

## Privacy Paradox and the Internet of Medical Things

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**Abstract :** In recent years, the health-care context has not been left unaffected by technological developments. In recent years, the Internet of Medical Things (IoMT) has not only led to a collaboration between disease management and advanced care coordination but also to more personalized health care and patient empowerment. With more than 40 % of all health technology being IoMT-related by 2020, questions regarding privacy become more prevalent, even more so during COVID-19 when apps allowing for an intensive tracking of people's whereabouts and their personal contacts cause privacy advocates to protest and revolt. There is a widespread tendency that even though users may express concerns and fears about their privacy, they behave in a manner that appears to contradict their statements by disclosing personal data. In literature, this phenomenon is discussed as a privacy paradox. While there are some studies investigating the privacy paradox in general, there is only scarce research related to the privacy paradox in the health sector and, to the authors' knowledge, no empirical study investigating young people's attitudes toward data security when using wearables and health apps. The empirical study presented in this paper tries to reduce this research gap by focusing on the area of digital and mobile health. It sets out to investigate the degree of importance individuals attribute to protecting their privacy and individual privacy protection strategies. Moreover, the question to which degree individuals between the ages of 20 and 30 years are willing to grant commercial parties access to their private data to use digital health services and apps are put to the test. To answer this research question, results from 6 focus groups with 40 participants will be presented. The focus was put on this age segment that has grown up in a digitally immersed environment. Moreover, it is particularly the young generation who is not only interested in health and fitness but also already uses health-supporting apps or gadgets. Approximately one-third of the study participants were students. Subjects were recruited in August and September 2019 by two trained researchers via email and were offered an incentive for their participation. Overall, results indicate that the young generation is well informed about the growing data collection and is quite critical of it; moreover, they possess knowledge of the potential side effects associated with this data collection. Most respondents indicated to cautiously handle their data and consider privacy as highly relevant, utilizing a number of protective strategies to ensure the confidentiality of their information. Their willingness to share information in exchange for services was only moderately pronounced, particularly in the health context, since health data was seen as valuable and sensitive. The majority of respondents indicated to rather miss out on using digital and mobile health offerings in order to maintain their privacy. While this behavior might be an unintended consequence, it is an important piece of information for app developers and medical providers, who have to find a way to find a user base for their products against the background of rising user privacy concerns.

**Keywords :** digital health, privacy, privacy paradox, IoMT

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