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Factors Associated with Depression in Older Adults in the Digital Context: A Literature Review and Case Analysis Based on Intergenerational Support

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Abstract. At present, the aging of the population is advancing simultaneously with digitalization, and the depression rate of the elderly is increasing. Family intergenerational support is the core force to alleviate the negative emotions of the elderly. This essay adopted the method of literature review to systematically sort out the influencing factors of senile depression, broke the inherent idea of separating digital use and intergenerational support in traditional research, and mainly studied the multifaceted impact of digitalization and intergenerational support on the elderly under the background of digitalization. In addition, typical cases were selected for case analysis. The study found that the causes affecting the depression of the elderly are personal, family, social and other levels; digital inclusion and high digital literacy can reduce the low mood of the elderly; the digital divide and digital exclusion will aggravate their negative feelings; children's digital help can reduce the negative impact of digitalization, but there are differences between different groups. Alongside theoretical analysis, this study proposed intervention strategies to provide theoretical references for subsequent research and elderly care practices.

Keywords: Mental health of older adults, Depression, Digitization, Intergenerational support

1. Introduction

Against the background of accelerating global aging, it is undeniable that the mental health of the elderly has almost become a widespread concern of the present-day world [1]. The prevailing negative emotions will greatly reduce the health of the elderly, increase the risk of disease, and increase the burden on society and medical systems [2]. As China's fertility rate continues to decline and the number of elderly people living alone will continue to expand in the future, mental health issues deserve more and more attention [3]. There are many factors that cause depression in the elderly, such as chronic diseases and education at the individual level [2, 4], the frequency of children's visits at the family level [1], and the quality of support at the social and community levels [4, 5]. Among them, intergenerational support falls into two forms: economic and emotional support, with the unique advantages of flexible response and comprehensive satisfaction, which is the core protection factor [1].

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In recent years, smartphones, short videos, online consultation and other services have become fully integrated into the daily lives of the elderly. The phenomenon of the elderly surfing the Internet is common, and digitalization has completely changed the lifestyle of the elderly. Li and Chen [6] proposed that electronic devices can break the time and space limitations and let the elderly contact their relatives and friends who are difficult to meet; they can also use various software for entertainment and consumption, establish links with society, relieve loneliness, and then enrich spiritual life. Also, Ouyang [7] said that digital technology can help the elderly conveniently obtain medical resources, enjoy intelligent elderly care services, improve the self-care ability and quality of life of the elderly, and reduce negative emotions such as loneliness.

Through literature review, case analysis and other methods, this essay analyzes the main factors affecting the depression of the elderly in today's society, analyzes the overall impact of digitalization on the psychology of the elderly, and how digitalization plays an indirect role by changing intergenerational support, and provides a theoretical basis and a new perspective for subsequent empirical research and intervention measures.

2. Literature review

2.1. Traditional influencing factors of depression among older adults

Depression, anxiety, loneliness, cognitive decline and other mental health problems are high among the elderly in China. According to data from a large-scale national cross-sectional survey, Pang et al. found that the 12-month prevalence of arbitrary mental disorders in people aged 55 and above is 10.62%, and the lifetime prevalence is 19.16%, among which anxiety disorder is the most common [2].

From the upstream policy, system and economic aspects, Zhang et al. confirmed that as a core form of economic security, pensions can significantly improve older adults' economic security and reduce their risk of depression; the imbalance between urban and rural development and the uneven distribution of community service resources will further widen the urban-rural gap in the mental health level of the elderly [4, 5].

In terms of midstream family and social support, Xu and Yang's research showed that maintaining high-frequency contact with children (at least once a month) can effectively alleviate the psychological harm caused by empty nests [1]; long-term lack of family communication will greatly aggravate depression and loneliness; community social activities, cognitive training and cultural atmosphere also have psychological protection effects [1, 5].

In terms of downstream personal health status and behavioral habits, for example, Pang and others identified sleep disorders, three or more chronic diseases, and chronic pain as the three core risk factors for mental health problems [2].

A result of regional differences worthy of attention showed that the degree of depression, anxiety and loneliness of the urban elderly in Zhejiang Province was significantly higher than in rural areas [4]. This result is inconsistent with previous conclusions in China but consistent with findings from developed countries, suggesting that socioeconomic status is an important trigger for the urban-rural disparities of the mental health in the elderly in China. This result may be because of greater investment in rural elderly welfare and higher education and service expectations among urban older adults. Multiple factors have created this unique urban-rural difference in Zhejiang Province [4].

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2.2. Intergenerational support and depression among older adults

Traditional intergenerational support mainly includes two aspects, economic support and emotional support, both of which play an indispensable role in maintaining the mental health of the elderly.

The binary logistic regression results of Ren and Ling based on CLHLS2018 data showed that the elderly who receive financial support from their children have a higher demand for various community services, which reflects that economic support changes the ability of the elderly to obtain resources and indirectly affects the psychological state [8]; at the same time, the demand for community life care services of the elderly who lack daily emotional communication with their children has increased significantly, reflecting that the lack of emotional support amplifies the negative emotions of the elderly living alone and the disabled. The emotional needs of the elderly need to be met by external elderly care services, and the existing services often cannot fully cover such needs [8].

On this basis, Liang relied on the multiple panel data of CLASS2014~2023 to further confirm that the financial support provided by children can stably improve the depression index of the elderly, which has a continuous protective effect, and the protective effect will not change significantly with the growth of old age [9]. Furthermore, the influence of adult children's emotional support on older adults' depressive status shows age heterogeneity. In other words, the alleviating effect of household care and emotional companionship from children on depression continues to strengthen with age. When older adults reach advanced old age, their psychological vulnerability increases, and this form of daily companionship yields a more significant psychological soothing effect [9].

2.3. Digitalization and depression among older adults

Against the background of growing digital penetration, internet use among older adults has risen annually and become embedded in their daily lives. According to the 53rd Statistical Report on the Development of China's Internet issued by the China Internet Network Information Center (CNNIC), China had 1.125 billion internet users as of December 2025, a rise of 17.17 million from December 2024, with the internet penetration rate hitting 80.1%. Netizens aged 60 years and above accounted for 20.3% of all users, up 5.9 percentage points from June 2025. These figures suggest that the internet is increasingly woven into the daily lives of the older population.

2.3.1. The view that digitalization facilitates mental health

Internet access and reasonable digital use can improve older adults' mental health and reduce depressive tendencies. Digital integration and digital literacy are important influencing factors [10]. Based on CFPS panel data from 2010 to 2020, Dong found that internet access can simultaneously improve older adults' self-care ability and mental health levels. Older adults residing in digitally developed regions, middle-aged older adults and rural older adults gain greater benefits. Online social networking, online shopping and online games can significantly improve older adults' psychological status and alleviate depressive moods such as low spirits and hopelessness. Among these activities, online communication tools break geographical constraints, compensate for insufficient offline social contact among empty-nest and solitary older adults, and fundamentally reduce loneliness, the core trigger of depression [10].

Ouyang's study on digital integration indicates that older adults with intensive engagement in online interest communities can achieve a sense of self-worth. Online social capital acts as a

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complement to offline social contacts and alleviates depressive moods stemming from a sense of meaninglessness [7]. Based on CFPS panel data, Li's research on depression trajectories verifies that older adults with higher digital literacy are better able to filter valid information and evade negative content, resulting in markedly lower frequency and shorter duration of depressive episodes [6]. In contrast, the digital divide prevents older adults from reaping the psychological benefits of digitalization; those unable to use digital devices proficiently are more likely to develop negative emotions [10].

2.3.2. The view that digitalization poses risks

Digitalization is not merely a positive factor. Excessive use and digital exclusion increase older adults' risk of depression. Dong verified that internet use duration has an inverted U-shaped nonlinear relationship with older adults' physical and mental health. Excessive internet access crowds out time for offline physical activity and in-person social interaction, weakens offline social capacities, aggravates feelings of loneliness, and raises depression risk [10]. Meanwhile, the study clarifies that online video content exerts adverse effects on the mental health of male older adults. A large amount of disease- and aging-related information tends to amplify negative cognition; long-term unrestrained online entertainment disrupts daily routines and induces low mood and other typical depressive symptoms [10].

The digital divide is an important pathway leading to depression. Dong divides the digital divide into two constraints: individual digital literacy and regional digital infrastructure. Older adults with weak digital capabilities and inadequate regional network infrastructure frequently encounter obstacles when seeking medical services and handling daily affairs. They gradually develop feelings of inferiority and powerlessness over time, which eventually turn into depressive symptoms [10]. Ouyang added that groups with persistently low digital integration are disconnected from online social interactions; their sense of social participation continuously diminishes, and depressive status shows a worsening trend year by year [7].

2.4. The impact of intergenerational support

2.4.1. The alleviating effect of intergenerational support on depression

Dong's research found that the digital divide objectively exists and exerts a significant negative impact on older adults' physical and mental health, yet family and social support can effectively alleviate this negative effect [10]. Based on CFPS panel data, the study proposes that family intergenerational support can raise older adults' willingness and extend the time they spend on internet access, serving as an important household pathway to mitigate the digital divide. Moderate internet access has a protective effect on older adults' mental health. Older adults who lack intergenerational assistance are more vulnerable to digital exclusion, and they face higher risks of negative psychological outcomes [10]. Qiu's research verified that internet use plays a mediating role in the relationship between intergenerational support and older adults' health. For instance, urban older adults' emotional demands for digital media constitute a key factor in the mechanism through which intergenerational support affects their mental health [11].

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2.4.2. Intergenerational technical support and positive attitudes toward aging

Guo divided intergenerational support into two categories: intergenerational technical support and extensive intergenerational support. Using cross-sectional questionnaire data, Guo confirmed that both types can affect older adults' psychological status. Empirical results show that intergenerational technical support, including children's provision of equipment, guidance on software operation, and network security knowledge popularization, can positively shape older adults' attitudes toward positive aging, thereby reducing negative emotions such as technophobia. Older adults who lack digital intergenerational assistance tend to develop negative emotions owing to operational barriers, and the long-term accumulation of such emotions will impair their psychological state. The study clarifies that attitudes toward positive aging play a mediating role between intergenerational support and negative emotions, and internet use frequency moderates the second half of this mediating pathway. Among older adults with high internet access frequency, attitudes toward positive aging exert a stronger effect in alleviating negative emotions [12].

2.4.3. Group heterogeneity of digitally empowered intergenerational support

Li focuses on the effects of intergenerational support against the backdrop of digital empowerment and proposes that digitalization reshapes parent-child interaction patterns. The impacts of different forms of online intergenerational support on older adults' subjective well-being exhibit group heterogeneity. Regular online emotional companionship can offer emotional backing to older adults and alleviate negative psychological states. Empirical results indicate urban-rural disparities in the psychological benefits brought by online intergenerational emotional support. Rural older adults rely more heavily on online kinship ties, and online intergenerational support generates more prominent psychological improvements for them. For urban older adults, the psychological benefits of online emotional support are relatively limited [13].

3. Case analysis

3.1. Case background

This article selects *Dong's study The Effects of Internet Use on the Health of Older Adults* as a typical case for analysis. Its research theme highly aligns with the core analytical framework of this study, including digitalization, intergenerational support, and older adults' mental health, thus possessing sufficient reference value. The study adopts panel data from the 2010–2020 China Family Panel Studies (CFPS) and screens 8,320 participants aged 60 and above. The sample covers urban and rural regions nationwide and includes both developed and underdeveloped areas with a well-structured variable system. In Chapter 6, the author empirically examines the impact of the digital divide on older adults' health, focuses on family and social support, and explores mitigation strategies for digital divide problems. The study decomposes internet usage into four dimensions: internet access status, internet use duration, use content, and the digital divide. Meanwhile, intergenerational support is measured by intergenerational meeting frequency, contact frequency, parent-child care provision, and cohabitation status. Through empirical analysis, an ordered logit model is established to explain the inhibitory effect of the digital divide and verify the promoting effect of family and social support on older adults' internet use. The study applies ordinary least squares regression to estimate the offsetting effect of various supportive factors on digital

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constraints and conducts heterogeneity tests. These findings provide a comprehensive empirical reference for the internal mechanism analysis and group difference exploration of the present study.

3.2. Major case findings

3.2.1. Main research conclusions

First, the digital divide will have a significant inhibitory effect on the physical and mental health of the elderly. The negative effect on the elderly in areas with weak digital infrastructure and low access to digital resources is more prominent; individual digital literacy, family intergenerational support, and socially digitally inclusive environment jointly give rise to the elderly digital divide.

Second, family support can alleviate the digital divide and encourage the elderly to use the Internet. Intergenerational meetings and online contact frequencies can improve the probability of the elderly's Internet access, extend Internet use time, and promote online leisure participation; however, intergenerational care and cohabiting have a crowding-out effect, which reduces the possibility of Internet access and long-term use by the elderly.

Third, family support plays a moderating role in the relationship between internet use and older adults' physical and mental health. The moderating effects vary across different forms of intergenerational support. Intergenerational care weakens the positive influence of internet access on self-care ability; intergenerational cohabitation strengthens the benefits of internet access for self-care ability yet inhibits its favorable effects; intergenerational online communication amplifies the positive impacts of internet use duration on psychological status. The influences of family support on internet use content feature gender and educational heterogeneity.

3.2.2. Theoretical and practical value

At the theoretical level, this article integrates various classic theories, decomposes the effects of the internet from multiple dimensions, clarifies the family mitigation mechanism of the digital divide, and enriches empirical research pathways concerning older adults' mental health in the digital age.

At the practical level, relying on the nationwide large-scale CFPS dataset, the research detects heterogeneous group characteristics by urban-rural residence, age and digital development. The findings offer sufficient quantitative empirical support for local authorities to advance the digitalization of elderly care services, facilitate positive intergenerational relationships and digital inclusion, alleviate depressive symptoms among older adults from an intergenerational family perspective, optimize grassroots digital services for seniors, and carry out targeted healthy aging policies.

4. Discussion

Combined with the previous literature review and Dong's case analysis, this paper analyzes the internal logic linking digitalization, intergenerational support and depressive symptoms among older adults, and distinguishes the different functions of traditional offline intergenerational support and emerging intergenerational behaviors in the digital era. The internet exerts direct effects on older adults' emotions. Moderate internet use can ease low mood, whereas the digital divide, digital exclusion and excessive internet use intensify negative psychological states. Traditional intergenerational support consists of economic support and emotional support. Acting as a mediating

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variable in the digital era, it facilitates online parent-child communication, narrows the digital divide, and unlocks the mental health dividends brought by internet access.

Dong's research further verifies the core logic of this study. Digitalization does not independently shape depressive symptoms in older adults. Intergenerational behaviors, including online communication and digital assistance provided by adult children, can amplify or mitigate the emotional impacts of internet use. These findings offer insights for developing future intervention models for older adults. For instance, at the family level, online communication and digital reciprocity from children can break geographical constraints and relieve loneliness and depression among solitary older adults. At the community level, authorities should promote programs such as digital literacy classes for older adults, remedy deficiencies in digital infrastructure, reduce feelings of inferiority and powerlessness stemming from the digital divide, and broaden older adults' social participation via online communities. At the policy level, differentiated age-friendly digital policies should be carried out for rural residents as well as younger and older adults. Policymakers need to regulate harmful online content, including misleading and negative information, to lower the incidence of depression among older adults.

5. Conclusion

This article takes the impact of intergenerational support on depression among older adults under digitalization as the research core, and conducts analysis by sorting out various relevant literature and combining Dong's research case. The study finds that depression in older adults is affected by multi-level factors at the individual, family and community levels. Traditional economic and emotional intergenerational support can alleviate depressive symptoms in older adults; digitalization exerts dual effects. Reasonable internet access can relieve negative emotions, while the digital divide and excessive internet access raise depression risks. Meanwhile, it is confirmed that intergenerational support can improve older adults' mental health through multiple pathways via internet use.

This research connects the two major research fields of digital use and traditional intergenerational support, integrates conclusions from multiple studies, and constructs a complete analytical framework of "digitalization-intergenerational support-older adult depression", compensating for the limitations of previous independent studies on digital life and family interaction. However, this study still has several shortcomings. For example, it lacks independent experimental research and field investigation. In addition, it fails to conduct interactive and comparative analysis on digital and traditional offline intergenerational support, or quantify their synergistic or offsetting effects. Future research can carry out long-term tracking surveys, focus on comparing the differentiated effects of digital and non-digital intergenerational support, and conduct refined analysis on special older adult groups. This can provide more reliable empirical support for elderly care intervention practices and effectively alleviate depression problems among older adults.

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