

resources. The empirical analysis shows that, among the agglomeration factors, the regional transportation conditions, external factors, technological innovation ability and the degree of opening to the outside world all have significant effects on the growth of manufacturing industry.

**Conclusions:** Among the cities in the Pearl River Delta, Guangzhou and Shenzhen have the most developed manufacturing industries, and they are also the most seriously affected by the epidemic, and migrant workers have been affected by the epidemic to stop production and work, making their lives much more stressful than locals, lacking a sense of psychological security, and prone to the return of migrant workers. Manufacturing industry in Guangzhou is big and comprehensive, with both traditional manufacturing and emerging intelligent manufacturing taking a place. The manufacturing industry in Shenzhen is specialized and refined, which prefers high-end manufacturing, with modern information industry occupying a unique position. The empirical analysis shows that the agglomeration factor in the new economic geography theory has a major impact on manufacturing industry, while diffusion factor has a relatively weak influence.

**Acknowledgements:** This work was supported by a project grant from 1. National Social Science Foundation Project "Technological Progress Bias, Factor Endowment Heterogeneity and Selection of Regional Technological Catch-up Model in the New Era" (21BJY251). 2. Key scientific research platform and project of institutions of higher learning in Guangdong Province "Regional Integration, Regional Specialization and Industrial Spatial Layout of Pearl River Delta" (2019WTSCX140). 3. "Three Levels" Talent Construction Project of Zhuhai College of Science and Technology.

\* \* \* \* \*

## STRUCTURAL CHANGE OF MANUFACTURING INDUSTRY AND EVOLUTION OF DOMINANT INDUSTRIES IN GUANGDONG-HONG KONG-MACAO GREATER BAY AREA UNDER THE IMPACT OF COVID-19 BASED ON THE PERSPECTIVE OF SOCIAL PSYCHOLOGY

Yang Song

*Zhuhai College of Science and Technology, Zhuhai, Guangdong, 519041, China*

**Background:** The outbreak of COVID-19 at the beginning of 2020 inflicts damages to numerous countries and regions, disturbing enterprise production, people's lives and all walks of life, with economic development hindered and growth rate slowed down. Manufacturing industry, as the pillar industry of the national economy, is also greatly affected. The Guangdong-Hong Kong-Macao Greater Bay Area, an important region for China's opening-up, is open, inclusive and economically active, but is also suffering from the scourge of COVID-19.

**Subjects and Methods:** This paper interviewed various types of enterprises and conducted interviews with employees at all levels to investigate that due to the impact of the new crown epidemic, employees generally have bad emotions such as worry, anxiety, and depression, and employee work efficiency has declined. By calculating the Krugman specialization index of cities in the Guangdong-Hong Kong-Macao Greater Bay Area, this paper analyzes the differences in industrial structure between cities in Hong Kong, Macao and the Pearl River Delta. Location quotient index is used to measure the evolution of the manufacturing industry with a comparative advantage in the Pearl River Delta, and analyze the development of high-end manufacturing industry.

**Results:** Affected by the epidemic, the global economy has slowed down, the mobility of manufacturing workers has declined, the unemployment rate has risen, large-scale layoffs and salary cuts in well-known enterprises have been common, and the sense of psychological crisis of employees has risen sharply. At the same time, with the continuous advancement of artificial intelligence and big data technology, low-end labor is constantly being replaced. The Krugman Specialization Index shows that the industrial structure is quite different between Hong Kong, Macao and Pearl River Delta cities, with a very low proportion of manufacturing and a major shift of labor to the service sector. By comparing the changes of location quotient values of each manufacturing industry in 2000, 2008, 2013 and 2020, it is found that only furniture manufacturing, printing and recording media reproduction industry in the traditional manufacturing industries in the Pearl River Delta still maintain the leading advantage in China, with the location quotient on the rise.

**Conclusions:** Due to human fear of the unknown, the new crown virus not only invades the human body, but also brings great pressure to the human psyche, especially the working class with low income levels and unstable salaries. Most of the traditional advantaged manufacturing industries in the Guangdong-Hong Kong-Macao Greater Bay Area are in a downward trend. Capital intensive manufacturing industries are developing steadily with little fluctuations, while the specialization level of high-tech industries such as equipment manufacturing, automobile manufacturing, computer and communication manufacturing is on the rise. There is a strong correlation between the development of high-end manufacturing industry in each region and the investment of local R&D expenditure and resources.

**Acknowledgements:** This work was supported by projects grant from 1. National Social Science Foundation Project "Technological Progress Bias, Factor Endowment Heterogeneity and Selection of Regional Technological Catch-up Model in the New Era" (21BJY251). 2. Key scientific research platform and project of Guangdong Province "Regional Integration, Regional Specialization and Industrial Spatial Layout of Pearl River Delta" (2019WTSCX140). 3. "Three Levels" Talent Construction Project of Zhuhai College of Science and Technology.

\* \* \* \* \*

## AN EMPIRICAL STUDY ON THE INFLUENCING FACTORS OF ONLINE TEACHING LEARNERS' SATISFACTION IN COLLEGES AND UNIVERSITIES UNDER THE PSYCHOLOGICAL PRESSURE OF EPIDEMIC PREVENTION AND CONTROL

Chuanshuang Hu<sup>1,2</sup>, Ping Zhu<sup>3</sup> & Yongmei Ma<sup>4</sup>

<sup>1</sup>Academic Affairs Office of Chaohu University, Hefei 238000, China

<sup>2</sup>School of Public Affairs, University of Science and Technology of China, Hefei 230026, China

<sup>3</sup>Faculty of Teacher Education, Chaohu University, Hefei 238000, China

<sup>4</sup>School of Mathematics and Big Data, Hefei 238000, China

**Background:** With the complex situation of coronavirus epidemic occurring in many places, the normalization of epidemic prevention and control will become the basic work for a certain period of time and continue to be carried out. Under this background, offline centralized teaching will further shift to the form of online and offline normalization coexistence. In this context, the psychological pressure on students to learn has gradually increased, but also to learn a lot of inconvenient factors. In order to ensure the progress and quality of teaching courses, online teaching mode has gradually been used skillfully by colleges and universities. On the one hand, in the process of online teaching practice, colleges and universities have accumulated valuable experience and achieved good results. On the other hand, because online teaching is also difficult to manage in teaching, teaching interaction and teaching results are difficult to obtain the satisfaction of students. Therefore, this paper analyzes the factors that affect students' learning satisfaction in online teaching.

**Subjects and Methods:** The influencing factors of the questionnaire are designed around online learning satisfaction, and the main factors affecting online learning satisfaction evaluation include: specialty, epidemic impact, online learning experience, learner expectations, learning environment factors, online teaching platform evaluation, technical support factors, learning attitude factors, autonomous learning ability, school teaching organization and management, teachers' online classroom teaching design, teachers' online teaching methods Teachers' online teaching factors, teachers' evaluation, students' psychological pressure factors, teacher-student interaction factors, perceived value, and willingness to continue to use a total of 19 influencing factors. Based on the questionnaire survey of 7561 students, SPSS analysis tools, cross contingency table, analysis of variance and other methods are used to analyze the influencing factors and interactions that affect online teaching, explore scientific methods to improve online teaching effect, and provide theoretical basis for improving teaching quality.

**Results:** The results show that: first, the main factors affecting online learning satisfaction include: epidemic situation, specialty, online learning experience, learners' expectation, continuous use intention, online teaching platform evaluation; Second, different majors have basically the same opinion on "online learning satisfaction"; Third, among the main influencing factors, the "epidemic impact" has no strong correlation with the "online learning satisfaction" results.

**Conclusions:** Through the above research, we can continue to carry out online teaching to provide a basis for improvement, and also provide a reference value for continuous high-quality online Teaching.

**Acknowledgments:** The authors acknowledge the Research Project of Humanities and Social Sciences in Colleges and Universities of Anhui Province (SK2019A0545); Online Important Teaching Research Project of Anhui Province Colleges and Universities (2020zdxsjg234); Teaching Team Project of Chaohu University (ch20jxtd02); Research on the construction of teaching quality culture based on student center in local universities(2020jyxm1266).

\* \* \* \* \*

## EXPLORING THE DEVELOPMENT PATH OF IDEAL AND BELIEF EDUCATION FOR COLLEGE STUDENTS UNDER THE BACKGROUND OF COVID-19 PNEUMONIA

Shanqiu Yi<sup>1,2</sup> & Pan Yao<sup>2</sup>

<sup>1</sup>China University of Geosciences, School of Marxism, WuHan, 430000, China

<sup>2</sup>Xinyang Agriculture and Forestry University, Xinyang, China, 464000, China

**Background:** A large number of heroic events emerged in the course of covid-19 pneumonia, which provided abundant current events for the development of college students' ideal and belief education.

**Subjects and Methods:** Based on the background of covid-19 pneumonia, the present situation of ideal and belief education for college students and the optimization of its path were explored in detail, aiming at starting from the perspective of integration, this paper probes into the concrete application of the content of "War epidemic" resources in the ideal and belief education in colleges and universities.

**Results:** The education of ideal and belief will exert its maximum value only when it is put into practice. As an ideology, the ideological status of the education of ideal and belief is related to the future of the country. With the development of the epidemic, the ideal and belief education of the Chinese nation for 5,000 years has turned into a group of young post-90s college students to be the pioneers of the anti-epidemic and carry forward the great anti-