



# A Study of the Relationship Between Meta-Emotions and Subjective well-being Among Higher Vocational Students

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**Abstract:** This study intends to examine the relationship between meta-emotions and the subjective well-being of higher vocational students through an actual survey of higher vocational students, aiming to provide a basis for enhancing the mental health of higher vocational students and improving their subjective well-being. Three hundred and eighty-seven higher vocational students were selected as subjects, and their meta-emotions and subjective well-being were investigated by the questionnaire method. The results showed that: (1) there were two significant positive correlations between emotion attention, emotion discrimination, and emotion recovery and subjective well-being. (2) There were significant differences in the levels of emotional attention by gender and being an only child; there were significant differences in emotional discrimination and subjective well-being by subject; and there were significant differences in the three factors of meta-emotions and subjective well-being by grade level, with freshman year being significantly lower than other grades. (3) Meta-emotions are positively predictive of subjective well-being. This study not only explores the relationship between meta-emotions and subjective well-being but also provides empirical support and theoretical guidance for more targeted guidance to enhance the subjective well-being of higher vocational students.

**Keywords:** meta-emotions; subjective well-being; higher vocational students

## 1.Introduction

In their pursuit of academic and career development, higher vocational students often face a series of challenging dilemmas. These include heavy academic pressure, adaptation to new learning and living environments, deficiencies in study skills, social and interpersonal pressure, mental health problems, and anxiety about future employment prospects. However, having a good sense of subjective well-being helps higher vocational students better cope with these pressures and dilemmas in order to achieve their academic and career goals.

Subjective well-being (SWB) is an individual's overall evaluation and emotional experience of their quality of life on a continuum from positive to negative <sup>[1]</sup>. Subjective well-being can not only assess a person's quality of life but also measure a person's mental health <sup>[2]</sup>. A large number of studies at home and abroad have explored the influencing factors of subjective well-being from the aspects of individual intrinsic traits and external environmental characteristics <sup>[3-9]</sup>, among which emotion is an important factor affecting subjective well-being <sup>[10]</sup>, and it has been found that the higher the individual's satisfaction with his or her overall life and the more positive and less negative emotions he or she experiences, the greater the individual's experience of well-being <sup>[11]</sup>. But the meta-emotions have a significant impact on subjective well-being, and how meta-emotions affect subjective well-being needs to be further explored.

Meta-emotion refers to the subject's ability to perceive, express, evaluate, and monitor the emotions of the self (such as joy, forgiveness, sadness, happiness, and other experiences), as well as the ability to appropriately analyze, reasonably attribute, and regulate the causes, processes, and results of their generation <sup>[12]</sup>. Meta-emotions play an important role in the field of mental health. Meta-emotions have the roles of perceiving, experiencing, expressing, evaluating, monitoring, and regulating emotions, which not only allow individuals to perceive and understand a wide range of emotions and help them to control their emotions within a normal range <sup>[13]</sup>, but also keep their emotions in an appropriate dynamic balance. This state of emotional equilibrium determines an individual's physical and mental health and quality of life <sup>[14]</sup>. Cultivating positive meta-emotions not only contributes to the improvement of an individual's mood but also helps to enhance overall mental health so that individuals can better cope with various stresses and difficulties in life <sup>[15]</sup>. Therefore, this study hypothesizes that meta-emotions can positively predict subjective well-being.

In summary, this study intends to examine the relationship between meta-emotions and the subjective well-being of higher vocational students through an actual survey of higher vocational students, aiming to provide empirical support and theoretical guidance for improving the mental health of higher vocational students and enhancing their subjective well-being.



## 2 Research Methodology

### 2.1 Subjects

In this study, a web-based questionnaire was distributed from a higher vocational college in Shandong, and 387 valid questionnaires were obtained after invalid questionnaires were excluded. There were 145 freshmen (37.5%), 141 sophomores (36.4%), and 101 juniors (26.1%); 119 males (30.7%) and 268 females (69.3%); and the average age of the subjects was between 17 and 24 years old ( $19.65 \pm 1.194$ ).

### 2.2 Tools

#### 2.2.1 Meta-Emotional Scale

The scale was revised by Chuanyun Li and Yan Qi et al. It contains three subscales of emotion attention, emotion discrimination, and emotion recovery, and the revised scale contains 26 questions, which can effectively reflect individual differences in maintaining positive emotions and adjusting negative emotions. The Cronbach's alpha coefficient of this scale in this study was 0.848.

#### 2.2.2 Subjective well-being scale

This scale was revised by Duan Jianhua based on the General Well-Being (GWB) scale from abroad. The revised scale was reduced from 33 items to 18 items. The scale comprises six dimensions: concern for health, satisfaction with life and interests, control over emotions and behavior, energy, mood (depression or happiness), and relaxation and tension (anxiety). A higher total score on the scale indicates a stronger subjective sense of well-being. In this study, the Cronbach's alpha coefficient for this scale was 0.757.

## 3 Results

### 3.1 Common method bias test

In this study, Harman's one-way test was used to test the common method bias of the independent and dependent variables. The results showed that there were eight factors with eigenroots greater than 1. The largest of these factors had an explained variance of 24.171%, which is less than the critical criterion of 40%, so there is no serious common method bias in this study.

### 3.2 Means, standard deviations and correlation of variables

Descriptive and correlation analyses were conducted for each variable, and the results are shown in Table 1, which shows that emotional attention was significantly and positively correlated with emotional discrimination, emotional recovery, and subjective well-being ( $r = 0.661$ ,  $p < 0.01$ ;  $r = 0.630$ ,  $p < 0.01$ ;  $r = 0.447$ ,  $p < 0.01$ ); emotional discrimination was significantly and positively correlated with emotional recovery and subjective well-being ( $r = 0.777$ ,  $p < 0.01$ ;  $r = 0.592$ ,  $p < 0.01$ ); and emotional recovery was significantly positively correlated with subjective well-being ( $r = 0.584$ ,  $p < 0.01$ ).

Variant	M	SD	1	2	3	4
1.Emotional attention	3.400	0.511	1			
2.Emotional discrimination	3.448	0.566	0.661**	1		
3.Emotional recovery	3.668	0.737	0.630**	0.777**	1	
4.Subjective well-being	78.240	12.706	0.447**	0.592**	0.584**	1

Table 1: Descriptive statistics, correlation results

Note: \* denotes  $P < 0.05$ , \*\* denotes  $P < 0.01$ , \*\*\* denotes  $P < 0.001$ ; the same below.

### 3.3 Differences in meta-emotions and subjective well-being on demographic variables

Independent samples t-test was conducted on each variable on gender, and the results are shown in Table 2: there is a significant difference between male and female senior students on emotional attention ( $t = 2.11$ ,  $p < 0.05$ ), in which the level of emotional attention of female senior students is significantly higher than that of male senior students. The difference between male and female senior students in emotion discrimination, emotion recovery, and subjective well-being was not significant.

Variant	Male (N=119)	Female (N=268)	T
Emotional attention	3.318±0.532	3.436±0.497	-2.11*
Emotional discrimination	3.424±0.597	3.459±0.552	-0.548
Emotional recovery	3.616±0.764	3.691±0.725	-0.919
Subjective well-being	79.597±13.417	77.638±12.356	1.357

Table 2: Gender differences in meta-emotions and subjective well-being

For each variable, an independent sample t-test was done to see if there was a significant difference based on whether they were only children or not ( $t = -2.321$ ,  $p < 0.05$ ), and the results are shown in Table 3. The level of emotional attention was

significantly higher for college students who were not only children than for students who were only children. The difference between whether or not the students were only in families in terms of emotion discrimination, emotion recovery, and subjective well-being was not significant.

Table 3: Differences in meta-emotional and subjective well-being between being an only child and not being an only child

Variant	Only children (N=84)	Non-only children (N=303)	T
Emotional attention	3.286±0.454	3.431±0.521	-2.321*
Emotional discrimination	3.382±0.556	3.466±0.568	-1.207
Emotional recovery	3.623±0.741	3.68±0.737	-0.631
Subjective well-being	78.821±13.477	78.079±12.503	0.473

Independent samples t-tests were conducted for each variable on disciplines, and the results are shown in Table 4: there is a significant difference between Arts and Science students on emotion discrimination and subjective well-being ( $t = -1.974$ ,  $p < 0.05$ ;  $t = -2.857$ ,  $p < 0.01$ ), and the level of emotion discrimination and subjective well-being is significantly higher in Science students than in Arts students. The difference between arts and science students in emotional attention and emotional recovery was not significant.

Variant	Liberal arts (N=214)	Science (N=173)	T
Emotional attention	3.394±0.512	3.406±0.511	-0.218
Emotional discrimination	3.397±0.547	3.511±0.584	-1.974*
Emotional recovery	3.625±0.694	3.721±0.786	-1.248
Subjective well-being	76.575±11.86	80.301±13.432	-2.857**

Table 4: Differences in meta-emotions and subjective well-being by discipline

A one-way ANOVA test was conducted for each variable on grade level, and the results are shown in Table 5: there were significant differences between grades in emotional attention, emotional discrimination, emotional recovery, and subjective well-being. Emotional Attention ( $F=11.814$ ,  $p < 0.001$ ), Emotional Discrimination ( $F=9.573$ ,  $p < 0.001$ ), Emotional Recovery ( $F=15.367$ ,  $p < 0.001$ ), and Subjective Well-Being ( $F=13.172$ ,  $p < 0.001$ ). After the LSD post hoc test, it was found that the freshman year was significantly lower than the other grades in scores on emotional attention, emotional discrimination, emotional recovery, and subjective well-being.

Grade	Emotional attention		Emotional discrimination		Emotional recovery		Subjective well-being	
	M	SD	M	SD	M	SD	M	SD
Freshman (N=145)	3.241	0.413	3.289	0.494	3.409	0.680	74.152	11.650
Sophomore (N=141)	3.484	0.557	3.547	0.612	3.831	0.744	81.298	13.089
Junior (N=101)	3.509	0.518	3.539	0.550	3.812	0.709	79.842	12.162
<b>F</b>	11.814***		9.573***		15.367***		13.172***	
<b>LSD</b>	1 < 2, 3		1 < 2, 3		1 < 2, 3		1 < 2, 3	

Table 5: ANOVA test for grade level on meta-emotions and subjective well-being

Note: 1 = freshman; 2 = sophomore; 3 = junior.

### 3.4 Regression analysis of meta-emotions on subjective well-being

Multiple regression analyses were conducted to examine the predictive effects of the meta-emotional dimensions on subjective well-being, using emotional attention, emotional discrimination, and emotional recovery as independent variables and subjective well-being as the dependent variable. The results are shown in Tables 6 and 7 as follows: The regression model of emotional attention, emotional discrimination, and emotional recovery on subjective well-being was significant ( $F = 81.601$ ,  $p < 0.001$ ), statistically significant, and explained 39% of the total variance. Emotion

discrimination ( $t = 4.902, p < 0.001$ ) and emotion recovery ( $t = 4.625, p < 0.001$ ) were significant positive predictors of subjective well-being.

<b>R</b>	<b>R-square</b>	<b>Adjusted R-square</b>	<b>Errors in standardized estimates</b>	<b>F</b>	<b>P</b>
0.624	0.390	0.385	9.963	81.601	0.000

Table 6: Parameters of the regression model of meta-emotions on subjective well-being

	<b>Non-standardized coefficient</b>		<b>Standardized coefficient</b>	<b>T</b>	<b>P</b>	<b>Covariance statistics</b>
	<b>B</b>	<b>SE</b>	<b>β</b>			<b>VIF</b>
(Constant)	30.265	3.609		8.385	0.000	
Emotional attention	0.923	1.365	0.037	0.676	0.499	1.888
Emotional discrimination	7.453	1.520	0.332	4.902	0.000	2.880
Emotional recovery	5.218	1.128	0.303	4.625	0.000	2.690

Table 7: Regression model of meta-emotions on subjective well-being

#### 4 Discussion

This study found that there is a significant difference between male and female high school students in emotional attention, and female high school students' emotional attention scores are significantly higher than male high school students', which is the same as the results of many previous studies [16-18], suggesting that female students are more sensitive to social cues of emotions. The reason for this may be that social expectations of gender roles lead women to pay more attention to emotional and social cues, and that socialized education and cultural traditions encourage women to pay more attention to emotional and social interactions, which increases their level of emotional attention.

There was a significant difference in emotional attention between senior students who were or were not only born, with non-only senior students scoring significantly higher on emotional attention than only senior students. The possible explanation for this is that individuals in non-only-born families have more opportunities for social interaction to develop social skills, emotional intelligence, and emotional management skills, which contribute to better understanding and processing of emotions and improved emotional attention.

There were significant differences between senior liberal arts and science students in emotion discrimination and subjective well-being, with senior science students scoring significantly higher in emotion discrimination and subjective well-being than senior liberal arts students. Science courses usually require higher logical analysis and problem-solving skills, and science students may develop better emotion discrimination skills; science fields may offer more employment opportunities [19] and higher salary prospects, which may increase science students' well-being. In contrast, liberal arts fields may have fewer employment opportunities, which may have some impact on the subjective well-being of liberal arts students.

There were significant differences between grades in emotional attention, emotional discrimination, and emotional recovery, similar to the results of previous studies [20], and there were also significant differences between grades in subjective well-being. After the LSD post hoc test, it was found that freshman year was significantly lower than other grades in emotion attention, emotion discrimination, emotion recovery, and subjective well-being scores. First-year students usually face new social environments, academic pressures, and brand new self-perception challenges. It takes time to adapt to the new college life, which may affect their emotional state and well-being.

The results of correlation analysis show that there is a significant positive correlation between all three factors of meta-emotions, i.e., emotion attention, emotion discrimination and emotion recovery, and subjective well-being, indicating that the higher the level of meta-emotions, the higher the level of subjective well-being. After multiple regression, it was found that emotion discrimination and emotion recovery could positively predict the level of subjective well-being to a certain extent, among which emotion recovery had the highest predictive ability, indicating that the higher the individual's emotion recovery ability, the stronger the adaptive ability to the environment and dynamic regulation ability, and thus the higher the level of subjective well-being. Therefore, enhancing the meta-emotional level of higher vocational students not only helps to improve their subjective well-being but also enables them to better cope with the pressure and challenges of learning and life and thus have a good level of mental health.

#### 5. Conclusion

(1) Emotional attention is significantly positively correlated with emotional discrimination, emotional recovery, and subjective well-being. Emotional discrimination is significantly positively correlated with emotional recovery and subjective well-being. Emotional recovery is significantly positively correlated with subjective well-being.

(2) There is a significant difference between male and female senior students in emotional attention, with the level of emotional attention among female senior students being significantly higher than that among male senior students. There is also a significant difference in emotional attention based on whether they are only children or not, with non-only children of college students scoring significantly higher in emotional attention compared to only students. Additionally, there is a significant difference between Arts and Science students in emotional discrimination and subjective well-being, with Science students scoring significantly higher in emotional discrimination and subjective well-being than Arts students. There were also significant differences in emotional attention, emotional discrimination, emotional recovery, and subjective well-being among different grade levels. After conducting an LSD post hoc test, it was found that freshman students scored significantly lower than students in other grades in terms of emotional attention, emotional discrimination, emotional recovery, and subjective well-being.

(3) The regression models for emotional attention, emotional discrimination, and emotional recovery on subjective well-being were significant and statistically meaningful, explaining 39% of the total variance. Emotional discrimination and emotional recovery were significant positive predictors of subjective well-being.

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