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# Designing an Algorithm for Students' Impact on Social Adaptive Behavior in Political Education Context

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**Abstract:** This study aimed to discuss the social adjustment behaviors of university students. The social adjustment behaviors of university students not only relate to their healthy development but also significantly affect social development. The ideological and political education model combines with the impact on social adaptation behaviors of university students. It optimizes the article algorithm design and creates a theoretical model in the field of social adaptation of university students. The article's limitation is that it was made with a sample of 966 subjects. The methodology involved statistical analysis of students' social adaptation status, understanding the average and standard deviation of each dimension and the basic situation of their social adaptation. The average social adjustment index of university students was found to be  $m=3.68$ . Changes were observed in the interpersonal relationships of university students in all dimensions of adaptation to the future, learning adaptation, psychological adaptation, and environmental adaptation before and after graduation. In conclusion, this article depends on the analysis of the current state of students' adaptation to society, the main personal and environmental factors in the life of university students, and based on the results of analysis and research, provides recommendations for relevant improvements.

**Keywords:** Ideological and political education; college students; Social adaptive behavior.

## 1 Introduction

With the Development of the economy and culture, and the fact that our country is in a wave of modernization, various cultural changes in the world are becoming more frequent, and all kinds of social thinking show the characteristics of Development, which has a great impact on the thoughts of university students in Jordan. The concept of ideology, many theorists, agree that, as with other general concepts, ideology challenges universally applicable definitions and that each discipline is best defined in an epistemological context [1,2,3,4]

Ideological and political education in colleges and universities is an important way of communicating the mainstream ideology of society and practicing cultural leadership. In this context, the study of the ideological impact of contemporary social trends on university students emphasizes its important social and practical importance. Therefore, this article provides a systematic and in-depth discussion of the above problems. On the basis of summarizing current research results, the future research direction is proposed [5].

## 2 Materials and Methods

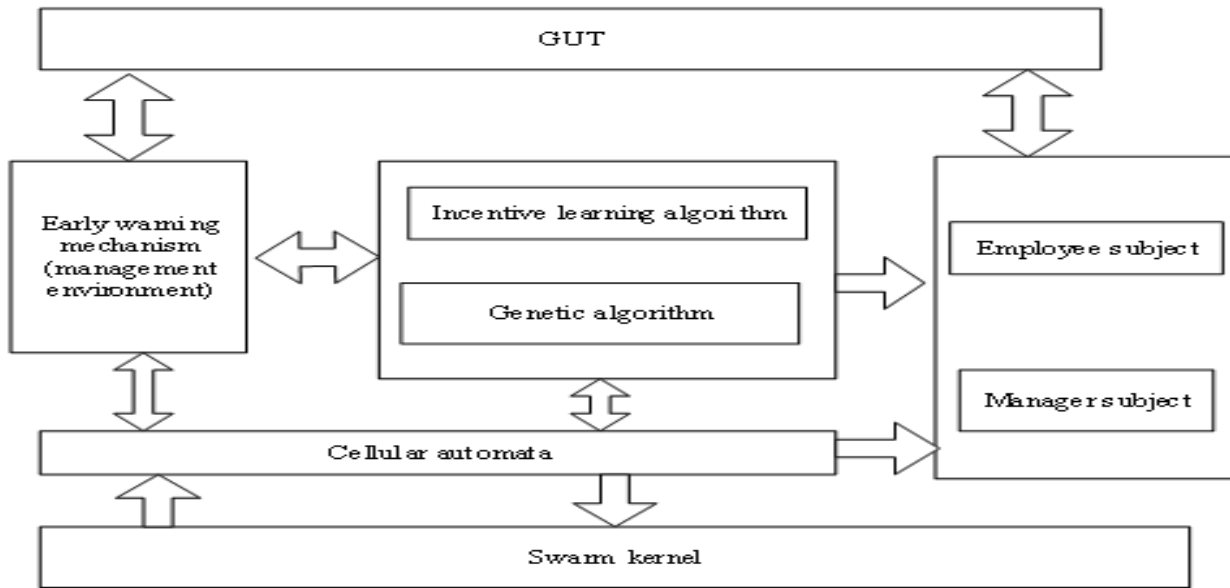
*Influence algorithm of college students' social adaptive behavior*

### 2.1 Influencing factors

College students' social adaptation behavior is the process of college students entering society after graduation and achieving social harmony through interaction with society. There are many factors affecting college students' social adaptation behavior, among which the most important is social life. In order to better help college students adapt to society, this study puts forward the optimization of college students' social adaptation behavior combined with ideological and political education, and calculates its influence degree, so as to strengthen the cultivation of students' social adaptability [6]. The social adaptation of college students mainly includes two aspects: one is the adaptation of college students to school living environment, school learning environment and interpersonal environment in the process of study and life; the second is the connection point between college students and society; the third is the connection point between college students and society [7]. After graduation, college students participate in a series of social activities to realize the role of transformation and social harmony comes true. In order to ensure the effectiveness of the influence algorithm, the

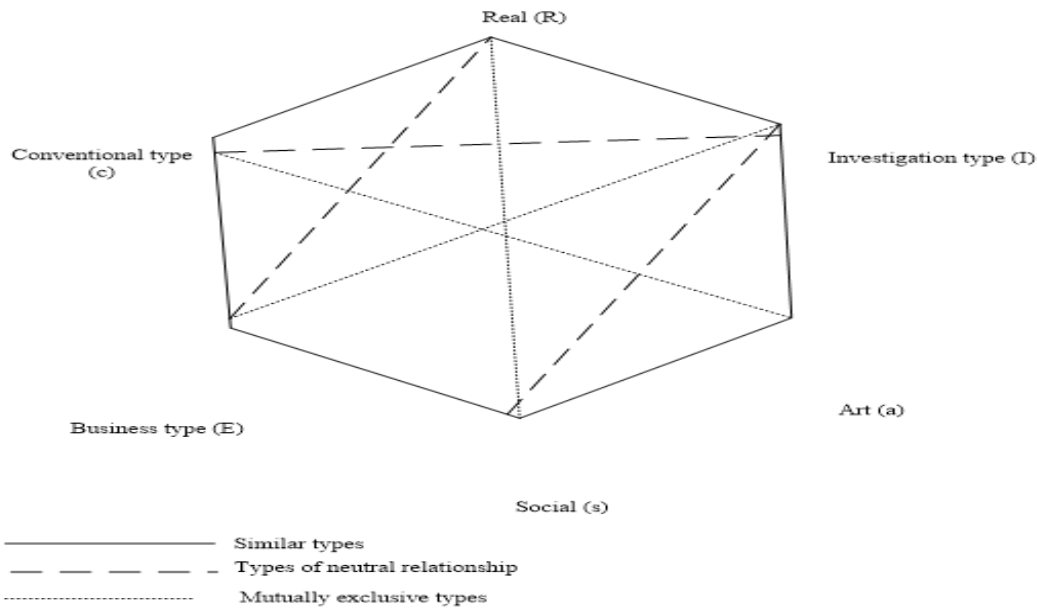
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group simulation platform is used to simulate the group behavior of college students [8]. This study simulates the social adaptation behavior of college students, optimizes the environmental management policy, and establishes the analysis structure of influencing factors of college students' social adaptation behavior, as shown in Figure 1:



**Fig. 1:** The influence structure of social adaptive behavior

Social adaptive behavior refers to the comprehensive ability of college students to live in harmony with the surrounding environment in school and social life [10]. At present, college students' social adaptation is mainly manifested in the following aspects: adaptation to the times, campus adaptation, social adaptation, knowledge-based economy adaptation, market economy adaptation, higher education reform and development adaptation, change adaptation, employment outlook and role change [11]. In order to better improve the social adaptability of college students and help them to have various abilities in the social life environment. This study analyzes the factors and structure of social adaptive behavior, including cognitive ability, independent living ability, learning ability, interpersonal communication ability, coping with frustration ability and practical ability [12]. In order to facilitate the research, the similarity model of social behavior influencing factors is optimized, as shown in Figure 2:



**Fig. 2:** Similarity model of social behavior influencing factors

Based on the above structural similarity characteristics, this study further analyzes the influencing factors of social behavior, focusing on college students' interpersonal communication, self-harmony, self-awareness and coping style of



adaptation						
Interpersonal adaptation	4.58±0.57	4.55±0.63	4.58±0.56	4.60±0.43	0.375	
Total score of adaptation	3.67±0.28	3.66±0.29	3.70±0.27	3.70±0.21	1.326	

Because the structural equation model can detect the complex relationship between independent variables and dependent variables at the same time and allows certain correlations between variables [20·21]. Therefore, on the basis of correlation analysis, this study further uses the structural equation model to study college students' self-identity and social adaptation. The relationship structure of Ideological and political education in college students' social adaptive behavior is established, and the specific structure is as Figure 3:

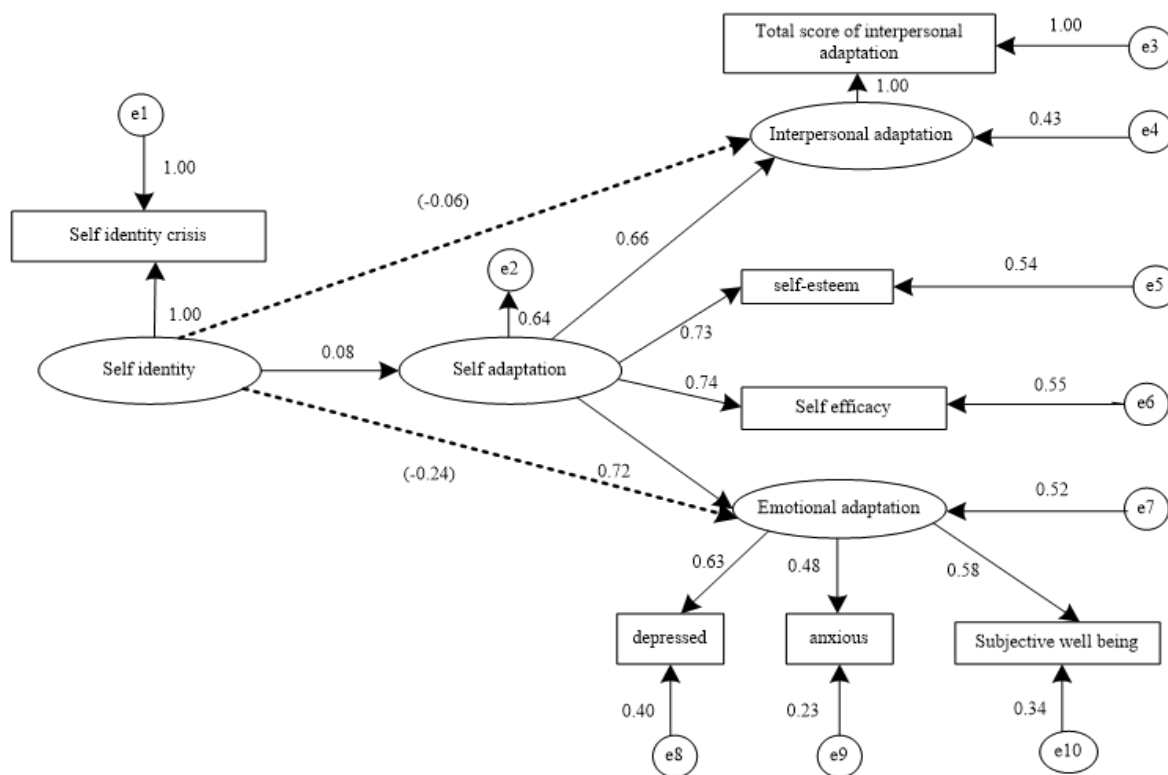


Fig. 3: The relationship between Ideological and political education and social adaptive behavior of college students

Among these factors, self-identity crisis directly affects the adaptation between people and between people and emotions. On this basis, we further eliminate the direct influence path and emotional adaptation path of individuals on self-identity and establish a complete mediation model.

### 2.3 Calculation of social adaptation behavior influence index of college students

According to the social adaptation of college students, people have the following behavioral needs in organizations or groups. The complex behaviors of college students in daily life and work are mainly social adaptive behavior theories formed in the process of self-evolution, which are specifically manifested as individual learning ability, adaptive ability, and group complexity, which are related to the non-linear interaction among college students [22]. The factors that influence the behavior of college students include the external environment and internal environment. The internal environment includes the policy factors of enterprise management and the team environment. It is assumed that the influence demand of college students is X. Under the guidance of ideological and political education, each behavior's demand has three main states: state satisfying demand, probability satisfying demand, and utility satisfying demand. In view of the impact of the uncertainty of random college students' social adaptation behavior, the following mathematical impact analysis model is established:

$$\min \mu_{f_1}(\mathbf{X}), \mu_{f_0}(\mathbf{X}), \dots, \mu_f(\mathbf{X}) \tag{1}$$

$$\Pr \left\{ g_j(\mathbf{X}) \right\} \cdot R_{jt}, j = 1, 2, \dots, q$$

$$\mu_X^L \cdot \mu_X \cdot \mu_X^U \tag{2}$$

In the above algorithm summary,  $X=[x_1, x_2, \dots, x_n]$  is a set of random design variables,  $\mu_{f_1}(\mathbf{X})$  is the expected function of I objective function  $\mu_{f_i}(\mathbf{X})$ ,  $g_j(\mathbf{X})$  is the impact probability,  $R_{jt}$  is the reliability index,  $\mu_X^L$  and  $\mu_X^U$  are lower limit and upper limit of  $\mu_X$ . In order to improve the computational efficiency, the first - order second - moment method is used. By calculating the reliability index  $\beta_{jt}$ . In order to improve the computational efficiency, the first - order second - moment method is used. By calculating the reliability index [23]:

$$\min \mu_{f_1}(\mathbf{X}), \mu_{f_2}(\mathbf{X}), \dots, \mu_{f_m}(\mathbf{X}) \tag{3}$$

$$\beta_{jt} \cdot \beta_j, (j = 1, 2, \dots, q)$$

$$\mu_X^L \cdot \mu_X \cdot \mu_X^U \tag{4}$$

In order to solve the problem of algorithm distortion, the film game model must be further constructed. The game model based on the social adaptation behavior of college students generally includes three parts. Different from the traditional competitive or cooperative game, college students' social adaptation behavior of the dynamic game model fully considers the participants, in the game before the start of a new round of influence, the college students' social adaptation behavior game model of game participants according to the last round of game parameters to adjust their behavior, and then according to the result of game update affect earnings function and target function mapping relationship. In the calculation process, cooperative behavior or competitive behavior model is adopted to carry out game cooperation alliance, and the influence degree of social adaptation behavior of college students is calculated until the convergence criterion is reached. Further, establish college students' social adaptation rule of influence of parameter adaptive behavior: FOSM method, the model of m a target function to analyze influence degree, it is concluded that each value of the objective function of single objective optimization mu, in the first k behavior affect the game, all players use the cooperative game in the form of "cooperation" in the first k + 1 round behavior affect the game, all players in the first game of k + 1 round proceeds are better than the "competition" in the first k round game behavior. For the game parties that adopt the "cooperation" approach, the income influence function can be expressed as:

$$u_i(\mathbf{S}_i) = 1 - \frac{\mu_{f_i}(\mathbf{S}_i) - \mu_{f_i}^*}{\mu_{f_i}^+ - \mu_{f_i}^*} \tag{5}$$

Assuming that n participants participate in cooperative behavior and S is the minimum value of the objective function, the influence function of social adaptation behavior can be expressed as:

$$u_u(\mathbf{S}_n, \dots, \mathbf{S}_1) = \underbrace{u_n(\mathbf{S}_n) \dots u_i(\mathbf{S}_i)}_{\text{product}}$$

$$= \left( 1 - \frac{\mu_{f_k}(\mathbf{S}_n) - \mu_{f_k}^*}{\mu_{f_k}^+ - \mu_{f_k}^*} \right) \dots \left( 1 - \frac{\mu_{f_i}(\mathbf{S}_1) - \mu_{f_i}^*}{\mu_{f_i}^+ - \mu_{f_i}^*} \right) \tag{6}$$

The correction function can be expressed as:

$$u_i(\mathbf{S}_i) = \mu_{f_i}(\mathbf{S}_i) \quad (7)$$

The calculation of the influence degree of social adaptation behavior of college students based on the above algorithm can better guarantee the calculation effect, improve the calculation accuracy, avoid errors and other problems.

### 3 Results and Discussion

#### Analysis of experimental results

In order to verify the effectiveness of the algorithm for the influence of ideological and political education on college students' social adaptation behavior, an experimental investigation and analysis were carried out. It was assumed that college students' behavior was directly related to their hard work. In order to meet the needs of students, college students must adjust their behavior to reflect their industrious behavior. Based on the above analysis, the number of initial states and required initial times of college students were set as 10 and 0.2, the number of required initial times as 0.01, and the probability of variation as 0.3. At initialization time, the utility value of a given demand is randomly generated by the population probability. Kara's simulation space is 50 by 50. Based on swarm and Jbuilder2015 software, the prototype of the system for college students' independent growth was developed, which made them grow spontaneously under the above initial conditions and embodied the overall characteristics of the group. By analyzing the correlation between the overall score of the college adaptation scale and each dimension, the results are as table 3:

**Table 3:** Variance analysis results of the influence of Social adaptation Behaviors in Universities (M±SD)

	Freshman (243)	Sophomore (264)	Junior (217)	Senior (245)	F	back testing
Learning adaptation	3.70±0.42	3.66±0.42	3.74±0.35	3.73±0.36	1.991	
Future adaptation	4.36±0.59	4.36±0.65	4.45±0.58	4.45±0.55	1.979	
Environmental adaptation	2.64±0.24	2.71±0.24	2.67±0.25	2.69±0.20	4.838***	> > >
Psychological adaptation	3.07±0.39	3.04±0.39	3.06±0.40	3.05±0.34	0.293	
Interpersonal adaptation	4.58±0.57	4.55±0.63	4.58±0.56	4.60±0.43	0.375	
Total score of adaptation	3.67±0.28	3.66±0.29	3.70±0.27	3.70±0.21	1.326	

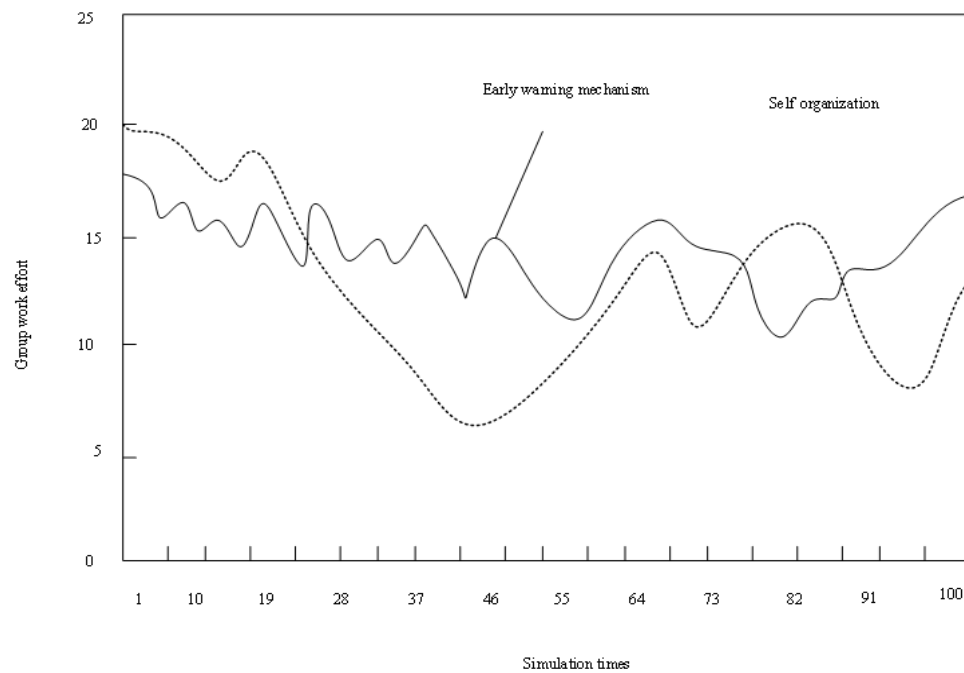
The correlation analysis between the total score of the adaptive scale and each dimension shows that there are significant moderate correlation ( $P < 0.01$ ) and 0.320-0.622 correlation coefficients among each dimension, and there are significant moderate correlation ( $P < 0.01$ ) and 0.640-0.807 correlation coefficients among each dimension. Further analysis of the factors affecting the numerical verification results shows that the following results are obtained.

**Table 4:** Analysis results of factors influencing numerical verification

index	$X^2$	$d_f$	$X^2/d_f$	GFI	CFI	NFI	IFI	RMSEA
All projects	4184.329	1670	2.506	0.928	0.896	0.903	0.898	0.045
Interpersonal adaptation	71.561	21	2.236	0.961	0.960	0.931	0.961	0.059
Learning adaptation	90.539	41	2.208	0.955	0.945	0.906	0.946	0.058
Campus life adaptation	36.785	17	2.164	0.976	0.957	0.914	0.958	0.057
Employment adaptation	47.528	24	1.980	0.971	0.956	0.916	0.957	0.052
Emotional adaptation	77.669	27	2.877	0.956	0.900	0.857	0.902	0.072
Self adaptation	46.528	18	2.585	0.968	0.937	0.904	0.939	0.066
Satisfaction	6.068	5	1.214	0.993	0.996	0.978	0.996	0.024

The traditional method and the method presented in this study are further compared for simulation, and the effectiveness of the two algorithms is compared. The specific test results are shown in figure :4





**Fig. 4:** Comparison of test results

Can be seen from the diagram, in the process of the evolution of the free, under the macro environment, college students is the interactive process of college students and the ideological teaching group behavior, ideological education, some changes have taken place in college students' social adaptation, the implementation of education, therefore, to improve the students' work intensity, the survey also found that, due to ideological education policy, the implementation of the college students' working strength decline. The introduction of talent turnover rate in colleges and universities makes the overall flow of college students easier to analyze and is conducive to the overall management of colleges and universities. It is proved that the above methods can better predict the complexity of college students' group behavior. The results show that this method is more practical.

## 4 Conclusion

The essence of a college education is to promote the socialization of college students so that they can form a certain cognitive structure and concept. However, due to the unbalanced interaction between individuals and the environment, there are also some differences in their psychological level, which are mainly reflected in their cognitive style and emotional experience. Both of them are the inner psychological state manifested by the external optimal social behavior and reflect the degree of socialization and mental health of college students. The discussion on the social adaptation of college students is helpful to better grasp the relationship between cognition and emotion. Social adaptation of college students is the most basic activity of interpersonal adaptation of college students, which is to seek harmony and balance between individuals and people in the interaction between individuals and bad social situations. It is an important chronicle of social adaptation. college students' social adaptation is a process of forming and socializing their self-consciousness, which needs to play a social role. The development of college students' social cognition and its limitations lead to their social cognition deviation and emotional development instability to some extent. The conflict between role and self - consciousness is easy to occur in social communication.

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