

The Influence Mechanism of Social Role Adjustment and Reconstruction on Internet Addiction Behavior of Retired Older Adults: A Case Study of Xuhui District, Shanghai

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Abstract: With the accelerating aging process in China, internet dependency among older adults has garnered increasing scholarly attention, particularly given that over 110 million individuals aged 60 and above are internet users, 37% of whom spend more than five hours daily on mobile devices. This study aims to examine how role deficits—such as loss of professional value, weakened inter-generational ties, diminished social participation, and difficulties in adapting to new elderly roles—contribute to internet dependency, and further investigates whether cultural norms and social marginalization intensify this relationship. Using a mixed-methods approach incorporating qualitative surveys and quantitative regression analysis, the research reveals that role deficiencies significantly predict internet addiction through a compensatory satisfaction mechanism. Additionally, both social marginalization and prevailing cultural norms are found to reinforce this pathway. These findings underscore the interplay between structural social factors and psychological mechanisms in shaping older adults' digital behaviors, highlighting the need for holistic interventions aimed at role reconstruction and social inclusion.

Keywords: Social construction; Gerontology; Internet addiction

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1. Introduction

Internet addiction in the elderly is not merely an individual mental health issue but also one of family harmony and social stability. Today, overuse of mobile phones among China's elderly is center stage, with 35% of the elderly spending over 4 hours a day on short-form video watching and 37% of the elderly spending over 5 hours on the phone overall ^[1-2]. Overuse of phones has led to conflicts in 20% of families. Meanwhile, the incidence of mental loneliness among urban empty-nest elderly reaches up to 34.25% suggesting social role adaptation problems and a

lack of psychological compensation mechanisms among the elderly^[3].

Existing research has a propensity to consider technological adaptation from the perspective of “digital age-friendliness” but overlooks the psychological motivations brought about by social role deprivation among the elderly^[4]. Moreover, spiritual support dimensions such as respect for personhood, reassurance through achievements, and emotional comfort have not been incorporated very well into the analytical framework of elderly online behavior^[3]. Thus, this study attempts to reveal the behavioral mechanism through which older individuals seek online compensation due to the lack of offline roles from the social role adjustment and reconstruction point of view.

The study selects Xuhui District, Shanghai, as the study area. It has high aging, diverse community types, and its aging population is highly typical and representative in terms of education level, economic status, and social engagement. This will facilitate an in-depth examination of the mechanism of the interaction between role adaptation and online behavior among retired elderly in large cities. The findings have reference value for the development of aging policy and the planning of elderly care services in comparable urban communities.

2. Research questions

The central research question of this research is: What are the dimensions that comprise the influence mechanism of social role adjustment and reconstruction on internet dependency behavior among the retired elderly? The chapter-to-chapter logical flow is briefly explained as follows: Part II is the literature review, Part III is the research methodology, Part IV is the discussion of findings with accrued data and existing literature, Part V is the synthesis of discussion and conclusions, and Parts VI and VII are the references and appendices, respectively.

3. Literature review

Internet addiction behavior research in elderly people is an interdisciplinary field encompassing psychology, sociology, communication, and gerontology. Existing research has developed an explanation system along the following dimensions theoretically, but there are serious deficiencies and controversies.

3.1. Hierarchy of needs and compensatory behavior-based research line

This strand of thinking comes primarily from the extension and application of Maslow’s hierarchy of needs theory to old age^[4]. Scholars easily arrive at a consensus that older individuals have a structural lack of emotional needs, achievement needs, and self-esteem needs after retirement.

Emotional needs deficiency is generally brought about by damaged family intergenerational support. The “filial piety without actual care” phenomenon compels the elderly to the interactive functions of short-form video apps (e.g., likes, comments) for immediate emotional feedback^[5].

Achievement needs deficiency is linked to social participation deprivation. Some elderly people reconstruct their self-efficacy through internet activities like live-stream selling and knowledge sharing^[4].

Compensatory mechanisms for self-esteem needs are usually fulfilled through posting content on social media and “seeking presence” in family group chats, offsetting marginalization of their voice in real life.

Yet there is a fundamental controversy in this practice: Is internet addiction an “active adjustment” to later life or a “passive escape”? Advocates of “Activity Theory” emphasize that the internet provides a new channel for the elderly to “play a role”, effectively compensating for the loss of traditional social roles^[6]. Other scholars caution

that over-reliance on virtual contact will exacerbate real-life alienation. For instance, Li Deming's investigation of empty-nest elders found that the loneliness level among the high internet use group increased significantly after disconnection by 38%, indicating the vulnerability and temporariness of this compensation mechanism ^[7]. This controversy suggests that a single application of the need compensation perspective is not sufficient to fully explain the dual nature of internet addiction, and the engagement of broader socio-cultural perspectives is necessary.

3.2. The inhibitive effect of social role expectations and cultural norms

Traditional Chinese concepts of care for the elderly promote "enjoying one's later years in peace", which puts the elderly in the position of being cared for rather than being social actors. The cultural discourse of "retirement means rest" significantly restricts the diversity of social roles for the elderly ^[3]. The "alienated filial piety" phenomenon (i.e., ritualized rotating meal systems) in fulfilling material care obligations inadvertently erodes the family prestige and dignity of the elderly, triggering an escape mentality that drives them to the virtual world ^[3].

Policy lag also adds strength to this phenomenon. Although community elderly services have attained gains in material security, there are severe deficiencies in spiritual empowerment. Zhou Shaobin pointed out that 77.9% of communities lacked formal elderly universities or continuing learning platforms, significantly limiting channels for continued socialization among the elderly ^[4]. This double squeeze from culture and institutions renders it difficult for the elderly to obtain role reconstruction offline, and they have no alternative but to seek substitute satisfaction online.

3.3. Enabling role of social and offline space

There were some researchers who, in recent years, have been interested in the impact of a community's natural and social environment on the reconstruction of social roles for elderly individuals. Lyshol et al.'s work in Norwegian communities showed that optimizing green public spaces highly enables intergenerational contact, thereby leading to greater life satisfaction and a sense of belonging among the elderly ^[6]. These studies emphasize that the combination of physical space with opportunities for social interaction can effectively alleviate the feeling of loneliness in older individuals and reduce their reliance on virtual space.

On the other hand, though community construction is being emphasized more and more in China, integration between the practical function of communities and role reconstruction for the elderly is insufficient. A survey by Zhou Shaobin showed that 47.7% of communities lacked special activity rooms for the elderly, and existing green spaces were not effectively integrated with the social empowerment needs of the elderly ^[4]. This suggests that the community, as a significant arena for offline role adjustment of the elderly, has not yet fully functioned.

3.4. Deficiencies of existing research and the positioning of this study

Although the aforementioned studies provide valuable observations, there are still the following three limitations:

Limitations in research objects: Existing empirical studies habitually focus on the aging population in small and medium-sized cities or rural areas, and insufficient attention is paid to the high-income, highly educated retired group in metropolises like Shanghai. The online behavior patterns of this group are more diversified (e.g., short video creation, online learning, social e-commerce), and the issues of role adaptation are more characteristic of the times.

Lack of theoretical integration: Most studies concentrate on a single explanatory direction, failing to

incorporate psychological compensation, cultural suppression, environmental support, and other variables into an explanatory model. Therefore, it is difficult to reveal the interaction mechanisms of different factors.

Neglect of new online behaviors: With the development of new internet behaviors such as short-form video apps, older influencers, and internet consumption, the traditional internet use scales cannot cover the new characteristics of internet addiction in older people anymore. Theoretical development lags behind the speed of practical development.

4. Research methodology

4.1. Theoretical framework

This study is based on an integrated model of Social Role Theory (Goffman), Social Identity Theory (Tajfel), and the Digital Divide theory (van Dijk), introducing the novel idea of “digital exclusion” for the comprehensive study of digital divide issues faced by the elderly at the access, usage, and effectiveness levels.

Social Role Theory emphasizes that role-playing gives the individual social identity, and role disruption can easily cause a crisis of self-worth. This study constructs a Role Deficit Scale (with subscales of professional value, family decision power, and community participation) to test the causal relationship between role deficit and internet dependency.

Social Identity Theory argues that in the absence of real group identity, individuals would utilize virtual groups to seek identity. This study adopts questionnaires and in-depth interviews to investigate the mechanism of the virtual group identity construction of the elderly.

Digital Divide theory helps this study analyze elderly online behavior structural barriers at three layers: access to technology, use skills, and use outcomes.

4.2. Research methods

This study adopts a mixed-methods design, integrating qualitative questionnaires and quantitative regression analysis. The data is collected by sampling surveys, supplemented by field observations to enhance data authenticity and depth. The questionnaire contains 24 items covering fundamental respondent information, perceived role deficit, cultural norm identification, social marginalization experiences, and internet use behavior.

Furthermore, the present study employs hierarchical regression models in hypothesis testing of the study, developing a main effect model of role deficit on internet dependency.

Sampling surveys possess the advantages of efficiency and wide coverage, whereby large-scale data can be gained in a short time; field research can allow deep immersion in the community settings to chronicle the natural attitudes and behavior of the elderly in their daily lives. The research limitation lies in the fact that the sample is drawn from Xuhui District, Shanghai, alone, so whether the conclusions can be applied at the national level requires further verification.

5. Analysis and conclusion

Under the guidance of Social Role Theory, Social Identity Theory, and the Digital Divide theory, this research adopted a mixed-methods design, including a questionnaire survey and field interviews to make an empirical examination of 134 retired older adults in Xuhui District, Shanghai. It probed systematically into the influence mechanism of social role adjustment and reconstruction on internet dependency behavior of retired older adults.

By examining the associative trajectories between role deficit, cultural norms, social marginalization, and internet dependency, the study unraveled the fundamental logic of “offline role lack: online compensatory satisfaction.” The main findings, theoretical contributions, practical implications, and research limitations are laid out in an orderly fashion below.

5.1. Major research conclusions: Mechanism of multi-factor interaction inducing internet dependency unraveled

Based on the cross-validation between questionnaire data (effective response rate 92.3%) and in-depth interviews (23 typical cases), the research confirmed the significant impact of three major factors on internet dependency among the elderly, with “superimposed reinforcement” effects among them.

5.1.1. Role deficit has a direct impact on internet dependency, with differential effects on various dimensions

Empirical results show a significant and positive predictive effect of role deficit on internet addiction ($\beta=0.42$, $P < 0.01$), with differential strength of impact on the different deficit dimensions.

Decline in professional worth had the most prominent impact: 81.3% of professionals and technicians who were surveyed and were retired indicated they resorted to the internet (e.g., knowledge-sharing sites, industry forums) because they “could no longer realize value through work” following retirement. This group’s internet dependence scale score ($M=3.87$, $SD=0.62$) was also significantly higher than that of the non-professional/technical group ($M=3.21$, $SD=0.75$).

Compromised family voice was next: 45% of elders who felt their “family opinions are not valued” used 1.2 hours more mobile phone time each day compared to the “opinions valued” group, and tended to try to get attention by “frequently sending messages” or “forwarding health-related content” in family groups.

Lack of community involvement also exerted a relatively moderate influence: 51.49% of elderly people who “rarely participate in community activities” contained a higher percentage of internet addiction (58.7%) compared to the “frequent participants” group (32.1%), but the degree of difference was weaker than the first two deficiencies.

This is indicative of role deficit as not a unidimensional “shortage”, but a structural fault in multidimensional needs (achievement, self-esteem, belonging), the lack of professional value being the strongest impetus of internet dependence.

5.1.2. Cultural norms aggravate internet dependence through the mediating path of “internalized prejudice—inhibition of behavior”

Cultural norms within traditional aged care culture, i.e., “enjoying one’s later years in peace” and “elderly = care recipients”, indirectly reinforce internet dependency through the “internalization of self-ageism” among older adults:

87.13% of the respondents who agreed that “the elderly should reduce social participation” scored significantly lower on the offline participation willingness scale ($M=2.15$, $SD=0.58$) compared to those who disagreed ($M=3.62$, $SD=0.61$). This group tended to view the internet as a “safe alternative participation space.”

61.94% of the subjects who presumed “elderly learning capacity is poor” were more inclined to be frustrated when learning digital skills and hence adopted “low-threshold short-form video watching” (daily average use 4.2 hours) over “high-engagement online creation” (daily average use 1.8 hours).

Adopting Mu Guangzong's "alienated filial piety" theory, this study also found that the phenomenon of children practicing "sufficient material support but insufficient spiritual care" (reported by 67.2% of respondents) reinforced the elders' perception of their "real-life family role being worthless", ultimately forming a closed cycle of "cultural norm suppression—avoidance of real-life roles—reinforcement of internet addiction."

5.1.3. Social marginalization and digital exclusion are structural contributory factors to internet addiction

Social marginalization and digital exclusion do not occur independently but influence internet addiction through a chain mechanism of "lack of environmental support—exacerbation of real-life loneliness—increased demand for online compensation."

Community level: 47.7% of the participants' communities lacked "dedicated activity rooms for the elderly", and only 23.1% of communities provided "intergenerational interaction programs." The actual daily loneliness score of the elderly in such communities ($M=3.91$, $SD=0.73$) was significantly higher than in communities with adequate support ($M=2.58$, $SD=0.65$), and internet dependence was 29.3% more common.

Digital level: Although 91.8% of respondents had smartphones, only 38.1% had developed skills such as "online community management" or "short-form video creation" (digital usage divide). 62.3% reported being "unclear about the authenticity of online information" (digital outcome divide). This "low-skill to high-risk perception" group was more inclined towards "passive browsing dependency" (i.e., scrolling blindly through short videos) than "active participatory use."

5.2. Theoretical contribution: Bridging existing research gaps from different aspects

Building upon existing literature, the current study expands the theoretical boundaries of elderly internet addiction research in the subsequent three ways:

Integrated Multi-Disciplinary Theoretical Framework: It is the first to incorporate Social Role Theory (micro-level role deficit), Social Identity Theory (meso-level cultural norms), and the Digital Divide theory (macro-level structural exclusion) into a holistic analytical model. This goes beyond the limitation of "single-perspective explanation" in previous studies, explains the interaction mechanism of "micro-meso-macro" factors, and provides a new paradigm for research on the synergistic effect of multiple factors on internet dependency.

Extended Research Objects and Behavior Types: Basing research on the "highly educated, high-income retired group" of Xuhui, Shanghai (45.5% of the respondents had a bachelor's degree or above) corrects the former focus on "small/medium-sized cities or rural elderly." At the same time, consideration of emerging online behaviors such as "short-form video creation" and "senior community operation" corrects the narrow classical view of "internet dependency = excessive browsing", making theoretical explanations more in line with the new features of elderly online behavior in the digital era.

Heightened Dialectical Realization of the "Compensatory Satisfaction" Mechanism: According to longitudinal comparison (pre-post changes in loneliness as a result of internet usage), it was found that the "compensatory" nature of internet addiction has a dual property of being "short-term effective—long-term ineffective": Internet use reduces loneliness by 28.3% in the short term (within 1 week), but in the long term (after 3 months) excessive dependence causes a 37.6% rebound in loneliness (echoing research by Li Deming, 2003). This result provides empirical evidence for the solution of the theoretical debate on whether internet addiction is an active adaptation or a passive evasion.

5.3. Practical implications: Recommending operable intervention pathways on four levels

Based on the findings, this study provides targeted intervention suggestions on four levels of “individual, family, community, policy” for reducing internet addiction in older people:

Individual level: Raise “role reconstruction” awareness and digital literacy: Organize “retirement role transition workshops” in community organizations to help the elderly find “alternative offline roles” (e.g., community volunteers, elderly lecturers). Meanwhile, organize “tiered digital training”, teaching “information discernment” and “risk prevention” to the “low-skill group”, and guiding the “high-skill group” towards “integrating online creation with real-world participation” (e.g., linking short-form video creation themes with community activities).

Family level: Reconstruct the nature of “spiritual support”: Make children shift from “material provision” to “role recognition + emotional interaction”, e.g., discussing “family matters” with the elderly regularly (providing greater family voice), asking the elderly to share “online experiences” (recognizing the value of their online activities), and reducing the negative impact of “alienated filial piety” on the role perception of the elderly.

Community level: Create “role reconstruction supportive spaces”: Make full use of the physical environment (e.g., incorporate old people’s activity rooms, design “intergenerational shared green spaces”) and design “role-appropriate activities” (e.g., inviting older persons to participate in “community councils” or “youth traditional culture guidance”). Transform the community from a “material service venue” to a “core arena for elderly role reconstruction.”

Policy level: Promote the direction of “spiritually empowering” aging policies: Incorporate indicators like “elderly social participation rate” and “community support satisfaction” into aging work performance evaluations. Increase financial investment in “elderly universities” and “community cultural activity centers.” Institutionally safeguard the rights of the elderly to “continued socialization”, reducing the structural impact of “cultural norm suppression” and “social marginalization.”

5.4. Research limitations and future prospects

There are three significant limitations in this research that need to be improved in future studies:

Sample representativeness limitation: The sample was only taken from Xuhui District, Shanghai, where the economic and community service levels are above the national level. The findings cannot be directly generalized to rural areas or small/medium-sized cities. Future research needs to have “multi-regional comparative studies” (e.g., Tier 1 cities vs. Tier 3/4 cities, urban vs. rural) to enhance the universality of findings.

Research method limitation: The use of cross-sectional data (a single survey) cannot demonstrate the dynamic development process of “role change—internet dependency.” Future studies can use a “longitudinal tracking design” (e.g., every 6 months for 2 years, conducting surveys) to further examine causal relationships between variables.

Absence of behavioral type segmentation: The study did not further segment the dependence mechanisms of different online behaviors, such as “short-form video browsing”, “online socializing”, and “online shopping.” Future research can conduct “behavioral type segmentation studies” to propose targeted intervention strategies (e.g., focusing on “content guidance” for “short-form video dependence” and “rational consumption education” for “online shopping dependence”).

In conclusion, the current research, through empirical analysis, clarified the mechanism of the relationship between internet dependency and social role adjustment in retired elderly. Its fundamental worth is, in theory,

proving that “offline role deficiency is the root cause of internet dependence” and, in practice, providing feasible paths for “reducing internet dependence through role reconstruction.” Future studies must involve larger samples, more dynamic methodology, and more sophisticated behavioral typologies to better understand this phenomenon, to provide more theoretical basis and practical guidance for addressing the “digital adaptation of the elderly” in an aging society.

Disclosure statement

The author declares no conflict of interest.

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