Psychological Resilience Characteristics and Improvement Strategies of "Internet plus" Engineering Normal College Students

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Abstract. Psychological resilience is a necessary psychological quality for engineering normal college students to adapt to the social development and personal healthy growth. To explore the characteristics of "Internet plus" engineering and technical normal college students' psychological resilience, we can use Hu Yueqin and Gan Yiqun's Psychological resilience Scale Chinese Adolescent(RSCA) compiled in 2008 to conduct a questionnaire survey, which consists of five dimensions: Goal focus, emotional control, interpersonal assistance, family support and positive cognition. Taking 320 engineering normal college students as the object of study, this paper analyzes some characteristics of psychological resilience of engineering technology normal college students at present and finds out that the characteristics of the current engineering technology normal college students are as follows: There was no significant difference in sex, major and birthplace among engineering and technical normal college students, but the positive cognition and overall psychological resilience of the only child were significantly lower than that of the non-only child. Moreover, this paper discusses the strategies to improve the psychological resilience of engineering technology normal college students from four aspects: society, school, family and individual.

Keywords: Internet plus, Engineering Normal College Students, Psychological Resilience, Strategic Exploration

1. Description of Problem
As the backbone of social construction, the mental health of college students is related to the development of individual and country.[1] With the rapid development of the Internet, unprecedented changes have taken place in the world today, which has brought a wide and profound impact on all aspects of college students' life, study and work.[2] On the one hand, college students get the information they need through the Internet, but they will also be negatively affected, such as Internet addiction. When college students face all kinds of stresses and difficulties in their lives, psychological resilience plays an important role. Some people can actively adjust themselves to reduce the negative impact of stress, or even learn from the stress of experience to enable themselves to grow, while others face setbacks, but when the stress is extremely fragile, escape, retreat, they always go online to vent,
escape. As a member of the engineering normal college students, their mental health is also worth paying attention to.[3] Therefore, we should make every effort to improve the psychological resilience level of the engineering normal college students, so that they can grow up healthily and develop a sound personality. Therefore, it is necessary to discuss the characteristics of "Internet plus" engineering normal college students' psychological resilience and improve their psychological resilience [4].

Psychological resilience also known as "recoverability", "compressive elasticity", "resistance", "toughness" and so on.[5] According to Masten (2001)[1]: psychological resilience is a good outcome after experiencing a serious threat to adaptation or development, including recovering from traumatic experiences, overcoming all kinds of stress in life, and successfully coping with all kinds of stress in life. Yao Xiaoyan (2012)[2] holds that psychological l resilience is a relatively stable trait or ability. Bai Yaoqiao (2018)[3] regards psychological resilience as a positive and develop-able ability of individuals to cope with external stress. Xia Qiang (2012) [4] pointed out that psychological l resilience is usually present when the individual is under stress or predicament, this relatively stable and positive psychological quality can also promote the individual's positive adaptation, and has an important relationship with the individual's mental health. As a matter of fact, psychological l resilience has become an important indicator of a person's mental health. In a word, psychological resilience is the ability of individuals to recover quickly when they face stress and frustration. [6-10]

2. An Analysis of the Characteristics of the Students in the Engineering Normal College

2.1 Research Object
In this paper, 320 undergraduate students from Jilin Engineering Normal University were selected to participate in the study, including 130 males and 190 females, 151 Arts and History majors, 169 Science and Technology majors, 147 students in urban areas and 173 students in rural areas. There are 156 only children and 164 non-only children. Details are given in Table 1.

2.2 Research Tool
The Psychological resilience Scale Chinese Adolescent (RSCA), compiled by Hu Yueqin and Gan Yiqun (2008) [5] was composed of 27 subjects. The 5-grade score and 1-5 represented the degree from completely unconformable to complete concordance, which was divided into goal focus, emotional control, interpersonal assistance, family support and positive cognition, The Cronbach's α of the RSCA in this study is above 0.8.

| Groups             | No. | Percentage |
|--------------------|-----|------------|
| Gender             |     |            |
| male               | 130 | 40.6       |
| female             | 190 | 59.4       |
| Major              |     |            |
| Science            | 169 | 52.8       |
| Arts and History   | 151 | 47.2       |
| Place of source    |     |            |
| Urban              | 147 | 45.9       |
| Rural area         | 173 | 54.1       |
| only child or not  |     |            |
| Yes                | 156 | 48.8       |
| No                 | 164 | 51.2       |

2.3 Research Procedure
The questionnaire is distributed through the network and the site. The effective questionnaire determines that the two dimensions of the "Fill in the complete degree" and the "answer true degree" are the standard. If there are more than one question without the answer, the answer has the obvious reaction tendency, and the answer time of the network questionnaire is obviously shorter, the
questionnaire is directly submitted. SPSS24.0 was used for data processing and statistical analysis.

2.4 Research Results

2.4.1 General Situation of Psychological Resilience of Engineering Normal College Students

**Table 2.** General situation of psychological resilience of Engineering normal college students

| No. | Min. | Max. | Mean | SD  |
|-----|------|------|------|-----|
| Target focus | 320 | 5 | 25 | 17.23 | 3.578 |
| Emotional control | 320 | 6 | 30 | 19.37 | 4.318 |
| Positive cognition | 320 | 6 | 20 | 14.48 | 3.106 |
| Family support | 320 | 11 | 30 | 21.11 | 3.870 |
| Interpersonal assistance | 320 | 6 | 30 | 20.10 | 4.240 |
| Total Score | 320 | 57 | 133 | 92.30 | 12.873 |

The results as shown in Table 2 show that the general education of the engineering normal college is at a moderate level and is more optimistic.

2.4.2 Characteristics of Psychological Resilience in Engineering Normal College Students

2.4.2.1 Gender Differences in Psychological Resilience of Engineering Normal College Students

**Table 3.** Gender Differences in Psychological Resilience of Engineering Normal College Students

| Gender | No. | Mean | SD  | t    | P   |
|--------|-----|------|-----|------|-----|
| Target focus | male | 130 | 16.89 | 3.755 | -1.378 | .169 |
| | female | 190 | 17.45 | 3.443 | | |
| Emotional control | male | 130 | 19.59 | 4.568 | .755 | .451 |
| | female | 190 | 19.22 | 4.143 | | |
| Positive cognition | male | 130 | 14.15 | 3.369 | -1.615 | .107 |
| | female | 190 | 14.72 | 2.899 | | |
| Family support | male | 130 | 20.46 | 3.900 | -2.509 | .013 |
| | female | 190 | 21.56 | 3.796 | | |
| Interpersonal assistance | male | 130 | 19.77 | 4.085 | -1.166 | .245 |
| | female | 190 | 20.33 | 4.339 | | |
| Total Score | male | 130 | 90.86 | 12.286 | -1.654 | .099 |
| | female | 190 | 93.28 | 13.203 | | |

Notes: *p<0.05, **p<0.01

Through the t-test on the gender category of psychological resilience of engineering normal college students, the results are as shown in Table 3: there is no gender difference in psychological resilience of engineering normal college students, and there is no significant difference between male and female students.

2.4.2.2 The Difference of Psychological Resilience in Major of Engineering Normal College Students

The results are as shown in Table 4: there is no professional difference between the students of the Engineering Normal College, and there is no significant difference between the students and the students of science and technology.
Table 4. The Difference of Psychological resilience in Major of Engineering Normal College Students

| Major                       | No. | Mean   | SD     | t    | P     |
|-----------------------------|-----|--------|--------|------|-------|
| Target focus                |     |        |        |      |       |
| Science                     | 169 | 17.47  | 3.502  | 1.315| .189  |
| Arts                        | 151 | 16.95  | 3.653  |      |       |
| Emotions control            |     |        |        |      |       |
| Science                     | 169 | 19.63  | 4.026  | 1.146| .253  |
| Arts                        | 151 | 19.08  | 4.618  |      |       |
| Positive cognition          |     |        |        |      |       |
| Science                     | 169 | 14.38  | 3.045  | -.643| .521  |
| Arts                        | 151 | 14.60  | 3.179  |      |       |
| Family support              |     |        |        |      |       |
| Science                     | 169 | 21.17  | 3.878  | .289 | .773  |
| Arts                        | 151 | 21.05  | 3.874  |      |       |
| Interpersonal assistance    |     |        |        |      |       |
| Science                     | 169 | 19.97  | 4.004  | -.592| .554  |
| Arts                        | 151 | 20.25  | 4.499  |      |       |
| Total Score                 |     |        |        |      |       |
| Science                     | 169 | 92.63  | 12.441 | .485 | .628  |
| Arts                        | 151 | 91.93  | 13.373 |      |       |

Notes:*p<0.05, **p<0.01

2.4.2.3 The Difference of Psychological Resilience among Engineering Normal College students on the Place of Student Source

The t-test was carried out for the psychological resilience of engineering normal college students over the place of students source. The result is as shown in Table 5: there is no difference in psychological resilience between engineering normal college students and rural students, and there is no significant difference between urban students and rural students.

Table 5. The Difference of Psychological resilience among Engineering Normal College students on the Place of Student Source

| Place of source | No. | Mean   | SD     | t    | P     |
|-----------------|-----|--------|--------|------|-------|
| Target focus    |     |        |        |      |       |
| Urban           | 147 | 16.98  | 3.568  | -1.131| .259  |
| Rural area      | 173 | 17.43  | 3.583  |      |       |
| Emotional control|     |        |        |      |       |
| Urban           | 147 | 19.27  | 4.250  | -.406| .685  |
| Rural area      | 173 | 19.46  | 4.385  |      |       |
| Positive cognition|     |        |        |      |       |
| Urban           | 147 | 14.37  | 3.139  | -.585| .559  |
| Rural area      | 173 | 14.58  | 3.084  |      |       |
| Family support  |     |        |        |      |       |
| Urban           | 147 | 20.77  | 4.056  | -1.467| .143  |
| Rural area      | 173 | 21.40  | 3.691  |      |       |
| Interpersonal assistance|     |        |        |      |       |
| Urban           | 147 | 19.73  | 4.315  | -1.435| .152  |
| Rural area      | 173 | 20.42  | 4.162  |      |       |
| Total Score     |     |        |        |      |       |
| Urban           | 147 | 91.12  | 13.694 | -1.507| .133  |
| Rural area      | 173 | 93.29  | 12.084 |      |       |

Notes:*p<0.05, **p<0.01

2.4.2.4 The Difference of Psychological Resilience between Engineering Normal College students on whether they are only Children or not

Through the t-test on whether psychological resilience is an only child or not, the result is as shown in Table 6: there are significant differences in positive cognition and total score of psychological resilience in engineering normal college students, and there is a significant difference in positive cognition and total score of psychological resilience in engineering normal college students. The only child is significantly lower than the non-only child.
3. Analysis of Result

3.1 General Situation of Psychological Resilience of Engineering Normal College Students
The psychological resilience of engineering normal college students is generally in the middle-level and upper level, and it is more optimistic. This shows that the engineering normal college students' social adaptation is good, they can pass through smoothly when they meet with stress and setbacks.

Table 6. The Difference of Psychological resilience between Engineering Normal College Students on whether they are only Children or not

| Target focus          | Only child | No. | Mean   | SD     | t      | P     |
|-----------------------|------------|-----|--------|--------|--------|-------|
| Yes                   | Yes        | 156 | 16.89  | 3.568  | -1.633 | .104  |
| No                    | No         | 164 | 17.54  | 3.569  |        |       |
| Emotional control     | Yes        | 156 | 19.16  | 4.458  | -.855  | .393  |
| No                    | No         | 164 | 19.57  | 4.183  |        |       |
| Positive cognition    | Yes        | 156 | 14.09  | 3.049  | -2.230 | .026* |
| No                    | No         | 164 | 14.86  | 3.123  |        |       |
| Family support        | Yes        | 156 | 20.74  | 4.027  | -1.668 | .096  |
| No                    | No         | 164 | 21.46  | 3.693  |        |       |
| Interpersonal assistance | Yes      | 156 | 19.89  | 4.175  | -.872  | .384  |
| No                    | N0         | 164 | 20.30  | 4.305  |        |       |
| Total Score           | Yes        | 156 | 90.78  | 13.464 | -2.072 | .039* |
| No                    | N0         | 164 | 93.74  | 12.151 |        |       |

Notes:*p<0.05, **p<0.01

3.2 Characteristics of Psychological Resilience in Engineering Normal College students

3.2.1 Gender differences in psychological Resilience of Engineering Normal College students. There is no significant difference in the gender of the students from the engineering normal college. The traditional idea is that girls are more delicate, may encounter problems and have poor psychological resilience, but in fact, as people's attitudes change, women and men become more and more equal, and girls become as strong as boys and have a certain degree of resistance to stress, so there was no significant difference in psychological resilience between boys and girls.

3.2.2 The Difference of Psychological Resilience in Major of Engineering Normal College students. There is no significant difference between the Arts and History students and the science and technology students. First, universities pay more and more attention to the mental health of college students, and it is generally open to all the professional mental health education courses and career planning guidance courses, and the mental health topic activities are held regularly to improve the psychological quality of the college students. Second, after the college entrance examination, Chinese college students have strong compressive ability and psychological resilience, which makes them adjust and recover in time, although there are some difficulties and setbacks after entering school, they have a certain flexibility. Third, with economic globalization, any profession is full of competition, so individuals can only accept challenges and have some psychological resilience.

3.2.3 The Difference of Psychological Resilience among Engineering Normal College Students on the Place of Student Source. There is no significant difference in psychological resilience between urban and rural college students, which may be closely related to the tasks they face in life and contact, but not significantly different from regional differences. With the integration of towns and the rapid development of the Internet, the gap between urban and rural areas is becoming smaller and
smaller. Access to information, communication and communication between people become more and more smooth, therefore, there is no obvious difference in psychological resilience status between urban and rural college students.

3.2.4 The Difference of Psychological Resilience between Engineering Normal College Students on whether They are only Children or not. The only-child college students of engineering are significantly lower than the non-one-child in the positive cognition and the total score. The only child is often associated with some negative words, such as selfishness, lack of sense of responsibility, suffering, and so on. Non-only children because the family is not a child, usually to share, to take care of brothers and sisters, responsible and responsible. Therefore, in the event of difficulties and setbacks, the only child compared with the non-only child, vulnerable, poor compressive capacity, psychological resilience on the whole lower.

4. Strategies to improve the psychological resilience of "Internet plus" Engineering Normal College Students

Based on the analysis the characteristics of psychological resilience of engineering normal college students, we find that the psychological resilience of engineering normal college students is in good condition and the level of mental health is relatively high, but a small number of engineering normal college students do not have a high level of psychological resilience, they are easy to go to extremes when things happen. Due to the rapid development of the Internet, on the one hand, college students enjoy the information, entertainment and convenience brought by the Internet. On the one hand, when they encounter stress and frustration events, they choose to use the Internet to escape and retreat. Therefore, it is also imperative to promote the psychological resilience of engineering normal college students in the "Internet plus" era.

4.1 Social Level

The Society should publicize more inspirational stories of positive energy and less negative energy and negative events on the Internet. In this way, the engineering normal college students will be positively influenced for a long time, and they will firmly believe that as long as they are willing to work hard and overcome difficulties, they will be sure to succeed. With this belief, engineering normal college students will naturally improve the psychological resilience. Moreover, it is also necessary to establish a strong social network support system for all levels of society to provide a strong guarantee for the improvement of the mental health level of the students in the engineering normal colleges.

4.2 School Level

Campus is the most direct and the most critical place to influence the psychological resilience of college students. In order to improve the psychological resilience, school of engineering normal college students, it is necessary to give some direct and effective help to college students. First, to establish the Internet platform of psychological assistance, to teach students some ways to cope with the stress of daily life, to provide the students with the necessary psychological counseling and guidance. Second, to set up some mental health network courses to enhance students' psychological outlook and learn some necessary psychological knowledge to help students find and prevent psychological problems, and improve students' flexibility in dealing with frustration situations to solve problems effectively. Third, the school regularly held some psychological health lectures and diversified activities to improve the psychological quality of students.

4.3 Family Level

4.3.1 Establish good Parent-child Relationship between Parents and Children to Strengthen Emotional Communication. Parents should treat their children in the correct way of upbringing, can give psychological support to their children when they encounter setbacks and stress events, and can
lead by example to set a good example for their children to deal with setbacks correctly. As the development of the network technology, it is easy to communicate between the parents and the children, the children should actively communicate and communicate with their parents and understand the difficulties of their parents when they are tending them.

4.3.2 Building a Harmonious Family Environment. There is no doubt that a harmonious family environment and atmosphere play an important role in the physical and mental health of the college students. If parents have a good relationship in a harmonious family atmosphere, college students' psychological resilience will be high. On the contrary, if the relationship between parents is not good, it will have a bad influence on the mental health of the college students, so as to reduce the college students' ability. Therefore, the establishment of a harmonious family environment can help college students to form a correct cognitive outlook and correct problem-solving methods, and learn to effectively deal with stress and setbacks to enhance psychological resilience.

4.4 Personal Level

4.4.1 To Improve the Ability of the Students to Face Setbacks and Deal with the Problems of Engineering Normal College. When faced with the setback, the stress event, the engineering normal colleges should take some positive coping style, for example, with some useful sports, let oneself release the stress. Adjusting the cognition of things and maintaining a good mood will also improve the ability of college students to deal with problems, and then improve the psychological resilience of college students.

4.4.2 Create a good Interpersonal Relationship. Good interpersonal relationships can make it easier for college students to get personal, group and social support and help. When faced with frustration and stress, college students can overcome difficulties more easily and improve psychological resilience with strong power.

4.4.3 Improving the Ability of College Students to Use the Internet in a Correct Way. In the information age, college students should correctly use the Internet to serve themselves. When facing setbacks, college students should be able to use the network to decompress themselves correctly and improve their psychological resilience. For example, we can express own negative emotions and defuse stress situations through Weibo, WeChat and other ways.

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