

Reflection and improvement of protection rules for sensitive personal information of elderly people

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Abstract. In the digital age, sensitive personal information of elderly individuals is highly vulnerable to infringement, and the consequences of such infringements can be severe. Although the Personal Information Protection Law currently provides rules for protecting sensitive personal information, it does not adequately address the unique characteristics of elderly people, and there are challenges in making these rules age-appropriate. This article specifically addresses issues faced in the protection of elderly individuals' sensitive personal information, such as "excessive collection, illegal processing, and lack of recourse," and proposes age-appropriate improvements, including "regulating informed consent, clarifying processing standards, and improving remedy pathways," in order to prevent and resolve security risks related to the sensitive personal information of elderly individuals, and to build an elderly-friendly digital society.

Keywords: elderly, sensitive personal information, informed consent, protection rules

1. Introduction

With the rapid development of the digital society, the deepening of the informatization and networking processes, and the growing societal demand for the use of personal information, personal information has become an important social resource. While people enjoy the benefits brought by technological development, they are also continuously surrendering their personal information processing rights. As a result, information processors may, to some extent, infringe on the personal information rights of individuals when analyzing and processing their personal information, leading to an increasing risk of personal and property infringement due to the abuse of sensitive personal information. Meanwhile, China is transitioning into a fully digitalized aging society. Aging is the social structural backdrop for digital development, and digitalization is the technological force driving the development of an aging society [1]. Elderly people, while benefiting from the convenience brought by the development of digital technologies, also face risks and challenges brought by many new phenomena. As vulnerable individuals in cyberspace, they have low self-protection agency and are unable to identify or cope with the increasingly intelligent and diversified forms of infringement. The risk of their sensitive personal information being infringed is extremely high. In order for elderly individuals to better integrate into the modern information society and share in the benefits of technological development, it is essential to first resolve the sensitive personal information security risks they face during this digital integration. To this end, it is necessary to thoroughly analyze the sensitive personal information security risks faced by elderly people in their integration into the digital society and improve the protection of their sensitive personal information, based on the reconstruction of a positive aging society consensus.

2. Definition of the scope of sensitive personal information of elderly people

The issues arising from the use of personal information in the digital age have far surpassed the legislative foresight of traditional societies. As vulnerable individuals in the digital age, elderly people face significant challenges in protecting their sensitive personal information. As it is said, "legal concepts are the building materials of legal norms and legal systems" [2], in order to address the legal gaps resulting from social transformation, it is necessary to begin with the "conceptual jurisprudence" approach of "Pandectist law" and clarify the concept of "sensitive personal information" at its core. By integrating social realities and development laws, the concept and common types of sensitive personal information related to elderly people can be accurately defined, thereby laying the foundation for discussing the practical dilemmas and improvement strategies of protecting elderly people's sensitive personal information within the existing discourse system.

2.1. Interpretation of the connotation of sensitive personal information of elderly people

The concept of “sensitive personal information” can be traced back to the 1980s with the Council of Europe’s Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data ¹. With the enactment of the Personal Information Protection Law of the People’s Republic of China (hereinafter referred to as the Personal Information Protection Law) in 2021, China formally introduced the concept of “sensitive personal information” into its legal system. From the perspective of definition standards, some scholars argue that the privacy scenario theory proposed by Nissenbaum should be used to make a contextual judgment on sensitive personal information ². This means that when determining whether personal information is sensitive, it is necessary to conduct a dynamic analysis based on the specific context and the purpose of information processing [3]. Although contextual judgment emphasizes respecting the diversity of information flows, it may lead to a lack of unified standards in defining sensitive personal information, resulting in uncertainties in conceptual definitions.

Regarding the standards for defining sensitive personal information, the legislative intent should be fully considered, and the concept of “sensitive personal information” should be analyzed doctrinally. In September 2024, the Secretariat of the National Cybersecurity Standards Technical Committee issued the Cybersecurity Standard Practice Guidelines—Sensitive Personal Information Identification Guidelines (hereinafter referred to as the Identification Guidelines) ³, which further refines the definition standards of sensitive personal information based on the Personal Information Protection Law and standardizes its processing methods. The “Sensitive Personal Information Identification Rules” in the Identification Guidelines and Article 28 of the Personal Information Protection Law both use the “generalization + enumeration” approach to define “sensitive personal information.” First, both documents clarify the judgment criteria through a generalized item: sensitive personal information refers to information that, once disclosed or illegally used, is likely to harm the personal dignity or threaten the personal or property safety of a natural person. This generalized item emphasizes the objective possibility of harm, making the judgment criteria definitive. Second, the enumeration item lists the common types of sensitive personal information, such as biometric information, religious beliefs, specific identities, medical and health information, financial accounts, location tracking, and personal information of minors under the age of fourteen. Furthermore, the Identification Guidelines specifically note that when determining whether certain personal information is sensitive, the overall impact of information aggregation or fusion should be comprehensively assessed ⁴. This means that even if an individual piece of information does not constitute sensitive personal information by itself, if it meets the criteria for sensitive information when combined with other data, the entire information set should be considered sensitive personal information. For example, a single photo, video, or text posted by a user on a platform may not be sensitive, but when these pieces of information are combined, they may reveal the user’s personal preferences, lifestyle habits, social relationships, or even be used to create a personal profile, potentially causing harm to personal dignity. In this case, the entire social media information set should be regarded as sensitive personal information.

The concept of “sensitive personal information of elderly people” is a special type of sensitive personal information that is defined based on the identity of the subject. Elderly people generally refer to individuals who have reached a certain age. As people age, they often experience a decline in physical function, changes in psychological and social roles, and enter what is known as “old age.” The United Nations typically defines individuals aged 60 and above as elderly ⁵. In China, people aged 60 and above are also typically considered elderly ⁶. Focusing on the sensitive personal information of elderly individuals, this refers to information concerning individuals aged 60 or older, whose disclosure or illegal use could lead to harm to their personal dignity or threaten their personal or property safety. This information not only shares the general characteristics of sensitive personal information but also has significant specificity due to its relation to the elderly population.

¹ In 1981, the Council of Europe issued the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, which introduced the concept of “special categories of data” and established special provisions for their processing. In 2012, this convention was revised to become the Convention for the Protection of Individuals with regard to Personal Data Processing, which specifically changed the term “special categories of data” to “processing of sensitive data.”

² For instance, Wang Yuan: Definition and Element Judgement of Sensitive Personal Information — Focusing on Article 28 of the Personal Information Protection Law, published in *Global Legal Review*, 2022, Issue 2; Wang Liming: Basic Issues in the Protection of Sensitive Personal Information — Based on the Interpretation of the Civil Code and Personal Information Protection Law, published in *Contemporary Law Review*, 2022, Issue 1; Sun Qingbai: The Special Institutional Logic and Regulatory Strategies of Sensitive Personal Information Protection, published in *Administrative Law Studies*, 2022, Issue 1; Ning Yuan: Legal Standards and Categorization of Sensitive Personal Information — Focusing on Article 28, Section 1 of the Personal Information Protection Law, published in *Comparative Law Studies*, 2021, Issue 5; Zhang Yong: The Integrated Public and Private Legal Protection of Sensitive Personal Information, published in *East Law Review*, 2022, Issue 1.

³ Source: Secretariat of the National Cybersecurity Standardization Technical Committee, Cybersecurity Standard Practice Guide — Sensitive Personal Information Identification Guide

⁴ Source: Secretariat of the National Cybersecurity Standardization Technical Committee, Cybersecurity Standard Practice Guide — Sensitive Personal Information Identification Guide

⁵ In the United Nations standards, a country or region is considered to have entered an aging society when the population aged 60 and above accounts for 10% of the total population, or when the population aged 65 and above accounts for 7%.

⁶ Article 2 of the Law of the People’s Republic of China on the Protection of the Rights and Interests of the Elderly: The term “elderly” in this law refers to citizens aged 60 and above. In addition, various policy documents related to elderly welfare, social security, health services, and other areas typically set 60 as the starting age for eligibility for relevant benefits.

2.2. Common types of sensitive personal information of elderly people

According to the Personal Information Protection Law's enumeration of sensitive personal information and the Identification Guidelines' classification of common sensitive personal information (see Table 1), the common forms of sensitive personal information for elderly people can be roughly divided into several categories: "biometric information, religious belief information, specific identity information, medical and health information, financial account information, location tracking information, and other sensitive personal information." These pieces of information are closely related to the daily lives of elderly people, such as their habits, social relationships, and personal preferences. Once disclosed or improperly used, they may infringe on the elderly person's dignity or pose a significant threat to their personal safety and property. For example, regarding medical and health information, elderly people generally have a higher frequency of medical visits. If their medical records or medication history are disclosed, it could lead to medical fraud or harassment. Concerning location tracking information, elderly people tend to have more regular daily routines. If their daily travel routes or residence information are exposed, it could put their safety at risk. Another example is other sensitive personal information such as social information, including an elderly person's social circle or activity records, which could be exploited by criminals for targeted fraud or psychological manipulation.

Table 1. Common categories and typical examples of sensitive personal information of elderly people

Category	Typical Examples
Biometric Information	Elderly people's biometric features such as fingerprints, palm prints, voiceprints, facial features, handwriting, etc., used for identity recognition.
Religious Belief Information	Information about elderly people's religious beliefs, records of participation in religious activities, and positions held within religious organizations.
Specific Identity Information	Identity information regarding elderly people's status as retirees, those receiving specific welfare benefits (e.g., pension recipients), or other specific social relationship information.
Medical and Health Information	Elderly people's medical records, medication history, physical examination reports, chronic disease management information, long-term care needs information, etc.
Financial Account Information	Elderly people's bank account information, credit card information, transaction records, etc.
Location Tracking Information	Information about elderly people's residence, daily travel routes, frequently visited places, etc.
Other Sensitive Personal Information	Information that could be used for unlawful purposes, such as emergency contacts, family member details, financial status, social information, etc.

As can be seen, elderly people's sensitive personal information is closely tied to their dignity and personal safety. It is vulnerable to infringement and highly susceptible to harm. On one hand, sensitive personal information is closely related to an individual's dignity and personal freedom. The illegal collection or improper use of sensitive information can cause severe harm to personal rights. This harm is not limited to privacy violations but also includes material and non-material damages, such as property loss, discriminatory treatment, and emotional distress [4]. Due to elderly people's relatively weak self-protection abilities, such consequences are particularly evident within this demographic. On the other hand, sensitive personal information holds significant economic value and demonstrates strong property attributes. Information like bank account details and payment passwords directly safeguard personal property, and the leakage of this information poses a direct threat to an individual's financial security. Sensitive personal information, due to its particularity, requires stricter protective measures and greater legal redress.

3. The dilemmas in the application of sensitive personal information protection rules for elderly people

Elderly people's sensitive personal information is highly vulnerable; however, the current rules for protecting sensitive personal information fail to meet the needs of elderly individuals, presenting significant difficulties in adapting to their needs. While the Personal Information Protection Law has established rules for processing sensitive personal information centered on "informed consent," the relevant provisions are relatively brief and there are issues with insufficient institutional support. The rules for informed consent during information collection are often formalistic, legal protections during information processing are lacking, and the remedial mechanisms after information is infringed upon are inadequate, which severely affect the effectiveness of protecting elderly people's sensitive personal information.

3.1. The formalism of informed consent rules in the information collection stage

In the context of the digital economy and the rapid development of big data models, this progress is not predicated on clear property rights and recognition of rights, but rather at the cost of the ambiguity of legal relationships and the expedient nature of legal measures [5]. The Personal Information Protection Law establishes rules for processing sensitive personal information centered around “informed consent,” requiring information processors to prudently fulfill their duty to inform and obtain separate consent from individuals when using sensitive personal information. However, in practice, elderly people’s “awareness” is often vague and their “consent” is often coerced. The informed consent rules should be a powerful tool for elderly people to protect their information rights, yet in practice, there are difficulties in adapting these rules to the elderly and they often provide reasonable grounds for information processors to improperly collect personal information.

On one hand, elderly people cannot achieve full “awareness.” With the exponential increase in information volume in the big data era, information processors face thousands of information subjects. In disclosing information, drafting user agreements, and repeatedly seeking consent, processors—driven by profit motives—often use lengthy, technical, and obscure privacy clauses or user agreements to lightly mention risks, neglecting to inform elderly users about the scope of information collected, its usage purposes, and potential applications [6]. Furthermore, privacy agreements often contain numerous vague terms, such as “to achieve the service purpose,” making it difficult for elderly people to understand the specialized terms and legal consequences in privacy agreements. They are often unable to fully comprehend how their personal information will be used. In such cases, elderly people cannot be fully informed about how their sensitive information is processed and are easily susceptible to manipulation or deception.

On the other hand, “consent” contains an element of coercion. Even if some elderly people make an effort to read the relevant agreements, they often lack familiarity with digital technology and legal terms, and lack sufficient digital literacy and understanding, which makes their “consent” vague and involuntary. The conclusion of a contract is supposed to result from the free choice and mutual agreement of the parties involved [7], but in the context of continuous technological advancement, tech companies that control the technology are often in an advantageous position. If elderly people disagree, they may be unable to use basic services provided by the software. To obtain the desired services, they are forced to accept the terms and conditions set by the platform. This coercive consent rule essentially deprives elderly individuals of their right to choose, as refusal results in exclusion from digital services, further isolating them from other social groups. Therefore, merely checking a box to indicate consent on a webpage cannot be seen as fully authorizing the information processing behavior by elderly people; “consent” here is involuntary.

3.2. The absence of legal constraints in the information processing stage

The processing of sensitive personal information requires not only clear regulatory guidelines but also effective legal protections. Although China’s Personal Information Protection Law includes a special section outlining the rules for processing sensitive personal information, the number of relevant provisions is limited and somewhat vague, failing to reflect the particularities of processing sensitive personal information for elderly individuals. On one hand, according to Article 28 of the Personal Information Protection Law, processing sensitive personal information must have a specific purpose, be necessary, and involve strict protective measures. This suggests that China does not prohibit the processing of sensitive personal information but rather sets stringent conditions for such processing. However, the law does not clearly define what constitutes a specific purpose, how to understand “sufficient necessity,” or what exactly counts as strict protective measures. These ambiguities present challenges in judicial practice and make it difficult to apply these provisions effectively.

On the other hand, both minors and elderly individuals are vulnerable groups in the digital age, struggling to understand complex digital technologies and legal terms, with weak risk identification abilities. However, the Personal Information Protection Law⁷ provides special regulations for the protection of minors’ sensitive personal information while neglecting the actual needs of elderly individuals. From a natural perspective, the essential difference between minors and the elderly lies in the fact that being a minor is a predictable, temporary phase; as time progresses, this digital vulnerability diminishes as the individual’s cognitive abilities mature. In contrast, the digital vulnerability of elderly individuals does not fade with time; rather, it worsens with the aging process [8]. Minors have the guidance and protection of parents or guardians, and as they grow, their digital vulnerability gradually weakens. In contrast, elderly individuals often lack the companionship and support of family and friends, and their digital vulnerability is irreversible. As they age, their cognitive abilities and capacity to manage risks decline, making them more vulnerable to security risks in the digital society. Therefore, the sensitive personal information of elderly individuals requires special protection.

3.3. Insufficient remedy mechanisms after information infringement

Due to the unique characteristics of elderly individuals, they face significant challenges in accessing remedies when their sensitive personal information is infringed upon. On an internal level, elderly individuals generally have a low subjective initiative to protect

⁷ Article 31 of the Personal Information Protection Law: Personal information processors must obtain the consent of the minor’s parents or other guardians when processing the personal information of minors under the age of fourteen. Personal information processors must also establish specific rules for processing the personal information of minors under the age of fourteen.

their legal rights through legal means. As they age, they experience declines in physiological functions such as vision, hearing, and memory, which directly affect their ability to read legal documents, understand legal terms, and participate in litigation. Some elderly individuals may suffer from cognitive disorders such as Alzheimer's disease, further weakening their ability to handle complex legal matters. Additionally, elderly people often have an aversion to litigation, fearing the time and financial costs associated with lawsuits, and struggling with the complexities of legal proceedings. Due to a lack of confidence in their own abilities and the judicial system, elderly individuals tend to have low expectations of legal outcomes and are more likely to remain silent or abandon their rights when their sensitive personal information is violated. This further prevents effective protection of their rights and fosters infringement behavior.

On an external level, elderly individuals are at a disadvantage in the legal remedy system. On one hand, they face a knowledge gap. Judicial procedures are often highly complex and specialized, and elderly individuals generally lack the necessary legal knowledge and litigation skills to understand their rights and available remedies. Even if elderly individuals wish to assert their rights, they find it difficult to collect and preserve evidence of the infringement of their sensitive personal information. On the other hand, there is insufficient legal aid available for the elderly. Existing legal aid services often lack personalized legal services that cater to the specific needs of elderly individuals, failing to fully consider their physiological, psychological, and social needs. The legal aid resources available to elderly individuals are limited, and they lack sufficient social support during the rights protection process, making it difficult for them to obtain timely and effective legal assistance. Consequently, they remain in a vulnerable position within the legal remedy system.

4. Optimization path for protecting elderly individuals' sensitive personal information

4.1. Constructing an informed consent rule tailored to the characteristics of elderly individuals

Sensitive personal information is closely related to personal dignity and property rights. According to China's Personal Information Protection Law, information processors can only process sensitive personal information after informing individuals about the necessity of the processing and its impact on personal rights, and obtaining their separate consent. In this context, the informed consent rule serves as the foundation and prerequisite for processing sensitive personal information. However, when the subject of informed consent is elderly individuals, this rule exhibits a certain degree of inadequacy, leading to situations where consent is not fully informed and is given involuntarily. To address this, it is necessary to adapt the informed consent rule to the characteristics of elderly individuals.

4.1.1. *Regulating the obligation to inform to ensure the adequacy of informed consent*

Regarding the obligation of information processors to inform, the current law generally states that users should be clearly informed about the purposes, methods, and scope of information collection and use, emphasizing that the content of the notice must not be vague or overly broad. It must meet the specificity requirements necessary for consent to be considered a valid expression of intent, to prevent the scope of information collection from being excessively expanded, thus losing control over personal data. If information processors wish to process sensitive personal information for new purposes, they must seek further consent from the individual, unless there is another legal basis for processing [9]. In the case of collecting and using sensitive personal information from elderly individuals, information processors should adopt language and formats that are easily understood by the elderly, clearly and directly informing them about the purpose, scope, methods, and uses of the information collection, avoiding lengthy and technical legal terms whenever possible. If the use of complex terms is unavoidable, necessary explanations should be provided to help elderly individuals understand the meaning and legal consequences. User agreements and privacy policies should be adapted to be more straightforward and accessible for elderly users. Sections that involve elderly individuals' sensitive personal information should be highlighted and explained to ensure that elderly individuals can fully pay attention to and understand the risks involved, allowing them to make informed decisions.

4.1.2. *Granting elderly individuals the right to refuse to ensure voluntary consent*

All natural persons are free, and no matter what, they should not be subject to any worldly power without their consent [10]. Sensitive personal information of elderly individuals is closely related to personal dignity and property rights, and cannot be processed without their consent. This consent should be active, explicit, and separate. To ensure that elderly individuals' consent is given voluntarily, explicitly, and based on full understanding, it is necessary to review their consent and fully protect their right to refuse.

Therefore, it is essential to grant elderly individuals sufficient refusal rights. If elderly individuals do not consent to the processing of their sensitive personal information, related software and applications should still allow them to use basic functions. Under the current informed consent rule, a person who refuses to provide personal information may face "digital death," effectively depriving elderly individuals of their right to digital existence and deepening the "digital divide" between elderly individuals and other groups [11]. Granting elderly individuals the "right to refuse" ensures that they can still access basic functions even if they refuse sensitive personal information processing. This is essential for promoting elderly individuals' integration into modern

society, safeguarding their right to digital existence, and promoting social fairness and inclusive development. Information processors should clearly state in user agreements that even if sensitive personal information is not processed, users can still use basic functions, and the scope of those basic functions should be clearly defined to protect elderly individuals' basic rights. Given the significant impact of sensitive personal information on elderly individuals' rights, China could consider establishing a dynamic consent adjustment mechanism for elderly individuals' sensitive personal information. Collection and processing institutions should provide convenient ways for individuals to withdraw their consent at any time. After consent is withdrawn, service providers should immediately delete the relevant sensitive personal information, and this process should be monitored by regulatory authorities [12]. Therefore, it is necessary to ensure elderly individuals' right to refuse and, based on this, grant them the right to withdraw consent, allowing them to revoke their consent if they have not fully understood the terms.

4.2. Clarifying the legal protection rules for elderly individuals' sensitive personal information

In response to the lack of legal constraints in the process of handling sensitive personal information, it is necessary to further clarify the requirements for "specific purposes," "adequacy and necessity," and "strict protective measures" in the information processing process. First, according to Articles 6 and 28 of the Personal Information Protection Law, processing sensitive personal information not only requires the "clear and reasonable purpose" that is necessary for processing general personal information, but also must meet the prerequisite of a "specific purpose." Semantically, the term "specific purpose" requires that the purpose of processing sensitive personal information must be specific and restricted: specificity requires that the information processor's purpose must be clear, concrete, and limited, and cannot be vague or subject to arbitrary changes; restrictiveness requires that the processing of sensitive personal information must be subject to necessary limitations, meaning that the data processor must strictly adhere to the predetermined purpose and not exceed the scope of use for sensitive personal information. Secondly, while processing general personal information only requires necessity, processing sensitive personal information requires a higher standard: "adequate necessity." [13] "Adequate necessity" emphasizes the must-be and relevance of the processing: the must-be condition requires that processing sensitive personal information is necessary to achieve a specific purpose, and once the purpose is achieved or the processing becomes unnecessary, the information should be promptly deleted or the processing should cease; relevance requires that the processing of sensitive personal information should be closely related to the intended purpose, and unrelated sensitive information should not be processed. Additionally, "strict protective measures" emphasizes that when processing sensitive personal information, stricter technical and management measures should be taken than those required for general personal information. Technical measures may include data encryption, access control, security audits, data anonymization, and others, while management measures may include establishing robust internal management systems, providing information security training for relevant personnel, conducting regular risk assessments, and establishing emergency response plans, all of which help ensure the security and confidentiality of sensitive personal information. These measures aim to prevent the leakage, misuse, or other harm to elderly individuals' sensitive personal information, reflecting the higher demands and stricter standards for legal protection of sensitive personal information.

On the other hand, in response to the risks elderly individuals face when participating in the digital society, it is possible to draw from special provisions for minors in the protection of sensitive personal information and introduce a guardian system for elderly individuals. Due to cognitive levels, understanding abilities, or health conditions, elderly individuals may find it difficult to independently make fully informed, reasonable decisions. The guardian system provides assistance in decision-making, preventing elderly individuals from suffering losses due to poor judgment or vulnerability to fraud, thus safeguarding their "right to be protected." The source of rights is both an empirical claim and rooted in certain basic human principles [14]. Through long-term social practice, society has formed a collective consensus on providing special protection for vulnerable groups. As elderly individuals are also vulnerable in the digital society, special protection of their informational rights is necessary. The introduction of a guardian system provides an additional layer of protection for elderly individuals and offers new ideas and pathways for safeguarding rights in the information society. Guardians may be the elderly individuals' relatives, community workers, or other qualified persons, who review the information processor's disclosure and represent the elderly individual in making decisions regarding the collection and use of their personal information. In addition to assisting in decision-making, guardians should also oversee the information processor's actions to ensure that elderly individuals' sensitive personal information is handled legally and in compliance with relevant regulations, ensuring that their wishes and interests are better reflected.

4.3. Improving the legal remedies for infringements of elderly individuals' sensitive personal information

In practice, elderly individuals tend to be less proactive in defending their rights when their sensitive personal information is infringed, primarily due to the various inconveniences they face during the rights protection process. Providing convenient judicial services for elderly individuals is not only a necessary measure to safeguard their legal rights but also an important step in building an age-friendly society. To this end, it is possible to gradually establish and promote specialized courts for elderly rights protection nationwide, which would focus on handling cases related to the protection of elderly individuals' sensitive personal information and other rights directly relevant to their welfare. Specialized courts could simplify the litigation procedures for personal information infringement cases involving elderly individuals, making it easier for them to defend their rights in the realm of sensitive personal information, and provide greater support for elderly individuals' rights protection. Where conditions permit, litigation costs for elderly individuals should be appropriately reduced, and a compensation fund for infringements of elderly

individuals' sensitive personal information could be established. This fund could be raised through government allocations, social donations, and other channels, reducing the cost of rights protection for elderly individuals.

In addition, the procuratorates or relevant social organizations can file public interest lawsuits for unlawful acts that infringe upon elderly individuals' sensitive personal information. Infringements caused by the improper use of sensitive personal information on digital service platforms are often not targeted at specific individuals, but result from the inappropriate actions of a platform that harm a large number of unspecified individuals. This not only infringes on public interests but also leads to serious damage. Public interest litigation, as a new way to protect personal information in the digital age, compensates for the inherent flaws in private lawsuits for personal information protection, such as high litigation costs, difficulty in collecting evidence, and insufficient motivation. Moreover, due to its punitive and deterrent functions, public interest litigation will provide strong legal protection for elderly individuals' sensitive personal information rights and public interests [15]. Introducing a public interest litigation system into the protection of elderly individuals' sensitive personal information is an inevitable requirement to resolve the difficulty in defending their rights, expand judicial remedies, and build an age-friendly digital society.

5. Conclusion

In the digital age, elderly individuals, as a digitally vulnerable group, find it difficult to have absolute control over their personal information. Their sensitive personal information faces significant security risks, and issues such as the formalization of informed consent rules during the information collection process, the absence of legal constraints during information processing, and insufficient remedies after information infringement seriously affect the effectiveness of protecting elderly individuals' sensitive personal information. To improve the protection rules for elderly individuals' sensitive personal information, it is necessary to fully consider the characteristics of elderly individuals and promote the adaptation of sensitive personal information protection rules to the elderly. For the formalization of informed consent rules during information collection, it is essential to regulate the obligation of information processors to inform, fully guarantee elderly individuals' right to refuse, and their right to withdraw consent, ensuring informed and voluntary consent. Regarding the lack of legal constraints during the information processing stage, it is necessary to refine the rules and introduce a guardian system to provide additional protection for elderly individuals. For the insufficient remedies after information infringement, judicial remedies should be expanded, judicial channels should be smoothed, and the process of defending rights should be made more accessible. Only through this approach can the adaptation of sensitive personal information protection rules to the elderly be promoted, thereby fostering the development of a more age-friendly digital society.

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