



Investigation and Analysis of Medical Students' Sense of Alienation

Xiaoyun Tao^{1,2} Shang Li^{1*} Juan Ma¹ Mingming Zhou³

¹ Youjiang Medical University for Nationalities, Baise Guangxi 533000, China.

² Philippine Christian University Center for International Education, Manila, 1004, Philippines.

³ Student of Youjiang Medical University for Nationalities, Baise Guangxi 533000, China.

* Corresponding author: Li Shang

Email: Xiaoyun Tao 253314579@qq.com, Shang Li Psychli@ymcn.edu.cn,

Juan MA 471500431@qq.com, Mingming Zhou 2471982234@qq.com.

Abstract: In order to investigate the current situation of alienation among medical students, this study adopted the convenience sampling method to select students from a medical university in Guangxi, China as the research objects and measured the alienation level of medical students through the General Information Questionnaire and the Adolescent Alienation Scale. Results: ① The overall level of medical students' alienation was low, nevertheless social alienation and environmental alienation were slightly higher than interpersonal alienation. ② In the context of the coronavirus pandemic, medical students have a high sense of alienation and meaninglessness in their living environment. However, meaninglessness is the highest in the dimension of social alienation, loneliness is the highest in interpersonal alienation, and living environment alienation is the highest in environmental alienation. The alienation level of boys is slightly higher than that of girls. ③ Grade, family economic level, and whether children from One Child Families are the important factors affecting the alienation of medical students. The change of medical students' sense of alienation, interpersonal alienation, environmental alienation, and social alienation shows a parabolic trend in grade, and there is an inflection point in the junior year, with a high level of alienation and alienation in all dimensions. Poverty-stricken students and children from One Child Families have a high level of alienation, so mental health education in the medical university should be attached great importance.

Keywords: medical students, alienation, current situation.

Introduction

The sense of alienation refers to the sense of social isolation, uncontrollability, unconsciousness, oppression and restraint, oneself alienation and other negative emotions that occur between individuals and their surrounding people, society, nature and their own relationships due to the alienation, even domination and control of normal relationships (Xiao Su, 2018) ^[1]. It mainly refers to the psychological powerlessness, alienation, and indifference of social members, emphasizing the subjective psychological feelings and experiences of individuals (Li Qiaoling, 2014) ^[2], which is a kind of degrading emotion. The level of alienation affects the mental health of college students. Many scholars have studied the overall development characteristics of college students' alienation, and the conclusions are different. Some scholars' studies show that college students' alienation performance is generally good (Li Yanlan & Gao Guohua, 2015) ^[3], but Li Qiaoling's research results show that college students' alienation "The incidence of infection is relatively high" (Li Qiaoling, 2014). So, What is the degree of alienation for medical students with long academic hours and heavy academic pressure? Does their sense of alienation differ based on factors such as grade level, economic status and whether they are only children? The above problems need further analysis and verification.

Objects and Methods

Object of study

[Received 18 Nov 2022; Accepted 28 Nov 2022; Published (online) 31 Dec 2022]



Attribution 4.0 International (CC BY 4.0)

This paper adopts the convenient sampling method, which is easy to implement and low cost, and uses the network questionnaire to carry out cluster sampling on the students of grade 1-4 in a medical college in Guangxi Province. A total of 620 questionnaires were sent out, and 620 questionnaires were collected. Incomplete or regularly answered questionnaires were regarded as invalid and eliminated. According to the analysis of the three pairs in the questionnaire on teenagers' sense of alienation, the questionnaires with two or more pairs of lie detector questions with a score difference of more than 2 points were regarded as invalid and eliminated. After excluding the questionnaires with low answering time, a total of 10 points were eliminated, and 610 valid questionnaires were obtained, with an effective rate of 98.4%. The samples were distributed in different colleges, classes and grades, showing good sample representativeness. According to statistics, the grade distribution of effective questionnaires was 387 in the first grade, 145 in the second grade, 107 in the third grade and 73 in the fourth grade. Since it was an online survey and female students from medical colleges were mostly enrolled, a total of 426 questionnaires were collected for female students and 184 for male students.

Grade		Freshman	Sophomore	Junior Year	Senior Year	Total
Gender	Male	126	35	40	29	184
	Female	261	110	67	44	426
Total		387	145	107	73	610

Table 1: Distribution and Basic Situation of Research Samples

Research Methods

Research tools

General information questionnaire: including gender, student origin, grade, total monthly income of the family, whether the needy students, whether the only child.

Alienation Scale for Adolescents: This study adopts the Alienation Scale for Adolescents (ASAS) developed by Yang Dong, Zhang Jinfu, and Huang Xiting in 2002, which consists of 52 questions and adopts the seven-point scoring method. A higher total score indicates a higher degree of alienation. The scale is divided into two levels and three dimensions, including social alienation, interpersonal alienation, and environmental alienation. Social alienation includes the sense of meaninglessness, the sense of self-alienation, the sense of oppression, and the sense of uncontrollability. Interpersonal alienation includes loneliness, family alienation, and social isolation. Environmental alienation includes nature alienation and life alienation.

Data collection methods

With the approval of relevant departments of the school, questionnaires were distributed to medical students in grades 1-4 through the questionnaire star platform for investigation. Before the investigation, the purpose and significance of the research were clearly informed to the survey subjects. After obtaining informed consent, the survey subjects were asked to fill in the questionnaire by themselves and submit it in time.

Statistical processing

SPSS26.0 statistical software was used for reliability and validity tests, descriptive statistics, t-tests, and variance analyses.

Results

Reliability and validity test of alienation scale

The reliability and validity test of the adolescent alienation scale was conducted, with Alpha =0.978 and half-point reliability: 0.946. The results of the table above show that the reliability of the questionnaire is high and it can well reflect the situation of the subjects. The results are shown in Table 2 below.

Factor	The correlation coefficient between the item and the questionnaire	Homogeneity reliability
Social distancing	0.490 ** - 0.826 ** _ _ _	0.962 ** _
Alienation	0.439 ** -0.832 ** _ _ _	0.928 ** _
Environmental alienation	0.415 ** - 0.737 **	0.880 ** _

Table 2: Reliability test of alienation questionnaire

Descriptive statistics of the subjects

Descriptive statistical analysis was conducted on the demographic variables involved in the study, and the results were shown in Table 3 below.

Demographic characteristics	Category	Number of people	Percentage(%)
Gender	male	1 84	3 0.2
	female	4 26	6 9.8
Place of birth	the countryside	4 46	7 3.1
	town	1 64	2 6.9
	freshman	3 54	5 8
Grade	sophomore	1 18	1 9.3
	junior	9 0	1 4.8
	senior	4 8	7.9 _
Whether the needy student	The needy student	2 60	4 2.6
	Not the needy student	3 50	5 7.4
Whether the Only Child	The Only Child	1 03	1 6.9
	Not the Only Child	5 07	8 3.1

Table 3: Descriptive Statistical analysis of valid subject composition (N=610)

Survey on the alienation of medical students

Alienation and the first-order and second-order factors of alienation are analyzed respectively, and the results are shown in Table 4 below. The mean and standard deviation are the average scores and standard deviations of all subjects in all dimensions, with the highest score being 7, the lowest score being 1 and the middle point being 4.

	Sense of meaninglessness	Self-estrangement	Oppressive sense of restraint	Uncontrollable	Loneliness	Alienation from loved ones	Social isolation	Natural alienation	Living environment alienation	Social alienation	Interpersonal alienation	Environmental alienation	Feeling apart	Gender
Male m	3.33	2.84	3.33	3.26	3.24	2.69	2.93	3.16	3.36	3.19	3.01	3.24	3.14	Male
S D	1.52	1.35	1.54	1.50	1.29	1.35	1.45	1.54	1.64	1.36	1.23	1.46	1.27	
Female m	3.35	2.86	3.28	3.34	3.20	2.66	2.85	3.05	3.37	3.21	2.96	3.18	3.12	Female
S D	1.45	1.23	1.48	1.41	1.22	1.36	1.37	1.54	1.43	1.26	1.18	1.38	1.19	
Total m	3.34	2.85	3.29	3.32	3.21	2.67	2.87	3.08	3.36	3.20	2.97	3.20	3.13	Total

S D	1.47	1.27	1.50	1.44	1.24	1.35	1.39	1.54	1.50	1.29	1.19	1.41	1.22	
-----	------	------	------	------	------	------	------	------	------	------	------	------	------	--

Table 4: The total score of alienation among medical students and the status quo questionnaire of each dimension

As can be seen from Table 4, in the first-order and second-order dimensions of alienation, medical students of different genders scored between 2 and 4 points for each question item of alienation. With 4 points as the cut-off point, it was found that the degree of alienation of medical students was relatively low, and medical students generally experienced less alienation. From the dimension mean score, social alienation, environmental alienation>Interpersonal alienation, on social alienation dimension, sense of meaninglessness > Sense of Incontrol>Sense of oppression and restraint>Sense of self-alienation; on the interpersonal alienation, Sense of loneliness> Social isolation>Alienation of loved ones; on the sense of environmental, Sense of Living Environment Alienation > Sense of natural alienation. In all the second-order dimensions, the sense of alienation, meaninglessness, uncontrollability, oppression, loneliness, and natural alienation of the living environment is relatively high. In terms of gender, male students feel slightly more alienated than female students.

Multivariate analysis of variance of medical students' alienation in terms of gender, grade, place of origin, poverty, or the only child

In order to investigate the sense of alienation experienced by medical students and the differences of each dimension in gender, grade, place of origin, whether needy students or not, and whether the only child or not, explore the influencing factors of medical students' sense of alienation, multivariate analysis of variance was conducted. Through analysis, it is found that the main effect of alienation and each dimension is not significant in gender and origin of students, the main effect is significant in grade, whether needy students or not, and whether the only child or not, and the interaction is not significant. The results are shown in Table 5 below.

	Grade	Student from poor families	Children from One Child Families	Grade* poor student	Grade* only child
Sense of meaninglessness	3.010 *	3.018 _	9.532 **	1.190	0.305
Self-estrangement	1.657	5.286 *	7.333 **	2.934 *	1.349
Oppressive sense of restraint	4.351 **	1.452	12.847 **	0.701	1.411
Uncontrollable	3.408 *	0.494	6.472 *	1.947 _	0.923
Loneliness	3.418 *	3.463	6.925 **	0.419	0.672
Alienation from loved ones	6.188 **	2.416	1.485	1.300	1.819
Social isolation	4.099 **	1.599	9.157 **	0.511 _	1.361
Natural alienation	3.134 *	0.460 _	12.745 ** _	1.449	0.343 _
Living environment alienation	6.402 **	0.891 _	14.425 ** _	1.666	2.124
Social distancing	3.489 *	2.574	10.817 ** _	1.483	1.085
Alienation	4.959 **	3.137	6.726 *	0.681 _	0.862 _
Environmental alienation	4.990 **	0.737 _	15.876 ** _	1.512	0.976 _
Feeling apart	4.402 **	2.588	11.245 **	1.185	1.042

Table 5: Alienation and multivariate analysis of variance on grades, poor students, and only children

The F-test and multiple analysis comparisons of the alienation and second-order factors of medical students in grade level

In order to investigate the specific differences, the grade variable F-test and multiple comparative analyses were conducted on the total dimensions of medical students' sense of alienation. It was found that the medical students from different grades had significant differences in the total score of alienation. In the second-order factor, the difference among social alienation, interpersonal alienation, and environmental alienation is significant. The results are shown in Table 6 below.

	Average value	Standard deviation	F value
Social distancing	3.203	1.247	5.996 ** _
Alienation	2.977	1.195	7.656 ** _
Environmental alienation	3.202 _	1.409 _	8.401 ** _
Feeling apart	3.129 _	1.219 _	7.261 ** _

Table 6: Difference test of alienation and second-order factors among medical students of different grades

After multiple comparative analysis, the results show that the sense of social alienation in freshman year is significantly lower than that in sophomore year, junior year is significantly higher than that in senior year. In terms of interpersonal alienation, freshman year is significantly lower than sophomore, junior and senior year. On the whole, the sense of alienation in the freshman year was significantly lower than that in the sophomore and junior years. The alienation of medical students and the grade development trend in each dimension are shown in Figure 1.

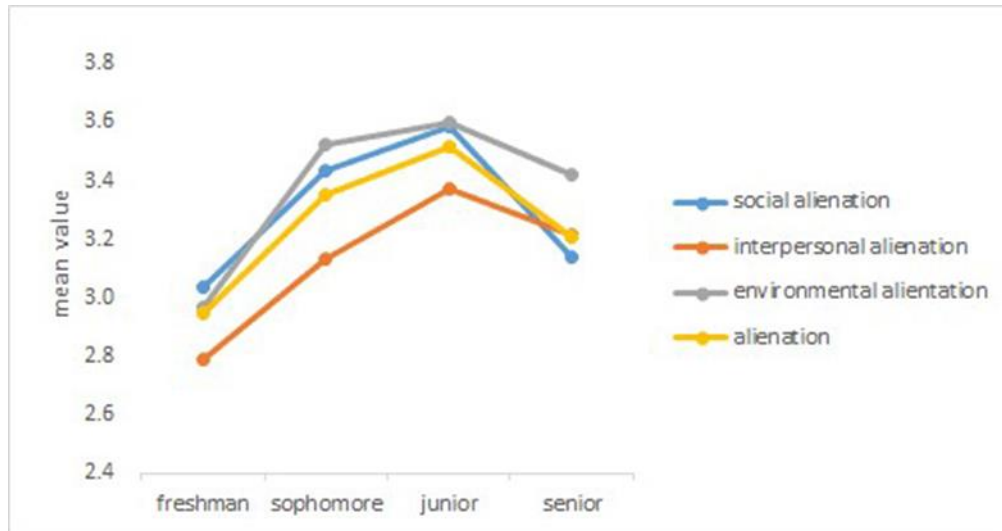


FIG. 1: Medical students' alienation and grade distribution of each dimension

The alienation of medical students and the independent sample T-test of each dimension on the variables of needy students and the only child

In order to investigate the alienation of medical students and the differences of each dimension in the variables of whether needy students or the only child, the independent sample T-test was used to conducting the difference test. The results of statistical analysis show that the total score of alienation and interpersonal alienation of needy students are significantly higher than those of non-needy students. The only child's total score of alienation, social alienation, and environmental alienation was significantly higher than those of non-only children. The results are shown in Table 7 and Table 8 below.

	Needy student	M	SD	Homogeneity of variance		Independent sample	
				f	p	t	p
Social distancing	Yes	3.308	1.265	0.0537	0.465	1.73	0.084
	No	3.125	1.313				

Alienation	Yes	3.117	1.157	1.126	0.289	2.51 *	0.012
	No	2.873	1.215				
Environmental alienation	Yes	3.33	1.366	0.597	0.44	1.92	0.054
	No	3.109	1.435				
Feeling apart	Yes	3.249	1.200	0.249	0.618	2.098 *	0.036
	No	3.040	1.228				

Table 7: Independent sample t-test on alienation and each dimension on whether or not poor students

	The only Child	M	SD	Homogeneity of variance		Independent sample	
				f	p	t	p
Social alienation	Yes	3.473	1.378	0.171	0.679	2.328 *	0.02
	No	3.148	1.272				
Interpersonal alienation	Yes	3.174	1.188	0.675	0.412	1.841	0.066
	No	2.937	1.194				
Environmental alienation	Yes	3.691	1.447	0.44	0.834	3.899 *	0.00 _ _
	No	3.103	1.382				
Feeling apart	Yes	3.409	1.263	0.155	0.694	2.562 *	0.011
	No	3.073	1.204				

Table 8. The independent sample T test of alienation and each dimension on whether or not one child is an only child

Discussion

This study uses sample survey data and statistical analysis to explore the current situation of alienation of contemporary medical students and analyzes the influencing factors of alienation of medical students. The results showed that the overall level of alienation of medical students was low, and the social behavior of medical students was good. The medical students' sense of alienation is significantly different in grades, poor students, and only children. Medical students in junior grade have a higher level of alienation. The poor students' total scores of alienation and interpersonal alienation are significantly higher than those of non-needy students, and the only children's total scores of alienation, social alienation, and environmental alienation are significantly higher than those of non-only children. This indicates that grade, family economic level, and whether the only child is important factors affecting the alienation of medical students.

Medical students' sense of alienation, social alienation, interpersonal alienation, and environmental alienation showed a parabolic trend in grade, which gradually increased in the freshman, sophomore, and junior years, reached a peak in the junior year, and then fell back. The sense of alienation of freshmen is significantly lower than that of sophomores, juniors, and seniors in all dimensions. The junior students are the highest, but the senior students fall back. In terms of overall alienation, freshman year is the lowest, and senior year is lower than sophomore year. In terms of social alienation, freshmen, sophomores and juniors gradually increase, and seniors rapidly decrease; In terms of interpersonal alienation, the rate of decline is relatively slow in senior year; In terms of environmental alienation, there is little difference between sophomores, juniors and senior. The score of alienation level of medical students in their sophomore and junior years was the highest, and the score in freshman year was the lowest. This is different from the conclusion analyzed by Ma Fangyuan (2014) that sophomore students have the highest overall score of alienation and senior students have the lowest score^[4]. According to Li Yanhua and Cheng Ligu (2009)^[5], Hong Kong and mainland students have the highest sense of alienation, which is consistent with Zhou Ling (2019)'s research results that junior students have a higher sense of alienation^[6]. The junior medical students are in the middle stage of university, having spent the freshness and curiosity of their freshman and sophomore years. Facing the coming of graduation and career choice in the fourth and fifth years, there is a certain confusion and hesitation. Moreover, the junior year of medical students is the heaviest period of academic work, and the academic pressure is the greatest. Medical students are faced with the choice of employment, postgraduate entrance examination, standardized training of resident doctors and so

on. The heavy pressure leads to the increased alienation of medical students. In the senior year, after experiencing the confused and lonely period in the junior year, the mentality will be changed and improved, which is specifically reflected in the psychological preparation and expectation for the future, so the degree of interpersonal alienation experienced will be reduced (Zhou Wanting & Lu Yunqing & Han Xiaonan & Ma Liye, 2015)^[7]. In addition, the senior medical students have entered the clinical practice stage, the study place has been transferred from the school to the medical unit, and the people they face have also been transferred from teachers and students to peers and patients. The new learning environment and new interpersonal relationship have made the medical students more curious and passionate, stimulated their interest in active learning and communication, and the level of learning involvement is high, and the sense of alienation is reduced. In addition, senior medical students face the pressure of employment and further study, which forces them to make more contacts and connections with the outside world. In addition, senior students have become more mature psychologically, more rationally when treating things and more calmly on behave, so the sense of alienation of senior students is reduced (Zhou Yaling, 2012)^[8].

Family economic status affects the level of alienation of medical students. The overall level and interpersonal alienation of needy students are significantly higher than that of non-needy students. In the minds of some college students, maintaining a good social network requires a certain financial investment. Students, whose families have a low economic level, may choose to reduce some unnecessary expenses and avoid some unnecessary contacts in order to save money. Over time may form they're own unsociable, catch up with the illusion of fashion, more likely to produce interpersonal communication of inferiority, resulting in increased interpersonal alienation.

From whether the only child or not, the only child has a higher degree of alienation, especially since the sense of social alienation and environmental alienation is significantly higher than the non-only child. I think it has something to do with the environment in which only children grow up. Some of the only child grow up under the protection of their parents. They are too dependent on others and lack the ability to think independently and deal with affairs independently. They have a strong sense of self. However, after entering the university, the people around us are no longer familiar and everything around me is very strange. Even if there are friends, classmates, and teachers around me, I still feel lonely and the sense of environmental alienation increases (Yu Qingguo, 2013)^[9]. Because the only child lack opportunities for peer communication between siblings at home, lack experience in peer communication, and get more care from family elders than the non-only child, they may encounter some difficulties in communicating with classmates at school, resulting in a certain degree of alienation from college life (Dong Juan & Li Chunli, 2014)^[10].

Educational Reflection and Enlightenment

Based on the above analysis and research conclusions, we can get the following educational enlightenments: First, medical students should fully realize the importance and positive effect of social communication and interpersonal interaction on individual mental health and emotional intelligence, promote their communication and interaction with society and others through various ways, and constantly construct their cognition of themselves and society. Middle-grade medical students should be aware of strengthening social behavior while ensuring heavy academic work. Medical students from families with low economic status need to change their perception of social interaction, which is not necessarily based on economic ability but can be enhanced through more meaningful social activities (such as physical exercise, and reading together) with lower economic expenditure. Medical students who come from One Child Families need to realize the importance and necessity of peer communication, get out of the family, and participate in peer communication activities for equality and mutual assistance. Second, medical colleges should focus on juniors (Lin Xiaoqun, Ma Qiang, 2011)^[11]. Group consultation or individual counseling can be used to help juniors to relieve academic pressure, make a timely choice of graduation destination, and get out of confusion as soon as possible. Thirdly, for students from poor families, at the family level, we should try our best to create good material and spiritual communication conditions, give better play to the function of family support, and support medical students to participate in more meaningful and valuable communication activities. On the one hand, medical colleges and universities can provide financial assistance to poor students through various channels, on the other hand, they should also give more spiritual care to guide students to be self-dependent. Fourth, for the only child, parents should pay attention to their child's interpersonal communication, create more environment conducive to improving their interpersonal communication level, and cultivate their ability to communicate independently (Zhou Wanting, Lu Yunqing, Han Xiaonan, Ma Liye, 2015)^[12]. Schools can carry out rich community activities, regular mental health lectures, and improve the mental health counseling mechanism (Liu Fang, 2008)^[13]. Finally, medical colleges should guide medical students to put time and energy in the communication between teachers and students, so that more meaningful activities become their goals. Organize more meaningful communication activities, improve students' participation, enhance the school's sense of belonging for medical students, make the school become the harbor of the heart of medical students, psychological enrichment, and less sense of distance.

Conclusion

Grade, family economic level and whether the only child or not are important factors affecting medical students' sense of alienation. Medical students themselves should be fully aware of the importance of social communication to their physical and mental health and social adaptation and take an active part in social communication. At the family level, conditions should be created to provide financial support for medical students' interpersonal communication. The only child families should pay more attention to children's social interaction behaviors and actively promote children's interpersonal interaction. Medical colleges should pay attention to the interpersonal communication of three types of medical students from different grades, poor family economic level and the only child families, build more platforms to promote their social communication, and provide corresponding psychological services according to the different characteristics of different groups of medical students. Relevant departments should work together to build a social service system integrating medical students, families, schools and society.

Acknowledgment: We acknowledge the support of 2020 Youjiang Medical College for Nationalities university-level project: Current Situation of Medical students' Social Alienation and its relationship with Neglected Experience and perceived Social Support (yy2020sk002); We also acknowledge the support of Theory and Practice of Ideological and Political Education for College Students in Guangxi 2020 Research Topic: Study on Professional Identity of college Counselors with higher Degrees in Western Minority Areas (2020LSZ088); We also acknowledge the support of 2021 Guangxi Higher Ideological and Political Education Outstanding Talents Program(No. RZ2100001430); We also acknowledge the support of 2022 Guangxi Higher Ideological and Political Education Outstanding Talents Program(No. RZ2100002115); We also acknowledge the support of Youjiang Medical College for Nationalities 2022 Counselor Special Project: Study on Mental health Status, Family Influencing Factors and Intervention of Medical students (Fdy2022B14).

REFERENCES

- [1] Xiao Su. (2018). A Review of the Research on Alienation of College Students in China. *Modernization of Education*, 5(01):p.307-308+317.
- [2] Li Qiaoling.(2014). Analysis on the Alienation of College Students. *Industry and Technology Forum*, 13(17):p.78-79.
- [3] Li Yanlan, Gao Guohua.(2015). An analysis of alienation characteristics of college students with left-behind experience. *Journal of Yichun University*, (11):p.119-124.
- [4] Ma Fangyuan. (2014). Investigation and analysis of College students' sense of alienation. *Journal of Aerospace Medicine*, 25(11):p.1491-1492.
- [5] Li Yanhua, Cheng Liguo.(2009). *Chinese Journal of Health Psychology*. (6): p.726-729.
- [6] Zhou Ling(2019) . Empirical Research on Alienation of College Students. *School Party Construction and Ideological Education*, (14): p . 88-90 .
- [7] Zhou Wanting et al . (2015). Research on the relationship between college students' alienation and family rearing styles. *Science and Education Wenhui (Mid-day Journal)*, (03): p. 149-152 .
- [8] Zhou Yaling.(2012). Research on the relationship between college students' alienation, family function and personality characteristics, *East China Normal University*. P. 57.
- [9] Yu Qingguo.(2013). Investigation on the Current Situation of College Students' School Alienation. *Jinhua Vocational Technical Academic Journal*. (12): p.20-25.
- [10] Dong Juan and Li Chunli.(2014). Investigation and Research on College Students' School Alienation. *Value Engineering*, 33(14): p. 273-274 .
- [11] Lin Xiaoqun, Ma Qiang.(2011). Research on the Current Situation and Characteristics of College Students' Interpersonal Alienation. *China Electric Power Education*, (10): p.179-180.
- [12] Zhou Wanting, Lu Yunqing, Han Xiaonan, Ma Liye.(2015). Correlative research on college students' alienation and family rearing style. *Science and Education Wenhui*, 3 (in): p.149-152 .
- [13] Liu Fang.(2008). Investigation and Research on the Current Situation of Alienation of Medical University Students. *Southwest University*. p.22-23.