



The Impact of COVID-19 on Chinese High School Students and College Students

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Abstract. In recent years, COVID-19 has become one of the hot topics concerned by the whole society. It has a significant impact on all humanity, especially students. Therefore, the theme of this paper is the impact of COVID-19 on Chinese high school and college students. Although this problem has attracted significant attention in society, there is still a narrow understanding. This study expands the impact of COVID-19 on students in three aspects to varying degrees. By collecting the existing data, this paper expounds on the three aspects of students' learning style, physical and mental health and the impact of the continuing education plan. The research results show that COVID-19 has both advantages and disadvantages for high school and college students. For beneficial effects, students will have different views on life after such a particular period, understand that human beings are pretty negligible in the face of disasters, and know how to respect and revere life. A long time of study at home has honed students' willpower. These adverse effects, sedentary learning, lack of exercise and long-term use of electronic devices are easy to cause harm to the body. Due to the lack of teachers' supervision, some students' learning efficiency may be reduced.

Keywords: COVID-19 · High school students · Learning style · Health · Future plan

1 Introduction

Since the outbreak of COVID-19 in 2020, significant changes have occurred in students' learning styles, especially high school and college students. From offline teaching to online teaching, the students can only communicate with classmates and teachers across the screen. Home learning has become a usual way of life. Based on this situation, students' learning situations and future learning plans have attracted the extensive attention of scholars. For example, Lixia Gong proposed using an online teaching mode to organically integrate classroom content design and teacher resources [1]. Chunbo Xue put forward the interaction and boundary between online and offline teaching [2]. The article expounds that with the development of the classroom teaching model in the network era, it discusses the similarities and differences between online and offline teaching and summarizes how they learn from each other and interact effectively in practice. Therefore, based on these existing studies, this paper will study the changes in learning anxiety,

learning content, learning attitude, and physical and mental health. The development of continuing education plans of high school students and college students in the learning mode of COVID-19 reveals the changes and development of current young student education, which is conducive to educators to clarify the teaching status and teaching tasks, and put forward relevant teaching strategies; It is for students to improve the quality of online classroom learning while mastering knowledge smoothly.

2 The Impact of COVID-19 on Student's Learning Style

2.1 The Changes in the Learning Environment

China has always adopted offline teaching and teacher-student interaction teaching modes. Since 2020, under the covid-19 pandemic, offline teaching has been transformed into online teaching, and school suspension has been implemented nationwide. With the rapid development of Internet technology, smartphones and 5G network are popular, and live broadcasting can be carried out wherever signals are covered, facilitating online teaching development. Students do not need to wake up early, do not need to dress up for school, and need a computer to complete the task of learning [3]. The learning model of online classes significantly reduces commuting costs and breaks the restrictions of time and geography. Take online classes anytime and anywhere with only a mobile phone or a computer. The implementation of this model promotes the equalization of educational resources in the same area. In offline teaching, it is difficult for students in the same area to enjoy the same resources as prestigious teachers. However, since online teaching is mostly recorded by inviting excellent teachers to record, students can watch the lectures of famous teachers on electronic devices, which optimizes the resources of famous teachers and improves learning efficiency.

At the same time, this way of learning also has some disadvantages. For high school students with excellent learning pressure and intense learning tasks, as well as relatively free college students, online courses limit their freedom of activity to a certain extent. Students can only study in fixed space and position, and less exercise will increase the risk of disease. Online courses are also a test of students' self-discipline. Without the supervision of school teachers, whether students can finish their homework on time, arrange their entertainment time reasonably, and consciously study are all problems that need to be faced. Some older teachers may spend more time on the use of equipment than younger teachers. Although they have rich teaching experience, this problem will affect the efficiency of the class. In addition, online teaching lacks the enthusiasm for interaction between teachers and students. Most online teaching focuses on teachers' speaking and students' listening, and its "teaching-centred" nature has changed to some extent.

2.2 The Changes in the Learning Content

Learning content refers to acquiring knowledge or skills through reading, listening, research, observation, understanding, exploration, experiment, practice and other means. Because online classes use electronic devices for learning, compared with offline classes,

some practical courses, such as science and biology, cannot be implemented. In the past, students could use laboratories and experimental equipment to explore and demonstrate textbook knowledge in schools. However, implementing online classes makes this method difficult to achieve and cannot cultivate students' hands-on observation ability. Students can only watch through the screen, which hinders students' understanding of the depth of knowledge. This problem also directly leads to the shortening of teaching time. In the limited online classroom, teachers have to cut the experiments' time to ensure the classroom's completion, which affects students' learning. The change in the learning context is not beneficial to students. To change this phenomenon, teachers must improve their professional knowledge literacy and use their expertise to help students understand and master knowledge difficulties within limited time and geographical constraints, even if this solution is complicated.

In the textbooks compiled by the state, many texts have substantial time and regional colours, which are difficult for students to understand [4]. In the pre-study stage of online teaching, teachers get convenience with the help of media resources, take online videos and micro classes as the media, turn abstractions into images, and help students preliminarily perceive the text and carry out an independent preview. In order to make better use of the advantages of online teaching, teachers will ask students to participate in the interaction in the form of questionnaires to investigate the knowledge points that they have not mastered or have some confusion about, which changes the traditional method of raising their hands to answer questions and helps students accurately grasp the knowledge points.

2.3 The Changes in the Learning Attitude

At the beginning of online teaching, teachers and students have varying degrees of excitement and expectation for this "new thing" [5]. Due to the rapid spread and wide range of the epidemic, the online classes for teachers and students at home continue to be extended. Students may also change from curiosity and freshness at the beginning to being perfunctory and dealing with things. Some students' learning attitudes, learning quality and learning effect may be significantly reduced. Students with poor self-control may have problems such as late submission of homework, non-submission of homework, Online learning cannot be synchronized with offline learning and so on. Online teaching can help students' learning to a certain extent, especially high school students who are about to face the college entrance examination and have excellent learning pressure. Relatively fixed class space and time can promote students' learning efficiency. Compared with offline teaching, students can avoid being disturbed in the noisy environment of the classroom. Their grades will significantly improve if they correct their learning attitude and exercise self-discipline.

According to the research of Ruohan Du and others on the influence of College Students' online class cognition on online class learning effect, the survey results show that 82.96% of students' online class attitude is casual, 62.92% of students think that online class harvest is average, and 60.76% of students say that online teaching is not as good as offline teaching [6]. Admittedly, there may also be some college students who are not active enough in cognitive learning of online classes, resulting in a bit of gain in the end. However, the final result shows that nearly 80% of college students do not

take online teaching seriously. To a large extent, students' learning attitude affects their mastery of knowledge and even the final exam results. Although online teaching lacks the supervision of teachers, it should not be relaxed.

3 The Impact of COVID-19 on Students' Mental and Physical Health

3.1 Students' Learning Anxiety

COVID-19 has a large-scale impact on the global economy and people's daily lives. Especially in the epidemic outbreak, it is undoubtedly a tough challenge for students with high learning pressure. When students are faced with the long-term and continuous impact of academic uncertainty, they will enter a "stress" state, which is manifested explicitly as memory decline, inattention in class, easy to be distracted, significant and unstable emotions, and often produce tension and fear because of worrying about their studies. These factors will directly lead to a decline in academic performance, learning enthusiasm and learning efficiency. The fundamental reason is that when individuals cannot achieve their ideal goals or successfully deal with problems, this imbalance is between cognition and reality. The reason why students have learning anxiety is attributed to their inability to complete learning tasks on time. Due to the excessive use of electronic products, they are immersed in entertainment. The fundamental reason for this behaviour is the lack of self-control.

To change this phenomenon, parents are the primary responsibility during the epidemic. First, communicate with teachers actively and cooperate with the school to complete the task. Secondly, communicate with children often, learn to listen rather than blindly ask them, understand their needs, give appropriate guidance and support, correctly handle the relationship between work and supervision, and create a good learning environment. The most crucial point is that parents should first adjust their state, especially for the parents of children who are about to participate in the college entrance examination [7]. At this time, the child's mood is incredibly susceptible to the influence of parents. Parents should not be too nervous and anxious to convey too much pressure to the child. In addition, students should actively accept their emotional state and realize that appropriate anxiety is conducive to learning and life. Communicating and sharing feelings with friends and family is also relieving emotions.

3.2 Student's Learning Burnout

Student learning burnout refers to the fact that students are depressed and tired of learning due to long-term learning pressure and have a negative attitude towards things around them and friends. Learning burnout is a common psychological phenomenon among college students, which impacts their physical and mental health [8]. There are many reasons for college students' learning burnout. Social, school, family, and student factors significantly relate to learning burnout. For this reason, the assistance to learning burnout needs the joint efforts of society, schools, families and students. A student's proper physical exercise can promote dopamine secretion in the brain and eliminate learning fatigue.

At the same time, learning to dredge emotions is the key. Talking or communicating with friends or parents can effectively eliminate negative emotions. Cultivate some spare-time hobbies, such as singing, dancing and swimming, which can alleviate mood expansion. The most significant point is that good living habits, and rules can effectively prevent learning burnout. Consequently, keep a good schedule, go to bed early and get up early.

3.3 Physical Health Risks for Students Under COVID-19

Students suffering from covid-19 will not only affect their mental health but also directly affect their physical health. Students' physical condition is closely related to learning, and an excellent physical condition is conducive to learning progress. Students diagnosed with COVID-19 need long-term self-quarantine, which may lead to psychological diseases of students. Therefore, having correct prevention knowledge and knowledge of the virus can effectively reduce the risk of virus replacement. To begin with, washing hands frequently during the epidemic can prevent viruses and bacteria from entering the body from the hands and mouth to the greatest extent, especially when going out and going home. Thoroughly wash the hands with disinfectant or soap. Secondly, wear disposable surgical masks when going out because droplet transmission is the main route of transmission of novel coronavirus pneumonia. Besides, keep indoor and outdoor ventilation at home [9]. Although the population at home is not as concentrated and dense as the outdoor population, a suitable living environment guarantees physical health. In order to ensure students' exercise during home classes, the school still retains the physical education curriculum, which changes from offline exercise to online exercise. Students must complete the Tai Chi or aerobics course study within the specified time, shoot and upload.

4 The Impact of COVID-19 on Students' Further Education

4.1 Students' Self-expectations of Continuing Education

The continuing education of college students can be divided into domestic postgraduate entrance examinations and studying abroad [10]. First, under COVID-19, the number of college graduates who intend to stay in China for further study has increased significantly. Most graduates who have the idea of the further study hold extremely optimistic views on the college entrance and postgraduate entrance examination in 2022, believing that the expansion of postgraduate enrollment will increase the success rate of the Postgraduate entrance examination and then improve the probability of high-quality employment in the future. The decision to continue studying is better than the decision to get employed directly in the context of COVID-19. Secondly, College students no longer consider studying abroad the "highest courtesy" [11]. Gradually, college students give up the opportunity to study abroad and choose to stay in China for the postgraduate entrance examination or directly find jobs. Finally, because some people feel that the employment situation is not optimistic, which leads to the increase in the number of domestic graduate students in the college entrance examination and the pressure of economic tension, a few students choose to find suitable employment opportunities to work in today's society,

rather than continue learning and education. During the epidemic period, high school students were affected by the epidemic's closure, and they could not go to school for a long time at home. They often had to do nucleic acid, so their learning time was shortened. Later, the school organized all students to study in the form of online classes. Because they could not communicate face-to-face with teachers, teachers could not grasp students' actual learning status and situation, so the epidemic significantly impacted the learning of high school students. However, during the epidemic period, the consumption and entertainment activities of the whole society were canceled entirely, and children could only study and have entertainment at home. Therefore, the time spent with parents has dramatically increased, and the influence of parents on children's learning has been amplified. Some children with good family conditions and their parents' learning levels are high, so they can better coach them. They performed well during the college entrance examination but were admitted to a good university. However, some families have no source of income during the epidemic period, parents' guidance for their children is insufficient, and their children's learning consciousness is not enough, which leads to a gradual decline in their grades. They cannot be admitted to the university, so they can only enter society early to work.

4.2 Parents' Expectations for Their Children's Continuing Education

Influenced by thousands of years of history and culture, China attaches great importance to education. In this society, attending university is still considered a matter of honor for the ancestors. In addition to paying great attention to education at the primary stage, it is utterly vital to support children's continuing education. In recent years, the number of people taking the postgraduate entrance examination has increased significantly, showing the parents' support and affirmation for their children's further study. Regarding continuing education, there are apparent differences on some issues. Most parents support their children's postgraduate entrance examination and even try to send them abroad for further study [12]. However, with the epidemic outbreak, many parents do not want their children to go abroad for further education, which may be caused worry for their parents. These parents believe that due to the country's rapid development in recent years, some aspects of continuing education are no worse than those abroad. Parents' cognition of their children's continuing education has very distinctive characteristics. In parents' cognition, the higher the degree of their children's continuing education is, the better the reputation of their school is, because in their cognition, the degree and the title of a famous school can ensure their dominance in future employment, and they believe that this is the ultimate goal of continuing education.

In this context, parents' purpose for their children's continuing education has changed, or it can be said that they will even intervene in their children's professional choices. After the impact of COVID-19, parents see the importance of "an iron rice bowl", which refers to having a stable job or income. Therefore, in the professional choice of their children's continuous learning, parents express that they are more inclined to let their children study in the majors with advantages [13].

4.3 An Environment of Intense Competition for Further Education Admission

At the beginning of 2020, COVID-19 swept the country. China's economic development and industrial production were disrupted, and the economy was down. As a result, many small and medium-sized enterprises could not struggle under the epidemic's impact and closed down to layoffs and even bankruptcy. By the second half of 2020, the epidemic abroad has spread rapidly, especially in the United States, Europe and other places. Many students who plan to study abroad must adjust their original arrangements and re-plan their future paths [11]. According to the data released by the Ministry of education, the number of applicants for the national postgraduate entrance examination in 2020 was 3.41 million, an increase of 510000 compared with the previous year, breaking the 3 million mark. At the same time, it hit another record high. Beijing, home to more than 90 colleges and universities, is a major battlefield for postgraduate examinations. Among them, colleges and universities with more than 10000 applicants include 17 enrollment units, including Peking University, Tsinghua University, Renmin University of China, University of the Chinese Academy of Sciences and Communication University of China. The total number of college graduates in 2021 is expected to reach 9.09 million, an increase of 350000 year-on-year [14]. Under the influence of this epidemic, many graduates' plans have been forced to adjust. The problematic employment situation and the epidemic's impact have forced them to postpone or change their employment or study abroad plans to prepare for the postgraduate entrance examination or find another way.

Fierce competition exists not only among college students. In China, students facing the college entrance examination are also experiencing it. Especially during the epidemic, normal teaching activities are affected. Many families say that they are full of worries about the college entrance examination. They are always afraid their children have not learned it well and cannot play at an average level. The sudden epidemic outbreak will not affect the college entrance examination, which will be officially launched as scheduled. College entrance examination students are affected by the epidemic. The college entrance examination students under the epidemic are experiencing many problems, such as the fierce competition of the increase in the number of college entrance examination applicants, the electronic screen accompanied by long online classes, and the complex mentality of uncertainty under closure and control. This year's senior three candidates will also face new challenges. According to the recently released Ministry of education, the number of applicants for the national college entrance examination in 2022 reached 11.93 million, an increase of 1.15 million over last year. This number has reached another record high. With the increase in the number of applicants for the college entrance examination, the undergraduate admission rate is likely to decline. It can be seen that in this year's college entrance examination, the more complex, the more intense competition; Obviously, there is also the temper of mind.

5 Conclusion

Through the research, this paper finds that COVID-19 has a varying degree of impact on high school and college students, changing the learning mode of Chinese students, breaking the previous single mode of the learning environment and learning content,

and becoming more diversified. At the same time, during the epidemic, students accept the dual test of physical and psychological. This experience can exercise and enhance students' ability to resist pressure and actively respond to difficulties. At the same time, it is also a life experience to help students establish correct values and outlook on life. Because this is an unexpected infectious severe disease, people have no experience dealing with it, resulting in psychological and physical problems for students. High school students should be calm, correctly understand the covid-19 virus, not feel anxious and nervous, and focus on their studies. College students, as young people who have just entered society, should always maintain a positive and progressive attitude and accumulate social experience and networking resources to find future jobs. The main contribution of this paper is to reveal the various effects of COVID-19 pneumonia on high school students and college students, which is conducive to educators' understanding of students' coping ability in the face of major emergencies, to understanding students' psychology in educational issues, and to sum up experience to help students become adults and cultivate students with all-round development. At the same time, it also provides some help for scholars to study the psychological changes of students during the epidemic and the differences between online and offline learning. The current research is not deep enough to understand COVID-19 pneumonia on students' continuing education, and future research should focus on this issue. More research and investigation are needed to prove the differences and connections between students' learning burnout and learning anxiety.

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