

Liu Dianzhi, Zhang Ronghua

A Preliminary Research on Middle School Students' Academic Subjective Well-Being and Its Major Influential Factors

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Abstract This study is conducted with self-developed questionnaire on 910 middle school students, aimed at describing middle school students' academic subjective well-being and exploring its influential factors. Results show that (1) Academic subjective well-being of middle school students is generally low and there exist differences in different schools and grades. Students from non-key middle schools have lower academic subjective well-being than those from the key schools. Grade 2 students in both junior and senior middle schools have the lowest academic subjective well-being. (2) Factors directly affecting middle school students' academic subjective well-being are academic experience and the present academic achievements, with the former playing a major role. (3) Factors indirectly influencing middle school students' academic subjective well-being are social pressure and expected academic achievements, both of which influence students' academic subjective well-being through students' academic experience or their present academic achievements.

Keywords Academic subjective well-being (Academic SWB), Middle school students, Academic experience, School achievement, Social pressure

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Liu Dianzhi (✉)

School of Education, Soochow University, Suzhou 215021, China.

E-mail: liudzh@vip.163.com

Zhang Ronghua

School of Foreign Languages, Soochow University, Suzhou 215021, China.

1 Introduction

1.1 Purpose

The modern study society stresses the importance of learning in which students' learning is one of the main learning forms. A student's learning is usually known as one of these three aspects: learned, skillful learning and enjoyable learning. Learned means students have learned certain knowledge and skills through learning. Skillful learning means students have mastered certain learning strategies and know how to learn effectively. Enjoyable learning means students view learning as a pleasure. Learned stresses the result of learning, which is the most important part of traditional teaching. Skillful learning and enjoyable learning focus on the process of learning, which is a noticeable part of the new curriculum reform. Furthermore, skillful learning stresses the cognitive process of learning, while enjoyable learning emphasizes the effective process of learning. Research shows that a child's school record should not only be based on intelligence. An active affection for school work is also an important psychological factor (Liu Xiaohui, Zhou Lin, Zha Zixiu, 1999, 31-34) Confucius once said, "Those who prefer it are better than those who only know it. Those who delight in it are better than those who merely prefer it." The teaching practice in middle schools gives more importance to the aspect of "learned" under the traditional teaching mode. At present, more and more attention is paid to the aspect of the easily operated "skillful learning." However, insufficient attention is paid to enjoyable learning. The researches in educational psychology are often restricted within the cognitive domain and lack further research into affective domain. One of the most important performances in psychology for students' enjoyable learning is their high subjective well-being (SWB) in learning. At the same time, the middle school stage is an important phase of rapid transition and development for the human physiology and psychology. During this stage learning experience is related to the values of affective attitudes in learning toward a human life so as to influence the formation of the lifelong learning concept.

This research aims to discuss the study of existing subjective well-being and developing a questionnaire of middle school students' academic subjective well-being (SWB) in our country so as to initially explore the existing situations and influenced factors of middle school students' academic subjective well-being in our country, hoping to provide a certain psychological basis for the subjective teaching practice proposed by the new curriculum reform.

1.2 Literature review

Subjective well-being is an integral part of research in positive psychology. It mainly refers to an overall evaluation made by individual according to standards set by himself or herself regarding his or her own life quality (Diener E, 1984, 542-575). Subjective well-being indicates a base line of individual life quality. (Wang Xiangdong, et al., 1999, 69-100) In most cases, subjective well-being includes two

basic elements: life satisfaction and affective experience. The former is cognitive appraisal made by the individual regarding his life's quality; the latter is the affective experience in the individual's life, including two aspects: positive feeling (such as pleasure, satisfaction and pride) and negative feeling (such as depression, stress and tenseness). The higher the satisfaction on life is, the more positive feeling is experienced and the less the negative feeling is, and the stronger the individual subjective well-being is (Ding Xinhua, Wang Jisheng, 2004, 59-66).

Existing subjective well-being studies focus on three aspects: the mental health, the quality of life and the social geratology. (Wang Xiangdong, et al., 1999, 69-100) Four directions are as follows: (1) Development of the subjective well-being questionnaire. Measurement is an important approach to subjective well-being research, whose precondition is to develop an effective questionnaire on subjective well-being. There have already been many kinds of questionnaires on subjective well-being (Wang Xiangdong, et al., 1999, 69-100) The measurement of subjective well-being has two orientations (Xing Zhanjun, 2004, 336-338, 342). First is the measurement of subjective well-being in terms of quality of life, which takes the cognitive appraisal of life satisfaction as the totality of subjective well-being. The second is the measurement of subjective well-being in terms of psychological health, which is closely related to the development of positive psychology and health psychology. This type of research is mainly targeted at elders, children and some people with physiological problems. (2) Components of subjective well-being. Existing research shows that subjective well-being is composed of life satisfaction, satisfactory scope and affective response. Each element has its relative independence from each other but forms a higher-level variable of subjective well-being through close connection with each other, interaction and integration. (Ed Diener, et al., 1999, 276-320) In short, subjective well-being is not composed of a single concrete element but of various concrete elements that are integrated in different ways. (3) Occurrence mechanism of subjective well-being. Subjective well-being is the result of interaction between individual intrinsic factors (like individual feature and attributive mode) and the external environment. (Li Rulin, et al., 2003, 783-785) The key to its occurrence is how a person's values coordinate between the outside incident and his or her life quality, namely, (Diener E, 2000, 34-43). For example, whether people feel happy or not is not decided by an event taking place on the person but the explanation^[6] of the incident given by that person. One researcher puts forward an assumption of three psychological dynamic mechanisms produced from subjective well-being (Wang Xiangdong, et al., 1999, 69-100): One is the gap/ratio assumption that subjective well-being reflects "gap" or "ratio" between individual expectation value and sense of achievement. The less the gap/ratio is, the higher the subjective well-being will be. The second assumption is multiple discrepancy, which states that individual subjective well-being relies on his or her psychological integration of many kinds of gaps. The better the integration is, the higher the subjective well-being is. The third is an assumption of social psychological influence, which is a supplement to the gap/ratio theory. Its purpose is to explore the social psychological variables which may have an effect on the subjective well-being and observe their related extent with the subjective well-being. (4) Influential variable of subjective well-being. The influential variable of

subjective well-being is basically grouped into two: internal and external causes. Internal variables are mainly temperament, sex, health, individual adaptability, sense of objectivity, sense of achievement, sense of control, etc. External causes are mainly history, culture, social relations, marital status, income, etc. (Li Rulin, et al., 2003, 783-785; Diener E, 2000, 34-43)

Existing researches deal more with ordinary field of life than concrete field of life. Special groups are taken more as objects of research rather than ordinary groups, and static research methods are more adopted than dynamic research methods. It should also be noted that research on juveniles has just started, while many studies on adults have already been conducted. Taking aim at the lack of existing researches, Ding Xinhua and Wang Jisheng emphasized the importance of research on the subjective well-being of juveniles, believing that extensive research on this group may enrich and deepen the subject of subjective well-being research as well as help improve the quality of life and promote the development of physical and mental health of juveniles

(Ding Xinhua, Wang Jisheng , 2004, 59-66).

Students are special groups. For the students, learning is a very important thing of life. Research from abroad reveals that juveniles in each life field have the least satisfaction with school. The dissatisfaction on school life may result in a series of negative consequences such as a bad school record, dropping out of school and discipline violation . (Huebner, 2000, 281-292).

2 Methods

2.1 Subjects

The 910 subjects came from four middle schools in Xichong County of Sichuan Province. A total of 881 valid questionnaires were recovered, with a valid return rate of 96.81%, of which 500 subjects came from key middle schools and 381 from non-key middle schools; 168 in Grade One, 123 in Grade Two and 125 in Grade Three of junior middle schools, 147 in Grade One, 151 in Grade Two and 167 in Grade Three of senior middle schools; 488 boys and 375 girls.

2.2. Questionnaire

On the basis of survey by opening-questionnaires, preliminary exploration and analysis of exploratory factors referring to the existing questionnaire of subjective well-being (Wang Xiangdong, et al., 1999, 69-100), a formal questionnaire from *Middle School Students' Academic Subjective Well-Being (ASWBQ)* is worked out. The questionnaire adopts a 5-level point system. ASWBQ is composed of two sub-questionnaires: present condition sub-questionnaire and influential factor sub-questionnaire. Present condition sub-questionnaire consists of 14 items. It mainly measures the extent of middle school students' academic subjective

well-being. Positively worded items are inversely scored; the higher the score a student gets, the lower his or her subjective well-being is. Meanwhile, the influential sub-questionnaire consists of 30 items. Positively worded items are also reverse scored. If a student gets a higher score, it indicates the greater the influential factor's effect is.

2.3 Process of measurement

Data were gathered by collective measurement. The researcher went to each school and each grade to distribute and collect the questionnaires personally.

2.4 Data processing

SPSS10.0 for Windows for statistic was used.

3 Result and analysis

3.1 Reliability and validity of ASWBQ and its sub-questionnaires

3.1.1 Reliability and validity of ASWBQ

Researcher adapted exploratory factor analysis to testify validity of ASWBQ, KMO and Bartlett's test of sphericity was 0.889, there was significant differences ($p < 0.00$). Five factors were extracted from data, and they can explain 44.536% cumulative variance.

Reliability test: split-half reliability was 0.5872, Cronbach α was 0.8701

3.1.2 Reliability and validity of existing condition sub-questionnaire

Researcher testified validity of ASWBQ present condition sub-questionnaire by exploratory factor analysis. KMO and Bartlett's test of sphericity was 0.898, there was significant differences ($p < 0.00$). Judging from eigenvalue over 1 and scree plot, two factors were extracted from data. The two factors can explain cumulative 46.781% variance.

Reliability test: split-half reliability was 0.7221, Cronbach α was 0.8285.

3.1.3 Reliability and validity of influential factor sub-questionnaire

Researcher did exploratory factor analysis. KMO and Bartlett's test of sphericity

was 0.816, there were significant differences ($p < 0.00$). Three factors were extracted from the data, which can explain 38.919% cumulative variance. According to factor's content, the first factor was named "social pressure", the second was named "academic experience", the third was "academic achievement".

Reliability test: split-half reliability was 0.7111; Cronbach's α was 0.7109.

3.1.4 Conclusion

ASWBQ and its two sub-questionnaires showed acceptable reliability and validity.

3.2 Analysis of middle school students' academic SWB present condition

Data shows that 186 participants got very low academic SWB (whose scores are higher than 3.8), which accounts for 21.1% of the total number of survey respondents. Meanwhile, 542 participants had low academic SWB (whose score were higher than 3.0 and lower than 3.8), accounting for 61.5% of total respondents.

ANOVA indicated that there were main effects of school type ($F=13.390$, $p < 0.000$) and grade ($F=5.447$, $p < 0.001$). There is interaction between school type, grade and gender ($F=2.228$, $p < 0.039$).

Compared with students in key middle schools, non-key middle school students have lower academic SWB (non-key middle school students: 3.2607 ± 0.7601 ; key middle school students: 3.0812 ± 0.7441). In key middle schools, there are no obvious differences in academic SWB between male students and female students (male: 3.0779 ± 0.3785 ; female: 3.0985 ± 0.7474); but there are differences in academic SWB between male and female students in non-key middle school ($F=0.329$, $p < 0.05$), and males are lower than females (male: 3.3326 ± 0.7788 ; female: 3.1394 ± 0.7335).

Table 1 ANOVA of middle school students' academic SWB

Source	SS	Df	MS	F	Sig
School type***	6.855	1	6.855	13.930	0.000
Grade***	36.552	5	7.310	14.855	0.000
Gender	2.026	2	1.013	2.059	0.128
School type \times Grade	3.731	5	0.746	1.516	0.182
School type \times Gender**	5.361	2	2.681	5.447	0.004
Grade \times Gender	3.481	8	0.435	0.884	0.529
School type \times Grade \times Gender*	6.578	6	1.096	2.228	0.039

Note: $N=881$; * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

Multiple comparisons among different grades showed that in junior middle schools, Grade One students gained the highest academic SWB, with academic SWB decreasing suddenly in Grade 2 and rising slowly in Grade 3. In senior middle schools, academic SWB stagnated in Grade 1 and it became lower and lower in

Grade 2. However, in Grade 3, it went up rapidly.

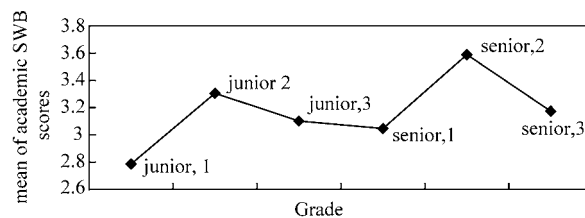


Figure 1 Comparisons in academic SWB among different grades.

3.3 Correlation among academic experience, academic achievements, social pressure and academic SWB

Academic experience and the present academic achievements have moderate positive correlation with academic SWB. Social pressure shows low positive correlation with academic SWB, while expected academic achievement indicates moderate negative correlation with academic SWB.

Table 2 Matrix of academic experiences, academic achievements, academic pressure and academic SWB of middle school students

	1	2	3	4	5
1. Academic SWB	—				
2. Social pressure	0.098***	—			
3. Academic experience	0.501***	0.491***	—		
4. Present academic achievement	0.410***	- 0.024	0.233***	—	
5. Expected academic achievement	0.337***	0.145***	0.144***	0.764***	—

Note: 1. academic SWB 2 social pressure.3 academic experience. 4.present academic achievement 5. expected academic achievement

3.4 Multiple regressions of academic experience, academic achievement, social pressure and academic SWB

Researchers used stepwise regression method and found that there were significant regression effects between academic experience, present academic achievements and academic SWB, between social pressure, present academic achievement and academic experience, and between expected academic achievement and social pressure (see Table 3).

Table 3 Multiple regression

	Academic SWB		Academic experience		Present academic achievement		Social pressure	
	<i>p</i>		<i>p</i>		<i>p</i>		<i>p</i>	
Social pressure			0.496	0.000				
Academic pressure	0.494	0.000						
Present academic achievement	0.379	0.000	0.245	0.000				
Expected academic achievement					-0.629	0.000	0.245	0.000

A path model can be constructed based on the analysis above (see Fig. 2). Academic experience and present academic achievements affect academic SWB (coefficient of determination $R^2=0.403$, p 0.000).

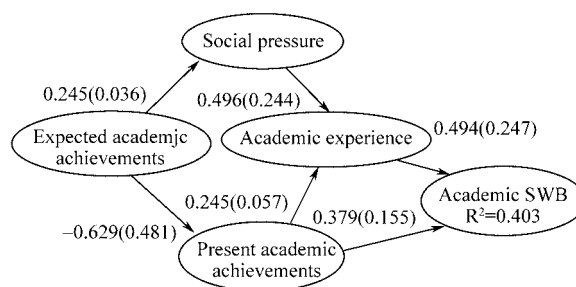


Fig. 2 Path Model influence between academic experience, academic achievements, social pressure and academic SWB.

4 Discussion

4.1 Middle school students' academic SWB is generally low

The research results show that middle school students' academic SWB is generally low (Huebner E S, et al., 2000, 281-292; Fu Anqiu, et al., 2000, 23-23; Guo Ya, 2000, 34-36.). These findings are consistent with those of other studies. Low academic SWB does harm to cultivation of positive emotion towards academic activities, and does harm to cultivation of learning-for-life ideal.

Academic SWB shows disparity in different schools. Non-key middle school students' academic SWB is lower than key-middle school students', which implies that the classification system of middle school reduces middle school students'

academic SWB. Male students' academic SWB is lower than female students' in non-key middle schools, which perhaps reflects the male social role. As we know, male and female accept different social influences and demands, so they form different psychological characteristics. (Dong Qi, et al., 1996, 99-109) Society demands male more independence than female, so male students feel more pressure than female; thus, academic SWB is reduced.

Middle school students' SWB is not always low, but decreases gradually. Academic SWB is the lowest in Grade 2 in junior middle schools and Grade 2 in senior middle schools. The two periods are perhaps milestones in the academic life and students need more care to prevent them from mental problems.

4.2 Learning experience influences academic SWB directly

It has been established that subjectivity is an essential characteristic of subjective well-being. That is to say, the key factor determining whether people feel happy or not is not what happened, but how people explain them (Li Rulin, et al., 2003, 783-785). This study proves that the previous conclusion is suitable for academic SWB too. Subjective experience in learning process is an important factor to academic SWB. If students can not experience positive emotion in learning for a long time, they will feel bored and their academic SWB will decrease. This also accords with "extension-construction theory" of positive emotion. Judging from factor loading in Exploratory Factor Analysis, the main factors that decrease academic SWB are academic task, teachers' attitude, academic story, etc. Therefore, something must be done to lighten students' burden to build *equal* and interactive teacher-student relationship, to encourage students frequently when their academic achievements are evaluated, and to teach students efficient learning strategies. These are the necessary steps to increase students' academic SWB.

4.3 Present academic achievement influences academic SWB

In mainland China, teachers and parents attach much importance to academic achievements. So students begin to compete for scores when they are very young kids. When they face the pressure of entering a higher school, they will feel that academic achievement is all that matters in life.

Key middle school students' achievements are much better than those of non-key middle school students. Thus, non-key middle school students face more pressures. As a result, non-key middle school students' academic SWB is much lower than those of key middle school students.

Changes of academic achievements in different grades have an effect on academic SWB. In junior middle schools, Grade 1 students are full of anticipation for new academic lives and are seldom under pressure; hence, their academic SWB is the highest. Grade 2 students show more and more variance in academic achievements and have more and more pressure so their academic SWB decreases rapidly. In senior middle schools, Grade 1 is a new area of study, students' academic

SWB increases slowly, and with development of the enter-higher-school-pressure, students' academic SWB decreases again.

Present academic achievements influence academic SWB not only directly but also indirectly through academic experience. Since good or bad academic achievements will affect students' feeling about their study task and determine teachers' evaluation about students' or teachers' attitudes, it will impact experience.

4.4 Social pressure influences academic SWB

Social pressure influences academic SWB indirectly through academic experience. Research results reveal that social pressure mainly comes from competition of classmates, request of teachers and high expectation of parents. Under several pressures, students often experience the pressure of learning, which obviously influences academic SWB.

4.5 Expected academic achievement influences academic SWB

Expected academic achievements influence academic SWB indirectly through two means. The first is present academic achievements. This statement accords with "Gap/Ratio Hypothesis" of subjective well being (Wang Xiangdong, et al., 1999, 69-100) That is to say, the gap between present achievements and expected achievements determines the sense of subjective well-being. But further analysis implies that middle school students' academic SWB is determined by present academic achievements instead of expected academic achievements. It can be explained that the gap is not between present and expected academic achievements of one's own, but a gap between academic achievements of one's own and others' academic achievements.

The second is social pressure. Social pressure affects academic SWB indirectly by the medium of academic experience. The bigger the expected achievement is, the stronger the social pressure is. High pressure can reduce positive emotion and reduce academic SWB.

In short, low academic SWB is related to the educational system of China. Today, competition in China has become stiffer and stiffer. Entering higher school and accepting good education are shortcuts of being a winner in the game. In China, if you want to be admitted to a good high school or university, you must show your excellent academic achievements. In other words, you must get higher scores than others. Under the pressure of admission to college, parents and teachers lay too much emphasis on academic achievements. They use every possible means to enable students to get a high score. Students spend a great amount of time dealing with all kinds of exercises and tests and almost they have no spare time. Thus, they seldom feel happy in the course of learning, and in fact, even suffer from learning. Consequently, academic SWB is certainly low.

5 Conclusion

(1) Middle school students' academic SWB is generally low, and differences exist among schools and grades. Students from non-key-schools have lower academic SWB than those from key-schools. Grade-two students in both junior and senior high schools have the lowest academic SWB.

(2) Factors directly influencing middle school students' academic SWB are academic experience and present academic achievements, with the former playing a major role.

(3) Factors indirectly influencing middle school students' academic SWB are social pressure and expected academic achievements; both of which influence students' academic SWB through students' academic experience or their present achievement.

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