

The Digital Dilemma of Older Adults and Social Participation Mechanisms from the Perspective of Social Exclusion Theory

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ABSTRACT

In the context of deepening digitalization, older adults face multidimensional social exclusion due to limited access to technology, insufficient institutional adaptation, and cultural barriers. This exclusion is manifested in a chain logic of “inaccessible entry, unattainable processes, and lack of agency in outcomes.” It not only exacerbates the digital divide but also directly restricts opportunities and channels for social participation. Anchored in Social Exclusion Theory and supplemented by Digital Divide and Social Participation Theory, this study systematically analyzes the underlying causes of older adults’ digital dilemmas and their impact on social participation, illustrated through scenario-based cases. On this basis, the study proposes a Social Participation Mechanism composed of technological empowerment, institutional protection mechanism, social support, capacity building, and multi-actor collaborative governance. This mechanism seeks to reverse the logic of “exclusion–restriction–disengagement” and promote sustained, effective, and dignified inclusion of older adults in the digital society. The findings not only enrich the application of Social Exclusion Theory in digital contexts but also provide actionable pathways for digital governance and aging-related social policies.

KEYWORDS

Social Exclusion Theory; Older Adults; Digital Dilemma; Social Participation Mechanism; Digital Divide.

1. INTRODUCTION

Against the backdrop of deepening digitalization, information technology has become a core vehicle for social operations and public services. However, older adults are generally disadvantaged in terms of device access, skill acquisition, and institutional adaptation, resulting in multidimensional dilemmas in the digital society. Insufficient technological accessibility, the over-reliance on digital-only public services, and generational cultural divides have gradually excluded older adults from the operational logic of mainstream society. This phenomenon is not merely a manifestation of the digital divide, but a new form of social exclusion within digital environments (Niu, Gengfeng et al., 2025). Its direct consequence is the compression of social participation opportunities, the erosion of equal rights in public affairs, and the weakening of social networks and social capital.

From a theoretical perspective, Social Exclusion Theory reveals the structural roots of older adults’ digital dilemmas, while Digital Divide Theory delineates the specific manifestations of such exclusion in terms of access, usage, and benefits. Social Participation Theory further indicates that the weakening of older adults’ social functioning stems from limited opportunities and channels for participation. Building upon these perspectives, this paper employs Social Exclusion Theory as the core framework, supplemented by Digital Divide and Social Participation Theory, to systematically

analyze the multidimensional mechanisms of older adults' digital dilemmas. It further emphasizes the construction of a Social Participation Mechanism as a means of alleviating exclusion, rebuilding connections, and enhancing inclusion. The aim of this study is to uncover the causal chain between digital dilemmas and social participation among older adults and to propose institutionalized responses that can provide both theoretical explanation and policy guidance for fairness and inclusiveness in the digital society.

2. THEORETICAL FRAMEWORK

2.1. Social Exclusion Theory

Social Exclusion Theory emphasizes that individuals or groups may be marginalized from mainstream society due to institutional, economic, cultural, or relational constraints. Its core lies in uncovering the multidimensional and structural nature of exclusion, which is not merely about insufficient income or material deprivation, but about the unequal distribution of opportunities, rights, and resources within social processes. In the context of older adults' digital dilemmas, Social Exclusion Theory explains how technological barriers, inadequate institutional adaptation, and cultural divides collectively operate to marginalize older adults and deprive them of the right to participate equally in social life(Wang, Hui et al., 2025). This provides the foundational framework for understanding the essence of digital dilemmas faced by older adults.

2.2. Digital Divide Theory

Digital Divide Theory further specifies how social exclusion manifests in digital contexts. It identifies three levels of inequality-access gaps, usage gaps, and benefit gaps-highlighting the structural disparities that different groups face in entering, utilizing, and benefiting from digital technologies. For older adults, the lack of devices and network connectivity constitutes access gaps, cognitive and skill limitations create usage gaps, and insufficient acquisition of social capital and public services in digital society manifests as benefit gaps(Chen, Yongyang et al., 2025). This theory not only depicts the layered nature of older adults' digital dilemmas but also explains how the digital divide functions as a mechanism of social exclusion, thereby deepening their marginalization.

2.3. Social Participation Theory

Social Participation Theory focuses on the degree of integration of individuals into social networks, public affairs, and cultural life, positing that participation is a key pathway for social recognition, self-realization, and access to resources. In the digital dilemmas faced by older adults, the immediate consequence of social exclusion is restricted participation: the absence of technological access blocks their entry into digital channels for public services and social communication; inadequate institutional adaptation undermines their equal rights in public affairs; and cultural divides coupled with identity deficits reduce their willingness to engage in social interaction. Thus, Social Participation Theory not only explains the outcomes of exclusion but also guides the proposed pathways for redress(Su, Zhaoning, 2025). The Social Participation Mechanism should be placed at the core of institutional responses, aiming to rebuild the connection between older adults and society through institutional protection mechanism, technological adaptation, and social support.

3. THE DIGITAL DILEMMA OF OLDER ADULTS

3.1. Technological Dilemmas

The foundation of a digital society lies in access to devices and networks as well as the skills to operate and apply them. Older adults are generally disadvantaged in this regard: some lack smart

devices or stable internet access, and even those with hardware often struggle with complex interfaces and high learning costs. Age-related declines in memory and reaction speed further increase cognitive burdens in adapting to new technologies. This technological divide excludes older adults from the entry point of the digital society and directly reduces their opportunities to access public spaces (Tang, Jin et al., 2025). As a result, they face significant limitations in obtaining information, accessing public services, and engaging in social interaction through digital platforms, thereby constraining their initial opportunities for social participation.

3.2. Institutional Dilemmas

The digitalization of public services and social governance has improved overall efficiency but simultaneously created new barriers for older adults. Many governmental, medical, and financial services now rely exclusively on online platforms, with few offline alternatives, leaving older adults institutionally marginalized. Existing social protection systems and public policy frameworks often fail to accommodate their specific needs in digital contexts, placing them at a disadvantage in terms of rights realization and resource access (Hu, Miao, 2025). This insufficient institutional adaptation not only generates “institutional exclusion” but also narrows their channels of entry into public affairs and governance, significantly restricting their capacity for social participation.

3.3. Cultural Dilemmas

The value logic of a digital society emphasizes speed, efficiency, and innovation, while older adults often prefer stability, familiarity, and controllable modes of interaction. Generational differences prevent them from sharing the digital language and behavioral norms of younger groups, heightening psychological discomfort and feelings of exclusion. Many older adults lack trust in or identification with digital technologies, leading to active avoidance behaviors in digital contexts. This “digital isolation” renders them passive in family and community relations, deprives them of cultural opportunities for integration, and reduces their willingness to participate in social interactions and public life.

3.4. Multidimensional Intersections

Technological, institutional, and cultural dilemmas do not exist in isolation but interact and accumulate. Technical barriers obstruct access to digital public services; institutional inadequacies reinforce their marginalization in resource distribution; and cultural divides intensify feelings of isolation at the psychological and identity levels. These multidimensional forms of social exclusion weaken older adults’ social functions and deplete their social capital. Consequently, opportunities and capacities for social participation are progressively eroded, with their digital dilemmas ultimately manifesting as systemic restrictions on social participation.

4. CASE ILLUSTRATIONS OF DIGITAL EXCLUSION AND SOCIAL PARTICIPATION

4.1. Medical Services

With the rise of smart healthcare, online registration, electronic payments, and telemedicine have become dominant service modes, enhancing efficiency in resource allocation. Yet older adults, lacking adequate devices or skills, are often unable to operate such systems, resulting in exclusion from essential healthcare (Ji, Wannian et al., 2025). This not only undermines health protection but also reduces opportunities for participation in the broader public health system, gradually marginalizing them within social support networks.

4.2. Government Services

The comprehensive digitalization of government services has led many regions to scale back offline service windows, requiring citizens to complete identity verification and administrative processes through digital platforms. Older adults with limited digital skills find it difficult to adapt, leaving them unable to exercise their rights equally in governance processes. Such institutional exclusion directly limits their participation in public affairs, thereby concretizing social exclusion at the level of institutional operations.

4.3. Financial Transactions

The widespread adoption of mobile payment systems has increased convenience but simultaneously diminished the use of cash. For older adults unfamiliar with mobile payments, this shift creates disadvantages in daily consumption and social interaction(Liang, Xue, 2025). When restricted payment methods lead them to reduce outings or social exchanges, their opportunities for participation decline further, resulting in a dual exclusion in both economic activities and social connections.

4.4. Social and Cultural Interaction

Digitalization not only transforms material service access but also reshapes social interaction and cultural life. Younger generations rely heavily on social media and online platforms to maintain relationships, whereas older adults, constrained by digital limitations, often fail to integrate into these modes of interaction. This “digital isolation” diminishes their social connections and cultural identification, reducing participation in social and cultural activities and deepening their marginalization.

5. MECHANISMS FOR ENHANCING SOCIAL PARTICIPATION

This chapter, grounded in Social Exclusion Theory, defines older adults’ digital dilemmas as the combined effects of technological, institutional, and cultural exclusion. Guided by Social Participation Theory, participation is conceptualized as a three-stage process—entry, embedding, and active engagement. On this basis, a mechanism system is proposed, composed of technological empowerment, institutional protection, social support, capacity building, and collaborative governance, with emphasis on progressive design from accessibility to sustainability. The framework integrates diverse resources through rule alignment and responsibility matching, and evaluates outcomes in terms of participation opportunities, quality, and social capital accumulation.

5.1. Technological Empowerment: Opening the Entry Point

Technology should follow age-friendly design principles, making access to the digital society the default feature of products and services. Simplified interfaces, voice interaction, error tolerance, and step-by-step guidance can reduce cognitive load, while multiple entry channels—such as community kiosks and assisted service points—help overcome hardware and network deficiencies(Lin, Lin, 2025). Transparent and appealable algorithmic governance further reduces risks of exclusion, enhancing accessibility and expanding opportunities for participation.

5.2. Institutional Protection: Ensuring Equal Participation

Institutional arrangements are key to turning accessibility into attainability. Minimum standards should guarantee “reasonable accommodation” and “equivalent accessibility,” including rights to offline channels, human assistance, and barrier-free information. Dual-track service provision—digital

and offline-combined with supervisory mechanisms such as performance evaluation and complaint resolution, strengthens rights realization and channel availability, thereby broadening the scope of participation in public affairs.

5.3. Social Support: Rebuilding Embeddedness

Family, community, and social organizations provide relational support that sustains participation. Intergenerational assistance reduces one-off learning burdens, community initiatives such as “digital companions” or peer mentors offer long-term assistance, and organizations deliver contextual guidance and advocacy (Qin, Mengmeng et al., 2025). These supports enhance older adults’ connectedness, perceived control, and motivation, transforming access into durable engagement.

5.4. Capacity Building: Sustaining Active Engagement

Structured digital education is essential for converting short-term assistance into long-term agency. Layered training-ranging from basic operation to safe application-combined with iterative learning and performance evaluation helps older adults move from “using” to “appropriating” technology. Capacity building not only improves tool usage but also strengthens confidence in civic participation, volunteering, and cultural activities.

5.5. Collaborative Governance and Dynamic Evaluation

Sustainable inclusion requires alignment among government, platforms, organizations, and families. Governments should provide regulatory frameworks and resources, platforms must adopt inclusive design and transparent algorithms, organizations should coordinate services and advocacy, and families ensure everyday emotional and practical support. Continuous evaluation-using process and outcome indicators such as service success rates, participation frequency, and perceived isolation-creates feedback loops that correct biases and reinforce system effectiveness.

5.6. Sequential Implementation: From Access to Agency

The mechanism should follow a sequential logic: ensuring entry through technology and institutions, consolidating engagement through education and social support, and sustaining participation through collaborative governance. Empirical hypotheses can be tested, such as whether the simultaneous improvement of access and institutional protection amplifies the effect of capacity building, or whether dense support networks significantly reduce “digital isolation.” Ultimately, this integrated pathway reverses the negative chain of exclusion-restriction-disembedding into a positive chain of accessibility-attainability-agency, enabling older adults’ sustained, effective, and dignified participation in the digital society.

6. CONCLUSION

Grounded in Social Exclusion Theory and complemented by Digital Divide Theory and Social Participation Theory, this study demonstrates that the essence of older adults’ digital dilemmas lies in multidimensional exclusion across technology, institutions, and culture. The outcome is a systematic restriction of participation opportunities and channels. The findings reveal that older adults encounter obstacles at three key stages: entry into the digital society, equal access to public services, and the maintenance of social relationships. This forms a chain of inaccessibility-unattainability-loss of agency, which not only deepens the understanding of digital dilemmas but also directly links them to the erosion of social participation, thereby overcoming the limitations of explanations that focus solely on technological gaps or institutional deficiencies.

Building on this, the study proposes a social participation mechanism consisting of technological empowerment, institutional protection, social support, capacity building, and multi-actor collaborative governance. The mechanism aims to reverse the negative chain of exclusion-restriction-disembedding and to facilitate the full integration of older adults from initial access to sustained and effective participation in the digital society. Theoretically, it provides a systematic explanation of the relationship between social exclusion and social participation; practically, it offers policy tools for inclusive digital governance. Future research may employ empirical investigation and cross-national comparison to further test the effectiveness and applicability of this mechanism, thereby enriching the application of Social Exclusion Theory in digital contexts and offering interdisciplinary insights for digital governance in aging societies.

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