

The Impact of New Media Use on Quality of Family Ethical Life of Older Adults

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Research Article

Keywords: New media, Family communication, Quality of family ethical life, Intergenerational support, elderly adults

Posted Date: September 9th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10601839/v1>

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Additional Declarations: No competing interests reported.

Abstract

Background

The present study examines the effect of new media use and its associated online intergenerational relations on the quality of family ethical life among Chinese older adults.

Methods

In this regard, a total of 480 Chinese older adults, consisting of 304 females and 176 males with varying ages, educational levels, and income levels, were included in the study. Data were collected through a questionnaire survey, including a personal information form and a self-developed Family Ethical Life Quality Questionnaire for Older Adults. Accordingly, reliability analysis, regression analysis, and other statistical methods were employed.

Results

Results Significant positive predictive effects of new media perception and new media access (the first-level digital divide) were found on the quality of family ethical life among older adults, whereas no significant effects were found for new media usage frequency and usage functions. Online intergenerational support (upward type) was found to have a significant positive effect on the quality of family ethical life among older adults. Digital back-feeding within the family, as an integral component of the technical and informational support underlying upward online intergenerational support, plays a significant role in the quality of family ethical life among older adults. Older adults perceive upward online intergenerational support as part of "online filial piety culture," which in turn influences their quality of family ethical life.

Conclusions

This study enriches the research on the effects of new media access and use in the field of aging research in a mediatized society, and brings the "home" culture and family communication perspective to the study of the quality of life of older adults.

Background

China is experiencing rapid and sustained population aging. By the end of 2025, the population aged 60 and above reached 323.38 million, accounting for 23.0% of the total population, while those aged 65 and above numbered 223.65 million, representing 15.9% [1]. Against the backdrop of an increasingly intertwined aging society and digital society, new media use has become increasingly embedded in the daily lives of older adults, serving as a key channel for maintaining interpersonal relationships, accessing

information, and engaging in leisure activities. However, the mechanisms through which new media use affects family quality of life among older adults remain both theoretically underdeveloped and empirically underexamined.

Galbraith (1958) first introduced the concept of "quality of life," which scholars generally recognize as encompassing both objective and subjective dimensions and both social and individual indicators [2]. The World Health Organization defines it as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" [3]. Although China and the West differ culturally, family quality of life consistently constitutes an essential component of older adults' overall well-being [4, 5]. This is especially evident from disengagement theory: after retirement, older adults' social contacts increasingly narrow to the family sphere, making family relationship quality a direct determinant of life satisfaction [4]. In China, where family-based eldercare has long predominated, family relationships are the social ties older adults rely on most. Thus, family quality of life is intrinsically linked to their overall quality of life. Particularly within the cultural tradition of "family-orientation," family ethical norms function as a key evaluative yardstick, and family well-being serves as the ultimate measure of older adults' quality of life. Accordingly, this study defines family ethical quality of life as the holistic satisfaction experience that older adults derive from their subjective perception and appraisal of ethical family relationships—encompassing intergenerational responsibility, emotional reciprocity, and filial piety norms—within the family context.

As digital media become increasingly embedded in family spaces and family structures continue to shrink, the spiritual and emotional functions of the family are undergoing a gradual decline, posing new challenges for research on older adults' family ethical quality of life. Accordingly, the present study asks two core research questions: (1) What is the current status of family ethical quality of life among older adults in China? and (2) Do new media use and the associated online intergenerational relationships affect older adults' family ethical quality of life, and if so, through what mechanisms?

In mediatized societies, quality of life and subjective well-being are increasingly shaped by media-related factors. Existing research on the relationship between internet use and life satisfaction among older adults has predominantly drawn on three theoretical perspectives [6]. The first is the network enhancement effect, which posits that new media serve as a crucial channel for older adults to maintain or establish social relationships, enhance social capital, and improve life satisfaction—largely through the mediating mechanism of alleviating loneliness [7, 8]. Cotton et al. (2013) observed that the internet overcomes the spatial and temporal constraints on older adults' activities, enabling them to maintain or even expand their social connections with the outside world [9]. The second is the displacement effect, which argues that new media use reduces older adults' offline social interactions and participation, thereby adversely affecting loneliness and life satisfaction. Kraut et al. (1998) found that excessive online interaction exerts a substitution effect on offline interaction [10]; Nie and Erbring (2001) further suggested that heavy internet use may crowd out offline activities in physical space [11]. The third is the contextual approach, which contends that there is no stable or significant overall relationship between

the two; rather, the effects may depend on media type, frequency of use, usage experience, and usage motives, with socioeconomic and individual factors also playing a non-negligible role [12]. Gallistl and Nimrod (2020), based on a study of 10,527 older internet users across seven countries, found that selectivity in media use significantly shapes older adults' quality of life [13]. Jiang and Creighton (2026), drawing on data from the Survey of Health, Ageing and Retirement in Europe, found that the presence of children significantly enhances older adults' internet access and skill levels, and that intergenerational contact frequency yields the most favorable outcomes at moderate levels [14].

Notably, prior research has paid insufficient attention to the multidimensional nature of older adults' media perception, access, and usage patterns, and direct empirical investigations of family ethical quality of life as an outcome variable remain sparse. To address these gaps, the present study proposes the following hypotheses:

H1: New media perception has a significant effect on older adults' family ethical quality of life.

H2-1: Smartphone use (as a form of new media access) has a significant effect on older adults' family ethical quality of life.

H2-2: Computer use (as a form of new media access) has a significant effect on older adults' family ethical quality of life.

H3: The frequency of new media use has a significant effect on older adults' family ethical quality of life.

H4-1: Socially oriented new media use has a significant effect on older adults' family ethical quality of life.

H4-2: Instrumentally oriented new media use has a significant effect on older adults' family ethical quality of life.

Intergenerational relationships constitute a critical factor shaping older adults' quality of life. Lowenstein (2007) demonstrated that intergenerational mutual support and ambivalent emotions jointly predict older adults' quality of life [15]. Studies have further shown that the quality of interactions with family members is more strongly associated with life satisfaction than that with friends [16]. Family social support emerges as a key determinant of quality of life among Chinese older adults [17], exerting an even greater influence than health and economic status [18]. Drawing on reciprocity theory, Thalhammer (2025) identified three dimensions of intergenerational media support actions within families—direct and generalized reciprocity, creation and maintenance of action options, and emotional recognition—emphasizing that the balance of intergenerational media support is pivotal to older adults' digital inclusion [19]. With respect to the directionality of intergenerational support, traditional filial piety culture emphasizes upward support from adult children to elderly parents in the forms of financial assistance, daily care, and emotional comfort [20]. However, contemporary patterns have evolved into more complex bidirectional flows: older adults not only receive support from their children but also provide assistance in return, such as grandchild care and household help [21]. Research indicates that older adults in

bidirectional support arrangements tend to report higher levels of life satisfaction than those in unidirectional arrangements [22].

As mobile internet technologies become increasingly embedded in family spaces, new media are reshaping family communication patterns and intergenerational relationships [23]. Studies have shown that internet use helps older adults maintain close intergenerational ties, thereby enhancing their subjective well-being [24]; social media use also positively affects the well-being of older adults living alone, mediated by intergenerational support and social activities [25]. Nevertheless, the specific mechanisms through which online intergenerational relationships influence older adults' family ethical quality of life remain underexplored and warrant further investigation. Accordingly, the present study proposes the following hypotheses:

H5-1: Upward online intergenerational support (from adult children to older adults) has a significant effect on older adults' family ethical quality of life.

H5-2: Downward online intergenerational support (from older adults to their adult children) has a significant effect on older adults' family ethical quality of life.

Methods

Sample and data collection

This study employed a questionnaire survey as the primary data collection method. The questionnaire consisted of four sections: demographic variables, the Family Ethical Quality of Life Scale for Older Adults, the New Media Use Scale for Older Adults, and the Intergenerational Relationships Embedded in New Media Scale. Data were collected between March and October 2023, using both online (via the WenJuanXing platform) and offline approaches concurrently. A total of 480 valid questionnaires were collected, yielding an effective response rate of 90.0%. The demographic characteristics of the sample were as follows: 176 male participants (36.7%) and 304 female participants (63.3%). The age distribution was predominantly concentrated in the 55–59 age group ($n = 115$, 24.0%) and the 65–69 age group ($n = 75$, 15.6%). In terms of educational attainment, the majority had completed junior high school ($n = 133$, 27.7%) or primary school ($n = 112$, 23.3%). Regarding monthly household income, the most frequently reported brackets were 2,000–2,999 RMB ($n = 115$, 24.0%) and 3,000–3,999 RMB ($n = 73$, 15.2%).

Variables and measurements

Family Ethical Quality of Life

Research on older adults' quality of life has consistently emphasized the importance of family relationships. However, no specific scale directly measuring older adults' family ethical quality of life is

currently available. Existing family quality of life (FQOL) scales, such as the Beach Center FQOL Scale [26], were originally developed for individuals with disabilities and their families, covering five domains: family interaction, parenting, emotional well-being, physical/material well-being, and disability-related support. Some scholars have proposed the concept of "family well-being," with family relationships identified as a crucial dimension [27], which has been primarily measured using a unidimensional 5-point Likert scale ranging from "very unhappy" to "very happy."

Chinese traditional society has long been characterized by a "family-oriented" ideology. From the perspective of family psychological needs, harmonious relationships among family members constitute a fundamental need within Chinese families and serve as a significant determinant of family quality of life. For older adults in China, their psychological needs are particularly oriented toward respect and filial piety from younger generations, and these family-related feelings of well-being are important predictors of their subjective well-being [28]. Accordingly, the measurement of family ethical quality of life in the present study includes items assessing "satisfaction with material support from children" and "satisfaction with emotional comfort from children." Moreover, the loss of a spouse in later life is considered one of the most distressing life events and serves as a critical indicator of family quality of life. Therefore, the present study also incorporates "satisfaction with the spousal relationship" into the measurement of family ethical quality of life. In summary, this study built upon existing measures of "family well-being," while also integrating theoretical deduction and practical interviews, and took into account the specific cultural and contextual factors relevant to family harmony and quality of life among Chinese older adults. Ultimately, three items were designed to measure older adults' family ethical quality of life, with careful attention to content validity. All items were measured on a 5-point Likert scale (1 = very dissatisfied, 5 = very satisfied). The Cronbach's α coefficient for these items was 0.864, indicating good internal consistency reliability.

Media Use scale for older adults

The Older Adults' New Media Use Scale comprised four dimensions: new media perception, new media access, usage frequency, and usage functions.

New media perception was assessed with five items examining older adults' perceptions of the usefulness of new media (1 = strongly disagree, 4 = strongly agree).

New media access was assessed with two items asking whether participants had access to computers or smartphones (yes = 1, no = 0).

New media usage frequency was assessed with three items measuring the frequency of using WeChat and Douyin (the Chinese version of TikTok)—two platforms commonly used by older adults—as well as the daily duration of internet use.

New media usage functions were measured by assessing the frequency of use across 11 common functions (1 = hardly ever use, 4 = use very frequently). An exploratory factor analysis (principal

component analysis with varimax rotation) was conducted, yielding two factors that explained 59.48% of the total variance. The Kaiser–Meyer–Olkin (KMO) measure was 0.89 ($p < .001$). The two factors were labeled as social-oriented new media use and instrumental new media use.

Online Intergenerational Support

Online intergenerational support was measured in two directions: upward support (from adult children to older adults) and downward support (from older adults to adult children). The scale comprised three items for upward support and five items for downward support, all rated on a 4-point Likert scale ranging from 1 (none) to 4 (very much).

Control Variables

Prior research has suggested that demographic variables such as gender, age, education, and income may influence older adults' subjective well-being [29], and a healthy lifestyle has been shown to enhance well-being among the oldest-old in China [30]. Accordingly, we included gender, age, education, income, and health status as control variables in the present study. Descriptive statistics for all variables are presented in Table 1.

Table 1. Descriptive statistics for all variables			
Variables and consistency coefficient	Titles	Mean	Standard Deviation
Family Ethical quality of life $\alpha = .864$	satisfaction with material support provided by children	3.68	.979
	satisfaction with emotional comfort provided by children	3.43	1.159
	satisfaction with the spousal relationship	3.62	1.038
New media perception $\alpha = .756$	Stay vigilant against online scams and traps.	2.58	.947
	Need to acquire new skills to adapt to the digital age	2.68	.905
	Having learned to use new technologies, I have a sense of pride	2.55	.928
	Limited usefulness and constraints of new technologies	2.44	.839
	Enrichment of spiritual and cultural life via the Internet	2.60	.969
Frequency of using new media $\alpha = .776$	Frequency of using WeChat	4.08	1.628
	Frequency of using Douyin (Tiktok)	3.56	1.666
	Frequency of accessing the internet	3.30	1.821
Socially oriented new media use $\alpha = .785$	Contacting family	2.87	.897
	Contacting friends	2.62	.970
Instrumentally oriented new media $\alpha = .874$	Browse news	2.20	1.030
	Inquiring (searching) information	1.93	.978
	Online learning	1.51	.844
	Playing games	1.45	.797
	Listening to music/radio	1.82	.927
	Watching movies and TV dramas	2.00	.973
	Watching short videos	2.20	1.036
	Online shopping	1.95	1.025
	Internet payment	2.21	1.067

Table 1. Descriptive statistics for all variables			
Downward online intergenerational support $\alpha = .769$	Sending WeChat Red Packet to children/grandchildren	2.01	0.947
	Caring about children's work and life through WeChat	2.39	0.973
	Sharing life experience with children/grandchildren through WeChat	2.20	0.984
Upward online intergenerational support $\alpha = .854$	Children teach you how to use WeChat	2.42	0.963
	Children send you WeChat Red Packet	2.13	0.907
	Child sends you life messages via WeChat	2.21	0.92
	Children sends you holiday greetings and condolences via WeChat	2.36	0.977
	Children sends you goods through online shopping	2.33	0.979

Results

Overall, older adults' perceptions of their family ethical life tended toward the satisfied end of the scale ($M = 3.64$, $SD = 0.906$). Specifically, they reported the highest level of satisfaction with material support from their children ($M = 3.68$, $SD = 0.979$), followed by satisfaction with their spousal relationship ($M = 3.62$, $SD = 1.038$), whereas emotional comfort from their children received the lowest rating ($M = 3.43$, $SD = 1.159$).

In Regarding new media cognition, older adults held generally positive perceptions ($M = 2.54$, $SD = 0.66$), believing that new media are beneficial to life in the digital age and particularly helpful for older adults. In terms of new media access and use, smartphone ownership accounted for 78.8% of the sample, and computer ownership accounted for 30.0%. Moreover, older adults exhibited a relatively high frequency of new media use ($M = 3.65$, $SD = 1.42$). With respect to specific usage functions, contacting family members ($M = 2.87$, $SD = 0.90$) and contacting friends ($M = 2.62$, $SD = 0.97$) were the most frequently reported activities, followed by browsing news ($M = 2.20$, $SD = 1.03$) and watching short videos ($M = 2.20$, $SD = 1.03$), while learning ($M = 1.51$, $SD = 0.84$) and playing games ($M = 1.45$, $SD = 0.80$) were the least commonly used functions.

Among the upward online intergenerational support items, "children teaching older adults how to use WeChat" was the most frequently reported ($M = 2.42$, $SD = 0.963$), followed by "providing care and sympathy through WeChat" ($M = 2.36$, $SD = 0.977$). By contrast, "children sending red packets to older adults via WeChat" was relatively less common ($M = 2.13$, $SD = 0.907$). These findings suggest that, in

upward online intergenerational support, children tend to provide more technological and emotional support, whereas financial support is comparatively limited.

Similarly, for downward online intergenerational support, the most prevalent item was "caring about their children's work and life through WeChat" ($M = 2.39$, $SD = 0.973$), followed by "sharing life experiences with their children/grandchildren via WeChat" ($M = 2.20$, $SD = 0.984$), while "sending red packets to children/grandchildren through WeChat" was the least common ($M = 2.01$, $SD = 0.947$). Thus, emotional and informational support also dominated the downward direction, with financial support being the least frequently provided. This pattern is consistent with prior research, which found that spiritual support constitutes the primary form of downward intergenerational support provided by older adults (nearly 70%), followed by daily care support (nearly half), while financial support is the least frequent (less than 40%) [31].

To account for the interactions among variables, we constructed three stepwise regression models to clearly delineate the hierarchical structure and the effects of variables at each level (see Table 2). Model 1 examined the association between older adults' family ethical quality of life and their individual factors. Model 2 introduced new media use as an additional predictor, and Model 3 further incorporated the influence of online intergenerational relationships, building upon Model 2.

As shown in Model 1, among all demographic variables, only health status was significantly associated with family ethical quality of life ($\beta = -0.155$, $p < .05$). Specifically, better health was associated with higher levels of family ethical quality of life. This finding is consistent with previous research. For instance, one study found that health status significantly affected the family well-being of urban first-generation only-child elderly parents [32]. Similarly, physical and mental health have been identified as important determinants of subjective well-being among older adults, with better physical functioning linked to higher subjective well-being [33].

After adding new media use variables in Model 2, the results showed that, in addition to health status ($\beta = -0.169$, $p < .01$), age ($\beta = 0.134$, $p < .05$) also emerged as a significant positive predictor of older adults' family ethical quality of life—that is, older participants tended to report higher levels of family ethical quality of life. Regarding new media use, older adults' new media cognition ($\beta = 0.285$, $p < .001$), smartphone access ($\beta = 0.210$, $p < .01$), and computer access ($\beta = 0.160$, $p < .05$) all significantly predicted family ethical quality of life. However, neither the frequency of new media use nor specific usage functions showed significant predictive effects.

Table 2. Regression Analysis of Factors Influencing Family Ethical Quality of Life			
	Model 1	Model 2	Model 3
Demographic Variables			
Sex (female)	– .035	– .001	– .019
Age	.098	.134*	.122
Culture	.007	.037	.042
Income	– .077	– .061	– .058
Health	– .155*	– .169**	– .138*
New Media Use			
New media perception		.285***	.271***
Phone (access)		.210**	.178*
Computer (access)		.160*	.133*
Frequency of New Media Use		.008	– .018
Socially oriented new media use		.009	– .048
Instrumentally oriented new media		.073	– .104
Online Intergenerational Support			
Downward Online Intergenerational Support			–0.128
Upward Online Intergenerational Support			.287**
Model Summary	R ² =0.034	R ² =0.202	R ² =0.238
	F = 1.847***	F = 5.975***	F = 6.182***
Note: Health status of older adults is on a 5-point Likert scale (1 = very healthy, 5 = very bad); *p < 0.05, **P < 0.01, ***P < 0.001			

In Model 3, after incorporating online intergenerational support variables, health status remained a significant predictor ($\beta = -0.138$, $p < .05$), with better health associated with higher family ethical quality of life. New media cognition continued to exert a strong positive effect ($\beta = 0.271$, $p < .001$), lending support to H1. Similarly, smartphone access ($\beta = 0.178$, $p < .05$) and computer access ($\beta = 0.133$, $p < .05$) both significantly predicted family ethical quality of life, supporting H2-1 and H2-2, respectively. With respect to online intergenerational relationships, upward online intergenerational support emerged as a significant predictor ($\beta = 0.287$, $p < .01$), thus supporting H5-2. In terms of standardized coefficients, the significant predictors ranked as follows: upward online intergenerational support, new media cognition,

smartphone access, health status, and computer access. Neither the frequency of new media use nor specific usage functions showed significant effects, indicating that H3 and H4 were not supported.

Discussion

This study highlights the critical role of new media cognition among older adults. The perception that learning to use new technologies facilitates adaptation to societal changes, instills a sense of pride, and enriches spiritual and cultural life appears to be conducive to improving family ethical quality of life. Conversely, older adults who perceive new technologies as burdensome, restrictive, or risky—particularly in terms of online fraud—may find it difficult to reap the benefits of digital media for family life and relationships.

Furthermore, beyond holding favorable perceptions, owning technological devices such as smartphones and computers significantly enhances family ethical quality of life. In other words, the first-level digital divide (access gap) exerts a significant influence on older adults' family ethical quality of life. This finding aligns with prior evidence that internet use is positively associated with subjective well-being among older adults, with internet users reporting significantly higher well-being than non-users [34]. Similarly, mobile internet use has been shown to have a significant positive effect on the well-being of older adults in China [35]. According to statistics from the China Internet Network Information Center, the proportion of older internet users in China has been increasing annually in recent years, suggesting that mediated influences will become increasingly embedded in family relationships, thereby shaping family ethical quality of life in the future.

Notably, however, this study found no significant relationship between the frequency (intensity) of new media use or specific usage functions and family ethical quality of life. This result is consistent with findings from research on college students' subjective well-being. For instance, Liu Yi's study reported that WeChat use intensity among college students was unrelated to any of the three dimensions of subjective well-being [36].

Existing studies on the relationship between intergenerational support directionality and subjective well-being in later life have yielded inconsistent findings, both in Chinese and Western contexts. For instance, Jahangir et al. (2025) found that the more support older parents received from their adult children, the higher their life satisfaction [37]. However, other studies have reached different conclusions. Lowenstein et al. (2007), for example, reported that older parents who received help from their children were less satisfied with their lives, whereas those who provided more help to their children reported significantly higher levels of happiness [38].

The present study found that upward online intergenerational support significantly and positively predicted older adults' family ethical quality of life, whereas downward online intergenerational support showed no significant effect. With the increasing penetration of new media into family life, older adults are empowered by the internet to interact more frequently with their children through social media, which helps maintain and strengthen intergenerational relationships, thereby positively influencing their family

ethical quality of life. This finding aligns with prior research. For example, one study found that younger-generation relatives provided the most informational, emotional, and practical support in helping older adults overcome the digital divide, and such support significantly affected older adults' subjective well-being [39]. Similarly, research on rural older adults' short-video use behavior revealed three types of digital feedback—access feedback, skill feedback, and conceptual feedback—which in turn contributed to improved intergenerational relationships and greater family harmony [40].

Several limitations of this study should be acknowledged. First, the sample data were collected primarily from older adults in Zhejiang Province, a coastal province in eastern China, and thus may not fully capture regional variations across eastern and western China, limiting the generalizability of the findings. Moreover, the questionnaire survey method employed to examine intergenerational relationships may not have fully captured the nuanced understandings and contextual interpretations of new media use and online intergenerational support among older adults. Future research could address this limitation by incorporating qualitative methods, such as in-depth interviews, to complement the quantitative findings.

Second, the measurement of online intergenerational support in this study was confined to its directional dimension (i.e., upward and downward support), without examining the content-specific dimensions—such as informational, economic, and emotional support—and their respective effects on older adults' family ethical quality of life. Future studies should investigate these content dimensions to provide a more comprehensive understanding of the mechanisms through which online intergenerational support shapes older adults' family ethical quality of life.

Conclusions

This study reveals a significant link between new media use and family ethical quality of life among Chinese older adults. Specifically, new media cognition and digital access emerged as significant positive predictors of family ethical quality of life, whereas usage frequency and specific usage functions showed no significant effects. Furthermore, upward online intergenerational support significantly and positively predicted family ethical quality of life, while downward online intergenerational support had no significant effect. These findings suggest that traditional Chinese filial piety values have extended into the digital sphere, and that older adults perceive upward online intergenerational support as part of an "internet culture of filial piety," which in turn shapes their family ethical quality of life.

From a practical standpoint, these findings underscore the importance of incorporating digital inclusion and digital adaptation for older adults as key dimensions of social participation within China's "active aging" national strategy, given their significant implications for family ethical quality of life. Moreover, as reciprocal intergenerational economic relations become increasingly prominent in the context of modernization, the internet serves as a complementary channel to offline intergenerational support, facilitating exchanges that positively influence older adults' family ethical quality of life.

Future research would benefit from examining the content-specific dimensions of online intergenerational support—such as informational, economic, and emotional support—to provide a more nuanced understanding of the underlying mechanisms. Additionally, qualitative or mixed-methods approaches could be employed to capture older adults' subjective interpretations of new media use and online intergenerational relationships. Finally, longitudinal designs and regionally diverse samples are recommended to enhance the generalizability of the findings.

Declarations

Ethics approval and consent to participate

This research was approved by the Scientific Research and Publication Ethics Committee of NingboTech University and was conducted in accordance with the Declaration of Helsinki. In addition, informed consent was obtained from all participants before the study.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests

Funding

This study is supported by the special subject of Zhejiang Provincial Philosophy and Social Science Planning Project (Research on influencing factors and promoting strategies of young volunteers participating in smart elder assistance services from the perspective of intergenerational integration).

Author Contribution

All authors listed have significantly contributed to the development and the writing of this article.

Acknowledgements

Not applicable.

Availability of data and materials

Data included in article/supp. material/referenced in article.

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