



Investigation and Analysis on the Achievement Motivations of 278 Senior High School Students

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Abstract

This paper, applying Achievement Motivation Scale, conducts investigation to 278 grade 2 senior high school students on their achievement motivation. The research results show that there is no significant difference between the achievement motivations of students from common senior high school and those from key senior high school; the achievement motivations of senior high school students do have significant difference in genders and male students have higher achievement motivations than female students; the achievement motivations of students studying science and students studying arts have difference closely to significant difference; motivation to pursue success has negative correlation with motivation to avoid failure. Schools, gender and science type do not have cross functions on achievement motivations.

Keywords: Senior high school students, Achievement motivation, Motivation to pursue success, Motivation to avoid failure

1. Preface

Achievement motivation refers to that a person is willing to do things that he or she considers important or valuable and endeavors to achieve perfect results. A person with achievement motivation will lay high requirement on him or herself and endeavor for success. The level of achievement motivations has significant meanings to individual development as well as to social progress. For an individual, achievement motivation is an important psychological system that inspires self-achievement and promotes individual development. At the same time, it is one of the key elements that will determine the success of an individual. For a society, the achievement motivations of its people, together with national economy growth, accumulation of social treasures and the improvement of technology, is considered as important index of social prosperity and progress. According to the views of psychologists, the main motivations for students studying are reflected on achievement motivation and researches show that achievement motivation is the key element that influences students' self-monitoring capacity and study efficiency (Liu & Guo, 1993).

The US famous psychologist J. W. Atkinson believes that achievement motivation has two factors, respectively, the motivation to pursue achievement and the motivation to avoid failure. What is more, the two motivations might be different in their force. Atkinson found that if an individual's motivation to pursue success is stronger than the motivation to avoid failure, the individual will have higher subjective probability estimation on success; similarly, if an individual's motivation to avoid failure is stronger than the motivation to pursue success, the individual will have higher subjective probability estimation on failure. Chinese scholars have conducted many researches on students' achievement motivation and obtained some outcomes. However, only a few Chinese scholars compare the achievement motivations of students from key senior high schools and common senior high schools and hardly have scholars who compare and analyze the achievement motivations of students studying social science, science and art.

2. Research design

2.1 Research objects

285 senior high schools students of the second grade randomly selected from three classes, namely social science class, science class, and art class, respectively from a common senior high school and a key senior high school from Wuhan.

pieces of questionnaires are invalid (accounting for 2.45% of total questionnaires) and altogether got 278 pieces of valid questionnaires. Of the 278 pieces, 53 are from students of the social science class of the common senior high school, 48 from students of science class of the common senior high school, 48 from students of art class of the common senior high school, 50 are from students of social science class of the key senior high school, 48 from students of science class of the key senior high school, and 31 from students of art class of the key senior high school; 106 are male students and 172 are female.

2.2 Research tool

This paper applies the Achievement Motivation Scale revised by Renmin Ye with Gjesme and Nygard. There are 30 questions of two sections. Each section has 15 questions, which respectively measures motivation to pursue success (MS) and motivation to avoid failure (MF). The scale is 4 points system. If it complies totally with a person, the person scores 4. If it complies basically, scores 3. If complies somewhat, scores 2. If does not comply at all, scores 1. The higher an individual scores in MS, the stronger motivation to pursue success he or she has. The higher an individual scores in MF, the more he is afraid of failure. According to the theories of Atkinson, the accumulated motivation score $Ma = MS - MF$. The reliability of this scale is 0.74 ($p < 0.01$) and validity is 0.58 ($p < 0.01$).

2.3 Research methodology

This research was in the form of group questionnaire investigation. In the test of achievement motivation, teachers were required to conduct the test strictly following the guide and the questionnaire test procedures and examinees were required to score themselves according to their true conditions. The questionnaires were handed out on site and collected on site too.

2.4 Data processing

SPSS11.0 was used to conduct statistically processing on the data collected.

3. Research results

3.1 Comparison of achievement motivations of students from different schools

To test whether there is difference between achievement motivations of students from key senior high school and from common high school, we took the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation as the dependent variables and school type as the independent variable to conduct the t-test to the two independent samples. The test result is shown in table 1.

It could be concluded from table 1 that the achievement motivations of senior high schools from different schools do not have significant difference no matter in the motivation to pursue success, the motivation to avoid failure or the accumulated achievement motivation, which means that the achievement motivations of the sample groups, students from common senior high school and from key senior high school, do not have significant difference.

3.2 Comparison on the achievement motivations of senior high school students studying social science, science and art

In order to test differences of achievement motivations in difference science type, namely, social science, science and art, we took the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation as dependant variables and science type as independent variable and conducted t-test to two independent sample groups of social science, science and art. The results show that the significance levels of MS, MF, MS-MF of t-test on social science students and science students are respectively $p = 0.351$, 0.940 , and 0.618 , which are all of no significant difference; the significance levels of MS, MF, MS-MF of t-test on social science students and art students are respectively $p = 0.382$, 0.556 , and 0.318 , which are all of no significant difference; the significance level of MS the t-test on science students and art students is $p = 0.062$, which is closed to significance, while MF, MS-MF of t-test on science students and art students are respectively $p = 0.642$ and 0.126 , which are all of no significant difference.

Please refer to table 2 for the means and standard deviation of the achievement motivations of social science, science and art senior high school students.

It could be seen from table 2 that

3.3 The gender difference of the achievement motivation of senior high school students

To test the gender difference of the achievement motivation of senior high school students, we took the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation as the dependant variables and gender as independent variables to conduct t-test to the two sample groups. The results are shown in table 3.

It could be known from table 3 that the motivation to pursue success of senior high school students of different genders has significant difference $p < 0.05$. Male students have higher motivation to pursue success than that of female students; the motivation to avoid failure of senior high school students of different genders does not have significant difference; the accumulated achievement motivation of male and female senior high school students have significant difference

$p < 0.05$. The achievement motivation of male students is higher than that of female students.

3.4 Comparison of the different achievement motivation of senior high school students

Please refer to table 4 for the means and standard deviation of the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation of senior high school students.

It could be found from the table that the scale of senior high school students' motivation to pursue success has significant negative correlation with their motivation to avoid failure, $r = -0.167$, $p < 0.001$. The mean of the motivation to pursue success is 38.37, which is higher than the mean of the motivation to avoid failure, 31.38. It shows that commonly, among senior high school students, the motivation to pursue success is stronger than the motivation to avoid failure.

3.5 Analysis of Multi-factor variance on achievement motivation

We took school type, gender, science type as variables and respectively conducted multi-factor variance analysis on the motivation to pursue success, the motivation to avoid failure and accumulated achievement motivation. The analysis results show that the main effects of school type, gender and science type on MS, MF and $Ma = MS - MF$ are the same to the afore mentioned results. The school type, gender and science type do not generate significant cross functions on MS, MF, $Ma = MS - MF$ respectively.

The adjusted $R^2 = 0.033$, $R^2 = -0.020$, $R^2 = 0.010$ show that this model has not have ideal effect on the fitting degree of the date., which, from another angle, indicates that the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation are influenced by other elements too besides school type, gender and science type.

4. Analysis and discussion

4.1 The differences of the achievement motivation of different senior high school students and analysis

In this sample group, the achievement motivation of senior high school students from different schools, key senior high school and common senior high school, does not have significant difference, which is not consistent with the research conclusions of Chinese scholar Jun Chen and Jijia Zhang. They believe that the achievement motivation of students from key senior high schools is higher than that of students from common high schools (Chen & Zhang, 2003). The reason may be related to the sample groups of this research.

4.2 The differences of the achievement motivation of social science, science, and art senior high school students and analysis

The t-tests on the two independent sample groups among social science students, science students, and art students show that social science students and science students, social science students and art students do not have significant difference in the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation. Science students and art students have big difference in the motivation to pursue success and the accumulated achievement motivation. The significance level of t-tests are respectively $p = 0.062$ and $p = 0.126$. The significance level of t-test on the motivation to pursue success is $p = 0.062$ closed to the significance $p = 0.05$, which shows that the motivation to pursue success of science students is stronger than that of art students.

Social science and science students are quite different from art students. Social science and science students have to face the pressure from university entrance examination, while art students has less pressure from that examination and their examinations do not have the same pressure on them as social science and science students. The reason that science students and art students have big difference in MS and $MS - MF$ may be related to China's university entrance examination system, course arrangement and social expectations.

4.3 The gender difference of the achievement motivation of senior high school students

The difference the achievement motivation between male and female has always been a topic that psychologists are interested in. Mclellad found that in achievement orientation context, males' achievement intention raise significantly while females do not. Some researches show that the achievement motivation of female students in preliminary school is higher than that of male students in preliminary school. From junior high school, male students' achievement motivation is higher than that of female students and the difference grows larger and larger with time passing on. During college stage, the difference of achievement motivation between college male students and female students reaches significance level (Jing, 1995). The conclusion of this research is basically the same as most researches, that is, the achievement motivation of male students is higher than that of female students.

There is difference between male and female senior high school students in the motivation to avoid failure and male students' motivation to avoid failure is lower than female students' and there is no significant difference, which however, is no consistent with the conclusion of Chinese scholar Aibao Zhou. The reason may be different self-difference of the research objects, one being senior high school students and the other being junior high school students.

4.4 The characters of the senior high school students' motivation to pursue success and the motivation to avoid failure and analysis

This research shows that the motivation to pursue success and the motivation to avoid failure has the same nature. Senior high school students' motivation to pursue success has significant negative correlation with their motivation to avoid failure.

The mean of senior high school students' motivation to pursue success is 38.37, which is higher than that of the motivation to avoid failure, 31.38. This shows that senior high school students' tendency to pursue success is higher than their tendency to avoid failure. Senior high school students have pretty high expectation on pursuing success and have relatively less worries on failure. Their passive achievement motivation is rather weak.

4.5 Multi-factor variance analysis on achievement motivation

The main effect results of multi factor variance analysis of school type, gender and science type respectively on the motivation to pursue success, the motivation to avoid failure and accumulated achievement motivation are the same as those of t-tests. However, school type, gender and science type do not have cross functions on the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation. The adjusted $R^2=0.033$, $R^2=0.020$, $R^2=0.010$ show that this model does not have ideal effect on the fitting degree of the data, which from another angle, indicates that the motivation to pursue success, the motivation to avoid failure and the accumulated achievement motivation are also influenced by other elements besides school type, gender and science type.

Actually, achievement motivation is indeed under the influence of many other elements, such as the grade, emotion, self-cognition, and self-evaluation of senior high school students as well as social culture.

For the element of grade, Jie Pan and Ningjian Liang's research indicates that the achievement motivation of high school students has significant difference in grade (Pan & Liang, 2003). For the element of emotion, the more the senior high school students have worries, the lower their achievement motivation is and the higher their worries on examination are. For the element of self-cognition and self-evaluation, the higher the senior high school students' study self-cognition and self-evaluation is, the stronger their achievement motivation is. The higher the senior high school students' general self-cognition and self-evaluation is, the weaker their achievement motivation is. For the element of social culture, the higher the senior high school students' evaluation on their class environment is, the stronger their achievement motivation is (Wo, 2001).

5. Conclusion

From the results and analysis, we could get the following conclusions: the achievement motivation of students from common senior high school and key senior high school of the sample group does not have significant difference; the achievement motivation of senior high school students of different gender has significant difference. The motivation of male students to pursue success is higher than that of female students; the motivation to pursue success of science senior high school students and of art senior high school students has difference closed to significance difference; the achievement motivation of science senior high school students and of social science senior high school students do not have significant difference and the same is to social science students and art students; the motivation to pursue success of senior high school students has significantly negative correlation with their motivation to avoid failure, which shows that commonly among senior high school students, the motivation to pursue success is stronger than the motivation to avoid failure.

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Table 1. Comparison of achievement motivation of students from different senior high schools

School	Quantity	MS		MF		MS-MF	
		M	SD	M	SD	M	SD
Common	149	38.72	6.872	31.65	7.872	7.07	10.547
Key	129	37.95	7.606	31.08	7.908	6.88	12.633
T value			0.888		0.604		0.140
Sig.			0.375		0.546		0.888

Table 2. The means and standard deviation of the achievement motivation of social science, science and art senior high school students

Science type	quantity	MS		MF		MS-MF	
		M	SD	M	SD	M	SD
Social science	103	38.31	5.895	31.17	7.225	7.15	9.803
Science	96	39.22	7.735	31.25	8.453	7.97	13.275
Art	79	37.41	8.058	31.84	8.058	5.57	11.377

Table 3. Comparison of the achievement motivation of senior high school students of different genders

type	quantity	MS		MF		MS-MF	
		M	SD	M	SD	M	SD
Male	106	40.45	7.611	30.86	8.371	9.59	12.035
Female	172	37.08	6.671	31.71	7.569	5.37	10.953
T value		3.877***		-0.874		3.005**	
Sig.		0.000		0.383		0.003	

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 4. Comparison of the MS, MF, MS-MF of senior high school students

	M	SD
Motivation to pursue success: MS	38.37	7.219
Motivation to avoid failure: MF	31.38	7.880
Accumulated motivation: $M_a = MS - MF$	6.98	11.541