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THE INNOVATIVE EXPLORATION AND APPLICATION OF PHYSICS EDUCATION MODEL IN COLLEGES AND UNIVERSITIES FROM THE PERSPECTIVE OF EDUCATIONAL PSYCHOLOGY

Feng Wan, Xuexia Hua, Jinfang Li & Dongshan He

College of Physics & Electronic Engineering, Xianyang Normal University, Xianyang 712000, China

Background: School is an important environment for students to learn and grow, and teachers are the main body of education and teaching. For a long time, scholars have devoted themselves to exploring reasonable and effective education and management methods in school education research to promote the harmonious development of students' academic work and body and mind. For this reason, the leadership behavior adopted by teachers in the process of educating and managing students has attracted the attention of researchers. Some studies have shown that physical behavior in colleges and universities has a certain impact on students' school pressure, peer relationships, and emotional adaptation. This research intends to explore the characteristics of the innovation of college physics education model from the perspective of students and its relationship with students' mental health, in order to enrich the data of the research field of teacher behavior and student development.

This article discusses the characteristics of university physics education model innovation and its relationship with students' mental health from the perspective of educational psychology. A survey of 564 educational psychology in two middle schools in Xiangtan City was conducted using the college physical behavior questionnaire and the mental health scale for middle school students. From the perspective of educational psychology, college physics education model innovation can be classified into three types: democratic, authoritative, and laissez-faire; the distribution of different types in the total sample, school type, and grade is significantly different, and the gender distribution difference is close to significant. Under the vision of college physics education model innovation as a democratic type of students, their mental health level is significantly better than that of students under authoritative and laissez-faire leadership, while under the vision of authoritative and laissez-faire students, their student psychology There is no significant difference in the level of health. The innovation of college physics education model is closely related to the mental health of students.

Subjects and methods: Two classes were randomly selected from a key middle school and a general middle school in a city from the first to third grades as the survey subjects. A total of 603 educational psychology students from 12 natural classes participated in the survey, and finally 564 valid subjects were obtained. Among them, there are 191 in the first grade, 177 in the second grade, and 196 in the third grade; 320 in key middle schools, 244 in ordinary middle schools; 262 boys and 302 girls.

The cognitive psychology questionnaire adopts the “College Students Cognitive Psychology Questionnaire” compiled by the previous research. The questionnaire was compiled in accordance with standard norms, with a total of 61 items, including 5 subscales, including 19 introspective subscales, 11 interpersonal relationship subscales, 9 stress management subscales, and 11 adaptive subscales. General 9 questions on the cognitive subscale. The questionnaire is scored from 1 to 7, which are completely non-conforming, relatively non-conforming, somewhat non-conforming, uncertain, somewhat conforming, relatively conforming, and completely conforming. The higher the score, the higher the level of cognitive psychology. The questionnaire has good reliability and validity, and the internal consistency coefficient of the five subscales is between 0.695 and 0.806.

Study design: Using the Symptom Self-Rating Scale (SCL-90), the scale includes 9 factors such as somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, horror, paranoia, and psychosis, with a total of 90 items. Each item is scored with 5 grades, 1 to 5 points in turn represent asymptomatic to severe symptoms. According to the national norm standard, any factor score of more than 2 points is defined as positive, indicating that there may be mild psychological problems represented by the factor, more than 3 points may indicate more obvious psychological problems, and more than 4 points indicate that there may be Serious psychological problems.

Methods of statistical analysis: The researchers numbered the returned questionnaires, eliminated blank and incomplete questionnaires as invalid questionnaires, and used SPSS 20.0 for data management and statistical analysis.

Results: Taking the student's gender, grade, school type, and leadership mode as independent variables, the total average of students' mental health is divided into dependent variables for multi-factor analysis of variance. The results show that all the two-interaction, three-interaction and four-interaction effects of the leadership model and the other three independent variables are not significant. Gender main effect ($F(1,528) = 1.719, P = 0.190$), grade main effect ($F(2,528) = 0.683, P = 0.506$), school type main effect ($F(1,528) = 0.070, P = 0.791$) None were statistically significant. The main effect of the leadership model is significant ($F(2,528) = 8.803, P = 0.000$). The post-mortem test showed that the score difference between the democratic type and the authoritative type ($P = 0.000$) and the laissez-faire type ($P = 0.000$) was statistically significant, and the difference in the scores of the authoritative type and the laissez-faire type ($P = 0.532$) was not statistically significant.

Take leadership model as the independent variable, and take the scores of the various factors of students' mental health as the dependent variable for MANOVA analysis. It can be seen from Table 1 that the scores of the three types of subjects on all factors of students' mental health show an obvious consistent trend: the authoritative type has the highest score, followed by the laissez-faire type, and the lowest is the democratic type. The post-mortem test found that the authoritative type scored significantly higher than the democratic type on the three factors of compulsion, hostility, and interpersonal sensitivity; on the other seven mental health factors such as paranoia, the authoritative type and the laissez-faire type scored significantly higher. For the democratic type, the difference in scores on all factors is not significant between the authoritative type and the laissez-faire type.

Table 1. Comparison of student mental health in different teacher leadership behavioral mode ($\bar{x} \pm s$).

	Forced symptoms	Bigoted	The enemy	Tension	Depressed	Anxious	Study pressure	Not adapted	Emotional imbalance	Psychological imbalance
Democracy	2.27±61	1.95±70	1.99±85	214±75	1.98±80	2.09±86	2.08±79	2.10±65	2.10±77	1.80±64
Authoritative type	2.46±62	2.26±77	2.22±87	2.34±71	2.25±78	2.47±88	2.61±81	2.31±73	2.57±77	2.34±75
Laissez-faire	2.34±66	2.14±69	2.12±81	2.30±79	2.24±81	2.35±89	2.47±93	2.44±80	2.47±75	2.16±79
F	4.392*	9.583***	3.473**	3.954*	7.941**	9.135**	21.976*	19.894**	20.728**	29.045**

This study found that in the minds of nearly half of the students, teachers can pay attention to democracy in education and management practices, follow good temptations, and moderate tolerance. At the same time, more than half of the students believe that teachers control them too much, or let them go.

The proportion of democratic leaders in the field of vision among girls is significantly higher than that of boys, and the proportion of authoritative leaders is significantly lower than that of boys. Generally speaking, girls are quieter, with delicate feelings, and easier to follow the guidelines; boys are more active and have more adventurous behaviors, which may result in less democratic leadership and more authoritative leadership over boys by teachers.

Conclusions: Under the view of ordinary university students, the proportion of authoritative leaders is obviously more than that of key universities, and the proportion of laissez-faire leaders is obviously less than that of key universities. This may be related to the living environment and quality of students in the two types of schools. From the grade point of view, the proportion of students with democratic leadership in the visual field decreases rapidly with the increase of grade, and the proportion of authoritative leaders in the field of visual field increases with the increase of grade. Studies have shown that the level of self-awareness of freshman students in the behavioral dimension is higher than that of second- and third-year students. In order to protect students' self-esteem and personality development, teachers usually induce their deviant behaviors patiently. With the increase of age, students' self-control ability and learning consciousness have improved. At the same time, the tendency of psychological independence has increased, and the pressure of entering higher education will increase. As a result, democratic leadership has decreased and authoritative leadership has increased.

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ANALYSIS OF DYNAMIC MODELING OF THE EVALUATION SYSTEM OF PHYSICAL EDUCATION TEACHING QUALITY IN COLLEGES AND UNIVERSITIES BASED ON COGNITIVE PSYCHOLOGY

Chaozhi Yang¹ & Zhili Gao²

¹*College of Education, Yunnan Technology and Business University, Kunming 651700, China*

²*Physical Culture Institute, Dianchi College of Yunnan University, Kunming 651700, China*

Background: In cognitive psychology, customer satisfaction is the attitude of satisfaction or dissatisfaction formed by customers after consuming a certain product. Customer satisfaction is the customer's judgment on product characteristics and the degree to which the product meets their needs. It is hierarchical, temporal, subjective and relativity. Customer satisfaction is a measure of customer satisfaction. At present, many countries and regions in the world have developed customer satisfaction models, such as the American Customer Satisfaction Model (ACSI) and the European Customer Satisfaction Model (ECSI).

The product of colleges and universities is education services, and students are their main customers. Therefore, the degree of meeting the needs of students' learning and development should be the main basis for evaluating the quality of college education services. Some scholars have used the concept of corporate customer satisfaction to define the evaluation system. The evaluation system is the subjective evaluation of students' educational experience and gains. The evaluation system is the psychological state produced by comparing the actual perception and expectation of students.

With the help of structural variables such as school image, value perception, quality perception, student expectations, evaluation system, student complaints, and student loyalty, scholars have established higher education evaluation system models. Using the four structural variables of student expectation, quality perception, value perception, and evaluation system, a model of the physical education quality evaluation system was constructed and tested. At present, domestic and foreign scholars have achieved some results in the research of university evaluation system models, but the recognized university evaluation system model has not yet been established. A large number of empirical tests are needed in the selection of model structural variables, observation variable design and modeling methods.

Subjects and methods: This study randomly selects students in equal proportions to accept questionnaire surveys. During the investigation process, the researchers personally handed out the questionnaires to the surveyed subjects, filled in and collected them face to face. A total of 2,052 questionnaires were distributed in the survey, and 2013 were returned. 60 pieces of invalid questionnaires were eliminated (all the answers to the questions were the same option, and the answers were incomplete), and 1953 valid questionnaires were obtained.

The questionnaire compiles 32 questions, corresponding to the observed variables listed in Table 1, and uses five-level scoring to design question options, 1 point means "very inconsistent", 5 points means "very consistent". Then, a pre-survey and reliability and validity analysis were carried out, and the questionnaire was revised accordingly, and the formal questionnaire was determined.

Study design: Sample selection and data collection This study selects two universities in a certain city that are the first to carry out the quality of physical education to conduct a questionnaire survey. Among them, school A is a research university, and school A has a leading position in sports-related research in the country. School B is a teaching-oriented university. Since 2004, it started to provide physical education quality. It has gradually established a school-wide physical education quality system, and its physical education quality model is representative. The subjects of the survey are students who have taken physical education courses in two universities. According to the students' grade, major, and gender distribution, this study randomly selects students to accept questionnaire surveys.

Methods of statistical analysis: This study uses the PLS method to calculate the model. In order to test the reliability and validity of the data obtained, this study uses SPSS19.0 software to analyze the reliability and validity of the questionnaire, uses the Cronbach a coefficient to test the reliability of the questionnaire, and uses the KMO and Bartlett sphere test to analyze the validity of the questionnaire. The results show that the Cronbach a coefficient of each dimension and the overall is greater than 0.7, indicating that the questionnaire has high reliability; the overall KMO coefficient is greater than 0.8, and the Bartlett sphere test Sig. is less than 0.01, indicating that the questionnaire has high efficiency.

Results: This study uses SMARTPLS3.0 software to calculate the common factor (H^2), multivariate correlation square (R^2) and redundancy (F^2). The results are shown in Table 1.

The largest H^2 is the evaluation system (0.769), the smallest is the value perception (0.501), and the overall common factor is 0.628, indicating that the model's structural variable measurement effect is acceptable, and the observed variables have a better predictive ability for the corresponding structural variables. The R^2 of the evaluation system is as high as 0.761, indicating that the proportion of the evaluation