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The role of digitalization in health decisions: family and intergenerational perspective

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Abstract

Background In a culture where health decisions are often made collectively rather than individually, how digitalization reshapes this process has not been sufficiently explored. The aim of this study is to reveal how family members experience digital health technologies in the context of family health decisions and how this experience is interpreted in terms of decision-making authority, trust and intergenerational interaction.

Method In this study, phenomenological design was used to reveal how individuals experience digital health applications in the context of family health decisions and how they attribute meaning to these experiences. Participants were selected using a purposive sampling method. The sample consists of four groups [Baby Boomers, Generations x, y and z]. Individuals who met the inclusion criteria were interviewed until data saturation was reached or a new topic was created. As a result, the study was completed with sixteen participants. Interview recordings were transferred to the MAXQDA program. All recordings were analyzed, and participants' statements were coded. The codes were classified thematically. Four themes and 10 sub-themes were obtained from the codes.

Results Four main themes were identified: Digital Health Literacy, Digital Application Use and Trust, Family Decision Processes, Intergenerational Interaction. Access to health-related information evolves from family advice to digital resources in the process from the Baby Boom generation to Generation Z. Likewise, while trust in digital tools is high in Generation Z, it is observed that trust decreases with age and is approached cautiously. Unlike others, Generation X participants characterize themselves as both decision makers and adaptors.

Conclusion Research findings revealed that the level of use of digital health applications and attitudes towards these applications are not the same across all generations. Most respondents reported that important health decisions are made in consultation with family members. Younger individuals gathered information from digital sources to support the decisions of older family members, but the final decision was mostly made by older individuals; however, these decisions were most often driven by Gen Xers.

Keywords Digital health literacy, Family health decision, Intergenerational relationships, Shared decision making, Digital health application

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Background

The digitalization of healthcare services is significantly transforming the way individuals access health-related information and make health decisions. Developing technologies transform individuals from being merely passive recipients of healthcare services to active participants in health-related processes. This transformation brings individuals to assume more authority and responsibility in many areas such as diagnosis, treatment, follow-up and access to health information through digital health applications (E-Nabız, Central Physician Appointment System/MHRS, mobile health applications, artificial intelligence-supported diagnostic systems, etc.) [1].

It is not possible to say that this change has occurred homogeneously in all segments of society. There are significant differences between the knowledge levels, habits, confidence levels and speed of adaptation of different generations to digital technologies. The Generational Cohort Theory argues that individuals have common values, attitudes, and behavioral patterns based on the fact that they have lived in similar historical periods [1, 2]. Shared characteristics create a generational group identity by creating similar perspectives on attitudes, beliefs and values [3]. According to Eger et al. [4], Marjanen et al. [5] and Chaney et al. [6], intergenerational cohorts share similar life experiences that shape their attitudes, preferences, behaviors and habits. McCrindle and Wolfinger [7] divided generations into seven categories and found that each of them has different approaches to social events, technology and decision-making processes. According to McCrindle and Wolfinger (2009), the categories of generations:

> The Federation period (1901–1924).
> The Silent Generation (or "Traditionalists"; 1925–1945).
> Baby Boom Generation (1946–1964), aged 75–61.
> Generation X (1965–1979), aged 60–46.
> Generation Y (1980–1994), aged 45–31.
> Generation Z (1995–2009) 30–18 years old.
> Generation Alpha (2010–present).

Within the scope of this study, the Baby Boomers (75 – 61 years old), X (60 – 46 years old), Y (45 – 31 years old) and Z (30 – 18 years old) generations were examined according to the widely accepted classification in Turkey.

The Baby Boom generation prioritizes physical health. They seek information from healthcare professionals about medications, practical care, nutrition, or exercise, and they follow healthcare professionals' advice. They may sometimes use the internet to obtain information about symptoms, prognosis, and treatment options [8]. Generation X tends to approach large institutions, including healthcare services, with scepticism [1]. They seek health information from various sources, including family members, colleagues, healthcare professionals, television, and the internet. Healthcare professionals are Generation X's preferred source of information. Generation Y, considered the most health-conscious generation, embraces a holistic view of health, emphasizing sleep, nutrition, fitness, awareness and appearance [1, 9]. Generation Y has low usage of traditional healthcare systems and typically visits their family doctor once a year [10]. Generation Y prioritizes yoga, fitness, and diet to stay healthy. Generation Y juggles caregiving responsibilities with work and values easier ways to book appointments and the ability to consult healthcare professionals through an online portal [11]. Generation Z also has a holistic view of health and is more willing to talk about mental health because they perceive less stigma associated with mental health issues [12]. Generation Z tends to trust health information on the internet more than health professionals. Social media is an important source of health information for Generation Z.

Health literacy is an individual's ability to make an informed decision about health issues based on available information [13]. Digital health literacy refers to individuals' ability to access and evaluate health information through technological tools and is generally low, especially among the elderly [14, 15]. Studies show varying associations between health literacy and health system utilization [12, 16, 17]. Those who adapt to digital technology later are called digital immigrants, while millennials and later are called digital natives [18]. Previous studies have shown that differences in digital health literacy and technology-based decision-making processes are not only related to age but also to the form of an individual's first encounter with technology [14, 15]. Papp-Zipernovszky et al. [8] reveal significant differences between the Baby Boomer generation and Generation Y in terms of digital health literacy levels and confidence in making health-related decisions. However, the experiences of the Baby Boomer generation, who witnessed the early development stages of digital health technologies and were involved in the emergence of the first software applications, are reshaping these individuals' attitudes towards digital health tools as they age. This situation highlights the importance of generational differences in experience when compared to younger generations' experience of the same technologies as more intuitive and everyday tools.

Digital technologies have the potential to improve access to healthcare services, provide personalised care and increase the efficiency of healthcare systems through data-driven demands [19]. However, realizing this potential is closely linked to individuals' trust in digital healthcare systems. Findings indicate that individuals with high digital health literacy coordinate healthcare services

more effectively through patient portals, place greater emphasis on healthy lifestyle behaviours, and participate more actively in medical decision-making processes [20, 21]. Conversely, concerns regarding data security, privacy, and system accuracy, particularly among older age groups and individuals with limited interaction with technology, have been observed to reduce trust in digital health technologies. These findings reveal that, when explaining the adoption of digital health applications, it is necessary to consider age-related cognitive and physical changes alongside intergenerational technology experiences and perceptions of trust.

In their work [22], state that when it comes to making health-related decisions, relatives can hinder or complicate the patient's own decision-making, and that the high level of involvement of other family members in health-related decisions can compromise patient autonomy. Erin et al. [23] state in their studies on cancer patients that family and close friends (especially spouses or partners play a more dominant role) play a role in the decision-making process in cancer treatment, and that this role varies across cultures. Boland et al. [24] stated that there are numerous different and interrelated factors affecting shared decision-making in pediatric clinical practice, and that children and parents need support.

Although health-related decisions are often treated as individual processes, in collectivist and community-oriented cultures where family ties are strong, the decision-making process is frequently carried out together with family members [25]. In such cultural contexts, respect for authority, mutual accountability, community orientation, and spiritual/religious values support families' active participation in health decisions [26]. Family support is recognized as a universal factor that positively influences an individual's compliance with treatment and recovery process; collective assessment and joint decision-making practices prior to treatment are particularly common in many cultures [26].

Frederix et al. [27] state that patient education on the potential benefits of digital technologies [providing easy access to test results and urgent advice] can help to improve the digital skills of generations. From a generational perspective, it is important that digital health apps can provide information tailored to patients' literacy levels and health status. The European Society of Cardiology emphasizes that current applications do not meet expectations and that generational differences should be considered in the design [27].

The essence of the experience investigated in this study is that digital health technologies are experienced not merely as tools that provide information for family health decisions, but as a field of meaning where decision-making authority is renegotiated, intergenerational roles are redefined, and health decisions are legitimized. Participant narratives show that digital information is used as a resource to support the decision-making process, particularly by younger generations; however, the final decision is shaped within the context of age, experience and authority relationships within the family. Therefore, the phenomenological focus of this study is not so much on the role of digital health technologies, but rather on how these technologies are experienced in family health decisions and how this experience transforms perceptions of power, trust and responsibility within the family. The findings of this study are expected to contribute to policy development and implementation designs aimed at strengthening individuals' integration into digital health systems.

Method

Study design and participants

We used phenomenological design in this study. This phenomenological design is inductive. The primary reason for choosing a phenomenological design in this study is the need to thoroughly reveal how digital health applications are experienced and interpreted in family health decision-making processes. The research focuses on subjective experiences regarding how individuals' interactions with digital health technologies transform family decision-making dynamics and how role sharing and negotiation occur between generations during this process. Phenomenology is an approach that aims to reveal how individuals experience a particular phenomenon, what meanings they attach to this experience, and the essence of this experience. It is therefore consistent with the aim of this study. In this context, the specific life experience being investigated is the experience of family members using digital health applications when making health-related decisions, trusting this information, and positioning this information within family decision-making processes. In particular, the differing meanings attributed to digital information, perceptions of authority, and decision-making roles among individuals belonging to different generations within the same family context create a complex and contextual experience that is difficult to capture through quantitative measurements. Therefore, phenomenological design has been considered the most appropriate method for revealing the essence of participants' experiences. Participants were selected in August 2025 using a purposive sampling method. The inclusion criteria were as follows: being in a nuclear or extended family structure, not having a speech impediment for any reason (such as hearing or speech impairment), speaking the same language as the researcher, and voluntarily agreeing to participate in the study. The exclusion criteria were having a profession related to the design and sale of technology products and being a health worker. The sample consists of 4 groups (Baby

Boomers, Generations x, y and z). In the first stage of our study, we aimed to include at least three participants from each generation. We continued conducting interviews until we reached data saturation and a new theme emerged [28]. We assessed data saturation separately for each generation group. As a result, the study was completed with 16 participants. In selecting this sampling strategy, Groenewald's [28] article on phenomenological research principles was utilised. We held our first meeting with participants on 14 August. We identified other participants through our personal networks. Our data collection process took 10 days.

Data collection tools

The data were collected using a personal information form and a semi-structured in-depth interview form prepared in line with the study protocol. Pilot interviews were conducted with 2 participants to ensure that the intended topics were adequately understood and were not included in the overall study. No changes have been made to the interview guide after the pilot phase. The personal information form included questions about the participant's age, gender, education level, marital status, and frequency of visits to health institutions other than the emergency room. The semi-structured interview form consists of questions on the use of digital health applications, the impact of digital information on decisions, intergenerational interaction and health-related family decision processes.

Implementation of the study

This study was conducted face-to-face in xxx city in August 2025. After the participants were informed about the research and their permission was obtained, the interview was recorded through the dictation tab of the MS Office Word program. The interview was conducted face-to-face in one session only with the researcher and the participant. After the interview was over, it was read to the participant and confirmed. Our meetings lasted a minimum of 35 min and a maximum of 55 min (average 45 min). We conducted some of the interviews with participants at their homes and some at the office in order to carry out this study.

Table 1 Socio demographic characteristics of the participants (N:16)

Number of applications to health institutions in 1 year	*N*	%	Education status	*N*	%
I've never been	4	25	Primary school	4	25
1–2	2	12.3	High School	2	12.5
3–5	2	12.3	Pre Bachelor	2	12.5
6–10	6	38.1	Bachelor	8	50
11 +	2	12.3			
Marriage status	**N**	**%**	**Occupation**	**N**	**%**
Married	9	56	Retired	2	12.5
Single	5	31	Housewife	3	19
Widowed	2	13	Civil servant	5	31
			No working	3	19
			Teacher	2	12.5
			Private sector	1	6

Data analysis

Interview recordings were transferred to the MAXQDA program [29]. After highlighting the meaningful sentences and expressions in the transcription, the participants' statements were evaluated. All records were analyzed in this way, and participants' statements were coded. The codes were classified thematically. Four themes and 10 sub-themes were obtained from the codes.

Validity and reliability of the study

To ensure the validity and reliability of the study, it was conducted in accordance with the Consolidated Criteria for Reporting of Qualitative Research (COREQ) checklist [30]. A semi-structured interview form was used for the study, and the researcher, who holds a certificate of competency in qualitative research, avoided using directive statements. The conformity between codes and themes was checked by 2 independent researchers with qualitative research experience.

Results

Among the participants, 50% had a bachelor's degree, 56% were married, 31% were civil servants, and 38.1% had visited a health institution 6–10 times a year. An equal number of participants were selected from the Baby Boom, X, Y and Z generations (Table 1).

The audio recordings obtained from the interviews were transcribed and then transferred to MAXQDA 2022 software [29]. The data analysis process was conducted within the framework of inductive thematic analysis, in line with the nature of the phenomenological approach. The analysis process was carried out in three stages. In the first stage, the interview transcripts were read line by line, and meaningful data units were identified from the participants' statements and open coding was performed. In this stage, the codes were derived directly from the participants' statements without relying on any pre-determined theoretical framework. In the second stage, open codes were compared based on content and meaning similarities, linked, and grouped under subthemes. During this process, the codes were continuously reviewed using a comparative method, similar codes were merged, and conceptual consistency was ensured. In the third stage, the sub-themes were addressed at a higher level and evaluated in terms of thematic integrity, resulting in four main themes: Digital Health Literacy, Digital Application Usage and Security, Family Decision-Making

Table 2 Theme, sub-theme, codes and appropriate generations

Themes	Sub Themes	Codes	Eligible Generation(s)
1. Digital Health Literacy	1.1. Encountering Digital Information and the Experience of Feeling Competent	"I've heard of E-Nabız, but I've never used it."	Z and y
		It's installed on my phone, but only for appointments."	X
	1.2. Access to Health Information Creating a Sense of Security and Control	"I Google everything first."	Z and y
		"My daughter tells me what to do."	Baby boomer
2. Digital Application Usage and Security	2.1. Experiencing Digital Applications as Part of Daily Health Monitoring	"I'll get the test results right away."	Z and y
		"I only use MHRS for appointments."	X
	2.2. Difficulty Interacting with Digital Technology, Creating Distance and Developing Caution	"I can't read the letters, the screen is too small."	Baby boomer
		"It's useless when there's no reception."	X and Baby boomer
	2.3. The Tension Created in the Decision-Making Process by Trusting or Not Trusting Digital Information	"Whatever the doctor says, apps only provide information."	X and Baby boomer
		"Sometimes I act like Google Doctor."	Z
	2.4. Experiencing Digital Information as a Basis for Supporting or Legitimizing Decisions	"We saw the information on the application and chose the hospital."	Y
		"MHRS was full, we moved to a private hospital."	X and y
3. Family Decision Processes	3.1. Experience in Assuming, Sharing or Delegating Authority in Healthcare Decisions	"My father never makes a decision without asking."	Z
		"My sister took my mother to a private hospital; we did not interfere."	Z and y
	3.2. Negotiating Responsibility, Trust and Boundaries of Intervention in Family Relationships	"I showed my grandfather the results from the e-pulse to convince him to undergo surgery."	Z
		"My grandmother already listens to us, we decide."	Z and y
4. Intergenerational Interaction	4.1. Experience in Guiding and Directing Through Digital Information	"I told my mother to have the surgery. At first, she was against it but then she accepted it."	Z
		"My son knows technology well; he always takes care of everything."	Baby boomer
	4.2. Resistance, Adaptation or Repositioning in the Face of Digital Health Information	"They told me to install it, but the app always crashed."	Baby boomer
		"I used to object, but now I'm used to it."	X and Baby boomer

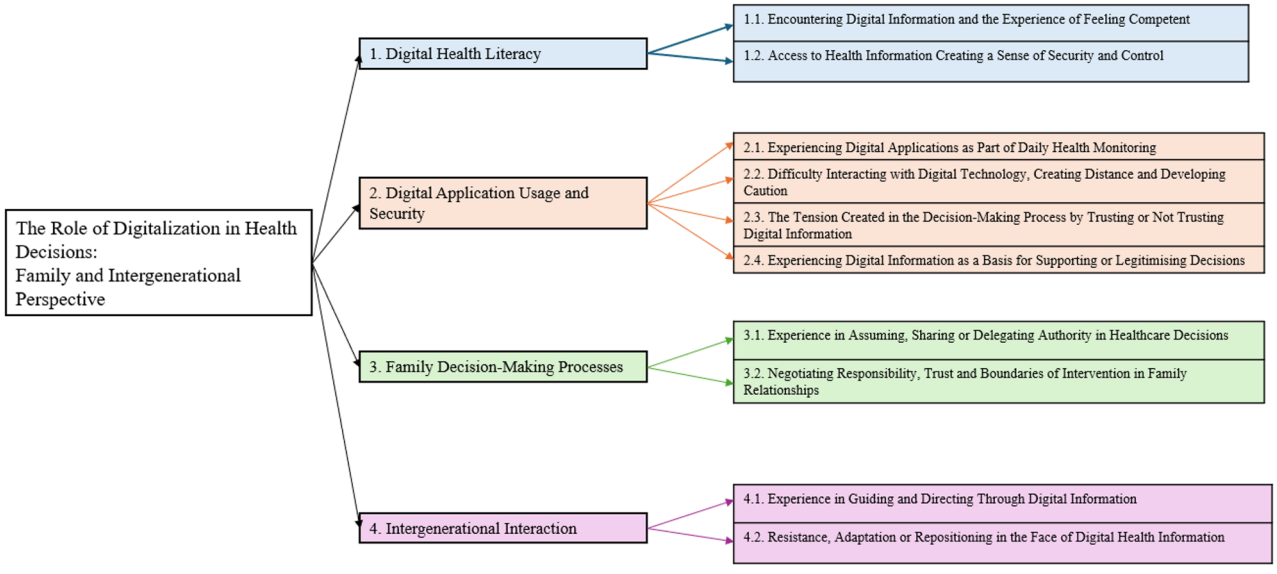

Fig. 1 Main and sub-themes of the role of digital health technologies in family health decisions

Processes, and Intergenerational Interaction. The thematic structure was checked by returning to the data, ensuring that the themes comprehensively reflected the participants' experiences. The created theme, sub-themes and codes are presented in Table 2; the relationships between the themes are visualized in Fig. 1.

Theme 1: digital health literacy

In this theme, participants explained what they know about mobile or computer applications on health-related issues. Participants' level of knowledge about digital health applications, their familiarity with tools such as E-Nabız, MHRS, mobile health applications, etc., and

the frequency of accessing health information from digital media were investigated. The Centralized Doctor Appointment System (MHRS) is a web and mobile-based digital health service that enables individuals to book appointments with doctors and institutions for outpatient services provided by public healthcare institutions [31]. The system aims to regulate access to healthcare services, reduce waiting times and make patient-service matching more efficient. E-Nabız is an integrated personal health record system that enables individuals to access their personal health data (such as laboratory results, prescriptions, diagnoses, imaging reports, and vaccination information) in a secure digital environment. The application supports users in monitoring their own health information, controlling data sharing with healthcare professionals, and participating more actively in health-related decision-making processes [32].

This theme consists of the sub-themes of Encountering Digital Information and the Experience of Feeling Competent and Access to Health Information Creating a Sense of Security and Control.

Subtheme 1.1: encountering digital information and the experience of feeling competent

In this sub-theme created according to the participant statements, digital health literacy levels were observed.

> *Participant 1 (Generation Z): "I know that there is an application called E-Nabız, they even check the results of tests and such, but to be honest, I have never used it, my mother always takes care of such things."*
> *Participant 2 (Generation X): "I use the E-Nabız application, I check the results, but I don't understand some things. Sometimes I show it to my children, they understand it better."*

Subtheme 1.2: access to health information creating a sense of security and control

Generation Z and Millennial participants stated that when they need information about health, they first look at Google. It was observed that the baby boom generation preferred to ask questions to their family members.

> *Participant 3 (Generation Y): "If there is something related to health, I first look on Google, read what people have written on forums. Then I usually tell my mom."*
> *Participant 4 (Baby Boom generation): "If there is something we don't know, we ask the children, they look it up on the internet and tell us anyway. If we try to look it up ourselves, we get confused."*

Theme 2: digital application usage and security

In this theme, the participants' trust in the accuracy of digital health data, their tendency to make health decisions based on these applications, and their tendency to make doctor-digital information comparisons were investigated. When asked which digital application they use the most and for what purpose, they stated that they mostly use MHRS and E Nabiz applications to make appointments and check the results of tests.

Subtheme 2.1: experiencing digital applications as part of daily health monitoring

Participants discussed their attitudes towards digital health applications and their usage habits. *Participant 5 (Generation Z): "I always make appointments on the MHRS application, I cancel them if there is a problem. I only open E-Nabız to see the results of my tests."*

> *Participant 6 (Generation X): "I check my reports on E-Nabız. I sometimes monitor my blood pressure. But I don't trust all of them, I don't make decisions without consulting a doctor."*

Subtheme 2.2: difficulty interacting with digital technology, creating distance and developing caution

In this theme, participants stated that the low font size of the texts in the application made it difficult to read. Most of those who had difficulties were Baby Boomers and Generation X. They also stated that they sometimes had difficulties in accessing the internet.

> *Participant 8 (Baby Boomer generation): "I can't see anything without glasses because the writing is small. If my daughter is with me, she helps me."*
> *Participant 9 (Generation X): "Sometimes the system freezes or there is no internet. I have been interrupted a few times while trying to make an appointment, and I have given up trying."*

Subtheme 2.3: the tension created in the decision-making process by trusting or not trusting digital information

It has been observed that Baby Boomers and Generation X generally do not trust digital applications and approach them cautiously.

> *Participant 10 (Baby Boom generation): "I trust what the doctor says. What is written on the internet confuses me. Even if it is written in E-Nabız, I would ask the doctor."*
> *Participant 11 (Generation X): "It works for making appointments and stuff, but for things like results or diagnosis, I only trust the doctor. It's easy to get it wrong."*

Subtheme 2.4: experiencing digital information as a basis for supporting or legitimizing decisions

Participants stated that they make hospital or physician choices based on information such as the service areas of hospitals and the availability of appointments.

> *Participant 12 (Generation Y): "Before my mother's surgery, I read the comments on the internet, I researched which hospital is better. We chose a hospital according to the appointment status."*
> *Participant 13 (Generation Z): "When we saw that the doctor appointments were full on MHRS, we realized that the public hospital was busy, so my father and I went to a private hospital."*

Theme 3. family decision-making processes

Although Generation X and Baby Boomers consulted their family members in making health-related decisions, it was observed that they made confident decisions. Generation Z was especially timid in making health-related decisions.

Subtheme 3.1: experience in assuming, sharing or delegating authority in healthcare decisions

Generation X participants stated that they are decision makers for both their parents and their children.

> *Participant 14 (Generation X): "Since my parents are getting old, I usually make their decisions for them. For my children, I make decisions after consulting with doctors."*
> *Participant 15 (Generation Z): "My father decides more in the family. Even if we give our opinions, he has the final say."*

Subtheme 3.2: negotiating responsibility, trust and boundaries of intervention in family relationships

The findings indicate that health-related decision-making within families is experienced as a negotiated process shaped by responsibility, trust, and clearly defined boundaries of intervention. Participants from Generation Y and Z described their role not as primary decision-makers, but as information mediators who support the process by gathering and interpreting digital health information. While younger family members actively searched online sources in response to requests from older relatives, they deliberately refrained from making final decisions. Instead, they positioned themselves as advisors whose contributions required validation by medical professionals. This reflects a lived experience in which digital knowledge enhances participation without fully shifting authority. The decision-making process thus emerges as a shared but hierarchically structured experience, where trust in professional expertise and respect for familial roles coexist with the increasing involvement of digitally competent family members.

> *Participant 12 (Generation Y): "My mom says 'look it up, look it up' and I look it up on the internet and tell her, but we still don't make a decision without asking the doctor."*
> *Participant 15 (Generation Z): "I did research on the internet about my uncle's illness, which treatment would be better. But I didn't make a direct decision, I just made a suggestion."*

Theme 4. Intergenerational interaction

In this theme, young people's directing the family with digital information, the mediating role of the middle generation, and the older generation's adherence to traditional knowledge were explored. Generation Y and Z participants stated that they encourage and even force their parents to use technology.

Subtheme 4.1: experience in guiding and directing through digital information

In family health decisions, it has been observed that it is Generation Z who generally directs and Baby Boomers who are directed.

> *Participant 16 (Generation Z): "My mother could not use MHRS, I installed the application on her phone. Now she asks me again when she makes an appointment."*
> *Participant 3 (Generation Y): "My father asks me before he goes to the hospital, he says 'take a look.' I always check which department, which doctor, whether it is full."*

Subtheme 4.2: Resistance, adaptation or repositioning in the face of digital health information

It was observed that the baby boom generation may resist digital health applications because they feel inadequate in technology. Generation X participants, on the other hand, stated that although they had trust problems, they gradually got used to it.

> *Participant 4 (Baby Boomer generation): "It is hard to deal with the phone. There were no such things in our time. If I have to, I get help from my children."*
> *Participant 6 (Generation X): "I didn't trust them at first, but I got used to them over time. Still, I don't feel comfortable without going to the doctor for important things."*

The characteristics of the X, Y, Z and Baby boom generations according to the themes of information access method, role in the decision-making process and trust

Table 3 Characteristics of generations according to themes

Tema	Generation Z	Generation Y	Generation X	Generation Baby Boomer
Information access method	Digital, social media, quick scan	Both digital and traditional	Physician's opinion	Family advice
Role in the decision-making process	Guide, researcher	Sometimes decision-making, sometimes supportive	Decision maker and adaptor	Sometimes adaptive, sometimes resistant
Trust in digital tools	They state that they have complete trust in digital tools.	They state that they rely partly on digital tools.	They state that they approach digital tools cautiously.	They state that they do not trust digital tools and approach them cautiously.

in digital tools are given in Table 3. We have observed that access to health-related information has evolved from family advice to digital resources, spanning from the Baby Boomer generation to Generation Z. Likewise, while Generation Z has a high level of trust in digital tools, we observed that trust decreases with age, and a more cautious approach is adopted. Generation X respondents characterize themselves as both decision makers and adaptors.

Discussions

This study uses a phenomenological method to investigate how the community's experiences with health technology are shaped according to the generational cohort and how health decisions are made within the family.

Digital health literacy theme

It was observed that the participants' level of access to health-related information on the internet was not sufficient. Although Generation Z is prone to technology, their interest in health issues in the digital environment is relatively low and the participants' information access practices show differences between generations. In literature, the differences of different generations in the field of digital health literacy are frequently emphasized. In a study comparing the X, Y, Z and Baby Boom generations in Hungary, Generation Z has high self-confidence in accessing digital health information, yet the number of applications to the health system is lower than others [8]. Zrubka et al. [33] reported a significant, negative but weak correlation between age and eHealth literacy scores. They found that being over 65 was a risk factor for lacking an appropriate level of digital health literacy. In the studies conducted in Turkey, in the digital health literacy analyses conducted among the X, Y and Z generations, it is seen that the information search and reliable source evaluation skills of the Z generation are higher than the Y and X generations, while the X generation stands out only in the 'information relevance' sub-dimension [34].

Digital application usage and security theme

Active use of digital health applications such as E-Nabız and MHRS, particularly among middle-aged and younger generations, was a prominent finding of this study. From a phenomenological standpoint, this use reflects not only functional competence but also a lived sense of familiarity and confidence with digital systems. In contrast, participants from older generations described digital health applications as spaces of uncertainty, where trust is fragile and often contingent upon physician confirmation. This experiential distrust aligns with the literature indicating that digital insecurity, low self-efficacy, and perceived risk contribute to resistance toward e-health services among older adults [35]. For Baby Boomers, cautious engagement with digital applications emerges as an embodied strategy to manage perceived health-related risks rather than mere technological inadequacy. Ji et al. [36] emphasize that digital literacy facilitates the diversification of health behaviors, particularly in rural and low-educated populations, while health literacy alone does not directly shape digital practices. Consistent with this perspective, our findings illustrate how Millennials' reliance on user comments and Generation Z's attention to system occupancy are grounded in their lived experiences of navigating digital environments, highlighting generationally distinct meaning-making processes in the use of digital health technologies.

Family decision-making processes

Literature emphasizes that interactions and relational dynamics among family members play a critical role in medical decision-making processes. In particular, intergenerational responsibility, role negotiation, and the restructuring of authority within families have been widely discussed in social science research [37]. From a phenomenological perspective, these dynamics are not merely structural but are experienced and interpreted through everyday interactions, emotions, and implicit expectations among family members. In this study, participants' narratives reveal how medical decision-making is shaped by lived experiences of trust, obligation, and perceived competence within the family context. Lin et al. [37] similarly highlight generational differences, noting that Generation X and Baby Boomers tend to display more self-confident decision-making patterns, whereas Generation Z often adopts a more hesitant stance, positioning themselves in supportive or advisory roles. Our findings deepen this understanding by illustrating how these roles are experientially constructed and renegotiated in practice, as younger family members balance

respect for older relatives' autonomy with a growing sense of responsibility in health-related decisions.

Intergenerational interaction

It is widely reported in the literature that younger individuals tend to take on a supportive and guiding role in the use of technology within family contexts, while older adults are more inclined to rely on traditional knowledge sources and established habits [38, 39]. Empirical evidence from studies conducted in China shows that older adults are often encouraged by their children to use digital health information systems; however, despite this encouragement, many experience resistance, anxiety, and feelings of insecurity during the learning process [38, 39]. Approaches grounded in social cognitive theory emphasize that observational learning, verbal encouragement, and family-based digital support can enhance older adults' self-efficacy and access to health-related information [38, 39]. Nevertheless, the literature also highlights that such support is frequently informal and fragmented, and that sustainable, structured educational mechanisms targeting older adults remain insufficient. These findings closely align with the results of the present study, in which Generation Z and Millennials actively guide Baby Boomer family members in navigating digital health applications and encourage their engagement with technology, while simultaneously encountering generational boundaries related to trust, confidence, and autonomy in digital health decision-making.

Limitations of the study

Given the phenomenological nature of this study, more comprehensive studies conducted across different socioeconomic levels, educational levels, and rural/urban living contexts could reveal the intergenerational dynamics of digital health behaviors in greater depth. The role of healthcare providers in these processes could also be included in such studies. We did not aim to represent each generation with an equal number of participants ($n = 4$). We aimed to have at least three participants from each generation. We treated each generation separately. In our interviews with each generation, we noticed we began repeating ourselves after the fourth person. Relying on translations of participants' quotes may limit the accurate conveyance of culturally specific meanings. As the study focused on digital health systems commonly used in Turkey, the findings may not fully reflect perceptions and experiences related to a broader range of digital health technologies.

Conclusion

This study aimed to understand how the widespread use of digital health applications affects family health decision-making processes and how these effects are shaped by generations. Research findings revealed that the level of use of digital health applications and attitudes towards these applications were not the same across all generations.

It was observed that Generations X and Y used digital health applications directly; Generation X had to learn and use these technologies especially with the onset of chronic diseases; and Generation Y generally used these applications depending on the needs of other family members and when necessary. Generations Z and Baby Boomers use digital health applications to a more limited extent.

It has been determined that Generation Z mostly prefers the internet in their search for health-related information and makes inferences about their own health status by sharing the results of tests and examinations with artificial intelligence-supported systems or on blog platforms. Generation Y evaluates digital health applications as tools that provide convenience in daily life, while Generation X uses E-Nabız effectively, especially to track medication reports and prescription durations. Procedures such as making appointments and viewing test results are among the tasks that Generation Y mostly performs on behalf of their parents. The Baby Boom generation, on the other hand, is cautious about technology and is particularly concerned about data security.

The majority of the participants stated that important health-related decisions are made in consultation with family members. This finding suggests that collective decision-making and consultation behavior is common in Turkish health culture. Younger individuals gather information from digital sources to support the decisions of older family members, but the final decision is mostly made by older individuals; however, these decisions are mostly shaped by the guidance of Generation X.

Suggestions

Training programs to increase digital health literacy with content and methods appropriate to the needs of different generations should be developed and disseminated.

Practical guides for the use of applications such as E-Nabız and MHRS should be disseminated. User experience should be supported with resources such as hands-on demonstration videos, mobile-friendly guides and community-based digital counseling services.

The accessibility of digital health applications for older individuals should be increased. Accessibility solutions such as elderly-friendly interface designs, larger font sizes and voice guidance should be encouraged.

Family communication and participation in health decision-making processes should be supported. Family-centered health counseling services should be expanded and the role of young people in supporting older people in digital health should be strengthened. In digitalized

health systems, policies developed without considering generational expectations, experiences and barriers may lead to inequalities in service delivery. Therefore, intergenerational awareness should be taken as a basis in the planning and implementation processes of health services.

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Authors' contributions
AT- research design, data acquisition, data extraction, coding, data interpretation, paper drafting; FT—research design, data interpretation, contribution to paper. All authors reviewed and approved the manuscript.

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Data availability
The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Declarations

Ethics approval and consent to participate
Ethical approval (Decision No: 2025/12/30; Decision Date: 13.08.2025) was obtained from Kırşehir Ahi Evran University Social and Human Sciences Scientific Research and Publication Ethics Committee for the conduct of the research (attached). The ethical rules and principles of the Declaration of Helsinki were followed at every stage of the study. The researcher obtained informed consent from all participants. Before starting the interviews, the researcher informed the participants that the interviews would be recorded and obtain their consent. Participants were also informed about their right to withdraw from the study at any time. Participants were named as Participant 1, 2, 3, etc.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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