

# Empirical analysis and prevention strategies for telecommunications frauds on senior high school students

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**Abstract:** In recent years, an increasing number of senior high school students have become the victims of fraud, which has taken a toll on their property and mental health to a certain extent. This paper adopted questionnaire and interview method to list the type of senior high school students being defrauded, tried to figure out what makes the senior high school students vulnerable to be defrauded by analyzing three kinds of students being defrauded, not being defrauded and being almost defrauded, and discussed how to prevent fraud among senior high school students from the perspectives of students, school and society.

## 1. Introduction

With the social productivity development and rising wealth accumulation, telecommunication frauds also increase day by day and their means are changing. In the prevention and analysis of telecommunication fraud, senior high school students are always the neglected group because of the protection of family. However, 47% of them have encountered with telecommunication fraud or even have a certain extent of property loss. They lack of social experience, have great pressure on study and are weak in recognizing capability, which make them gradually become new target of fraud, so these become the problems needing attention from parents, school and society.

## 2. Implication and Characteristics of Telecommunication Fraud

### 2.1 Implication of telecommunication fraud

Telecommunication fraud is a fraud mode in which the criminals set up scams by using the network such as telephone, short message, social media and other mediums. Telecommunication frauds don't directly contact with the victims, but induce them to transfer money or disclose personal information by triggering their psychological activities.[1]

### 2.2 Characteristics of telecommunication fraud

**Real time:** the means and reason of telecommunication fraud emerge one after another and meanwhile are closely related to social hotspot and relevant policies. For example, after the release of "double reduction policy", the cram school frauds appear immediately. The fraudsters pretend to be customer service inviting students into QQ group for refund, and then steel students' financial and bankcard information.

**Easy to copy:** telecommunication crimes cost extremely low and the scams are very easy to copy, so many scams are often reused by different defraud gangs. For example, the author had received multiple scam telephones of loans and legal consultation within one month. In the communication, the frauds play the uniform verbal trick, never give up until their goals are reached, and mention the benefit repeatedly with the hope of triggering the victims' positive emotion.[2]

**Collectivization:** telecommunication fraud often commit crimes as a group. They divide the work clearly and meticulously: some study the mind of victims and write script, some make fake websites and virus links, and some make phone calls to victims as partner. For example, a fraudster had ever called a classmate of the author. He called himself as the customer service of Homework Help and

provided help to apply for course. They made fake website, and transferred the call to so-called customer service link planner so as to enhance credibility.

**Invisibility:** the majority of telecommunication fraudsters are based outside China, without contacting directly with victims. In most cases, the fraudsters commit crimes by making phone call, sending short message, adding contact information or sending virus linkage. This makes it hard for the victims to keep evidence for identifying the criminals.

**Hi-tech:** the criminals can use many hi-tech products such as SMS group sender pseudo base-station and fake website with Trojan virus. These make the victims unable to call back or difficult to identify scams after they come to realize the reality. At present, new means appear, such as risky wifi, that hackers steel the number of acquaintance for loan, that the fraudsters hack into mobile phone's front camera to steel human face and iris, or access mobile phone album to search the information relevant to persona properties.

**Accuracy:** the fraudsters illegally steel user information, analyze the psychological characteristics of related group, and create relevant scenes. This results in the great difference of fraud types received by different age groups and under different living scenes. For senior high school students, it is rare to see acquaintance loan, part-times job fraud, pretending to be staffs of public security organs and express delivery fraud in usual propaganda. The scams aimed at senior high school students take the advantage of their lacking of life experience and goodness, such as donation, shopping, game prepaid, click farming, love affair, etc. The author suffered a scam school refund fraud, in which the fraudster stole the customer information of 51Talk because the students of this software generally had a family with certain economic strength and the majority of them are ready to study abroad.

**High vigilance:** in the process of fraud, the criminals are often extremely vigilant and repeatedly check if the victims have followed their rhythm or trapped in their scam. Once they find the victims have other actions (doubting policemen are involved), they will hand up the telephone immediately. In the interview on cram school frauds, one victim said the fraudster urged her without stop to click the link and affirm the teacher and course information, but she hesitated for a long time, so the fraudster directly rang off the telephone.[3]

### **3. Type of frauds that senior high school students are exposed to**

As senior high school students are nonage, almost live a simple life between family and school under the protection of family and society, and have limited financial freedom, so they encounter a slightly different type of scam from other age groups, characterized by high concentration and amount less than 1,000 yuan.

**Game scam:** because most senior high school students are nonage or have serious game addiction, so they may invite others to help them top up in a more convenient way, buy adult account or pay for game companion, etc. But senior high school students often have lower awareness of fraud prevention, and many of them are deleted by the fraudster right after payment.

**Donation:** senior high school students are generally very kind and willing to help people or animals in need, so many criminals make use of their sympathy, pretend to be volunteers and send some disastrous and pitiful pictures, making students to feel sympathy and donate.

**Love affairs:** the majority of senior high school students are not mentally mature yet and short of experience. Once they are falling in love, they are easily trapped in it and listening to others, thereby losing the ability to make judgement. The love frauds met by senior high school students always involve less amount of money, and most fraudster are very young like senior high school students or university students. In most cases, the fraudsters ask the victims to reimburse their travelling expenses, invite them to dinner, buy gifts or even luxury, etc. After a period of consumption, the fraudsters will delete the contact way of them.

**Click farming:** this kind of fraud means are widely spread on social medias like Tik Tok and Kuaishou, and the criminals would induce the students to click and give them certain return of money, meanwhile encourage them to continue clicking or even induce them to enter some gambling websites. According to one interviewee, he was inexplicably included in a QQ group,

asked to follow others' Tik Tok accounts, and could be given dozens of yuan for reward of screenshot. With the increase of tasks, people may mistake them as legal companies. Finally, the victim was asked to place bets in a gambling website and transfer money to a card, and was told that 100 yuan will be returned for every transfer of 50 yuan, meanwhile the victim had to hand over his Alipay cashback code or even his bank card be bound.

Shopping: senior high school students have certain consumption needs and buying inclination but lack life experience, making them frequently trapped in shopping frauds. In shopping scams, senior high school students tend to be attracted by patterns and false copy writers, thus forget or are unaware of checking various information such as comments and feedback. After they place an order, the sellers receive payment but don't make delivery or even merely send empty package. According to the interview on a schoolmate of the author, she received an empty package from the seller for the skin care product she bought during the Double 11 promotions. After that, she asked the seller for a solution, but the seller didn't make any response.

Tutoring fraud: the fraudsters pretend to be the clients of every tutoring software, or launch some learning methods, then induce students to click and get learning materials. In such kind of scams, the fraudsters tend to convince the students of their profession by long articles, then insert links or ask students to add their WeChat accounts. Due to high pressure of national college entrance exam or application for foreign university, the students would actively add their contact information.

## **4. Investigation Method & Results**

### **4.1 Investigation object**

Senior high school students aged from 15 to 18 years old haven't shaped a mature value and still receive the supervision and control of parents, so they always lack life experience with immature minds and are more likely to suffer from the harm of telecommunication frauds.

### **4.2 Investigation purpose**

By virtue of 35 questions, it is expected to analyze with what characteristics senior high school students would more likely to be the target of frauds according to the experience of the students being cheated and almost being cheated, and find out the features of successful prevention and timely cutting loss according to the experience of the students being cheated and not being cheated.

### **4.3 Investigation methodology**

The questionnaire and interview methods were adopted. A total of 182 students were counted by questionnaire, including 27 students being cheated (accounting for 14.84%), 52 almost being cheated (accounting for 28.57%), and 103 without being cheated (accounting for 51.7%), of which 94 were females (accounting for 51.7%) and 88 were males (accounting for 48.3%). At the same time, interviews were carried out on 12 students, which enabled to detail the process of being cheated, go inside the heart of the students, and make more comprehensive analysis.

## **5. Investigation results**

Being cheated shows no significant relation with gender and grade. According to the data received, among the students of being cheated and almost being cheated, the distribution of males and females doesn't show an obvious trend of a 50-50 split, and the grade doesn't demonstrate an obvious feature and data distribution.

The scams the students are exposed to and know are still left on the surface. But most of them believe to have a complete understanding of frauds, but has no idea of new scam means. In the question of "What type of frauds have you ever heard of?", the students are generally more familiar with the frauds of part-time job, click farming, prize winning, public security organs and other types with frequent daily propaganda, unfamiliar with delivery and delegated purchase frauds, and haven't heard about new fraud tricks such as cram school refund. Their understanding of fraudsters still rests on random crime and other old patterns, but in fact, the fraudsters are very harmful. They

often have extroverted personality, are good at listening, speculating the victims' mind through their tones and so on, and guiding the psychological direction of the victims, and will not give up until reaching their goals.

The students often have great misunderstanding on the characteristics of victims. In the interviews, more students spoke of the victims, believing that the victims were so stupid or keen on gaining petty advantages that they failed to identify frauds, and the frauds were all very simple. Meantime, they wrongly thought that people with higher education background, being more cautious, having no money and at a younger age were less likely to be cheated.

The precaution consciousness of senior high school students as a whole has little difference. A higher possibility of being exposed to frauds doesn't mean a higher possibility of being cheated. Not being cheated doesn't mean a good precaution consciousness but maybe due to having no value of fraud. Nevertheless, the students almost being cheated have a better performance than those being cheated and not being cheated, because they always have some better quality, living habit and family atmosphere. The type of frauds that the students being cheated are exposed to are often lower level than those that the students almost being cheated are exposed to.

Senior high school students with better family background are more likely to become the target of a fraud. In the investigations, the proportion of students in international department that are exposed to frauds (accounting for 67%) is far higher than those of normal high school (accounting for 47%), sports school (accounting for 25%) and professional high school; the students having gone through a fraud whose family fortunes is higher than middle class and reaches or exceeds a rich level are more than those having not experienced a fraud; and the students having gone through a fraud generally spend more in life other than studying than those having not experienced a fraud.

## **6. Cause Analysis on Senior High School Students Being Cheated**

### **6.1 Factors with higher possibility of being cheated concluded from the analysis of the students being cheated**

More anxious students are more likely to be cheated. 48% of the students being cheated expressed their anxiety, 28.85% of the students almost being cheated expressed their anxiety, and 24.27% of the students with no experience of being cheated expressed their anxiety. In the question of "What kind of living environment you are in when being cheated?", no students of being cheated ticks the option of "Life is more motivated when the school starts", while the students almost being cheated who tick this option are high up to 25%.

The students having more time on the Internet are more likely to be cheated. 64.2% of the students being cheated are online for more than 2 hours, 47.83% of the students almost being cheated are online for more than 2 hours, while only 41% of the students with no experience of being cheated are online for more than 2 hours.

More lonely students are more likely to be cheated. 37% of the students being cheated often feel lonely, 19.23% of the student almost being cheated often feel lonely, and only 11.65% of the students with no experience of being cheated often feel lonely.

The students playing violent and shooting games are more likely to be cheated than those almost being cheated and those with no experience of being cheated. 51.8% of the students being cheated play violent and shooting games in a long term, which is much higher than the 32% of other two kind of students.

The students who are more curious are more likely to be cheated. In the question of "Whether you will answer a call from a number you don't know?", half of the students almost being cheated and being cheated express their willingness to answer such phones. In the case of an overseas number, 15% of the students being cheated are still willing to answer the call, which is much higher than the 8% of other two kinds of students. Meanwhile, at an exchange activity organized by the author, when a student shared his experience of encountering a click farming fraud and successfully withdrawing 100 yuan, many students wanted to try and thought they can also make a earning from it, and some students even said that sounded cool as if they themselves had enough intelligence and

mind to solve the problems that others can't work out.

More confident students are more likely to be cheated. In the question of "Do you think you can identify other frauds and won't be cheated?", only 14% of the students being cheated think they will be cheated again, which is much lower than the 32% of other two kinds of students.

Less independent students are more likely to be cheated. In this question, only 50% of the parents of the students being cheated have a good grasp of students' selection space, which is much lower than the proportions of other two kinds of students.

The students educated by their parents with setback are more likely to be cheated. In the interview, this classmate said he would rather spending more time on the Internet than communicating with his parents owing to his family atmosphere making him to escape, so he was unwilling to discuss with his parents even in the face of fraud and other situations.

## **6.2 The characteristics of the students almost being cheated superior to other two groups**

Stronger thirst for knowledge: after the experience of fraud, 72% of the students almost being cheated collected relevant data and made in-depth thinking, while only 32% of the students being cheated did this. In the question of "Do you have curiosity about new things?", 94% of the students almost being cheated said yes, higher than the 92% of the students without experience of being cheated and the 88% of the students being cheated.

Higher satisfaction with life: 53% of the students almost being cheated were satisfied with their lives, higher than the 48% of the students without experience of being cheated and the 7% of the students being cheated.

More of them don't play computer games. Violent and challenging computer games could make students to produce active mode in a short time, thereby reducing difficulty weakening risk during risk evaluation. Some students may imitate the scenes in the game and perform risk-taking behavior. In above-mentioned case, the students eager to have a try, participate in the fraud and expect to make a benefit from it mostly prefer to play the criminal role games.

Calmness: in the question of "What's your mood in the fraud?", most of the students almost being cheated ticked peacefulness option, while the students being cheated ticked excitement and fearfulness option. At the meantime, they paid more attention to their thinking process, so more than half of the students almost being cheated expressed they stopped remittance after thinking carefully.

Higher ratio of class propaganda: 46% of the students almost being cheated indicated they frequently exchanged relevant information with classmates, much higher than the 11% of the students being cheated and the 41% of the students without any experience of being cheated. Regarding the option of "No propaganda about fraud", only 11% of the students almost being cheated ticked this option, much lower than the 51% of the students being cheated and the 17% of the students without any experience of being cheated.

Deeper propaganda form: in the propaganda to parents and in class, the students almost being cheated meet less class propaganda PPT banner and poster than other two groups, and their propaganda way of case analysis (accounting for 18%) is higher than the 0% of the students being cheated.

## **7. Countermeasures for Preventing Frauds**

The prevention of telecommunication frauds should not rely on a single external factor but be achieved by the joint efforts of the government, society, school and individual.

### **7.1 The improvement of relevant laws and regulations by the government**

Hard to collect evidence, lesser measurement of penalty and scam easily to copy lead to the extremely low cost of telecommunication crime. According to Zhiwei Zhao in his article Prevention of Victimization from Telecommunication Network Fraud Crimes from the Perspective of Demand and Supply Model, increasing the crime cost will reduce the possibility of crimes. Enhancing the reconnaissance and lawsuit on fraud cases or formulating more serious laws and regulations could effectively curb the occurrence of telecommunication frauds.

## **7.2 The improvement of information regulation**

At present, user information has been gathered excessively and lack security assurance. It is necessary to strengthen data management so as to avoid hacker invasion and intentional disclosure of data by internal personnel. Many student users are unaware of information protection and often naturally fill in some important private information such as the date of birth, living address, contact information and so on, which leaves a chance for the fraudsters. Social media account is also an important fraud mode. All operating enterprises and relevant departments should also intensify user supervision, such as adding sensitive words and conducting big data troubleshooting on suspicious acts, so as to effectively identify user categories and potential unlawful acts.[4]

## **7.3 Professional tutoring in school**

The propaganda about telecommunication fraud offered by the school is often not professional or even perfunctory. In most cases, the propaganda form is banners or a 40min class meeting designated in a term, and a few schools with good precaution consciousness would invite policemen to give related lectures in school. However, in class propaganda, most part of the contents is too empty and simply read out without interaction and exchange, and the PPTs are mostly downloaded on the Internet and lack real time and profound analysis. Besides, the propaganda men are always teachers or appointed students short of professional knowledge, professional training and relevant legal knowledge.

## **7.4 Innovative and deeper social propaganda methods**

Regarding the conventional banners, posters and class propaganda, as to the investigation, only less than 23% of the students said they would pay attention to society-related propaganda information or only read when they are bored such as queuing up. So, it is feasible to make propaganda near bus stations, subway stations and scenic spots with large crowds and long waiting time. Furthermore, the propaganda way should keep pace with the times to integrate with social platform and add more interest, and the propaganda men need to make related propaganda materials according to age properties. In the interview, many senior high school students showed no interest in the innovative propaganda on most social platforms, such as fraud prevention songs, and propaganda given by beautiful policewoman, etc. They said the contents were boring and uninteresting without any moving points and easily wiped out by other information. They preferred to watch what interested them in Tik Tok and other software, and will directly slide away such kind of propaganda. Students like to watch propaganda videos with interesting character setting, complete story chain and even inverted outcome (Damo is a good example for reference). Other students also like to watch some case analysis with complex plot and related psychological knowledge than normal cases. After knowing more cases, the students' consciousness and capability to prevent frauds will be promoted.

## **7.5 More thinking training**

According to Ping Song in his article the Psychological Process and Dissuasion Strategies of the Victims in Telecommunication Network Frauds, the victims' psychology is divided into drawing-on-advantages type and avoiding-disadvantages type, the trick process is decomposed, and some countermeasures have been provided as follows: (1) the first type makes use of victims' negative emotion, letting them to reduce precaution and evaluation abilities, and its solution is to make a deep explanation to the victims how the criminals use psychological weakness to commit crimes; (2) the second type needs to enhance the victims' anti-stress reaction capability to cope with stress and make rational judgement in stressful situations.

## **7.6 The shift on propaganda attitude**

Since senior high school students face the stress of national college entrance exam, so they are often unwilling to listen to propaganda and consider it as a waste of learning time. But using questionnaire to perform various forms of fraud propaganda is productive to a certain extent

whether its form is profound or not.

## **8. Conclusion & Reflection**

In this paper, it is discovered from questionnaire survey and analysis that senior high school students being cheated are special and are exposed to frauds due to insufficient experience, and through investigation and interview, it explores the characteristics of the students making them vulnerable to be cheated as well as the factors lowering the possibility of the students being cheated. Limited by sample number and launching platform, the conclusion generated by some data couldn't be compared, such as the distribution of family's economic level. Among the students with their family's economic level exceeding the rich level and their monthly expenditure more than 3000 yuan, the proportion of being exposed to fraud and being cheated is lessened instead. It is not clear if this is caused by a stronger precaution consciousness or disdain of this group. In the free space given by the family, the higher proportion of the students almost being cheated indicates their parent excessively intervene the students' choice. Whether the parents' over-intervention in choice, the life satisfaction and independence cultivation are related to fraud prevention is not clear. The author will find a larger platform and further improve data to make analysis on the factors and prevention strategies for senior high school students being cheated.

## **References**

- [1] Cui Yan. Analysis and countermeasure research of telecommunication fraud prevention among students in colleges and universities[J]. Legality Vision, 2021(21):13-15.
- [2] Zhang Wei. "Analysis of the causes and countermeasures of post-00 college students' vulnerability to telecommunication fraud[J]. Legality Vision, 2022(12):157-159.
- [3] Lu Xiaocheng. Network fraud governance dilemma and cracking path[J]. Western China, 022(03):119-124.
- [4] Liu Xinyue, Fan Chaoyun, Li Hui. Characteristics of victims of telecommunication network fraud and countermeasures for prevention[J]. Journal of Yunnan Police College,2022(04):111-122.