

RISK PREFERENCE OF DATA SCIENCE APPLIED TO INVESTMENT PSYCHOLOGY UNDER COGNITIVE IMPAIRMENT

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Background: According to psychological theory, cognitive disorder is a psychological disorder developed from the perspective of cognitive psychological disorder. Psychological cognitive disorder can be called a neurocognitive disorder. Patients mainly have psychological disorders in problem-solving, perception, memory, learning and so on. In the field of medicine, psychological cognitive impairment is defined as six cognitive impairments: social cognition, complex attention, language, perceptual-motor function, learning and memory, and executive function. Patients usually have a decline in these cognitive abilities, and in severe cases, they can have a brain decline. The disease can be divided into congenital and acquired causes. The main congenital factors are autism such as growth retardation. The acquired factors are mainly HIV, prion diseases, Parkinson's disease, traumatic brain injury, Alzheimer's disease and so on. According to the different types of psychological cognitive impairment, it can be divided into three types in the field of psychology: insanity, mild neurocognitive impairment and severe neurocognitive impairment. Mild cognitive impairment is characterized by wandering, anxiety, depression, forgetfulness, memory and attention loss. Moderate cognitive impairment is characterized by the further aggravation of cognitive ability. Patients can be characterized by large emotional fluctuation, paranoia, anxiety, reduced understanding and language expression ability, and reduced resolution of objective things such as time. Severe cognitive impairment develops further from moderate cognition. Patients show decreased overall function and develop to dementia, which will lead to delusion, indifference, lack of self-care ability and so on.

At present, the research of risk preference in investment psychology is facing great challenges, such as the inability to realize the real integration of financial investment model and business, strong subjective preference in data understanding and so on. Data science is based on professional knowledge, computer and mathematical statistics, and effectively combines the corresponding data to realize big data analysis. The licensing process of data science is to collect, clean, convert and operate data. Data modeling is realized through machine learning and exploratory analysis methods, and finally, data visualization is realized. The common data operation methods are data cleaning and preprocessing algorithms, such as sorting. Through the optimization algorithm of parameter estimation, such as least square method, Newton method and random gradient descent method. Machine learning algorithms for data analysis, such as prediction, analysis, clustering, etc. The application of data science covers many aspects, such as dealing with chaotic data, selecting the best algorithm, adjusting model parameter settings, and obtaining the best interpretation of data results. The integration of data science and investment psychology can realize risk prediction in a quantitative way, including obtaining investment laws through data processing, realizing robustness and feasibility through data algorithms, and realizing intelligent investment advisers. A large number of studies have pointed out that the integration of data science and investment psychology can reduce the symptoms of cognitive impairment, but the degree of improvement has not been confirmed.

Objective: To analyze the effect of data science applied to investment psychology risk preference on patients with mild cognitive impairment, in order to reduce the cognitive problems of cognitive impairment.

Research objects and methods: Patients with mild cognitive impairment in two regions were selected as the research object, and the improvement degree of patients with cognitive impairment was analyzed by classification and regression tree (CART). The evaluation includes four aspects: language ability, recall function, memory ability and orientation. The evaluation results are no improvement, slight improvement and obvious improvement. In order to facilitate the expression of the research results, the results of 50 patients with mild cognitive impairment in each research area were expressed.

Methods: The latest version of JMP Pro15 data statistics software is used to analyze the mitigation effect of data science applied to investment psychology risk preference on patients with cognitive impairment.

Results: Table 1 refers to the effect of data science applied to investment psychology risk preference on the improvement of patients with cognitive impairment. Applying data science to the risk preference of investment psychology, after the intervention of patients with mild cognitive impairment, the cognitive impairment of patients with mild cognitive impairment has been significantly improved, especially in language ability and recall function. Therefore, the risk preference assessment of investment psychology combined with data science can alleviate cognitive impairment and improve the level of scientific cognition.

Table 1. The application of data science in investment psychology and the effect of risk preference on the

improvement of patients with cognitive impairment

Category	No improvement	Slightly improved	Significant improvement
Language ability	1	26	23
Recall function	2	27	21
Memory ability	1	25	24
Directional force	3	26	21

Conclusions: Applying data science to the risk preference intervention program of investment psychology to improve mild cognitive impairment, especially in language ability and recall function. The results provide a new idea for the treatment of mild cognitive impairment.

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ON THE INFLUENCE MECHANISM OF COMMUNICATION ADAPTATION BARRIERS ON COLLEGE ENGLISH CULTURAL COMMUNICATION TEACHING REFORM

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Background: According to the college English classroom teaching requirements (for Trial Implementation) issued by the Ministry of education, the teaching goal of college English teaching course should change the original “using English as a tool to obtain professional information” to “cultivate students’ comprehensive application ability of English, so that they can effectively communicate oral and written information in English”. Accelerating the cultivation of English communication talents is the problem and focus of current education. Under the background of quality education and teaching goal reform, the evaluation of students’ English quality and ability is no longer based on the five abilities to listen, speaking, reading, writing and translation, but pays more attention to the emphasis and cultivation of English majors’ communicative ability and cross-cultural communicative ability. Students’ cross-cultural communicative competence means that students can communicate with international friends smoothly and freely, and have a certain understanding of their language usage habits and cultural background. However, in the current college education, teachers often pay attention to the cultivation of theoretical knowledge and ignore the cultivation of students’ cross-cultural communicative competence, which makes the teaching effect not ideal. For language learning, if it is limited to the learning of words and grammar and ignores the understanding of the internal cultural connotation, the learning effect will only stay on the surface, resulting in the imbalance between language input and output, resulting in students’ lack of humanistic understanding and recognition in the learning process, and then produce communication and adaptation obstacles.

Communication adaptation barriers are the difficulties in opinion exchange and information transmission between people and teams, often including language barriers, conceptual barriers and temperament barriers, and different types of barriers are caused by different information senders, information receivers and information transmission channels. In the adaptive state of language communication, the emotional tendency, expression ability and judgment of the sender of information will affect the integrity of information transmission. The screening and tolerance of information by the receiver of information, psychological obstacles and the perfection of communication channel media and mechanism will also affect the communication, expression and exchange of information. Differences in thinking and cultural background make students have differences in the expression and understanding of the same language in the process of English learning, which leads to problems in the communication process, the decline of expression ability, communication anxiety and even the emergence of “Aphasia”, which affect their learning and life.

Objective: To study and analyze its impact on English cross-cultural communication teaching from the perspective of communication adaptation barriers. Based on the understanding of the current situation of English teaching and students’ communication adaptation barriers, through the innovation of teaching mode and the improvement of teaching scheme, we can alleviate their communication barriers, improve students’ English comprehensive ability and cross-cultural communication ability, and enhance their professional confidence.

Research objects and methods: The study first collected information on the level and current situation