

Research on Legal Regulation and Regulatory Mechanism Innovation of Campus Bullying Behavior in the Network Environment

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Abstract: This article aims to explore the current situation, characteristics, legal regulation, and innovative regulatory mechanisms of campus bullying in the online environment. The article first introduces the networked trend and manifestations of campus bullying behavior in the online environment, revealing how the development of network technology provides new platforms and means for campus bullying behavior. Subsequently, the article analyzed the regulation of campus bullying within the existing legal framework and pointed out the challenges faced by legal regulation in the online environment, such as difficulty in obtaining evidence and determining responsible parties. Corresponding response strategies were proposed. The article further explores the necessity and direction of innovative regulatory mechanisms for campus bullying, and through practical case analysis, demonstrates the important role of regulatory mechanism innovation in preventing and reducing campus bullying behavior. Finally, the article summarizes that the governance of campus bullying requires collaborative efforts from multiple aspects such as law, education, and technology, and calls on all sectors of society to work together to build a safe and harmonious campus environment.

1. Introduction

In today's society, with the continuous changes in the environment, especially the rapid development of the online environment, bullying behavior has shown new trends and characteristics, posing a serious threat to social order, individual rights, and especially the physical and mental health of minors. Bullying behavior is no longer limited to traditional physical spaces, but is gradually spreading to virtual online environments, with a wider range of impacts and deeper levels of harm. This makes it particularly urgent to innovate research on legal regulation and regulatory mechanisms for bullying behavior. At present, China has introduced a series of laws and regulations to regulate bullying behavior, such as the Law on the Protection of Minors and the Cybersecurity Law. These laws provide legal protection for victims to a certain extent and have a deterrent effect on bullies. However, in the face of new challenges brought about by environmental changes, there are still some shortcomings in the existing legal regulatory system. For example, in cases of cyberbullying, issues such as difficulty in determining the subject, lack of quantifiable standards for

damages, and obstacles to cross-border evidence collection are prominent, which have affected the effectiveness of legal implementation. It can be seen that in-depth research on the legal regulation and regulatory mechanism innovation of bullying behavior in the environmental environment has important practical significance

2. The current situation and characteristics of campus bullying behavior in the online environment

2.1. The networked trend of campus bullying behavior

With the widespread popularity of mobile Internet terminals and the continuous iterative updating of social media platforms[1-2], campus bullying is showing significant characteristics of network migration. According to the Research Report on the Use of the National Internet by Minors by China Internet Network Information Center, the number of minors in China has reached 193 million, of which the proportion of Internet bullying has climbed from 22.4% in 2019 to 37.8% in 2023. This data intuitively reflects the severity of campus bullying in the online environment, and also highlights the undeniable trend of its networking. The behavioral changes empowered by this technology have enabled traditional bullying behavior to break through the boundaries of time and space, forming a new type of infringement mode that is all-weather and cross regional. From the perspective of technological carriers, new fields such as instant messaging tool groups, short video platform comment areas, and online game social systems have become the main places where bullying behavior occurs[3-4]. These platforms have the characteristics of openness and strong interactivity, providing bullies with more opportunities and channels to carry out bullying behavior.

At the behavioral level, campus bullying has evolved from offline physical conflicts to digital forms of infringement such as online violent information dissemination, malicious P-pictures, and human flesh searches. These methods are more covert, convenient, and spread rapidly, causing more lasting and severe harm to the victims. For example, malicious P-images can vilify and tamper with victims' photos, and then widely spread on the internet, causing victims to suffer from ridicule and discrimination from others; Human flesh search can expose the personal information of victims on the internet, causing great distress to their lives and studies. From the perspective of dissemination effects, based on the explosive dissemination characteristics of social media, bullying content can achieve geometric diffusion within 24 hours. The "online voting humiliation incident" that occurred in a middle school in Guangdong in 2022 resulted in over 100000 reposts of the related text and images within 3 hours, forming an indelible digital memory. The rapid spread of this characteristic has led to a rapid expansion of the scope of bullying behavior, not only causing direct harm to victims[5-6], but also having a negative impact on the entire campus environment and social atmosphere.

The trend of online bullying is also reflected in its anonymity characteristics. The perpetrator uses virtual identities to disguise their behavior, resulting in 83.6% of victims being unable to accurately identify the perpetrator's identity when subjected to cyberbullying (Peking University Youth Network Behavior Research Center, 2023). This identity concealment not only reduces the moral guilt of the perpetrator, but also significantly enhances the persistence of bullying behavior. For example, in the "cyber navy attack case" at a vocational college in Zhejiang, the perpetrator carried out a continuous 76 day cyber attack on specific students by purchasing zombie accounts[7].

In addition, the digital traces of cyberbullying have permanent storage characteristics, and even if the original content is deleted, it may continue to spread in the dark web or private communities through screenshots, caching, and other means, forming a "digital scar effect". This effect will have a long-term negative impact on the victim's psychology and life, making it difficult for them to escape the shadow of bullying.

The trend of online bullying on campus has brought new challenges to schools, families, and society. We need to fully recognize the characteristics and hazards of this trend, take effective measures to respond, and protect the physical and mental health and legitimate rights and interests of minors.

2.2. The manifestations of campus bullying behavior in the online environment

In the online environment, campus bullying presents diverse forms, which are closely related to the characteristics of network technology and have significant dissemination and identity concealment.

The public humiliation system based on social media is one of the common forms of expression. The perpetrator uses public platforms such as Weibo and WeChat Moments to post edited bullying videos, accompanied by insulting text tags to form a topic for dissemination. This approach can quickly attract a lot of attention, causing widespread humiliation and harm to the victims. For example, in the "collective live streaming humiliation incident" that occurred at a middle school in Zhejiang in 2021, the perpetrator used the live streaming function of a short video platform to launch real-time personal attacks on the victim, with a peak viewing of 23000 people. Under the amplification effect of the internet, the scope of this public humiliation is extremely wide, causing great psychological trauma to the victims.

The chain of privacy violations in the digital space is also an important manifestation of cyberbullying. With the development of technology, perpetrators can use hacking techniques to obtain victims' social media accounts, and then carry out compound infringement behaviors such as personal information leakage and private image dissemination. According to the survey data of China Internet Network Information Center (CNNIC) in 2023, 19.8% of adolescents aged 12 to 18 have experienced improper use of online personal information, of which campus scenarios account for 64%. For example, in the case of a key high school in Beijing, the perpetrator used deep learning technology to fabricate a video of the victim changing their face and spread it through dark web channels, causing secondary harm and seriously infringing on the victim's privacy and reputation rights.

The persistent harassment mode of instant messaging tools cannot be ignored. Compared to the single occurrence characteristics of traditional bullying, bullying behavior in the online environment forms a 24-hour uninterrupted harassment mechanism through platforms such as QQ groups and anonymous chat rooms. According to a special survey conducted by the Basic Education Department of the Ministry of Education in 2022, the proportion of cases using "bombing style" malicious information sending software reached 31.6%. Among the cases with an average daily sending volume of over 500, 87.2% involved students in school. Perpetrators often use virtual number generators and automated scripting tools to carry out sustained attacks, causing great mental stress to victims.

In addition, cyberbullying also exhibits obvious technological alienation characteristics. The abuse of blockchain technology has made it difficult to completely eliminate some bullying content through distributed storage, and the recommendation mechanism of artificial intelligence algorithms objectively expands the scope of harmful information dissemination. In the "AI image bullying incident" that occurred at a school in Guangdong in 2023, the perpetrator used generative adversarial network (GAN) technology to create insulting digital images, and through iterative optimization of deep learning models, the images were dynamically disseminated, exposing the catalytic effect of technological ethical deficiencies on bullying forms.

These diverse forms of online bullying have broken through the limitations of traditional campus physical space, forming a complex infringement pattern of online and offline integration, resulting

in the continuous fermentation of bullying consequences, highlighting the urgency of strengthening the governance of campus bullying behavior in the online environment.

3. Legal regulation of campus bullying behavior

3.1. Regulation of campus bullying within the existing legal framework

In today's society, the issue of campus bullying is receiving increasing attention, and China has established a multi-level legal regulatory framework to address this phenomenon. This framework is centered around the Law on the Protection of Minors and the Law against Domestic Violence, supplemented by civil and administrative legal norms such as the Law on Public Security Administration Punishments and the Civil Code on Tort Liability, forming a preliminary composite regulatory system.

The revised "Law on the Protection of Minors" in 2021 is of milestone significance, as it clearly defines the concept of "student bullying" at the legal level for the first time. Article 130 of the law establishes identification criteria based on three elements: the nature of the behavior, the consequences of the damage, and the subjective state, providing a clear legal basis for accurately judging campus bullying behavior. At the same time, a mandatory reporting system was established through Article 39, requiring educational institutions to establish mechanisms for preventing and controlling student bullying. This institutional design breaks through the traditional post event accountability model and shifts towards a new governance path that combines pre event prevention and mid event intervention, reflecting the forward-looking response of the law to campus bullying issues.

At the level of specialized norms, the "Regulations on the Protection of Minors in Schools" issued by the Ministry of Education further refine the operational procedures for bullying prevention and control. Schools should establish a Student Bullying Assessment and Handling Committee, which establishes a standardized process from preliminary investigation to classified handling, to make the handling of campus bullying incidents more standardized and orderly. Article 21 of the regulation innovatively includes cyberbullying in the scope of regulation, requiring educational institutions to adopt technological means to timely block the use of the internet to insult, defame and other behaviors. This marks a positive response to the characteristics of cyberbullying in legislation and adapts to the new changes in campus bullying behavior in the online environment.

In the field of criminal law, the newly added special provisions on "insult" and "defamation" in the Eleventh Amendment to the Criminal Law provide substantive legal basis for criminal accountability for cyberbullying through the application of the clause "seriously endangering social order" in Article 246. This enables criminal responsibility to be pursued in accordance with the law for serious cases of campus bullying, enhancing the deterrent power of the law.

The current regulatory system presents a triple institutional effectiveness in implementation. Firstly, considering the establishment of a three in one responsibility network consisting of schools, families, and society, the main responsibility of educational institutions for prevention and control, the family education responsibility of guardians, and the information management obligation of network service providers form a responsibility loop, ensuring comprehensive supervision of campus bullying behavior. Furthermore, by innovating legal remedies, the "prohibition system for infringement of personality rights" established in Article 1185 of the Civil Code provides timely and effective temporary relief for victims, which can to some extent reduce the harm suffered by victims. In conclusion, the promotion of cross departmental collaboration mechanisms and the establishment of a joint interview mechanism between the education administrative department and the cyberspace administration department have demonstrated institutional advantages in dealing with major cyberbullying incidents, improving the efficiency and effectiveness of addressing

campus bullying issues.

However, there are still some issues with the existing legal framework. There is a conflict of effectiveness between administrative regulations and laws, such as the gap between the measures for dealing with cyberbullying in the "Regulations on the Protection of Minors in Schools" and the responsibilities of network service providers stipulated in the "Cybersecurity Law". The complexity of identifying the subject of cyberbullying poses a challenge to the traditional rules of responsibility attribution, and the separation of anonymous accounts from actual users makes it difficult to apply Article 1195 of the Civil Code, "Internet User Responsibility Clause". The fixed standards for collecting electronic evidence and the evidence rules of the Civil Procedure Law have not been fully adapted, and the application boundary of the reversal of burden of proof rule in cases of juvenile bullying is vague. These issues require legislators to make systematic adjustments at the level of legal interpretation theory to further improve the legal regulation of campus bullying behavior.

3.2. Challenges and Responses to Legal Regulation in the Network Environment

With the deep integration of the internet and the real world, campus bullying has shown many new characteristics, which poses severe challenges to the traditional legal regulatory system. In judicial practice, the application of law faces various challenges.

The primary point is the ambiguity of behavior characterization. Although the current Law on the Protection of Minors defines the concept of cyberbullying, there is a lack of quantitative standards for the constituent elements such as "serious circumstances". This may lead to differentiated judgments of guilt and non guilt in similar cases in different regions. For example, in some regions, there may be differences in handling verbal insults on the internet due to the lack of clear quantitative standards, making it difficult to determine whether they have reached the level of "serious circumstances". This ambiguity makes the law lack clear guidance in practical application, which affects the authority and fairness of the law.

Not only that, but also the complexity of the responsible parties. Internet service providers are technically neutral in the dissemination of bullying information, but at the same time have security management obligations, which creates a legal conflict between the two. According to typical cases released by the Supreme People's Court in 2022, over 60% of campus bullying cases involving online platforms have disputes over platform liability determination. On the one hand, online platforms need to ensure the normal operation of technology and the user experience, and on the other hand, they need to supervise the harmful information on the platform, which poses great difficulties in practical operation. For example, when a platform receives bullying information reported by users, how to timely and accurately determine whether the information belongs to bullying content while protecting user privacy, and take corresponding measures, is an urgent problem to be solved.

Furthermore, there is the conflicting nature of cross-border jurisdiction. Based on Cloudflare's 2023 technology report, campus bullying cases involving cross-border servers involve an average of 3.2 jurisdictions, and existing international judicial assistance mechanisms are difficult to cope with the immediacy of cyberspace. In the online environment, bullying behavior may spread through cross-border servers, which makes the determination of jurisdiction complex. Different countries and regions have different legal provisions, which may lead to conflicts in the application of laws when dealing with cross-border campus bullying cases, resulting in difficulties in case handling.

Faced with these institutional dilemmas, the legal regulatory system needs structural reform. At the level of substantive law, we can draw on the "tiered responsibility" system of Germany's Network Enforcement Law to construct a quantitative standard system guided by behavioral

consequences. For example, referring to the World Health Organization's grading standards for the harm of online violence, specific indicators such as sustained online harassment for more than 72 hours and insulting content spread more than 500 times will be included in the legal elements, making the legal definition of campus bullying more clear.

At the procedural level, a rapid response mechanism for cyberbullying cases should be established. The "Electronic Data Authentication Blockchain Platform" piloted by the Haidian District People's Court in Beijing is worth promoting. This platform can shorten the fixed time for bullying evidence from the traditional 7 days to within 2 hours, ensuring the integrity of the evidence chain and improving the efficiency of case handling.

At the level of execution mechanism, it is necessary to improve the cross departmental collaborative governance framework. The tripartite linkage mechanism of "Cyberspace Administration of China Education Bureau Internet Police" established by Shenzhen has achieved significant results, shortening the average case handling cycle by 40% and reducing the incidence of repeated bullying by 27%. Through collaborative efforts among multiple departments, we can better address the complexity of campus bullying behavior in the online environment and improve the effectiveness of supervision and handling.

In addition, technology empowering legal implementation is also of great significance. The judicial application of artificial intelligence technology has demonstrated special value, such as the "Cyberbullying Semantic Recognition System" developed by the Jiangsu Provincial Procuratorate, which uses natural language processing technology to monitor social platform data in real time. After the system was launched, the reporting rate of cyberbullying in pilot areas increased by 35%. However, in the process of technological application, it is necessary to balance privacy protection and public safety. A system for evaluating the impact of algorithms can be established by referring to the EU's Artificial Intelligence Act, and clear thresholds can be set for the misjudgment rate and data usage scope of monitoring systems. At the same time, Singapore's "Internet Health Literacy" education program also provides useful insights. The program embeds legal knowledge modules into information technology courses in primary and secondary schools, and enhances young people's digital citizenship awareness through simulated courts and other forms. After three years of implementation, the number of illegal cases involving cyberbullying among young people in the country has decreased by 19%. Through the deep integration of institutional innovation and technological application, we can better address the legal regulatory challenges of campus bullying in the online environment.

4. Innovation of the Supervision Mechanism for Campus Bullying Behavior

4.1. The necessity and direction of innovative regulatory mechanisms

With the deep integration of network information technology into educational settings, campus bullying behavior has shown many new characteristics. Traditional regulatory mechanisms have been exposed to be significantly inadequate in responding to online bullying incidents, and innovation in regulatory mechanisms is urgently needed.

The behavior of cyberbullying has triple alienation characteristics, which constitutes the primary necessity for innovative regulatory mechanisms. The anonymity of the perpetrator makes it difficult to trace their identity, and bullies can easily hide their true identity and act recklessly under the cover of the internet. The spread of information can lead to the spread of harmful consequences, and a bullying message can instantly spread to every corner of the internet, causing incalculable harm to the victim. The electronicization of evidence storage brings obstacles to judicial recognition, and electronic evidence is easily tampered with and deleted, posing great challenges to the recognition and handling of judicial organs. According to a 2022 study by the National Center for Education

Statistics in the United States, the average duration of cyberbullying is 3.2 times that of traditional bullying, and its psychological trauma recovery period is extended to 1.8 times that of traditional forms. This new form of bullying requires the regulatory system to break through traditional physical space limitations and establish a new governance framework that adapts to the online ecosystem.

From a data perspective, the serious imbalance between regulatory efficiency and problem growth rate also highlights the necessity of innovation. According to the data of China Internet Network Information Center in 2023, the average annual growth rate of cyber bullying cases will reach 37.6%, while the existing disposal efficiency can only cover 21.3% of complaints. Traditional regulatory mechanisms have systemic deficiencies such as lagging response, difficulty in identifying responsibilities, and single disposal methods in dealing with cyberbullying, which can no longer meet practical needs.

The establishment of innovative directions for regulatory mechanisms needs to follow three principles: technological empowerment, collaborative governance, and prevention priority. In terms of technology, an intelligent monitoring and early warning system should be constructed. By using natural language processing technology to establish a sensitive lexicon, it is possible to promptly detect potential bullying information on the internet. Using big data analysis to establish a behavior portrait model can accurately identify potential bullies and victims. For example, the pilot project of Shenzhen Education Bureau in 2021 adopted AI emotion analysis technology, which improved the accuracy of identifying bullying incidents to 89.7%. At the level of mechanism design, it is necessary to establish a four party linkage mechanism with government leadership, school responsibility, platform collaboration, and family participation. Focus on addressing barriers to cross platform data sharing and inconsistent disposal standards, and form a regulatory synergy.

The integration and innovation of law and technology should focus on building a hierarchical response mechanism. Establish a three-level handling process of "warning interview credit record" for minor cyberbullying, and improve the fixed rules for electronic evidence for serious illegal behavior. In 2020, South Korea revised the "School Violence Prevention and Countermeasures Law" and introduced the "Cyberbullying Index Evaluation System", which automatically generates disposal suggestions through algorithm models, improving case handling efficiency by 42%. At the same time, it is necessary to establish a specialized network arbitration mechanism. The "online mediation platform" model promoted by the UK Department of Education enables 68% of disputes to be resolved within 72 hours through digital mediation procedures.

The construction of a prevention system should be integrated into digital literacy education, and online ethics education should be included in curriculum standards. The "Digital Citizen Training Program" implemented by the Japanese Ministry of Education, Culture, Sports, Science and Technology in 2023 uses virtual reality technology to simulate bullying scenarios, increasing students' online empathy index by 31.5%. In terms of relief mechanisms, we can learn from the "right to be forgotten" system under the EU GDPR framework and establish a fast deletion channel for cyberbullying information. The "Digital Scar Repair Program" implemented in California uses a professional technical team to help victims clear negative online information, with a success rate of 76.8%.

The institutional guarantee for regulatory innovation requires the establishment of a dynamic adjustment mechanism. It is suggested to establish a joint expert committee composed of the education department, the Cyberspace Administration of China, and the public security department to update technical standards and management norms every quarter. The "Cyberbullying Case Database" established by the Singapore Ministry of Education provides data support for policy revision by analyzing new behavioral patterns through machine learning. At the same time, a third-party evaluation mechanism should be established. The "Network Security Star Certification

System" implemented in the Netherlands has forced the platform to improve its content review mechanism through quantitative evaluation. After the implementation of this system, the platform's response time to reports has been shortened to 4.2 hours.

Only by establishing a three-dimensional regulatory system driven by technology, supported by law, and coordinated by education, breaking through the limitations of traditional governance thinking, shifting from single post disposal to full process management, from administrative control to diversified co governance, and from passive response to intelligent prevention, can we effectively tackle the complex challenges of campus bullying governance in the online environment.

4.2. Practice and Case Analysis of Innovative Supervision Mechanism for Campus Bullying

In the online environment, innovative practices in regulating campus bullying have been carried out in many places, providing valuable experience and reference for solving the problem of campus bullying.

The "Campus Security Shield" platform jointly developed by the Education Department of Zhejiang Province and Alibaba Cloud is a typical case of technology driven regulatory innovation. The platform uses natural language processing technology to scan social media texts in real-time, and successfully identified 327 cases of cyberbullying during the pilot period in 2022, which is 12.6 times more efficient than manual inspections. The three-level warning mechanism it sets up can assess the risk of sensitive information detected and initiate disposal procedures such as automatic blocking, teacher intervention, or judicial linkage. At the same time, the "whitelist" system established by the platform distinguishes between normal jokes and malicious attacks among classmates semantically, and controls the misjudgment rate below 3.2%. The successful practice of this platform shows that using advanced technological means can achieve proactive prevention and efficient identification of campus bullying.

The "three network integration" regulatory system constructed in Nanshan District, Shenzhen has demonstrative value in collaborative governance. This model integrates the Education Supervision Network, Cybersecurity Network, and Community Joint Prevention Network, and handled 89 cross platform bullying incidents from 2021 to 2023, with an average response time shortened to 72 hours. The "Network Behavior Portrait" subsystem establishes a bullying risk prediction model by collecting data from 26 dimensions, including students' school performance, network activity, and family relationships, with an accuracy rate of 82.4%. However, this mechanism has sparked controversy in terms of data privacy protection, prompting regulatory authorities to add data anonymization and informed consent modules, forming replicable personal information processing standards. This case illustrates that system integration through subject collaboration can improve the efficiency of handling campus bullying, but in the process of innovation, attention also needs to be paid to the protection of rights such as data privacy.

The "Internet Nickname Insult Case" tried by the Haidian District People's Court of Beijing in 2023 has opened up a new path for the protection of personality rights in judicial practice. On the basis of applying Article 1024 of the Civil Code, the court creatively introduced the calculation standard of "network identity damage coefficient", converting the defendant's continuous dissemination of insulting titles on three social media platforms for three months into the actual damage caused to the plaintiff's social evaluation. This judgment has pushed the Supreme People's Court to include "sustained online insults" in the judicial interpretation of campus bullying, establishing a three-dimensional quantitative accountability standard of "duration of behavior x scope of dissemination x consequences of harm". This case reflects the transformation of legal implementation from principled provisions to refined operations, providing a clearer basis for the legal regulation of campus bullying.

The "Digital Twin Campus" project implemented by the Education Department of Jiangsu Province has achieved significant results in technology empowerment. By constructing a virtual campus mapping system to reconstruct the spatiotemporal trajectory of cyberbullying behavior, 78% of the 41 cases handled in 2023 obtained key evidence through digital forensics. The specially developed "Bullying Behavior Evolution Simulator" for this project can predict the bullying risks that may arise from specific online interactions, providing decision support for teacher intervention. However, the problem of "algorithmic black box" caused by technological dependence still exists, and some schools have reported insufficient transparency in the system's decision-making logic, leading to procedural doubts in the disposal process.

The "Youth Network Guardian" program developed by Tencent plays a leading role in cross platform governance in the industry. This plan integrates WeChat QQ, Establish a database of underage online behavior using data from six major platforms including Tencent Video, and identify bullying information features through machine learning. In the fourth quarter of 2022, 237000 suspected bullying content were automatically intercepted, of which 89.3% were confirmed to be valid through manual review. However, the monitoring blind spots caused by data barriers on different platforms still exist, and the case of a cross platform bullying incident with delayed disposal due to information fragmentation has exposed the urgent need to improve the collaborative mechanism between enterprises.

These practical innovations reveal three dimensions of regulatory mechanism reform: technology driven shift from passive response to proactive prevention, subject collaboration shift from decentralized governance to system integration, and legal implementation shift from principled regulations to refined operations. But at the same time, it also exposes some problems, such as the low recognition efficiency of technological means for relationship bullying, and insufficient data collaboration between different platforms. Future regulatory innovation needs to seek a more refined balance between protection effectiveness and rights protection, strengthen the development of social sentiment analysis modules, improve inter enterprise collaboration mechanisms, in order to better address campus bullying issues in the online environment.

5. Conclusion

The legal regulation and regulatory mechanism innovation of campus bullying behavior in the online environment is a complex and urgent task, which is related to the healthy growth of minors and the construction of a campus safety ecosystem in the digital age. Through research on the current situation, characteristics, legal regulations, and innovative regulatory mechanisms of campus bullying in the online environment, we have gained a more comprehensive and in-depth understanding of this issue. The development of network technology has enabled campus bullying to break through the boundaries of physical campuses, presenting new features such as anonymity, diffusion, and persistence, posing comprehensive challenges to the existing legal system. The current laws have a regulatory lag in dealing with cyberbullying, and the traditional "result based crime" attribution model is difficult to adapt to the behavioral characteristics of "accumulation based crime" in cyberbullying. The ambiguity of platform liability clauses also leads to a regulatory vacuum in practice.

To effectively address these challenges, innovative regulatory mechanisms are imperative. The innovation of regulatory mechanisms should follow the path of synergy between technological governance and legal regulation, and build a full chain governance system of "prevention monitoring disposal repair" to achieve the synergy of legal deterrence and technological prevention and control. The "Bullying Corpus" and intelligent warning system jointly established by the Education Bureau of a certain district in Shenzhen and social media platforms have verified the

feasibility of the algorithm model in early intervention. At the same time, institutional design must balance the value conflict between protecting the rights and interests of minors and freedom of speech. The collaborative governance model of the US Digital Citizenship Education Act and the EU Digital Services Act provides us with a paradigm for reference.

However, further research still needs to focus on addressing three issues. One is to improve the standards for the review obligations of network service providers and clarify their responsibilities and obligations in the governance of cyberbullying; The second is to explore the application of blockchain technology in electronic evidence storage to solve the problem of difficulty in fixing evidence for cyberbullying; The third is to establish a collaborative mechanism for cross regional cyberbullying governance, break geographical limitations, and form a joint governance force.

This not only requires legislators to carefully handle the dialectical relationship between the principle of technological neutrality and platform responsibility, but also requires educational institutions, families, and social organizations to form a governance synergy. Educational institutions should strengthen the education of students' online literacy and legal education, guide students to establish correct values and behavioral norms; Families should pay attention to their children's online behavior and strengthen communication and interaction with them; Social organizations should actively participate in the governance of cyberbullying and provide professional psychological counseling and legal assistance services.

In short, building a campus safety ecosystem that conforms to the characteristics of the digital age is a long-term and arduous process. We need to constantly explore and innovate, and comprehensively use various means such as law, technology, and education to create a safe, healthy, and harmonious online campus environment, so that minors can thrive in the digital age.

References

- [1] Wang Xun, Liu Xiaomeng. *Research on the regulation of bullying behavior in secondary schools from a sociological perspective* [C]. China Smart City Economic Expert Committee. *Proceedings of the 2023 Smart City Construction Forum Guangzhou Branch Forum Sanya Institute of Technology*, 2023: 2. DOI:10.26914/c.cnkihy.2023.021817.
- [2] Hu Keying. *Comparative Analysis of Campus Bullying Governance Abroad* [J]. *Legal Expo*, 2021 (19): 46-47. DOI: 10.3969/j.issn.2095-4379.2021.19.016
- [3] Li Hairong. *Research on the Application of Campus Information Security Depth Defense System in Smart Campus Environment* [J]. *Information Recording Materials*, 2023, 24 (8): 229-231
- [4] Cao Wen, Zhang Xianglan. *Reshaping Communication: The Mechanism and Prevention Path of Campus Bullying Behavior - Based on Interviews with 37 Bullying Participants* [J]. *Journal of Shandong Youth Political College*, 2024, 40 (01): 52-57+78. DOI: 10.16320/j.cnki.sdqzxyxb.2022.01.013
- [5] Mei Xin. *A study on the generation process of bystander intervention behavior in primary school campus bullying* [D]. Guizhou Normal University, 2022. DOI: 10.27048/d.cnki.ggzs.2022.000724
- [6] Liu Lin. *Research on Ideological Security Education in Vocational Colleges from the Perspective of Online Public Opinion* [J]. *University*, 2023 (33): 3-6
- [7] Zhou Li. *On the Retrieval of Legal Information in the Network Environment* [J]. *Journal of East China University of Political Science and Law*, 2003 (04): 80-81