

Research Report on Students' Behavior and Psychological Condition under the "Double Reduction" Policy

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Abstract. While the implementation of the "double reduction" policy has brought about some changes in the lives of Chinese students, much of the extant literature focuses on explaining the concept of the "double reduction" policy itself and examining psychological anxiety at the parental level, with very little mention of the relationship between the "double reduction" policy and the psychological state of students. The relationship between the "double reduction" policy and students' psychological state is rarely mentioned. This study analyses the relationship between the policy, students' negative emotions and behaviour by investigating the current situation and changes in students' behaviour and psychology after the "double reduction". The authors concluded that extra-curricular activities (school-related) were not significantly correlated with students' anxiety levels, while extra-curricular activities (school-unrelated), extra-curricular practical activities and exam stress were each more strongly correlated with students' anxiety levels. There was also a strong correlation between students' anxiety levels and students' maladaptive behaviour.

Keywords: "Double Reduction" policy; students' anxiety; extra-curricular time; exam stress.

1. Introduction

Due to the excessive academic burden of students, the overall development and healthy growth of students are facing serious threats. According to statistics, the number of offline subject training institutions in the compulsory education stage before the "double reduction" is as high as 124,000, and the number of online subject training institutions is as high as 263. At the same time, the training industry is growing wildly, forming another education system, disrupting the normal education and teaching order of schools, and having a strong impact on the school education system. Meanwhile, the training institutions have a serious tendency of utilitarianism and charge high fees. According to statistics, the tuition fees charged by subject-based training institutions nationwide before the "double reduction" are higher than those charged by the "double reduction". This phenomenon seriously reduces student's sense of happiness and security in education [1].

Therefore, on July 24, 2021, the General Office of the Communist Party of China Central Committee and the General Office of the State Council issued "Opinions on Further Reducing the Burden of Homework and Off-Campus Training for Students at the Compulsory Education Stage" [2]. In October 2021, the National People's Congress said: "double reduction" is to be explicitly incorporated into the law to avoid aggravating the burden of students at the compulsory education stage. On November 3, the General Administration of Market Supervision and eight more departments issued a "Notice on Good Off-Campus Training Advertising Notice on the Control of Out-of-School Training". It is strongly prohibited to publish advertisements for off-campus training on billboards and advertising spaces of subways, bus stops, etc.[2] In March 2021, the Ministry of Education issued the "Sleep Order" and the "Double Reduction" policy in July of the same year. To sum up, the "double reduction" policy refers to a measure taken by the state to effectively reduce the

amount of students' heavy homework and after-school training in order to reduce the burden of students in the compulsory education stage, so that their physical and mental health can be well developed. The “double reduction” policy was introduced in order to strengthen school education, improve the quality of school classroom teaching, optimize homework assignments, improve the quality of after-school activities, and reduce the burden of students after school, in order to improve the overall wellness of students and build a good ecology of education. The “double reduction” also reduces the mental burden of parents and the economic burden of families, allowing subject education to return to the main school.

From the original intention of the “double reduction”, it can be seen that the policy is an initiative for the benefit of the country and the people, in order to have more qualified and healthy talents to build the future of the country. However, whether the implementation of the “double reduction” policy helps relieve students' educational anxiety remains unclear. The educational anxiety has seemingly changed to different degrees. The anxiety associated with educational opportunities has been effectively alleviated, while the anxiety related to further education is still at a high level. From the perspective of education condition anxiety, the education anxiety caused by the scarcity of qualified teachers has been improved to a certain extent. Nevertheless, there are still some secondary risks and the education anxiety caused by the improper management of school work has been effectively solved; from the perspective of education result anxiety, academic achievement anxiety has become the main expression of parents' education anxiety, and academic evaluation anxiety has also been further strengthened and expanded. The problem originates from the traditional concept of “learning is superior”, which is rooted in family education, causing parents' hidden worries about class mobility. The inadequate student evaluation mechanism makes it difficult for parents to customize education practices while balancing children's short-term interests with long-term development. The restriction and control of discipline based training institutions may not bring rich high-quality educational resources, which is the main reason why parents fall into educational anxiety.

In this paper, the authors collect a series of relevant literature and found that most of the literature on the “double reduction” policy only stops at interpreting the concept of the “double reduction” policy itself. The rest of the literature studies the psychological anxiety at the parental level, and very little of the literature mentions how the “double reduction” policy affect the psychological status of students. Therefore, this study aims to investigate the current situation and changes of students' behaviors and mental wellness after the “double reduction” policy, and then investigate the influence of “double reduction” policy on students' anxiety level and bad behavior. The purpose of this paper is to provide some suggestions for the further implementation of this policy and the development of students' physical and mental health, as well as fill in the research gaps in this field.

2. Method

2.1 Research object

This research adopts the method of a questionnaire survey. The questionnaire used in this research refers to three scales: China Educational Panel Survey (CEPS), China Educational Panel Studies (CFPS), and Generalized Anxiety Disorder-7 (GAD-7). Through questionnaire the distribution on Wenjuanxing, an online questionnaire design platform of questionnaire stars, the authors investigated extracurricular activities (school-related), extracurricular activities (school-unrelated), extracurricular practical activities on weekends, students' test pressure Six items, including students' anxiety level and students' bad behaviors. The sampling selective schools in this survey include primary and secondary schools in Shandong, Yunnan, Hubei, Sichuan and other provinces. The sampling target is students from the fifth grade of primary school to senior high school graduation. A total of 416 questionnaires were collected, 27 invalid questionnaires were excluded, and a total of 398 questionnaires were taken into analysis collected. The self-made scale used in this study aims to investigate the relationship between the “double reduction” policy and students' anxiety status psychology, and further investigate the impact of the “double reduction” policy on students' bad

behavior by investigating the current situation and changes of students' life and behavior after “double reduction”.

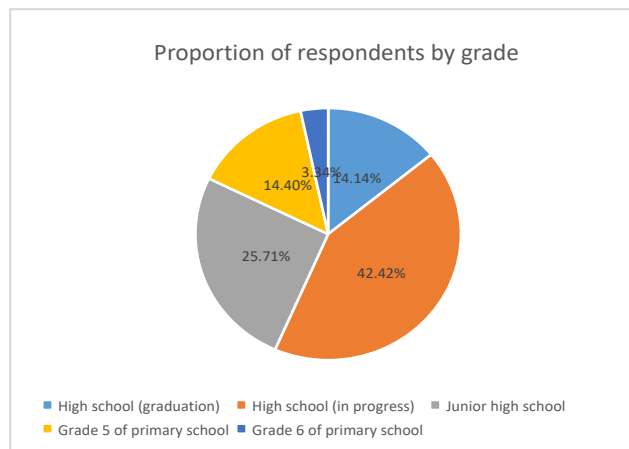


Figure 1. Proportion of respondents by grade

In the survey (Figure 1), there were 56 fifth- grade students, accounting for 14.40%. There were 13 sixth graders, accounting for 3.34%; 100 junior middle school students, accounting for 14.14%. There were 165 senior high school students, accounting for 42.42%. There were 55 high school (graduated) students, accounting for 25.71% (see figure 1).

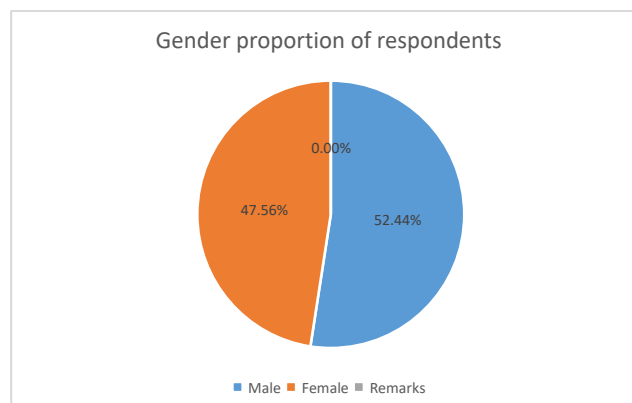


Figure 2. Gender proportion of respondents

In the survey (Figure 2), there were 204 male students, accounting for 52.44%; there were 185 female students, accounting for 47.56%.

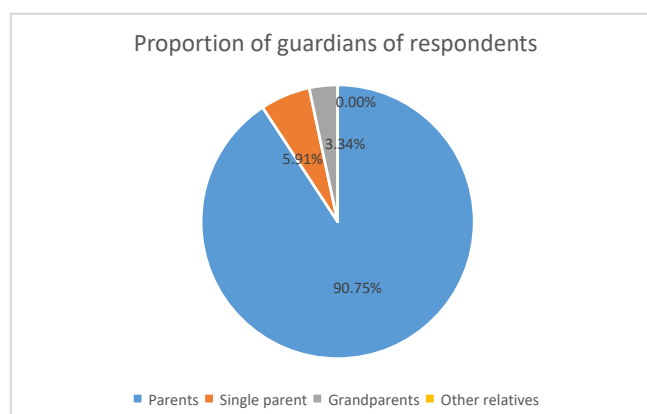


Figure 3. Proportion of respondents

In the survey (Figure 3), 353 students were supervised by their parents, accounting for 90.75%. There were 23 students with a single parent as guardian, accounting for 5.91%. There were 13 students with grandparents as guardians, accounting for 3.34%.

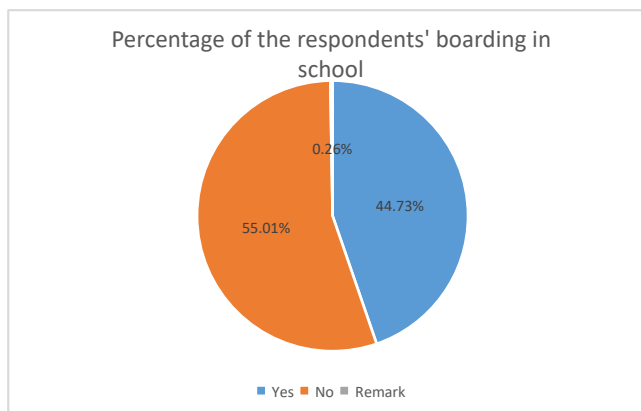


Figure 4. Percentage of the respondents' boarding in school

In the survey (Figure 4), 171 students attended boarding schools stayed, accounting for 44.73%. There were 214 students who did not attend boarding schools stay in the school, accounting for 55.01%. There is one other student was excluded from the above two situations, accounting for 0.26%. This student said that he had basketball lessons at school on Tuesday, Thursday and Friday and maintained boarding school attendance during the rest of the week.

2.2 Study variables

2.2.1 Section I: The influence of factors on affect anxiety level.

2.2.1.1 Independent variable:

(1) Students' extra-curricular time (school-related): This project was rated separately for the number of hours students spent writing homework assigned by parents and teachers and the number of hours students spent attending tutorials (school-related), for a total of two entries. Each entry is graded on a 5-point scale of 0=none, 1=1 hour, 2=2 hours, 3=3 hours and 4=4 hours and above.

(2) Students' extracurricular activity time (school-unrelated): This project will be evaluated separately by watching TV, playing games and surfing on the Internet, doing sports, a total of two items. Each entry is divided into five levels, namely 0=none, 1=1 hour, 2=2 hours, 3=3 hours, 4=4 hours and above.

(3) The frequency of students' extracurricular practical activities: This entry is divided into five levels: 0=never, 1=once a year, 2=once every half a year, 3=once a month, 4=once every half a month, and 5=once a week.

(4) Students' test pressure: This project assesses the frequency of test fear, test tension and feeling that there is no test to learn better in the past week, a total of three items. Each entry is divided into five levels, namely 0=none, 1=once, 2=twice, 3=thrice, 4=fourth and above.

2.2.1.2 Dependent variable: Students' anxiety level.

The questionnaire referred to the GAD-7 Generalized Anxiety Disorder Scale, and there were seven items in total, including uncontrolled generation, Excessive worry, excessive worry, difficulty to relax, inability to sit still, irritability, and foreboding. For these seven items, each item is divided into four levels, 3=almost every day; 2=more than one week; 1=several days; 0=Not at all. The final score will add up the scores of 7 items, and the total score range is 0-21 points with 0-4 points being normal, 5-9 points being mild anxiety, 10-13 points are moderate anxiety, 14-18 points being moderate to severe anxiety, and 19-21 points being severe anxiety.

2.2.2 Section 2: The influence of anxiety level on students' bad behaviors.

2.2.2.1 Independent variable: Students' anxiety level.

There were seven items in total, including uncontrolled generation, excessive worry, excessive worry, difficulty to relax, inability to sit still, irritability, and foreboding. For these seven items, each item is divided into four levels, 3=almost every day; 2=more than one week; 1=several days; 0=Not at all. The final score will add up the scores of 7 items, and the total score range is 0-21 points with 0-4 points being normal, 5-9 points being mild anxiety, 10-13 points being moderate anxiety, 14-18 points being moderate to severe anxiety, and 19-21 points being severe anxiety.

2.2.2.2 Dependent variable: students' bad behavior.

There were evaluated through seven items, including swearing, inattention, irritability, truancy, plagiarism, cheating in exams, smoking or drinking, and going to Internet cafes or game halls. The above seven entries are divided into five levels: 0=none, 1=1, 2=2, 3=3, 4=4 and above.

2.3 Date analysis

In this study, the questionnaire data were first counted, and the data were imported to be made into bar graphs through Excel. After that, linear regression analyses were conducted through Eviews on the correlations between extracurricular time (school-related), extracurricular time (school-unrelated), extracurricular practical activities, exam stress and anxiety levels, and finally, linear regression analyses were conducted through Eviews on the correlations between anxiety levels and delinquent behaviors.

3. Results

3.1 Data analysis

3.1.1 Extracurricular activities (school-related) from Monday to Friday

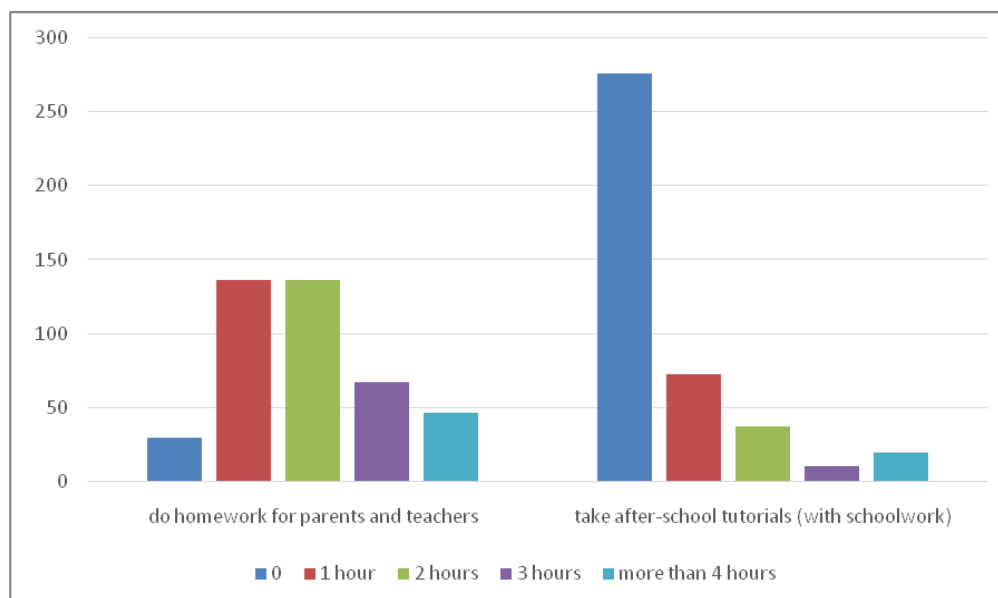


Figure 5. Percentage of time spent in extracurricular activities (school-related)

From Monday to Friday, the vast majority of students spent between 2 hours (68.12%) and 3 to 4 hours (25.77%) doing homework assigned by teachers and parents, and very few students did not need to do homework (6.17%).

The vast majority of students do not need to go to extracurricular tutoring classes (67.61%), and a few students need to go to tutoring classes for 1 to 2 hours (see Figure 5).

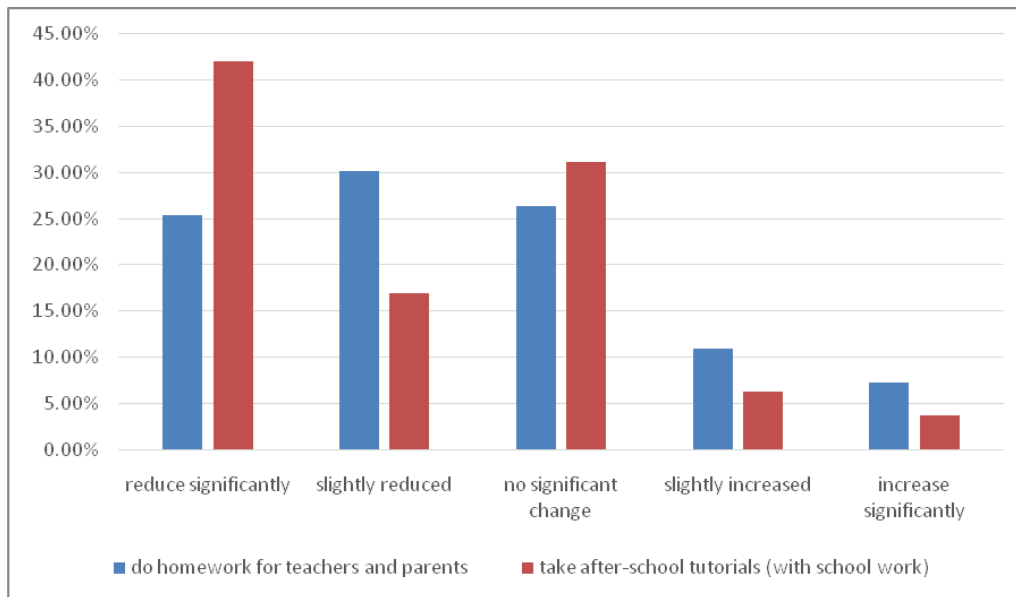


Figure 6. Percentage change in time spent in extracurricular activities compared to before the “double reduction” (school-related)

The vast majority of students perceived a significant decrease (38.05%) in the amount of time spent on extracurricular activities (school-related) from Monday to Friday after the “double reduction”, while some students perceived a slight decrease (18.16%) and no significant change (28.67%) (see Figure 6).

3.1.2 Extracurricular activities (school-unrelated) from Monday to Friday

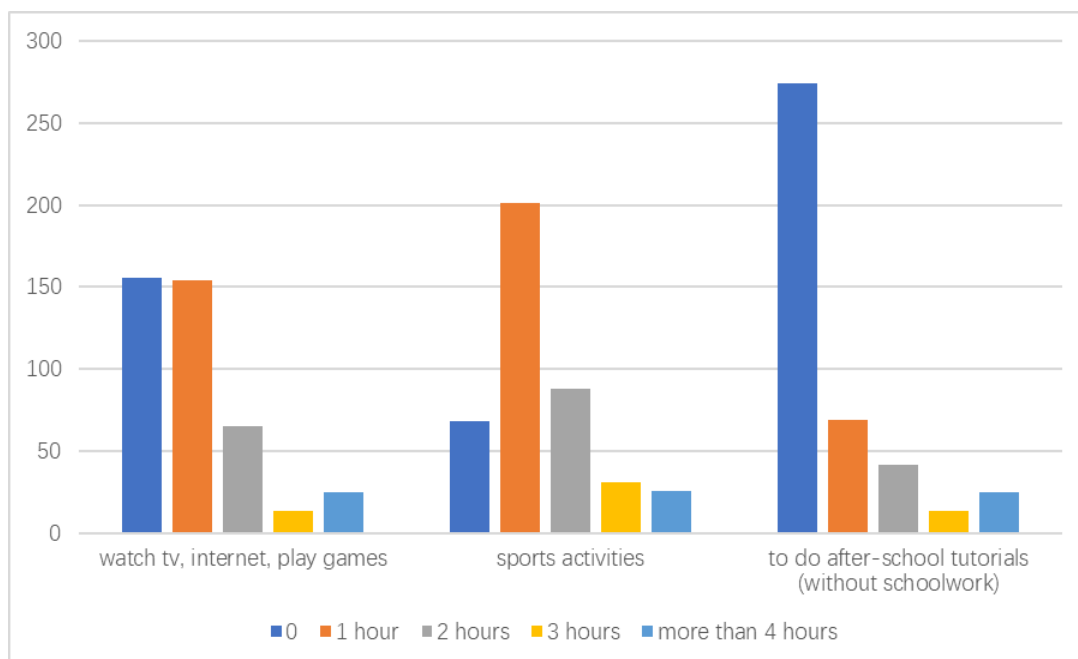


Figure 7. Percentage of time spent in extracurricular activities (school-unrelated)

From Monday to Friday, the majority of students spend 1 hour (44.86%) on extracurricular activities (school-unrelated), some students do not engage in extracurricular activities not related to class work (25.07%), and only a small number of students spend 2 hours or more (see figure7).

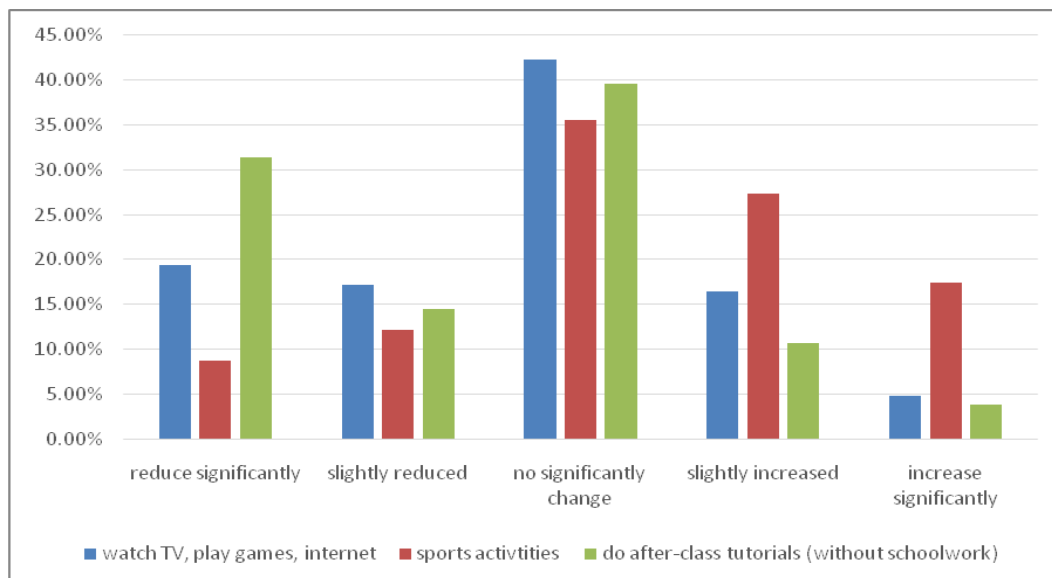


Figure 8. Percentage change in extracurricular activity time compared to before “double reduction” (school-unrelated)

Regarding the time for extracurricular activities (school-unrelated) from Monday to Friday after the “double reduction”, the vast majority of students think there is no significant change (38.05%), some students think there is a slight increase (23.01%) the remaining few students think there is a significant decrease (13.37%) a slight decrease (15.04%) and a significant increase (10.54%) (see figure 8).

3.1.3 Extracurricular Practical Activities

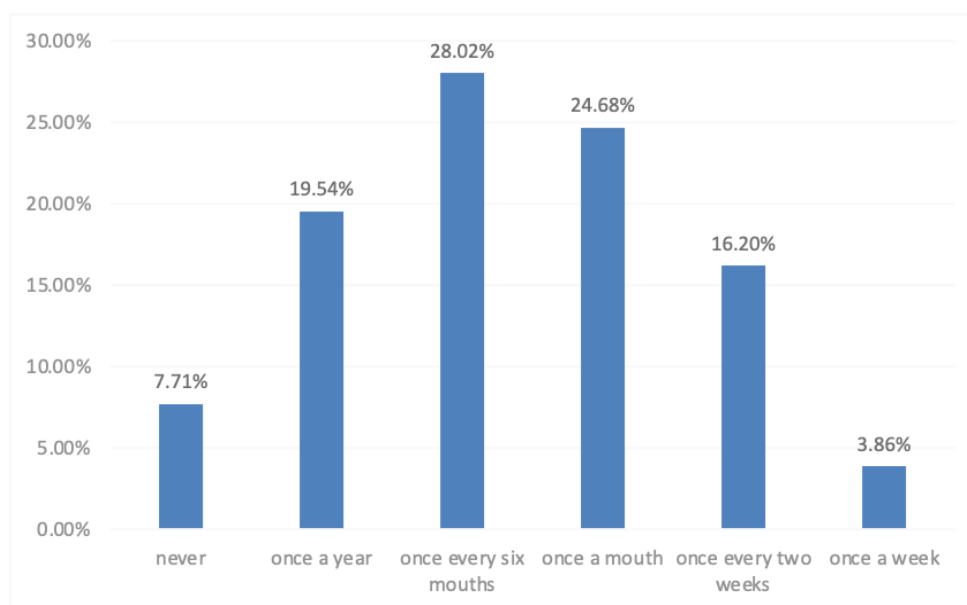


Figure 9. Percentage of time spent in extracurricular practical activities

Figure 9 shows the frequency of students' participation in extracurricular practical activities after the implementation of the "double reduction" policy. 7.71% of students never participated in extracurricular practical activities, 19.54% participated in extracurricular practical activities once a year, 28.02% participated in extracurricular practical activities once every six months, 24.68% participated in extracurricular practical activities once a month, 16.20% participated in extracurricular practical activities once every two weeks, and 3.86% participated in extracurricular practical activities once a week. 24.68% of students participated in extracurricular practical activities once a month,

16.20% of students participated in extracurricular practical activities once every two weeks, and 3.86% of students participated in extracurricular practical activities once a week

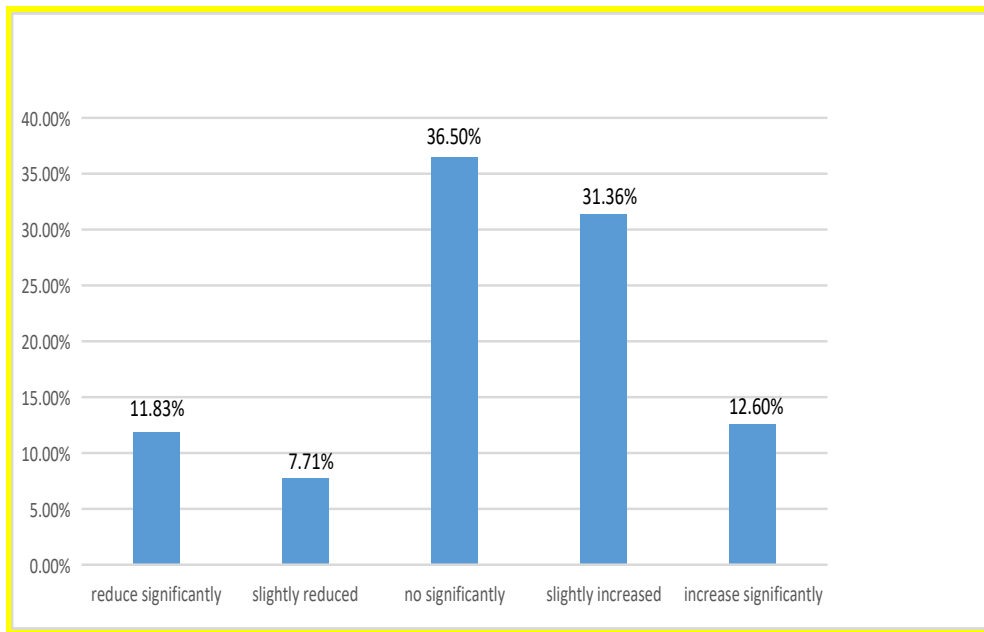


Figure 10. Frequency of change in the number of times of Extracurricular Practical Activities after “double reduction”

After the “double reduction”, most students think that the time for extracurricular practical activities has increased significantly (43.96%), 36.50% think that the time for extracurricular practical activities has not changed significantly, and only a small number of students think that the time for extracurricular practical activities has decreased (see Figure 10).

3.1.4 Examination pressure

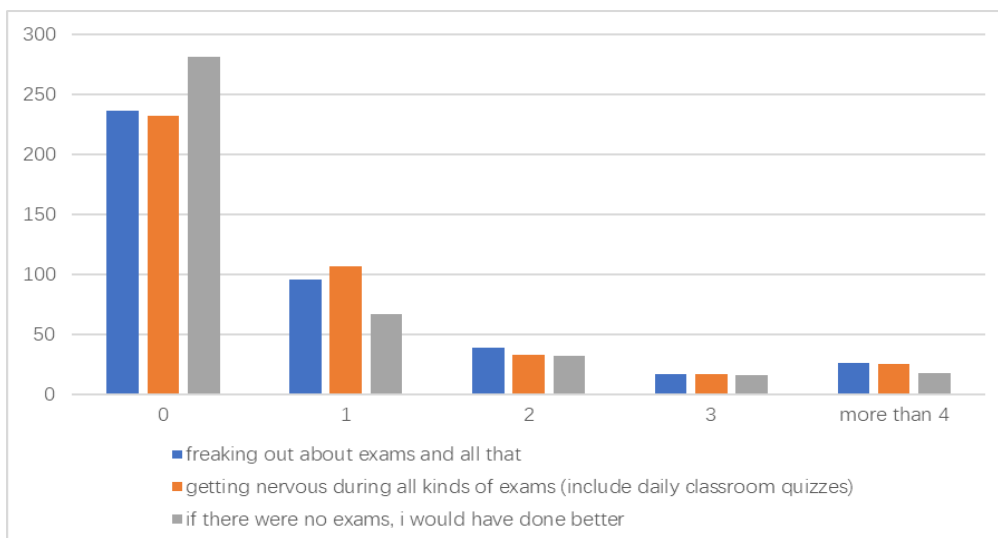


Figure 11. Percentage of the number of times stress occurred in each exam

Figure 11 shows the change of students' examination pressure psychology after the “double reduction” policy. The vast majority of students had 0 times per week (60.41%), a small number of students had 1 occurrence (22.20%), and only a very small number of students had 2 or more exam stressful emotions (see Figure 11).

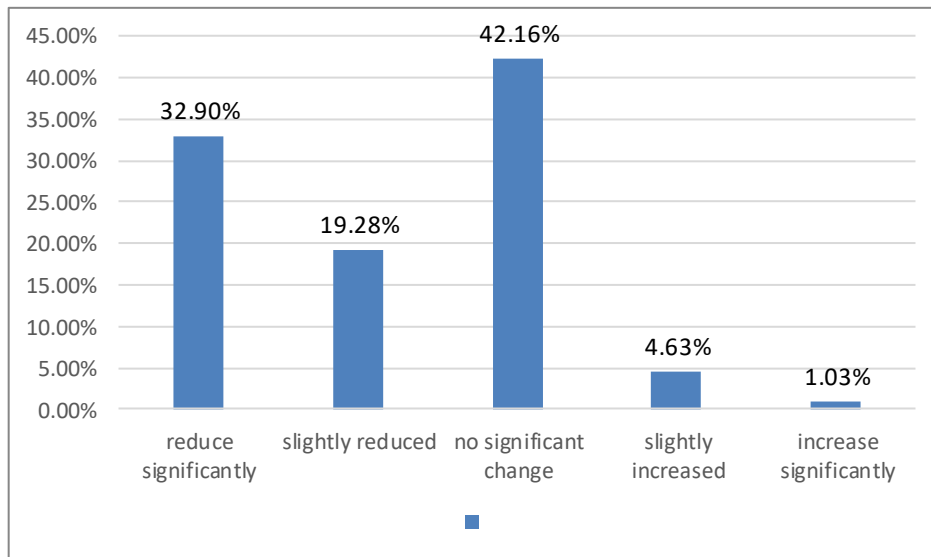


Figure 12. Frequency of change in the number of times the frequency of exam stress behavior occurs after “double reduction”

After the “double reduction”, most of the students thought that there was no significant change in the number of such behaviors occurring per week (42.16%), but a larger number of students thought that there was a significant decrease (32.9%), some thought that there was a slight decrease (19.28%), and only a very small number of students thought that there was an increase (see Figure 12).

3.1.5 Delinquent behaviors

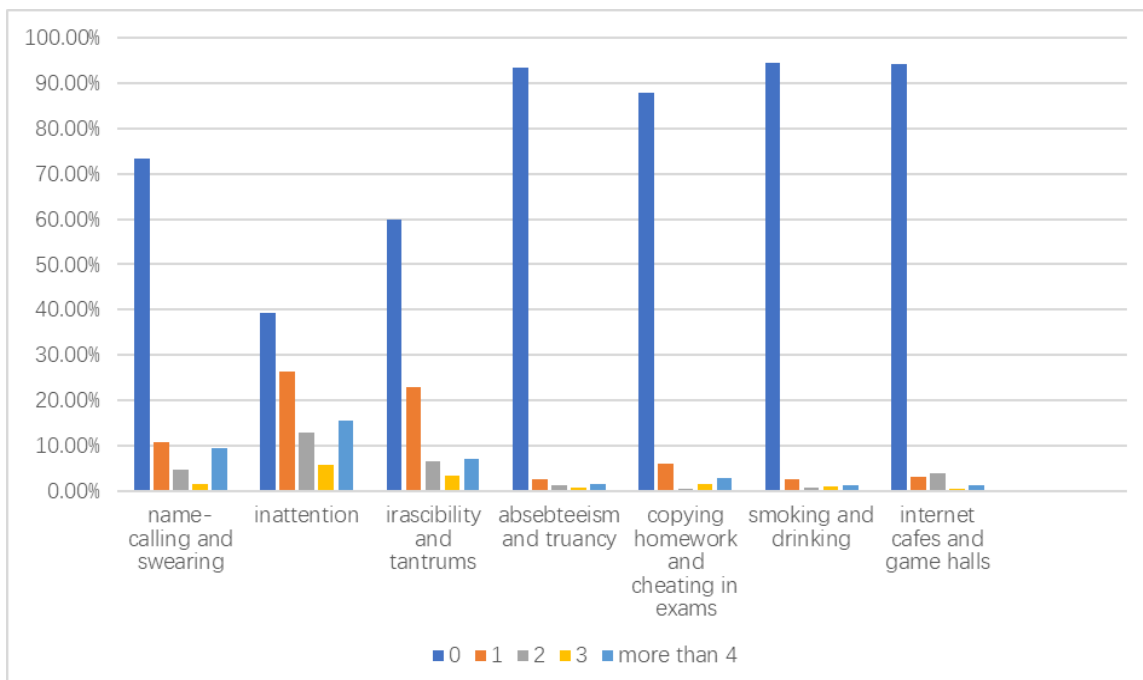


Figure 13. Frequency of misbehavior

The frequency of the above behaviors among students in the last week. The vast majority of students had 0 times per week (77.71%), a small number of students had 1 occurrence (9.59%), and only a very small number of students had 2 or more exam stressful emotions. At the same time, the three items of cursing and swearing, inattentiveness, irritability, and indiscriminate tantrums were more frequent among students (20.56%), while all other items were very rare (3.91%) (see Figure 13).

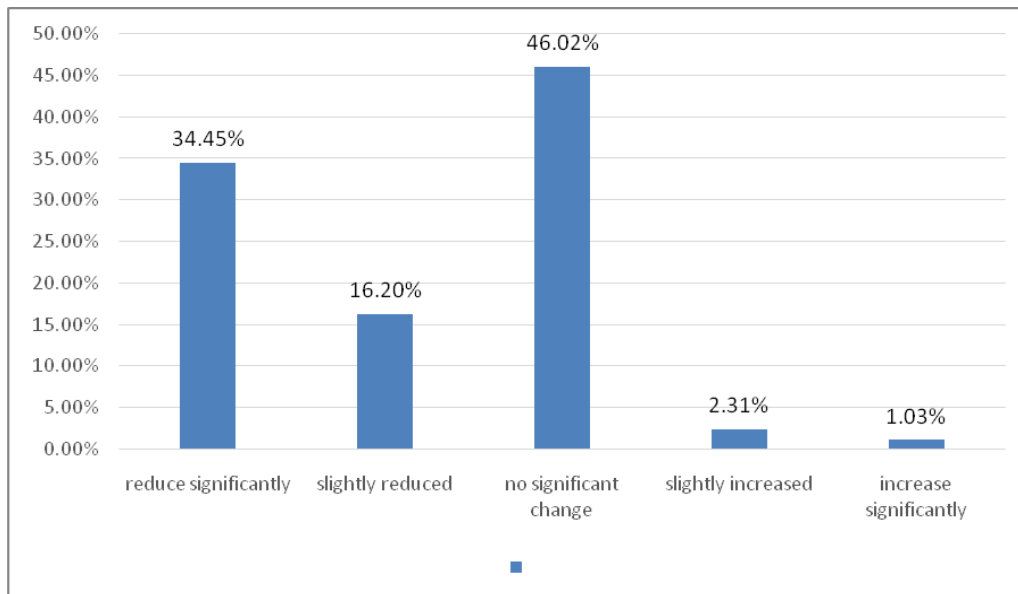


Figure 14. Frequency of change in the number of times the frequency of such behavior occurs after “double reduction”

After the “double reduction”, most of the students thought that there was no significant change in undesirable behaviors (46.02%), while a larger proportion of students thought that there was a significant reduction (34.45%), some thought that there was a slight reduction (16.2%), and only a very small number of students thought that there was an increase (see Figure 14).

3.1.6 Anxiety level

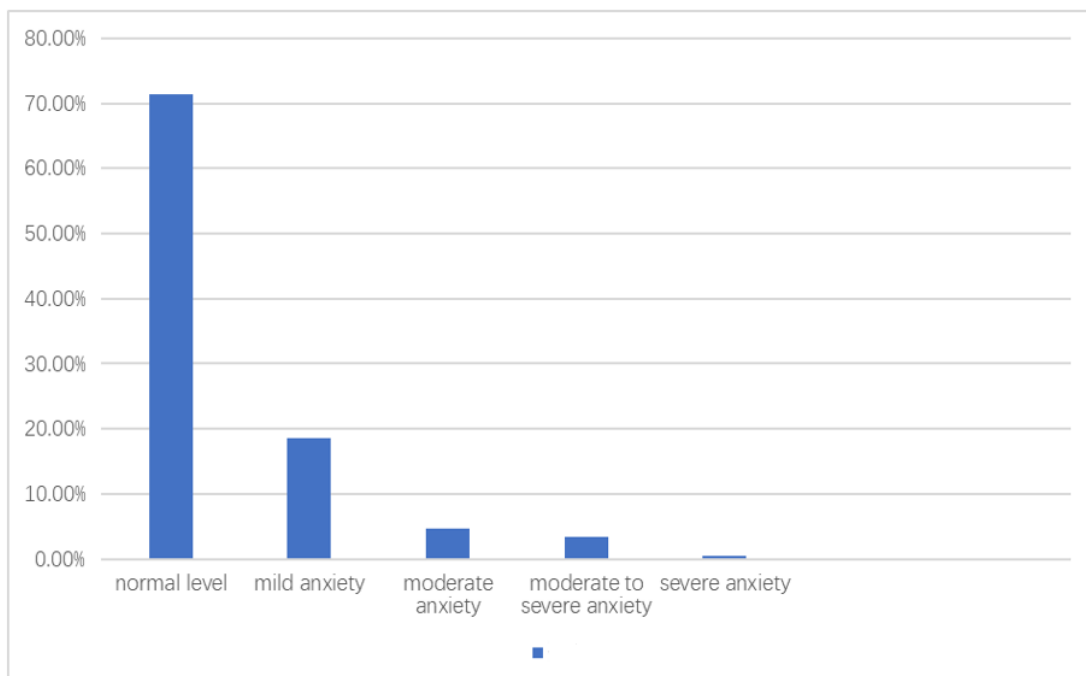


Figure 15. Number of people with anxiety levels as a percentage

In the survey, the majority of students with normal anxiety levels (71.36%), 18.52% of students with mild anxiety, and very few students with moderate, moderately severe, and severe anxiety (4.63%, 3.34%, and 0.51%, respectively).(see figure 15)

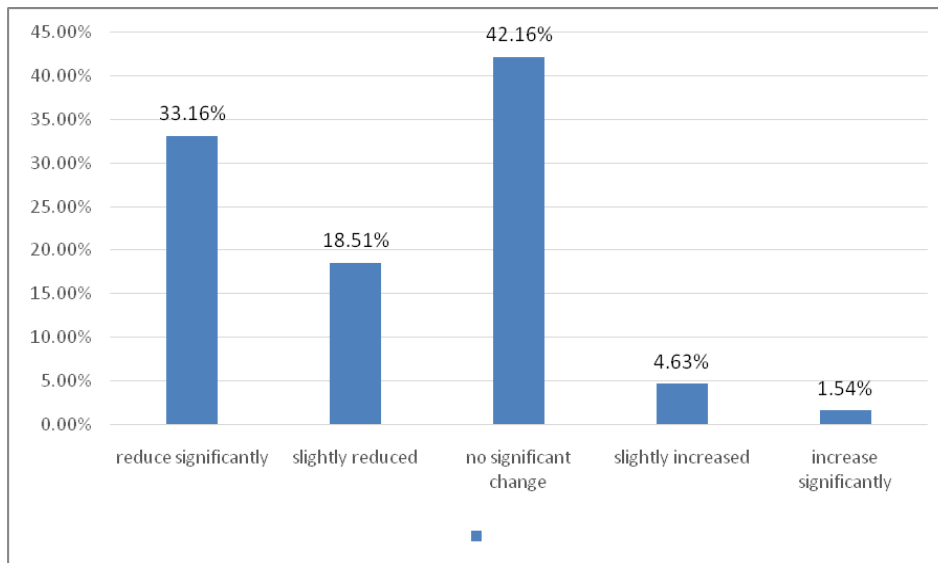


Figure 16. Frequency of change in the number of people with anxiety levels after “double reduction” Compared with the “pre-double reduction” period, the vast majority of students thought that their anxiety level did not change significantly (42.16%), but more students thought that it decreased significantly (33.16%) and slightly (18.51%), and only very few students thought that it increased (6.17%) (see Figure 16).

3.2 Result analysis

3.2.1 Section 1 analysis

Linear regression analysis was conducted on the relationship between extracurricular time (school), extracurricular time (school-unrelated), extracurricular practical activities, test pressure and anxiety level.

The authors sets students' anxiety level as the dependent variable, and extra-curricular time (school-related) (X1), extra-curricular time (school-unrelated) (X2), extra-curricular practical activities (X3), and test pressure (X4) as independent variables.

Table 1. Correlation analysis between factors and anxiety level

Dependent Variable: Y				
Method: Least Squares				
Sample: 1 389				
Included observations: 389				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.327913	0.399912	0.819962	0.4127
X1	0.719593	0.104438	6.890143	0.0000
X2	0.003872	0.075816	0.051069	0.9593
X3	-0.380494	0.118264	-3.217336	0.0014
X4	0.802612	0.059045	13.59318	0.0000
R-squared			0.509327	
Adjusted R-squared			0.505504	
Prob(F-statistic)			0.000000	

According to Table 1, probability values of X1, X3 and X4 are all below 0.05, indicating that there is a significant correlation between extracurricular time (school-related), extracurricular practice frequency, test pressure and anxiety level.

The probability value of X2 is higher, indicating that the correlation between extra-curricular time (school-unrelated) and anxiety level is not obvious.

(1) X1 changes by 0.72 units for each unit change of Y: It shows that extracurricular time (school-related) has a positive correlation with students' anxiety level, and the impact is more obvious.

(2) X3 changes by -0.38 units for each unit change of Y: It shows that the frequency of extracurricular practical activities has a negative correlation with the anxiety level of students.

(3) X4 changes by 0.80 units for each unit change of Y: It shows that test pressure has a positive correlation with students' anxiety level, with the greatest impact.

3.2.2 Section 2 analysis

The authors conducted a linear regression analysis on the relationship between students' anxiety level and bad behavior.

The authors take anxiety level as dependent variable and bad behavior as independent variable.

Table 2. Correlation analysis between anxiety level and bad behavior

Dependent Variable: Y				
Method: Least Squares				
Sample: 1 389				
Included observations: 389				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.397365	0.214131	6.525751	0.0000
Y	0.625829	0.042229	14.81989	0.0000
R-squared			0.362048	
Adjusted R-squared			0.360400	
Prob(F-statistic)			0.000000	

According to Table 2, for every unit of Y change, Z is changed by 0.62 units: it shows that students' anxiety level has a greater impact on conducting bad behaviors, and the two variables are positively correlated.

3.2.3 Research model

Based on the results in this research, the authors constructed a theoretical model (see Figure 15). The model states the correlation between out-of-school time (school-related) (x1), extra-curricular practical activities (x3), exam stress (x4) and anxiety levels (Y), and the correlation between anxiety levels (Y) and delinquent behaviour (Z).

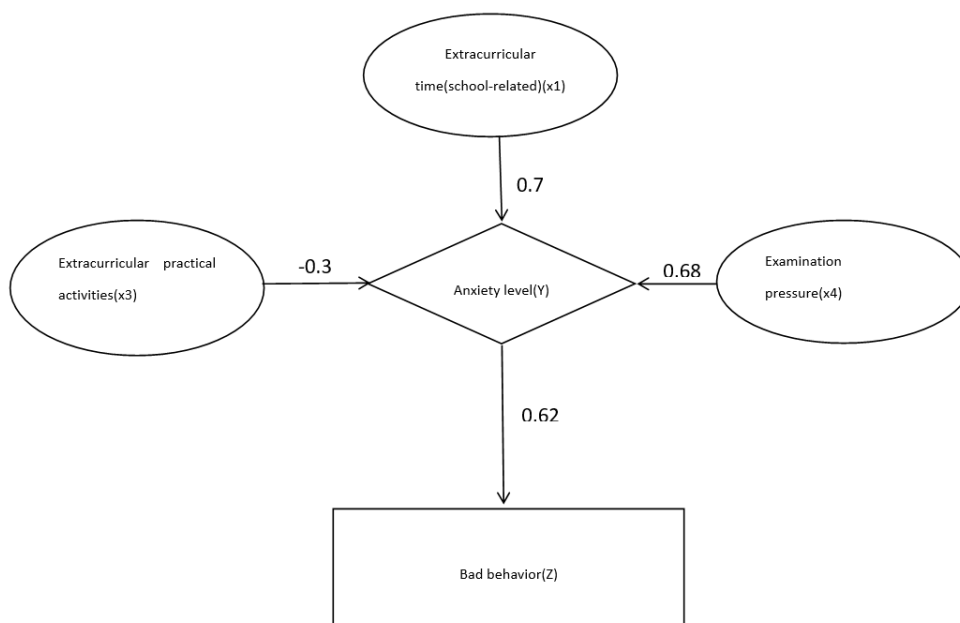


Figure 17. Correlation model

4. Discussion

4.1 Project summary

The study found that after the “double reduction”, more students believed that extracurricular activities (school-related), test pressure, and bad behaviors had decreased. Extracurricular activities (school-unrelated) had increased, indicating that the “double reduction” policy is evidenced to be effective to some extent. However, a large number of students believed that there was no significant change, indicating that the “double reduction” policy still has some aspects to be remedied, and the promotion of the “double reduction” policy still needs continue efforts.

The study found that bad behaviors, extracurricular activities (school-related), extracurricular activities (school-unrelated), and test pressure all have different effects on students' anxiety level among which extracurricular activities (school-related) and test pressure have the most obvious impact on students' anxiety level.

4.2 Suggestions

4.2.1 School

1. Schools should implement major changes in after-school homework (e.g., more practical homework, more long-hour homework, more higher-order homework) and improve the quality of after-school services (e.g., physical education classes, interest classes, parents' participation class) [3].

2. Schools should clarify their role and training content to promote the reasonable transformation of disciplinary training institutions inside and outside the school [4].

3. Schools should allocate special funds and provide venues for home-school cooperation [6].

4. Schools should consistently promote in-school educational services and strengthen compensation for specific educational groups [7].

5. Schools should reduce unnecessary examinations and reduce students' examination pressure.

4.2.2 Teachers

1. Teachers should change their ideas and focus on students' psychological counseling and guidance (comprehensive understanding and development of students) [5].

2. Teachers should enhance their own professional development to meet the various needs of students [8].

3. Teachers should improve the quality of teaching and teach students the right way to learn [9].

4. Teachers need to assign after-school homework that meets students' cognitive level and cognitive state (encouraging students to make small productions and inventions based on their knowledge) [11].

5. Teachers should focus on the quality of learning in the classroom and reduce learning tasks outside of class time.

4.2.3 Parents

1. Parents should work with the school to cultivate students' healthy psychology (prevent and solve students' psychological problems together with the school) [5].

2. Parents should fully understand their own roles (increase the participation of children's emotional guidance, and cultivate the children)[6].

3. Parents should set up correct educational concepts and support students' development [8].

4. Parents should create a good family atmosphere and give their children mental health care [10].

5. Parents should encourage their children to engage in practical activities outside of school rather than playing games, watching TV etc.

4.2.4 Student

1. Students should establish correct self-cognition and master the relevant methods of learning anxiety [8].

2. Students should pay attention to the combination of work and rest (pay attention to diet and nutrition, and participate more in physical exercise to maintain normal function) [9].

3. Students should increase their ability to resist pressure and face various external pressures with a correct mindset (to promote more confidence in self and form a stronger motivation to study) [9].

4. Students should actively communicate with their parents and teachers and seek help when they have problems.

5. Conclusion

This project investigated the current situation and changes in students' lives after the implementation of the “double reduction” policy and analyzed how the double reduction policy influences students' behaviors. The “double reduction” policy did have an impact on students' behaviors. In the survey, a larger proportion of students believed that extracurricular activities (school-related), examination pressure, bad behavior, and anxiety levels had decreased in varying degrees, while extracurricular activities (non-school-related) and extracurricular practical activities had increased. The authors concluded from their analysis that extracurricular time (school-related), extracurricular practical activities, and exam pressure all had a strong correlation with students' anxiety levels, and students' anxiety levels also had a strong correlation with students' bad behaviors. While extracurricular time (school-related) was not significantly correlated with students' anxiety levels, the sample used in this project may have limitations due to statistical factors. The authors will continue to monitor the impact and changes of the “double reduction” policy and continue to improve the research in this area to provide references for further promotion and improvement of the “double reduction” policy.

Acknowledgements

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