionnaire were undergraduate students from a university in northern China, representing various majors. A total of 425 questionnaires were distributed to first-year to fourth-year undergraduate students, and after excluding invalid responses, 364 questionnaires were considered valid, resulting in an effective response rate of 85.7%.

2.2.2 Research Tools

The "Core Self-Evaluation Scale for College Students (Predictive Version)" (Appendix 1: Appendix Table 8) was used in this study. This questionnaire consists of four dimensions with a total of 37 items. Responses are scored on a five-point scale, with five options (A, B, C, D, E) following each question, indicating the degree to which the respondent's situation matches the statement: A = Completely Inaccurate, B = Somewhat Inaccurate, C = Uncertain, D = Somewhat Accurate, E = Completely Accurate. Each item is scored from 0 to 4 in order. The questionnaire includes 14 reverse-scored items, which are appropriately transformed during data analysis. The items within each dimension are presented in a random order. The total score is calculated by adding up the scores for all items, with higher scores indicating higher levels of core self-evaluation.

2.2.3 Data Processing

- (1) Data Entry: Data entry for the initial version questionnaire was performed by the researcher. During data entry, any questionnaires with blank responses were excluded.
- (2) Data Exclusion: To ensure the validity of the data, this study conducted validity checks on the questionnaires during data entry and excluded some invalid questionnaires.
- (3) Data Processing: IBM Statistical Package for the Social Sciences was used for data analysis and statistical processing.

2.2.4 Research Results

(1) Item Analysis

By using a cutoff score based on the top 27% of scores, the data was divided into high and low groups, and the results of the extreme group comparisons are presented in (Table 1) With the exception of item A08 ($P=0.353$), the results of the tests for all other items reached a significance level of 0.005. Meanwhile, the correlation of the 8th question with the total score is 0.043, which is below the observed criterion of 0.25 used in this study. Therefore, it is considered for removal. The remaining questions have correlations with the total score ranging from 0.255 to 0.663. This is consistent with the results of the extreme group analysis. As a result, it has been decided to delete the 8th question, which will not be included in the subsequent statistical analysis.

The internal consistency coefficient of the predictive questionnaire developed based on the four-factor structure of college student core self-evaluation reaches 0.915, which is considered a high level. This indicates a high level of homogeneity reliability among the scores of all questions, theoretically

suggesting that the results of this scale measurement represent a certain single psychological trait.

Table 1: Results of Extreme Group Analysis for the Initial Questionnaire.

Item	NO.	T	F	P
A01	1	12.476	197.973	0.000
A02	2	13.106	191.489	0.000
B05	3	11.037	175.464	0.000
A04	4	10.695	176.540	0.000
A05	5	11.895	191.421	0.000
D07	6	13.425	168.712	0.000
B06	7	9.139	152.020	0.000
A08	8	.931	192.866	0.353
A09	9	14.418	179.141	0.000
A10	10	12.599	202	0.000
B01	11	10.772	157.926	0.000
D09	12	5.136	202	0.000
B03	13	6.486	202	0.000
D01	14	5.401	202	0.000
A03	15	12.005	149.237	0.000
D03	16	5.475	202	0.000
B07	17	11.748	152.711	0.000
B08	18	8.133	186.484	0.000
D05	19	11.454	202	0.000
B10	20	9.155	202	0.000
C01	21	8.840	175.248	0.000
C02	22	7.499	195.918	0.000
C03	23	6.401	202	0.000
C04	24	10.685	193.039	0.000
C05	25	6.038	202	0.000
C06	26	8.869	175.325	0.000
C07	27	8.189	168.769	0.000
C08	28	9.915	181.796	0.000
B04	29	10.813	187.386	.000
D02	30	3.492	202	0.001
A07	31	12.468	138.192	0.000
A06	32	14.857	162.532	0.000
B09	33	9.552	167.455	0.000
D06	34	8.728	182.993	0.000
D04	35	6.961	202	0.000
D08	36	11.543	159.246	0.000
B02	37	8.074	182.645	0.000

Note: In the table above, "Item" represents the dimensions or factors associated with each question in the statistics, and "NO." indicates the question's order in the initial version questionnaire.

(2) Factor Analysis

According to Kaiser's perspective^[24] (Wu, 2010), the KMO (Kaiser-Meyer-Olkin) value is used to assess the suitability of factor analysis. When the KMO value is less than 0.50, it indicates that the relationships between item variables are not suitable for factor analysis. Conversely, if the KMO

values for all item variables are greater than 0.80, it indicates that the relationships between item variables are good, and item variables are suitable for factor analysis. A KMO value greater than 0.90 suggests an excellent relationship between item variables, making them highly suitable for factor analysis.

After item analysis, the KMO value of "College Student Core Self-Evaluation Scale (Predictive Version)" is 0.920 (see Table 2), which indicates that this model is highly suitable for factor analysis. The communalities for each item after principal component extraction range from 0.233 to 0.696 (see Table 3), further indicating that most of the information in the variables can be extracted by the factors, making the results of the factor analysis valid.

Table 2: KMO and Bartlett's Test.

KMO		.920
Bartlett's sphericity test	approx. χ^2 distribution	5624.776
	F	630
	P	0.000

Table 3: Communality Result.

Item	Communality	Item	Communality
A01	0.523	B10	0.501
A02	0.493	C01	0.519
B05	0.488	C02	0.299
A04	0.563	C03	0.233
A05	0.385	C04	0.518
D07	0.471	C05	0.423
B06	0.617	C06	0.696
A09	0.660	C07	0.575
A10	0.582	C08	0.636
B01	0.533	B04	0.509
D09	0.416	D02	0.392
B03	0.456	A07	0.558
D01	0.454	A06	0.598
A03	0.566	B09	0.480
D03	0.411	D06	0.364
B07	0.512	D04	0.426
B08	0.417	D08	0.477
D05	0.437	B02	0.391

Note: In the table above, "Item" represents the dimensions or factors associated with each question in the statistics.

The data for the exploratory factor analysis in this study included the remaining 36 items after removing 1 item that did not meet the criteria in the item analysis. Since the scale was originally divided into 4 construct dimensions, the extraction of common factors was directly constrained to be 4. After exploration, the following items were successively removed: C01, D08, A03, A04, D07, C02, C05, A07, D06, C03, D04, D05, and B06. Thus, the scale was reduced to 23 items, with each of the four factors containing 6, 9, 4, and 4 items, respectively. The factor loadings for each item on their respective factors were all 0.467 or higher, and the cumulative contribution rate of the variance reached 53.560%, which falls within an acceptable range.

(3) Reliability Test

In this study, internal consistency reliability was assessed. Initially, the researcher examined the

overall reliability of the remaining 23 items, which yielded an internal consistency coefficient of 0.863. This indicates a high level of internal consistency within the questionnaire. The reliability test results for each factor showed that Factor 1 (remaining 6 items) had an α coefficient of 0.815, Factor 2 (remaining 9 items) had an α coefficient of 0.836, Factor 3 (remaining 4 items) had an α coefficient of 0.737, and Factor 4 (remaining 4 items) had an α coefficient of 0.647. Notably, after removing item C07 from Factor 3, the internal consistency coefficient for this factor increased from 0.737 to 0.750. Subsequently, internal consistency analysis was conducted on the remaining 22 items, resulting in a reliability coefficient of 0.860 for the scale, indicating continued high reliability.

(4) Validity Assessment

This study primarily employed structural validity to assess the scale. The statistical results reveal that the correlations between the four dimensions of the predictive questionnaire are all lower than the correlations between each dimension and the total score (see Table 4). This suggests that the structure of this questionnaire is reasonable.

Table 4: Correlation analysis between the various dimensions of college students' core self-evaluation scale (initial version) and the total scale.

	Total Score	Factor 1	Factor 2	Factor 3	Factor 4
Total Score	1				
Factor 1	0.836**	1			
Factor 2	0.800**	0.513**	1		
Factor 3	0.527**	0.475**	0.151**	1	
Factor 4	0.431**	0.302**	0.147**	0.291**	1

Note: Factor 1, Factor 2, Factor 3, and Factor 4 correspond to the dimensions of Core Self-Evaluations, specifically self-esteem, self-efficacy, intellectual cognition, and emotional intelligence; The correlations reported in the table are statistically significant at the 0.01 significance level.

2.3 Formation of the "Core Self-Evaluation Scale for College Students (Formal version)"

Based on the results from the previous section, the researcher selected 22 items to compose the formal version of the "Core Self-Evaluation Scale for College Students." A new batch of participants was then chosen to administer the scale once again, aiming to evaluate its usability.

2.3.1 Participants

The participants for the official questionnaire were undergraduate students from a university in Northern China, representing various disciplines including humanities, natural sciences, and engineering. A total of 422 students from the first to fourth academic years were selected through random sampling. All participants volunteered to take part in the study, and after eliminating invalid responses, 352 valid questionnaires were retained, resulting in an effective response rate of 83.4%.

2.3.2 Research Instrument

The "Core Self-Evaluation Scale for College Students (Formal Version)" is presented in Appendix 2 (Appendix Table 9). This questionnaire comprises four dimensions with a total of 22 items. The arrangement and scoring method are identical to those of the predictive questionnaire.

2.3.3 Data Processing

The data processing procedures for the collected questionnaires were consistent with those applied

to the predictive questionnaire in this section.

2.3.4 Research Results

The official questionnaire was developed based on the project analysis, factor analysis, and reliability and validity assessments of the predictive questionnaire. The predictive questionnaire's results indicated a good outcome in terms of scale development. Therefore, in the administration of the official questionnaire, this study did not repeat the project analysis and factor analysis. Instead, it directly conducted reliability and validity analyses and assessed whether the factor loadings of the official questionnaire met statistical requirements.

The results indicated that the reliability of the Core Self-Evaluation Scale for College Students (Formal Version) was slightly lower compared to the predictive version, as shown in Table 5. However, it still fell within an acceptable range. The researcher attributed this to the lower response rate of the official version compared to the predictive version and considered it an understandable and acceptable outcome, taking into account potential statistical biases.

Table 5: The reliability of the Core Self-Evaluation Scale for College Students (Formal Version).

	α	Number of Items
Total	0.840	22
Factor 1	0.778	6
Factor 2	0.829	9
Factor 3	0.724	3
Factor 4	0.628	4

Note: Factor 1, Factor 2, Factor 3, and Factor 4 correspond to the dimensions of core self-evaluation, which are self-esteem, self-efficacy, cognitive intelligence, and emotional intelligence, respectively.

The results of the construct validity from the administration of the formal version questionnaire show that the correlation coefficients between each dimension and the total score range from 0.475 to 0.837, while the correlation coefficients between each dimension range from 0.078 to 0.492. In all cases, the correlations between dimensions are lower than the correlation between each dimension and the total score (Table 6), indicating good construct validity.

Table 6: Correlation analysis between the various dimensions of college students' core self-evaluation scale (Formal Version) and the total scale.

	Total Score	Factor 1	Factor 2	Factor 3	Factor 4
Total Score	1				
Factor 1	0.837**	1			
Factor 2	0.755**	0.492**	1		
Factor 3	0.585**	0.441**	0.153**	1	
Factor 4	0.475**	0.217**	0.078	0.275**	1

Note: Factor 1, Factor 2, Factor 3, and Factor 4 correspond to the dimensions of Core Self-Evaluations, specifically self-esteem, self-efficacy, intellectual cognition, and emotional intelligence; The correlations reported in the table are statistically significant at the 0.01 significance level.

The researcher also calculated the item communality and factor loadings for the measurements obtained from the formal questionnaire. The results indicated that these indices performed better than those of the predictive questionnaire. The factor loadings for each item ranged from 0.501 to 0.832, while the item communalities varied from 0.432 to 0.732 (see Table 7).

Table 7: Factor Loadings and Communalities of Items for Each Dimension in the Formal Questionnaire.

Item	Factor 1	Factor 2	Factor 3	Factor 4	Communality
5	0.717				0.641
2	0.650				0.530
1	0.619				0.586
3	0.616				0.433
6	0.592				0.524
4	0.583				0.521
10		0.743			0.568
13		0.718			0.517
12		0.707			0.571
15		0.688			0.531
11		0.603			0.454
8		0.583			0.361
9		0.581			0.477
14		0.512			0.385
7		0.501			0.521
17			0.832		0.732
18			0.708		0.583
16			0.625		0.469
19				0.729	0.537
20				0.652	0.432
21				0.629	0.438
22				0.600	0.496

Note: (1) Factor 1, Factor 2, Factor 3, and Factor 4 correspond to the core self-evaluation dimensions of self-esteem, self-efficacy, intelligence, and emotional assessment, respectively; (2) The serial number represents the item sequence in the formal questionnaire.

3. Discussion

The "Chinese College Student Core Self-Evaluation Scale" (CSCSES) with an internal consistency coefficient of 0.860 consists of 22 items distributed across four factors: self-esteem, self-efficacy, intelligence, and emotional assessment. Among these, the self-esteem factor comprises 6 items with an internal consistency coefficient of 0.815, self-efficacy includes 9 items with an internal consistency coefficient of 0.836, cognitive intelligence consists of 3 items with an internal consistency coefficient of 0.750, and emotional intelligence comprises 4 items with an internal consistency coefficient of 0.647. The scale includes a total of 11 reverse-scored items, scored on a five-point scale, where participants are required to compare their current state with the descriptions provided in each item and select a response ranging from "completely disagree" to "completely agree." For data analysis, scores on all reverse-scored items were reversed, and then added to the scores of other positively scored items to obtain the total score of the Chinese College Student Core Self-Evaluation, reflecting their overall core self-evaluation. A higher total score indicates a higher level of core self-evaluation, with scores ranging from 22 to 110.

Although this study has constructed a novel structural model of core self-evaluation among Chinese college students from both theoretical and practical perspectives, and has validated its reasonable fit, it is important to note that, from a developmental perspective, this model has only met the standards of psychological measurement theory. The improvement of this model remains a question to be explored in theory and applied in practice. During the questionnaire development process based on the model, there was a tendency towards data-driven decision-making, and some

statistical results were accepted based on the standards of acceptable psychological measurement practices. Whether these results are due to limitations in objective conditions, such as sample size, or whether they represent an ideal model, remains to be validated in future research with larger samples.

In conclusion, this study has made initial progress in exploring the model of core self-evaluation among Chinese college students and developing a measurement tool. Further investigation and research can be conducted based on this foundation to gain deeper insights into this population's core self-evaluation.

Appendix 1 Core Self-Evaluation Scale for College Students (Predictive Version)

Dear student,

I am a researcher from the Institute of Psychology and Behavior at your school. Currently, we are conducting a survey research on "Core Self-Evaluation of College Students." We sincerely invite you to participate in this survey and complete the following questionnaire. This questionnaire is anonymous, and all the collected data will be used for scientific research purposes only. We will strictly maintain the confidentiality of all information. The scientific validity of this study depends on your truthful and serious responses, so we kindly ask for your active cooperation. Thank you.

First, please provide the following personal information by marking (√) in the corresponding brackets:

Your gender: Male () Female ()

Your current grade level: Freshman () Sophomore () Junior () Senior ()

Your major field: Humanities () Science () Engineering () Arts ()

Following each statement, there are five options: A, B, C, D, E, representing the degree to which the statement matches your situation. Specifically: A = Strongly Disagree, B = Disagree, C = Neutral, D = Agree, E = Strongly Agree. Please carefully choose the option that best reflects your current feelings and reality, and mark (√) in the corresponding box. There are no right or wrong answers, please respond based on your understanding of the statement. This questionnaire consists of 2 pages (37 items), please complete it in its entirety.

Thank you for your participation. (Table 8)

Appendix Table 8: Core Self-Evaluation Scale for College Students (Predictive Version)

No.	Topic content	A- Completely inconsistent	B-Not in conformity	C-Can't say clearly	D-More consistent	E-Fit perfectly
1	On the whole, I am satisfied with myself.					
2	Sometimes I feel that I have no benefits at all.					
3	With my intelligence, I can cope with unexpected situations.					
4	I can do as well as most people.					
5	I think I have nothing to be proud of.					
6	I am good at adjusting my mood according to the actual situation.					
7	If I make the necessary efforts, I will be able to solve most problems.					
8	I wish I could respect myself more.					
9	In all respects, I am more inclined to feel like a failure.					
10	I look at myself with a positive attitude.					
11	If I try my best, I can always solve the problem.					
12	When things become vague or difficult to grasp, I will experience more disappointment and frustration.					

13	It is easy for me to stick to my ideals and achieve my goals.					
14	I think I am a sentimental person.					
15	I think I have many advantages.					
16	I often feel nervous.					
17	I can face difficulties calmly because I trust my ability to deal with problems.					
18	When faced with a difficult problem, I can usually find several solutions.					
19	I always understand others' comments on me from the negative side.					
20	No matter what happens to me, I can cope with it.					
21	I always have a clear and accurate analysis and judgment of things.					
22	I remember things accurately and quickly.					
23	My understanding of other people's words is always appropriate.					
24	I think I am slower than others.					
25	I think I can solve most problems with my intelligence level.					
26	I think I didn't achieve the expected achievement in my study mainly because others are smarter than me.					
27	I think according to my present level of intelligence, I can get better grades if I work harder.					
28	I feel that no matter how hard I work, my learning efficiency is not high.					
29	I am confident that I can deal with anything unexpected effectively.					
30	I will feel uncomfortable for a long time after experiencing some embarrassing things.					
31	I feel I am a valuable person.					
32	Sometimes I feel really useless.					
33	When I am in trouble, I can usually think of some ways to deal with it.					
34	Generally speaking, I am a person who can manage my emotions.					
35	I am dissatisfied with my past.					
36	I am a person who can overcome mood swings and stick to it in order to succeed.					
37	Even if others oppose me, I still have a way to get what I want.					

Thank you again for filling out this questionnaire.

Appendix 2 Core Self-Evaluation Scale for College Students (Formal Version)

Dear student,

I am a researcher from the Institute of Psychology and Behavior at the university. Currently, we are conducting a survey research on "Core Self-Evaluation of College Students." We sincerely invite you to participate in this survey and complete the following questionnaire. This questionnaire guarantees anonymity, and all the collected data will be used for scientific research purposes only. We will strictly maintain the confidentiality of all information. The scientific validity of this study

depends on your truthful and serious responses, so we kindly ask for your active cooperation. Thank you. (Table 9)

Appendix Table 9: Core Self-Evaluation Scale for College Students (Formal Version)

No.	Topic content	A-Completely inconsistent	B-Not in conformity	C-Can't say clearly	D-More consistent	E-Fits perfectly
1	On the whole, I am satisfied with myself.					
2	Sometimes I feel that I have no benefits at all.					
3	With my intelligence, I can cope with unexpected situations.					
4	I can do as well as most people.					
5	I am good at adjusting my mood according to the actual situation.					
6	In all respects, I am more inclined to feel like a failure.					
7	I look at myself with a positive attitude.					
8	When things become vague or difficult to grasp, I will experience more disappointment and frustration.					
9	It is easy for me to stick to my ideals and achieve my goals.					
10	I think I am a sentimental person.					
11	I often feel nervous.					
12	I can face difficulties calmly because I trust my ability to deal with problems.					
13	When faced with a difficult problem, I can usually find several solutions.					
14	No matter what happens to me, I can cope with it.					
15	I think I am slower than others.					
16	I think I didn't achieve the expected achievement in my study mainly because others are smarter than me.					
17	I feel that no matter how hard I work, my learning efficiency is not high.					
18	I will feel uncomfortable for a long time after experiencing some embarrassing things.					
19	I feel I am a valuable person.					
20	Sometimes I feel really useless.					
21	When I am in trouble, I can usually think of some ways to deal with it.					
22	Even if others oppose me, I still have a way to get what I want.					

First, please provide the following personal information by marking (√) in the corresponding brackets:

Your gender: Male () Female ()

Your current grade level: Freshman () Sophomore () Junior () Senior ()

Your major field: Humanities () Science () Engineering () Other (Please specify) _____

Following each statement, there are five options: A, B, C, D, E, representing the degree to which the statement matches your situation. Specifically: A = Strongly Disagree, B = Disagree, C = Uncertain, D = Agree, E = Strongly Agree. Please carefully choose the option that best reflects your current feelings and reality, and mark (✓) in the corresponding box. There are no right or wrong answers, please respond based on your understanding of the statement. This questionnaire consists of 2 pages (22 items), please complete it in its entirety.

Thank you for your participation.

Thank you again for filling out this questionnaire.

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