

Research on Privacy Protection Willingness of New Media Platform Users Based on Theory of Planned Behavior

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Abstract: In today's digital age, new media platforms have become an important channel for people to obtain information and entertainment. However, what followed was people's growing concerns about personal privacy security. This study takes all adults who use new media platforms as the research object, explores various factors that affect the willingness to protect privacy, and provides in-depth and practical suggestions for protecting personal privacy. We used the theory of planned behavior, incorporating factors such as age and privacy concerns. Through questionnaire survey, a large amount of data was collected and analyzed using SPSS26. The results showed that although age was not significantly correlated with privacy protection willingness, attitude, subjective norms, perceived behavioral control, and privacy concerns were significantly positively correlated with privacy protection willingness. From the research results and discussion, it can be seen that individual attitudes towards privacy protection and social pressure are important factors that determine the willingness to protect privacy. At the same time, individuals' perceived behavioral control and privacy concerns will also affect their privacy protection behavior. To sum up, this study deeply analyzes the privacy protection willingness of adults on new media platforms, and provides guidance and suggestions for privacy protection behaviors in the digital society. This has certain significance for protecting personal privacy and promoting the sustainable development of the digital society.

Keywords: new media platform, personal privacy, willingness to protect privacy, Theory of Planned Behavior

1. Introduction

Over the past few decades, the rapid proliferation and widespread adoption of the Internet have ushered in the emergence and global expansion of new media platforms, including social networks, instant messaging applications, and content-sharing websites. These platforms have revolutionized the way people access information, engage in social interactions, and experience entertainment, significantly contributing to the evolution and advancement of our digital society. However, the

remarkable growth and evolution of these new media platforms have also brought into sharp focus the critical issue of personal privacy protection.

Safeguarding personal privacy is an inherent right of every user in the digital age. Unfortunately, on new media platforms, the personal data of users are often harnessed for various commercial purposes, including targeted advertising, user profiling, and data analytics. This practice introduces inherent risks of privacy breaches and unauthorized data disclosures. The frequent occurrence of privacy breaches has led to a heightened awareness among the public regarding the importance of safeguarding their personal data. This heightened awareness is particularly crucial for younger user demographics, such as high school and college students, who exhibit active engagement with new media environments but may lack adequate privacy protection awareness and practices.

While the importance of privacy protection is gaining recognition, new media platforms still face substantial challenges and shortcomings. Many young users, despite their active presence in the digital realm, may possess insufficient awareness of the privacy risks associated with their online activities. Consequently, they may inadvertently divulge sensitive information due, in part, to the allure of convenient services provided by these platforms. Therefore, comprehensively understanding and exploring the willingness of new media platform users to engage in privacy protection, along with the factors influencing this willingness, becomes pivotal for ensuring the sustained growth and prosperity of our digital society.

To address this need, our study is grounded in the Theory of Planned Behavior (TPB). It focuses on two distinct age groups—high school students and college students—and delves deeply into their propensity to engage in privacy protection behaviors and the associated determinants. TPB, as a behavior prediction model, incorporates essential factors such as attitudes, subjective norms, and behavioral control. This theoretical framework offers insights into the motivations driving users' willingness to safeguard their privacy.

Our research methodology entails collecting data through a questionnaire survey, providing a robust quantitative foundation for this study. We quantify key factors, including attitudes, subjective norms, behavioral controls, and privacy concerns. Subsequently, we explore the intricate relationships between these factors and individuals' inclination to adopt privacy-preserving practices. Furthermore, we conduct a comparative analysis to discern variances across age groups, shedding light on the potential influence of age-related factors on users' privacy protection readiness.

By gaining a profound understanding of the proclivity of young users to protect their privacy within the new media landscape, we aim to offer invaluable recommendations and educational strategies. These insights will empower new media platforms to better fortify users' privacy rights and enhance their overall privacy protection efforts.

The implications of our findings extend to both the development of new media platforms and the formulation of privacy protection policies, thereby contributing to the establishment of a safer, more trustworthy digital environment. This revised introduction maintains the original content and intent while enhancing its readability and structural coherence. By enhancing user privacy protection awareness and behavior, the occurrence of privacy leakage incidents can be effectively reduced, and a more secure and credible digital society can be built. At the same time, this study will also provide the academic community with valuable reference materials on user privacy protection behaviors in the new media environment, laying the foundation for future related research.

2. Literature Review

2.1. Previous Research Review

New media, also known as digital media or online media, encompasses the amalgamation of media built upon computer information processing technology and the foundation of the internet, serving

communicative functions [1]. As new media continues to permeate every facet of people's lives, there is a growing awareness that personal information collected by companies during the use of new media platforms is highly susceptible to secondary use and sharing [2]. Privacy concerns have become a major research focus at the intersection of internet technology and sociology [3]. Some argue that privacy can be protected through individual behaviors, while others contend that privacy protection can no longer be achieved solely through individual actions. In response to this, numerous scholars have studied individuals' willingness to protect their privacy. Privacy is defined as information that individuals do not wish to be known by others or disseminated beyond certain boundaries [4]. Privacy protection behavior refers to actions taken to safeguard information that individuals do not wish to be known by others.

Previous studies have revealed that new media platforms utilize big data to highly digitalize personal information and continuously analyze it to provide "precision marketing" for optimal marketing outcomes, which also implies the ineffectiveness of existing privacy policies. People are faced with the dilemma of protecting their privacy [4]. Another study found that people's concerns about how to protect their privacy on new media platforms arise from various sources, including online marketing activities, which have triggered varying degrees of privacy concerns among people [5].

Simultaneously, people's methods of protecting their privacy have become increasingly diverse. While using new media platforms, users protect their personal privacy by reducing the collection, utilization, and sharing of their personal information. This study explores individuals' privacy protection behaviors, including but not limited to actively restricting application permissions, providing false information, and using anti-privacy leakage tools, from the perspective of the users themselves.

2.2. Theoretical Framework: Theory of Planned Behavior

This study builds upon the Theory of Planned Behavior (TPB) to elucidate the factors influencing individuals' propensity to partake in privacy protection behaviors [6]. TPB posits that an individual's behavioral intention, influenced by three key factors—attitude, subjective norm, and perceived behavioral control—serves as the foremost precursor to their actual behavior. In this study, we introduce privacy concern as a preceding variable, with age acting as a moderating variable to delve deeper into this phenomenon.

Attitude signifies an individual's psychological predisposition to favor or disfavor a particular concept or phenomenon [7]. When this predisposition skews positively, individuals tend to exhibit corresponding behavioral inclinations. Consequently, we posit that individuals harboring positive attitudes towards safeguarding their personal privacy on new media platforms are more likely to engage in privacy protection behaviors. This can be articulated as follows:

H1: Favorable attitudes among users of new media platforms towards privacy protection are positively associated with their actual intention to engage in privacy protection behaviors.

Subjective norm, a concept originally introduced in Ajzen's 1985 Theory of Planned Behavior, encapsulates the perception of external constraints or the desire of significant others for individuals to engage in specific behaviors [6]. Individuals discern social pressures or other external limiting factors that sway their behavior. Extensive prior research has demonstrated the positive influence of subjective norms on protective behaviors [8]. For instance, early studies have suggested that individuals tend to withhold their privacy information when significant others expect them not to disclose it [9]. In essence, when significant others anticipate individuals to embrace privacy protection behaviors on new media platforms, these individuals are more inclined to do so. We, therefore, posit the following:

H2: The subjective norm regarding privacy protection behaviors among users of new media platforms is positively associated with their intention to engage in privacy protection behaviors.

Perceived behavioral control pertains to the extent to which individuals believe they have control over their own behaviors [8]. Existing research suggests that this factor exerts a positive influence on privacy protection behaviors. When individuals perceive the risk of privacy breaches arising from their activities on new media platforms, they are more likely to proactively safeguard their privacy [9]. Therefore, when individuals are confident that they can achieve privacy protection on new media platforms, they are more inclined to enact such behaviors. We, therefore, posit the following:

H3: Perceived behavioral control among users of new media platforms is negatively associated with their intention to engage in privacy protection behaviors.

2.3. Extension of TPB: Privacy Concern as a Prerequisite

Privacy concern is defined as the degree of individual attention directed towards the security and dissemination of their own privacy. Rooted in privacy concern, the intention to engage in privacy protection behaviors is either directly or indirectly influenced by attitudes, subjective norms, and perceived behavioral control.

A higher degree of concern augments the likelihood of individuals implementing privacy protection behaviors [10]. Thus, we formulate it as follows:

H4: The level of privacy concern among users of new media platforms is positively associated with their actual intention to engage in privacy protection behaviors.

3. Methodology

3.1. Research Methodology

To conduct this inquiry, we employed stratified random sampling, amassing data via online surveys disseminated through Questionnaire Star. Our participants ranged in age from 17 to 53, encapsulating various age groups. For our quantitative measures, we referenced the scales established by Mengxin Chen and colleagues, quantifying four primary variables: attitudes, subjective norms, perceived behavioral control, and concerns about privacy. These measurements paved the way for subsequent statistical analyses, which were conducted using SPSS 26.

3.2. Research Procedure

Initially, the data underwent a reliability analysis to ensure its validity. Subsequently, we integrated the data and carried out a preliminary linear regression analysis, obtaining significance, beta values, and R-squared. Given the presence of moderating variables, we standardized each variable and introduced new constructs: the standardized age multiplied by each standardized independent variable. We then proceeded with a secondary linear regression analysis, deriving beta values for these newly defined constructs.

3.3. Model and Variables

The study primarily addressed the following variables and their corresponding survey queries:

Attitude: Pertains to respondents' perspectives on the importance of privacy protection on new media platforms.

Subjective Norms: Relates to the societal pressures respondents feel, such as the viewpoints and expectations of influential figures.

Perceived Behavioral Control: Concerns respondents' willingness and capacity to safeguard their privacy on new media platforms.

Intention to Protect Privacy: Reflects the actual measures respondents take to protect their privacy on new media platforms.

Privacy Concerns: Addresses respondents' apprehensions regarding potential misuse of personal information by new media platforms.

3.4. Survey Design

Our questionnaire incorporated a seven-point scale, enabling respondents to indicate their stances based on their viewpoints.

3.5. Execution Details

The surveys were disseminated through various channels, including social media, educational institutions, and corporations. The distribution spanned two months, during which we received a total of 164 responses. Out of these, 162 were deemed valid. Criteria for invalidating a questionnaire included uniform selection of answers, inconsistent viewpoints, or failure to meet predefined validation questions.

4. Result

In this study, we used spss26 to analyze the reliability of all data after confirming that there were no outliers in the data. The reliability of all variables is above 0.600. We conducted an Ordinary Least Squares (OLS) hierarchical regression analysis to examine our hypotheses and survey questions. In this analysis, we introduced independent variables into the regression model following their presumed causal sequence. Initially, we controlled for the variable 'age,' encompassing the range of 18 to 67 years. In the second block, we put in three related variables: attitude, subjective norm and perceived behavioral control. Secondly, the pre-variable of privacy concern is placed in the third block.

Data analysis shows that age ($\beta=0.049$, $p=0.191^*$) is not significantly correlated with privacy protection behavior intention.

The three variables attitude ($\beta=0.061$, $p=0.457^{**}$), subjective norm ($\beta=0.224$, $p=0.535^{**}$) and perceived behavioral control ($\beta=0.106$, $p=0.651^{**}$) were all associated with privacy-preserving behavior protection Intentions are closely related and positively correlated. So far, H1 and H2 are established, and H3 is overthrown. Privacy concern ($\beta=0.262$, $p=0.497^{**}$) is positively correlated with privacy protection behavior intention, and H4 is established.

5. Discussion

The data analysis reveals that there is no significant correlation between age and the willingness to engage in privacy-protecting behaviors. This finding can be explained by several factors. Firstly, it suggests that willingness to protect privacy is likely influenced by multiple factors beyond age alone. Secondly, while individuals of different age groups may have distinct patterns of engagement with new media platforms, this may not necessarily translate into variations in their willingness to protect their privacy. Finally, the observation that younger generations are more active on new media platforms does not necessarily imply a diminished concern for privacy compared to older generations.

The impact it brings is multifaceted. Researchers should redirect their focus towards exploring other variables that may exert a more substantial influence on individuals' willingness to protect their privacy. Age-related differences may not significantly impact the development of advertising and publicity strategies aimed at promoting privacy protection intentions. On the other hand, policymakers and organizations should refrain from formulating privacy protection policies that exclusively target specific age groups. Subsequent research should delve deeper into investigating

other potential factors that could shape individuals' willingness to protect their privacy. When promoting privacy protection on new media platforms, it is advisable to avoid placing undue emphasis on age-related distinctions.

The three variables of attitude, subjective norm, and perceived behavioral control exhibit a strong positive correlation with individuals' intentions to engage in privacy-preserving behaviors. Users' psychological attitudes and subjective norms directly impact their behavioral choices. On new media platforms, when users perceive privacy protection as being important and valuable, they are more inclined to adopt protective measures. Perceived behavioral control reflects users' belief in their ability to safeguard their privacy on these platforms.

The impact it brings is multifaceted. New media platforms can leverage these variables to educate and inform users, thereby enhancing their willingness to protect their privacy.

Offering users accessible tools and knowledge about privacy protection can be instrumental in promoting privacy-conscious behaviors. However, if new media platforms fail to provide accurate guidance to users, it could potentially mislead them and lead to privacy breaches. It is crucial to strengthen educational efforts and training related to user privacy protection. Offering user-friendly privacy protection tools can facilitate better privacy management.

There exists a positive correlation between privacy concerns and intentions to engage in privacy protection behaviors. As users become increasingly concerned about their privacy, they are more inclined to take concrete steps to protect it. Experiences or knowledge of privacy breaches may heighten users' sensitivity to the importance of their privacy.

Enhanced privacy awareness among users contributes to the overall safety and well-being of the online community. User pressure may encourage new media platforms to implement additional measures to ensure user privacy. On the other hand, excessive privacy concerns may lead users to be overly cautious on new media platforms, potentially reducing their willingness to interact and share. Users should be educated on how to appropriately care for and protect their privacy, emphasizing a balanced approach. New media platforms should transparently communicate their data handling and protection practices to build trust with users.

Privacy concerns are positively correlated with intentions to engage in privacy protection behaviors. In the digital age, heightened privacy concerns reflect an increased awareness of digital security. Users may believe that a strong focus on privacy reduces potential risks associated with privacy breaches. Escalating instances of privacy violations on new media platforms naturally contribute to users' heightened privacy concerns.

Heightened privacy concerns may prompt users to adopt more robust security measures, reducing the risk of privacy breaches. This focus on privacy may motivate new media platforms to offer more secure and private interaction methods. Organizations and communities may place a greater emphasis on securing user data and invest in advanced protection technologies. Excessive attention to privacy may lead to user distrust of new media platforms, potentially diminishing user interaction and content sharing. Such concerns could impact user acceptance of new technologies and tools. An excessive focus on privacy may lead to overreactions, such as avoiding certain new media platforms altogether.

In terms of strategies, new media platforms should clearly communicate their privacy policies to ensure users understand how their data is handled. Users should be educated on how to configure and manage their privacy settings to ensure they can share information in alignment with their preferences. For users with excessive privacy concerns, psychological support and counseling services should be made available to help them strike a balanced approach between privacy and interaction.

6. Conclusion

This study aims to explore the privacy protection willingness of new media platform users based on the theory of planned behavior, and conducts empirical research on the factors that affect this

willingness. Through literature review, data analysis and discussion, we have a deeper understanding of privacy protection behaviors and influencing factors in the new media environment. From the literature review, we learned that the rapid development of new media platforms has brought about the increasingly prominent issue of personal privacy protection. With the application of big data technology, the collection and analysis of users' personal information has become an important part of business operations, which has aroused widespread concern and discussion. Privacy protection has become an important part of the sustainable development of the digital society, and it has also aroused the research interest of the academic community and the public on the willingness to protect privacy.

Through a discussion of the results of the data analysis, we delved into the relationship between factors such as age, attitudes, subjective norms, perceived behavioral control, and privacy concerns, and willingness to protect privacy behaviors. In terms of age, our results show that age is not significantly associated with privacy protection behavior intention. This may be because the willingness to protect privacy is affected by many factors, and age is only one of them. However, attitudes, subjective norms, and perceived behavioral control were found to be strongly and positively correlated with privacy-preserving behavioral intentions in this study. This means that individuals' attitudes towards privacy protection, social pressure, and self-perceived behavioral control all play an important role in influencing their actual actions. Through the research on privacy concerns, we found that privacy concerns are positively correlated with privacy protection behavior intentions. This result further verifies people's increasing awareness of privacy protection in the digital society. Individuals who are highly concerned about privacy are more inclined to take active privacy protection measures, thereby reducing the risk of personal privacy leakage. In general, this study provides a more comprehensive and clear understanding of the influencing factors of new media platform users' privacy protection willingness through comprehensive literature research, data analysis and in-depth discussion. This research has important guiding significance for new media platforms to improve users' willingness to protect privacy, strengthen user awareness of privacy protection, and formulate personalized privacy protection strategies for different factors. At the same time, this study also provides a valuable reference for the academic community to further explore privacy protection behaviors in the digital society.

However, this study also has some limitations. For example, there may be certain biases and limitations in the selection of samples, which limit the generalizability of the research results. Future research can consider expanding the sample size and further exploring the influence of other potential factors on the willingness to protect privacy. All in all, with the development of the digital society, the issue of privacy protection has become increasingly prominent. This study provides useful insights into the psychology and behavior of users' willingness to protect privacy on new media platforms, and provides theoretical and practical insights into the construction of a safe and credible digital environment guide.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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