

The Impact of Cyber Violence on the Elderly: Current Situation, Challenges and Coping Strategies

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Abstract. As internet usage expands, the proportion of Chinese netizens aged 50 and above has reached 30.8%. Cyber violence poses an increasingly severe threat to older adults. Through the systematic literature review, this paper examines the multifaceted impacts of cyber violence on the elderly's mental health, social participation, and daily life. The findings reveal that older adults are more susceptible to cyber violence due to limited digital literacy, inadequate social support, and lower psychological resilience, resulting in damaged self-esteem, social withdrawal, and reduced quality of life. The study further proposes targeted strategies, including digital skills training, community support networks, and psychological interventions, to enhance older adults' capacity to cope with cyber violence. This research aims to provide a theoretical basis and practical guidance for developing age-inclusive cyber protection policies and intervention measures.

Keywords: Cyber violence, older adults, mental health, digital literacy, social support

1. Introduction

With the Internet boom, the elderly are gradually keeping up with the times and learning to use some popular social media, such as Twitter, Jitterbug, INS, and so on. According to the 51st Statistical Report on China's Internet Development, as of December 2022, the proportion of China's Internet user group aged 50 and above increased to 30.8%. Online violence not only has a profound impact on young people, but also poses a unique threat to older adults. With the formation of an older online audience, older adults, as a vulnerable group in society, are receiving increased attention for their safety and well-being in online environments. The purpose of this study is to examine the impact of online violence on older adults, including its specific manifestations in mental health, social participation, and daily life. Its specific research questions are as follows:

First, to analyze the vulnerability of older people to cyber violence and their coping strategies. Second, to explore the impact of cyber violence on the mental health, social participation and daily life of the elderly. Third, to propose targeted interventions and policy recommendations to mitigate the negative impact of cyber violence on older people.

This study aims to provide theoretical support for understanding the multifaceted impacts of online violence on older adults, and to provide practical guidance for the development of effective interventions and policies to promote the healthy use of social networks by older adults.

2. Vulnerability of older adults to online violence

2.1. Deficiencies in digital literacy

Digitalization does not evolve in a vacuum: it is shaped by different socio-cultural, historical and economic factors, including the stage of population aging [1]. The aggravation of population aging has also somewhat affected the audience base on social media. Whereas the digital literacy of older people is lesser than that of younger people, this is due to the fact that older people may lack the necessary digital skills and knowledge to recognize and cope with online violence [2]. According to a survey conducted by the Tomsk Polytechnic University under the auspices of the Ministry of Education and Science of the Russian Federation, based on the research work "Assessment and improvement of social, economic and emotional health of older people", it is well demonstrated that older people are not yet proficient in the use of digital media. The most popular electronic device among older adults is the laptop computer. The survey shows that only 12% of the respondents use the Internet in their free time, 27% have their own computer and 27% have a computer at home. 38% use a computer regularly and 17% use it occasionally. Only 11% of people over 70 years of age use a computer regularly. Smartphones are less popular than other devices among older people. Only 6% use them regularly and 6% use them infrequently. 6% of respondents own a smartphone, with 11% of family members owning a smartphone at home. Depending on their age, 55-60 year olds do not know how to use modern information technologies, but are willing to learn. In the age group over 75 years, 75% do not know but would like to use computer technology in their daily communication [3]. Social media divides different age groups in different sets through recommender systems and filters the audience through hashtags, due to the lower digital literacy of older people, they may choose to bring the wrong hashtags when creating, thus pushing videos or tweets to other age groups, and the incorrect pushes caused by recommender systems are likely to be the cause of online violence.

2.2. Inadequate social support

Quality of life and health are closely related. There are many different definitions of well-being, and defines quality of life as people's assessment of and feedback on their current lives [4]. Whereas social support is defined as the actual or potential support and contribution of personal resources and systems related to individuals, groups, communities and persons. Into old age, people's need for belonging will rise and they will feel dependent on others, but due to the rise in age, their social identity will decline, which will lead to them feeling socially excluded or unable to keep up with the changes [5]. Since older adults have relatively weak social support networks, this leaves them without adequate support in the face of cyber violence [6]. Based on theoretical perspectives and empirical findings on the relationship between loneliness, social support, and isolation, it has been hypothesized that loneliness is associated with more severe depressive symptoms and that social support can mediate their relationship. However, given the mediating and moderating roles reported in past investigations, it is believed that the lack of social support among lonely older adults exacerbates their depression [7]. But many older adults may lack strong connections with family, friends, and the community to get the necessary support and help [8]. And the online community has not set up relevant institutions to stop cyber violence against older adults, or to educate older adults about cyber safety. In addition, there is no social media model for older adults, and with today's youthful social media usage, many older adults do not have the social connections to cope with online violence on their own, and online violence is overwhelming for these older adults.

2.3. Lack of mental toughness

As aging negatively affects the mental health of older adults, it is likely to cause mental illnesses such as anxiety and depression. There are two factors that contribute to the lack of mental toughness in older adults. In terms of physiological factors: as older people age, their brain function declines, which may affect their ability to regulate emotions and cope. For example, a study led by Sebastian Baez-Lugo's team at the University of Geneva, Switzerland, was published on January 13, 2022, in the journal *Nature Aging* [9]. The study aimed to explore the effects of negative emotions on brain activity and connectivity patterns in older adults, revealing that the brain is less efficient when dealing with negative emotions. The research team designed a "task-rest" paradigm, in which volunteers were scanned for brain activity using functional magnetic resonance imaging (fMRI). The experiment was divided into two phases: 27 older people over 65 years of age were compared with 29 younger people around 25 years of age. The same experiment was repeated in 127 older people. One type of video was a high-emotion video showing people in a state of emotional distress (e.g., a natural disaster or distress situation), and the other was a video with neutral emotional content. After watching the videos, the volunteers went into a resting state and the researchers observed their brain activity via fMRI. The results of the experiment showed that, first, compared with younger people, older adults showed significant differences in the degree of activation of the Default Mode Network (DMN), particularly stronger connections between the posterior cingulate cortex (PCC), which processes autobiographical memories, and the amygdala, which processes important emotional stimuli. Next is emotional inertia: the brains of older adults show significant emotional inertia, i.e., negative emotions last longer in the brain, and this emotional inertia is associated with anxiety, rumination, and negative thoughts. Finally, regarding emotional regulation: although older adults show emotional inertia when dealing with negative emotions, they tend to regulate their emotions better than younger adults and are more likely to focus on positive details.

This study suggests that older adults' brains are less efficient at processing negative emotions, which makes it easier for them to get caught up in negative emotions when confronted with cyberviolence. Psychological factors were mentioned in the study: older adults may be more likely to feel lonely and helpless psychologically, especially when confronted with cyberviolence. As their social support network is relatively weak, they may lack sufficient psychological support to cope with these stresses. Social factors: Social stereotypes and prejudices against older people may also affect their psychological resilience. For example, some older people may choose to hide their feelings for fear of being ridiculed or misunderstood by others, thus preventing them from getting the necessary help. This makes older people less confident in their use of social media compared to younger people. Older adults may lack the ability to cope with stress and frustration and find it difficult to recover from cyberviolence [8].

3. Definition and current status of cyber violence

3.1. Definition of cyberviolence

The term "cyberbullying" is widely used, both colloquially and formally. First proposed in 1999, there is no general consensus on the definition, but different versions usually include the use of digital technology to repeatedly cause harm or bullying. Cyberviolence, as defined by Smith et al. [2] is aggressive and intentional behavior directed by an individual or group of individuals against another person through electronic contact, which is often repetitive and directed at victims who have difficulty defending themselves easily. As with traditional bullying and harassment, the distinction

between perpetrators and victims of cyberbullying and other types of online harassment or conflict has not been thoroughly clarified; online harassment typically involves harmful behavior that lacks repetition or a power imbalance [10]. Whereas perpetrators of cyberviolence are hardly individuals or groups of individuals who may be psychologically motivated by their own emotional outbursts, prejudice, jealousy, and other negative emotions, or incited to inflict verbal violence on other users. And the victims are generally ordinary users, including public figures, Internet celebrities, ordinary Internet users and so on. They are maliciously attacked by others because of their own traits. The manifestations of online violence are divided into the following four common forms: First, verbal attacks: the abuser verbally harms others through name-calling, insults, bad language and other ways. For example, using insulting words to attack others in the comment section or in user private messages. Next is malicious defamation: Fabricating false information to defame and slander others and damage their reputation [11]. Cyber violence takes various forms, including sending malicious messages, spreading rumors, and cyber harassment [8]. And older adults are more likely to be targets of cyberviolence due to their relatively low digital literacy [6].

3.2. The current state of cyber violence

Cyberviolence is prevalent globally and its forms and impacts are evolving with technology [8]. The 3-year longitudinal study reported an increase in the rate of cyberbullying during the study period from 3.8% to 6.4% among female respondents and from 1.9% to 5.6% among male respondents. In addition, their study showed that due to cyberbullying, female respondents had a high rate of suicidal ideation compared to male participants [12]. Research has shown that older adults are at risk for cyberviolence if their words and actions on the Internet do not conform to the perceptions of mainstream audiences [2]. Research has shown that victims of cyberviolence often experience mental health problems, such as depression and anxiety, which not only affect an individual's quality of life, but may further impact their social functioning [13]. In addition, the victims of cyberviolence are not limited to adolescents; adults can be equally targeted. For example, during the COVID-19 epidemic, there was a significant increase in cyberviolence, and many people were subjected to racial discrimination and malicious attacks on social media [14]. In addition, there are differences in the level of attention and response to cyber violence in different countries and regions. Some developed countries have made significant progress in responding to cyberviolence, but in developing countries, the problem of cyberviolence is still more prominent [12].

4. The Impact of cyber violence on older adults

4.1. The Impact of cyber violence on the mental health of older adults

Cyber violence quietly undermines older adults' self-perception and self-esteem, shaking their confidence in who they are and what they can still contribute. Cyber violence may cause serious damage to older adults' self-perception and self-esteem [6]. Older adults may have doubts about their abilities and worth as a result of cyberviolence, which can lead to decreased self-esteem [2]. Long-term effects on mental health.

Prolonged exposure to cyberviolence may lead to mental health problems in older adults, such as post-traumatic stress disorder (PTSD) and chronic anxiety [8]. These mental health issues not only affect older adults' quality of life, but may also negatively impact their physical health [6].

4.2. Impact of cyber violence on older adults' social participation

Cyber violence may cause older adults to reduce or avoid using the Internet and social media, leading to social isolation [6]. Older adults may choose to withdraw from online social activities out of fear of being exposed to cyber violence again, which further exacerbates their feelings of social exclusion [8].

Cyber violence may weaken older adults' social support networks, leaving them without adequate support in the face of difficulties [6]. Older adults may lose contact with family, friends, and community as a result of cyber violence, which further weakens their social support network [8].

Cyber violence may result in older adults' reduced willingness and opportunities to engage in social activities [6]. Older adults may experience fear and mistrust of social activities as a result of cyber violence, which may reduce the frequency and motivation to participate in social activities [8].

4.3. Impact of cyber violence on the daily life of older adults

Cyber violence silently injects extra pressure into older adults' everyday lives. Cyber violence may lead to increased stress and distress in the daily lives of older adults [6]. Older adults may have concerns about their safety and privacy as a result of cyber violence, which can increase stress in daily life [8].

Cyber violence may have a negative impact on older adults' quality of life [6]. Older adults may be less likely to engage in their favorite activities because of cyber violence, which can lead to a decrease in quality of life [8].

Older adults often lack effective coping skills when confronted with online violence [6]. Due to their relatively low digital literacy, older adults may have difficulty recognizing and responding to cyber violence, thus increasing their vulnerability [8].

5. Strategies for coping with cyber violence

Improving the digital literacy of older adults through digital skills training programs enables them to better recognize and respond to cyber violence [8]. Educate older adults on how to safely use the Internet and social media to protect their privacy and security [2]. Provide older adults with the necessary support and assistance by creating a community support network [8]. Encourage family, friends, and community members to stay in close contact with older adults to provide emotional support and practical help [6]. Increase the mental resilience of older adults through mental health education and counseling to help them cope with the stresses and frustrations associated with cyber violence [8].

6. Conclusion

This study explored the impact of cyber violence on older adults' mental health, social engagement, and daily life through a literature review. The findings suggest that cyber violence has multiple negative impacts on older adults, including negative emotions, social isolation, and decreased quality of life. This study provides theoretical support for understanding the impact of cyber violence on older adults and practical guidance for developing effective interventions and policies. This study emphasizes the importance of improving digital literacy, strengthening social support networks, and enhancing psychological resilience among older adults, and provides specific strategies for mitigating the negative impact of cyber violence on older adults. This study was analyzed mainly through a literature review and lacked the support of empirical research. Future

research could further explore the specific mechanisms of the impact of cyber violence on older adults and conduct empirical studies to validate the findings of this study.

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