Minor gambling behavior poses potential risks to different aspects of adolescent development, including cognitive level, psychological and physiological level, and academic performance in their personal development. At the cognitive level and psychological level, due to cognitive biases such as the illusion of control, adolescents overestimate their gambling abilities and frequently participate in gambling activities to ignore gambling losses. Moreover, adolescents' insufficient self-regulation ability, impulsiveness, and other psychological characteristics increase the frequency of their participation in gambling. Clearer, teenagers' reliance and superstition on luck also stimulate their high risk-taking, which mistakenly increases their confidence in controlling the results of the competition. For emotional management, minor gambling behavior through an escape coping strategy — “gambling escape” to regulate their negative emotions, which reduces stress through negative reinforcement. Thus, the emergence of gambling behavior is more likely to be an early indicator of adolescent mental health problems and it is also related to the future development of substance abuse. In terms of physical and mental health, underage gambling behavior is often accompanied by different substance use. These substance use-related factors not only appear in adolescence but also may persist with age, thereby increasing the likelihood of developing substance abuse in adulthood, which is harmful to health whether psychologically or physically. Meanwhile, minor gambling behavior hinders personal academic development, and underage participation in gambling activities often shows poor school performance, such as lower academic performance and truancy behavior.

### Introduction

In recent years, more adolescents have participated in gambling activities, and minor gambling phenomenon has been supported by evidence in various countries [1]. A study in Germany shows that approximately 40% of local adolescents participated in gambling activities in 2018, and minor problem gambling ranged from 1.7% to 2.2% [2]. Another study across 33 European countries has also shown that 22.6% of 16-year-old students have gambling experience [3]. Additionally, a 2019 study in Korea showed that 42% of adolescents had participated in gambling activities, and 1.1% of adolescents had problem gambling behaviors within the 3 months of the survey [4]. With the convenience and accessibility of the gambling environment, especially the popularization of the Internet and mobile applications, the emergence of new forms of gambling (such as online sports betting, e-sports betting, and gambling games) has made it easier for teenagers to engage in gambling activities, thereby increasing their risk of problem gambling. It is worth mentioning that the prevalence of gambling among teenagers has led to differences in relevant laws and age supervision measures across countries. In Hong Kong, the legal age for gambling is 18, but children and teenagers can participate in legal gambling activities under the supervision of adult family members [5]. Since 2011, Finland has officially raised the legal gambling age from 15 to 18 years old and removed some slot machines to reduce underage gambling [6]. In the UK, the Gambling Commission's 2022 annual report states that most gambling activities participated by children (11 to 16 years old) are legal or not subject to age restrictions, which means that these children and young people's gambling activities are not directly regulated by the Gambling Commission [9].

### Methods and Results

First of all, cognitive biases increase gamblers' risk of problem gambling, which in adolescent gambling behavior mainly includes incorrect expectations of gambling results, overestimation of control, and reliance on luck and superstition. On the one hand, the " gambler’s fallacy " that appears in adolescent gambling behavior leads adolescents to believe that they can implement specific strategies to control gambling outcomes, which increases the frequency of their continuous gambling and thus faces problem gambling [10]. Problem gambling refers to the behavior of individuals who continue to play gambling in situations where they lose control, become dependent, and experience negative emotions, situations, and other influences [11]. On the other hand, the underestimated individual's ability to control gambling among adolescents is the illusion of control, thereby increasing the likelihood that they will frequently participate in gambling - in online activities with gambling characteristics (such as video games). These online gambling models not only provide young people with convenient gambling opportunities but also allow participants to ignore gambling losses through a continuous gambling mechanism. The study by Dr. Fu and Dr. Yu explored the cognitive prediction of problem gambling behavior among Chinese adolescents through a survey of more than that, the " gambler’s fallacy " that appears in adolescent gambling behavior and makes adolescents psychologically dependent on gambling activities. Also, overestimating one's ability to control gambling outcomes continues to increase their financial burdens. The excessive illusion of control coupled with the inability to achieve the expected outcome may continue to cause other psychological problems in adolescents, such as anxiety and depression. Therefore, it is important to use cognitive therapy to identify and intervene in advance in the cognitive bias of the illusion of control in underage gambling [12].

Furthermore, some teenagers use gambling to regulate and relieve negative emotions or stress as a form of negative reinforcement. Minor gambling behavior is related to escape coping strategies. Some adolescents choose to use " gambling escape " to avoid real-life stress [13]. Thus, the tendency for adolescents to use gambling to deal with various negative situations, and other influences [14]. On the other hand, the underestimated individual's ability to control gambling among adolescents is the illusion of control, thereby increasing the likelihood that they will frequently participate in gambling - in online activities with gambling characteristics (such as video games). These online gambling models not only provide young people with convenient gambling opportunities but also allow participants to ignore gambling losses through a continuous gambling mechanism. The study by Dr. Fu and Dr. Yu explored the cognitive prediction of problem gambling behavior among Chinese adolescents through a survey of more than that, the " gambler’s fallacy " that appears in adolescent gambling behavior and makes adolescents psychologically dependent on gambling activities. Also, overestimating one's ability to control gambling outcomes continues to increase their financial burdens. The excessive illusion of control coupled with the inability to achieve the expected outcome may continue to cause other psychological problems in adolescents, such as anxiety and depression. Therefore, it is important to use cognitive therapy to identify and intervene in advance in the cognitive bias of the illusion of control in underage gambling [12].

In addition, gambling behavior potentially affects the academic progress of adolescents. Underage gambling is positively related to school-related risk behaviors, such as running away at night, and truancy behavior [13]. In 2020, researchers collected data from students in 145 secondary schools, using data from more than 10,000 samples to investigate the relationship between adolescent gambling and school-related risk behaviors. These school-related risks include school experiences, academic performance in school, and truancy behavior. The researcher used Regression Analysis to study the correlation between gambling behavior and school satisfaction, academic performance, and truancy behavior. Although the study showed that there was no significant relationship between adolescents' school satisfaction and gambling behavior, the research evidence supported youth gambling behavior as associated with student truancy behavior and lower academic performance. They also showed that schools using a positive learning environment and providing students with more experiential care can help reduce adolescents' intentions to engage in gambling activities [15]. In summary, the negative consequences of adolescent gambling manifest in school-related risks, including poor school performance, such as reduced academic performance, and truancy behavior.

### Conclusion

In conclusion, the potential risks brought about by minor gambling restrain their personal growth. Schools and society should implement effective measures to help weakens teenagers' gambling intentions and prevent teenagers from developing problem gambling. In addition to predicting adolescents' participation in gambling activities in advance through measures such as Cognitive Therapy. From a different perspective, effective strategies need to pay more attention to the adolescents themselves and their external environmental background. Family education and school education can be strengthened by raising the awareness of teenagers and their parents about the risks of gambling; At the policy level, it is needed to restrict online and offline gambling advertising and strengthen supervision and management of gambling platforms and public places for adolescents [10].

### References