



The Influence of Adult Attachment on Mental Health among Medical Undergraduates

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ABSTRACT

Objective To explore the present status of adult attachment and mental health, and analyze the impact of adult attachment on mental health among medical undergraduates. **Methods** Stratified random sampling was used to select 855 medical undergraduates from Guangdong Province, China. They were investigated with Experiences in Close Relationships Inventory (ECR) and Symptom Check-List 90 (SCL-90). **Results** (1) The scores in the both dimensions of ECR, as well as the total score of SCL-90 were (3.89 ± 0.74) , (3.77 ± 0.55) and (1.87 ± 0.47) , respectively. The scores of obsessive-compulsive and interpersonal sensitivity were above 2.0, the lower score limit of positive symptom. (2) Multiple linear stepwise regression showed that both attachment anxiety and attachment avoidance positively predicted the total score of SCL-90 ($\beta = .302, .280$, all $P < .001$). **Conclusion** The adult attachment and mental health of medical undergraduates need to be improved. Adult attachment may be an important influencing factor of mental health.

Key Words: Medical Undergraduates, Adult Attachment, Mental Health, Influencing Factors, Multiple Linear Stepwise Regression.

Mental health refers to the phenomenon that individuals achieve the best state in physical, intellectual and emotional aspects, they can give full play to their potential and reasonably cope with the normal pressure in life, so as to work productively and make positive contributions to their country and society [1].

Mental health not only has a comprehensive impact on individuals' body and mind, but also has a far-reaching impact on their environment, such as family, school and even the whole society. Poor mental state is a key risk factor for many behavioral and mental problems, such as poor academic or professional development, interpersonal conflict, conduct problems, psychosomatic diseases, obsessive-compulsive disorder, eating disorders, drug dependence, game dependence, schizophrenia and so on. It is also an important reason for the economic burden of global diseases [2].

Adult attachment is a stable tendency of an individual to approach and establish a close emotional connection with the specific object that he (or she) subjectively believes can provide him (or her) with physical satisfaction and psychological security. Adult attachment is the current unconscious memory and internalized psychological representation of the childhood parent-child relationship, which is based on the mother-infant attachment and runs throughout the life [3].

Anxiety and avoidance are two opposing emotions related to attachment. The types of adult attachment are usually defined according to the two dimensions of anxiety and avoidance [3]. Individuals with attachment anxiety as the main characteristics (attachment anxiety) are extremely eager to get the attention and response of the opposition in the attachment relationship, but they do not trust the opposition and are not confident in themselves. Because they are always worried about being rejected, they always seek intimacy from the opposition more violently. Those with avoidance as the main characteristics (attachment avoidance) are more likely to have a negative view of others, trying to keep a considerable psychological distance from others and denying their own need for intimacy in words and deeds. While individuals with safe attachment do not have obvious attachment anxiety or attachment avoidance. They have a positive view of themselves and others, and can be more effective and comfortable in receiving and giving help from others. Different dimensions of attachment can be combined to form four types of adult attachment [4]: safe, infatuated, indifferent and fearful. Safe attachment is the combination of low anxiety and low avoidance. Those with safe attachment have a positive cognitive scheme of both themselves and others. They can accept themselves and think that others are emotionally effective and reactive. Those with infatuated attachment have high anxiety and low avoidance. They have a negative cognitive scheme of themselves and a positive cognitive scheme of others. They feel that they are worthless, while others are strong and powerful, and have excessive requirements for closeness and dependence from others. Those with indifference attachment have low anxiety and high avoidance. They have a positive cognitive scheme of themselves and a negative cognitive scheme of others, so they believe that others are unreliable and attach importance to independence. Those with fear attachment have high anxiety and avoidance. They have a negative cognitive scheme of both themselves and others. They feel that they themselves have neither value nor ability, and others are not trustworthy.

Adult attachment has a profound cognitive and emotional impact on individuals' personality development, mental health, interpersonal relationship (especially the relationship with the opposite sex) and even self-realization [3]. Therefore, its potential impact on individuals may be manifested in adaptation to the environment or various functional pathological types. Except for "somatization", the scores of other factors in Symptom Checklist 90 (SCL-90) of individuals with safe attachment were lower than those of individuals with unsafe attachment [5]; Individuals who are experiencing divorce will experience painful emotions, which is clearly reflected only in individuals with unsafe attachment, and the emotions of those with safe attachment will not be affected by marital status obviously [6]; After bereavement, safe attachment can help individuals get rid of grief faster [7]; In extreme situations threatening survival, safe attachment can reduce the risk of individuals suffering from mental diseases [8]; Safe attachment also helps individuals reduce academic achievement anxiety [9]; and improve subjective well-being [10]. On the contrary, people with attachment anxiety will experience more stress when encountering negative events, and have more loneliness, sadness and anxiety

related to threat [11]. People with attachment avoidance can easily recover their calm mood and life order from major negative events. However, the stability of emotion is only superficial, which is an excessive protection of themselves, and can not completely eliminate the negative emotions. In the face of negative emotional information, the skin electrical conduction of attachment avoidant is enhanced [12] and the cardiac relaxation period is shortened [13], indicating that such information makes him feel pressure. Although he inhibits expression, he actually experiences a high level of anxiety.

To sum up, the previous literature mainly focus community adults, with small samples for convenient sampling and the content focusing on the relationship between adult attachment and specific psychological symptoms, such as the impact of adult attachment on depression, emotional regulation, or interpersonal relationships, etc. There is a lack of research on the relationship between adult attachment and the overall mental health of college students. Therefore, it is impossible to grasp the role of adult attachment on college students' mental health from the macro level, and it is not conducive to the prediction and intervention of related behavioral problems.

Based on the above analysis, this study intends to use a large sample and multi center questionnaire survey to understand the current situation of medical college students' mental health and adult attachment and the relationship between them.

OBJECTS AND METHODS

Objects

Stratified random sampling method was used to select medical undergraduates from 7 colleges in Guangdong Province, including Guangdong Medical University, Medical School of Sun Yat-sen University, Southern Medical University, Guangzhou University of Traditional Chinese Medicine, Guangdong Pharmaceutical University, Medical School of Shantou University and Guangzhou Medical University. A total of 900 questionnaires were distributed, and 855 valid questionnaires were recovered, with an effective rate of 95.0%. There are 447 boys and 408 girls; 160 from Guangdong Medical University, 85 from Medical School of Sun Yat-sen University, 171 from Southern Medical University, 144 from Guangzhou University of Traditional Chinese Medicine, 94 from Guangdong Pharmaceutical University, 77 from Medical School of Shantou University and 124 from Guangzhou Medical University. 222 freshmen, 188 sophomores, 161 juniors, 146 seniors and 138 fifth-year students.

Tools

Experiences in Close Relationships Inventory, ECR

Self-evaluation scale compiled by Brennan et al (1998) [14] and revised by Li Tonggui et al (2006) [15] into Chinese version. There are 36 items, which are divided into two dimensions: attachment anxiety and attachment avoidance. Likert 7-point scoring method is used to score from 1 to 7 points corresponding to "completely disapproval" to "completely approval". The higher the score, the more obvious the tendency of this dimension (item). If the score of a dimension (item) is greater than 4.9, it belongs to a high score; the score of a dimension (item) is greater than 3.5 but less than 4.9, which belongs to the middle level; if the score of a dimension (item) is less than 3.5, it belongs to a low score. In this study, the Cronbach's α coefficients of attachment anxiety and attachment avoidance are 0.821 and 0.807, respectively.

Symptom Check-List 90, SCL-90

Self-evaluation scale compiled by DeRogatis et al (1975) [16] and revised by Chen Huichang et al (1998) [17] into Chinese version. There are 90 items, which are divided into ten factors: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism and additional factors. Likert 5-point scoring method is used to score from 1 to 5 points corresponding to “never” to “serious”. The higher the score, the more serious the symptoms on this item (factor) and the lower the level of mental health. In this study, the Cronbach's α coefficient of total scale is 0.846, and the Cronbach's α coefficients of 10 factors are 0.728 to 0.774.

Self-compiled Personal Information Questionnaire

It includes 9 items, namely, gender, age, grade, origin, college, professional category, only child or not, family economic status, academic achievement, etc..

Data Processing

SPSS 20.0 software is used for statistical analysis. The main statistical methods include descriptive statistics, Pearson correlation analysis and multiple linear stepwise regression analysis.

RESULTS

General situation of adult attachment and mental health of medical students

It can be seen from table 1 that the scores of attachment anxiety and attachment avoidance of this group are greater than 3.5 and less than 4.9, belonging to the middle level [14-15]; The total average score of SCL-90 and the scores of various factors are significantly higher than the norm of college students [18], in which the scores of obsessive-compulsive and interpersonal sensitivity are higher than the lower score limit of positive symptom[17].

Table 1 Descriptive Statistics of Scores in ECR and SCL-90

Dimension	N	M	SD	MIN	MAX
Attachment anxiety	855	3.89	.74	1.83	5.56
Attachment avoidance	855	3.77	.55	2.11	5.55
SCL-90's total average score	855	1.87	.47	1.01	3.02
Somatization	855	1.61	.49	1.00	3.00
Obsessive-Compulsive	855	2.25	.60	1.00	4.03
Interpersonal sensitivity	855	2.21	.61	1.00	3.22
Depression	855	1.85	.55	1.00	3.00
Anxiety	855	1.83	.58	1.00	3.60
Hostility	855	1.65	.52	1.00	3.00
Phobic anxiety	855	1.84	.59	1.00	3.57
Paranoid ideation	855	1.95	.79	1.00	4.17
Psychoticism	855	1.85	.76	1.00	3.50
Additional items	855	1.81	.59	1.00	3.29

Correlation analysis between adult attachment and mental health

It can be seen from table 2 that the correlation coefficient between attachment anxiety and hostility is not significant, and there is a significant positive correlation between attachment anxiety and the total average score of SCL-90 and the scores of the other nine factors ($r=0.093$ -

0.472, all $P < 0.05$); Attachment avoidance is significantly correlated with the total average score of SCL-90 and the scores of 10 factors ($|r| = 0.073-0.500$, all $P < 0.05$).

Table 2 Correlation Analysis between Scores of ECR and SCL-90 (r)

Factor of SCL-90	Attachment anxiety	Attachment avoidance
Somatization	0.313**	0.304**
Obsessive-Compulsive	0.375**	0.324**
Interpersonal sensitivity	0.392**	0.361**
Depression	0.472**	0.298**
Anxiety	0.266**	0.122**
Hostility	-0.018	-0.073*
Phobic anxiety	0.093*	0.195**
Paranoid ideation	0.264**	0.309**
Psychoticism	0.329**	0.500**
Additional items	0.163**	0.162**
SCL-90's total average score	0.374**	0.357**

** $P < 0.05$, ** $P < 0.01$

Multiple linear regression analysis of the effect of adult attachment on the mental health

Taking the total score of SCL-90 as the dependent variable, and the 2 dimensions of ECR as independent variables, a multiple linear stepwise regression analysis is carried out within 95% confidence interval.

From table 3, it can be seen that the scores of attachment anxiety and attachment avoidance are positively correlated with the total average score of SCL-90 ($\beta = .302, .280$, all $P < .001$).

Table 3 Multiple Linear Stepwise Regression Analysis of the effect of Attachment Anxiety and Attachment Avoidance on Total Average Score of SCL-90 (n = 855)

Dependent Variable	Independent Variables	B	SE	β	t value	P value	R ²	R _{adj} ²
SCL-90's total average score	Attachment anxiety	.189	.020	.302	9.593	<.001	.213	.211
	Attachment avoidance	.235	.026	.280	8.886	<.001		

DISCUSSION

The scores of attachment anxiety and attachment avoidance of this group are greater than 3.5 and less than 4.9, belonging to the middle level [14-15]; The total average score of SCL-90 and the scores of various factors are significantly higher than the norm of college students [18], among which the scores of obsessive-compulsive and interpersonal sensitivity are higher than the lower limit of positive symptom [17]. The results of this paper are consistent with the previous research results [18, 19-20], suggesting that the current mental health status of medical students is at a low level among young people of the same age, and their attachment anxiety and attachment avoidance are equivalent to other college students.

This study finds that the correlation coefficient between medical students' attachment anxiety and hostility is not significant, and there is a significant positive correlation between

attachment anxiety and the total average score of SCL-90 and the scores of the other nine factors; Attachment avoidance is significantly correlated with the total average score of SCL-90 and the scores of 10 factors, which is consistent with the research results of Li Tonggui and others [15, 21-22], suggesting that attachment anxiety and attachment avoidance are closely related to all aspects of mental health.

This study finds that the scores of attachment anxiety and attachment avoidance are positively correlated with the total average score of SCL-90, suggesting that the higher the scores of attachment anxiety and attachment avoidance, the more serious the mental health problems. The reason lies in the incorrect construction of self cognitive schema and cognitive schema of others for those with high attachment anxiety or high attachment avoidance [3-4]. The higher the score of attachment anxiety, the more eager individuals are to get attention and response of the other party, but the more they lack trust in the other party and confidence in themselves. They are also often very sensitive to threats and negative experiences, and are easy to amplify the negative feedback of the other party. Because they are always worried about being rejected and seek intimacy from the other party more violently, it is easy to lead to a series of psychological problems with anxiety as the core, such as interpersonal sensitivity, somatization, and so on. The higher the score of attachment avoidance, the more individuals have negative views on others and the more they tend to keep a considerable distance from others and deny their need for intimacy in words and deeds, but their inner (subconscious) still has the need for attachment [4]. In this way, people with high attachment avoidance are often in a state where the superficial words and deeds are inconsistent with the inner needs, and their inner heart is full of contradictions and conflicts, which is easy to lead to various psychological problems (such as depression, anxiety, obsessive-compulsive and other neuroses).

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