The Effects of Digital Literacy, Privacy Self-efficacy, and Privacy Concerns in Young and Older Adults' Privacy Decisions

1st Reza Ghaiumy Anaraky
Scool of Computing
Clemson University
Clemson, SC
rghaium@clemson.edu

2nd Marten Risius
School of Business, Business Information Systems
The University of Queensland
Brisbane, Australia
m.risius@business.uq.edu.au

3rd Bart P. Knijnenburg
School of Computing
Clemson University
Clemson, SC
bartk@clemson.edu

Abstract—Privacy literature primarily focuses on showing the differences between older and younger adults' privacy decisions and does not move beyond to disentangle older adults' decision processes. Understanding the underlying mechanisms of older adults' decisions can help product designers empower older populations with their privacy. Privacy literacy, privacy self-efficacy, and privacy concerns are essential parameters when studying the privacy of the older adult population. Scholars speculate that lack of privacy literacy and self-efficacy leads to higher privacy risks for senior citizens and is one of the deterrent factors that preclude older adults from using technology products. The difference in decision-making mechanisms between older and younger adults may result from having different levels of privacy literacy, privacy self-efficacy, and privacy concerns. This proposal attempts to close this gap by studying whether and how privacy literacy, self-efficacy, and concerns account for the difference between older and younger adults' privacy decision-making mechanisms.

Index Terms—component, formatting, style, styling, insert

I. Older and young adults' privacy

Much of the privacy literature examining age-related differences in digital privacy has characterized older adults as having more difficulty than younger adults when managing their digital privacy (e.g., [1]–[5]) and generally less likely to protect themselves against privacy risks [6], [7].

Some scholars, however, are moving away from painting older adults as technology Luddites. For example, Knowles and Hanson [3] took a strength-based approach by interviewing older adults to understand their resistance against technology adoption. They found that older adults had legitimate concerns regarding the use of digital technologies, and the risks associated with use often outweighed the benefits. As such, these researchers chose to emphasize the "wisdom" older adults demonstrated in their decision-making process not to engage with technology. Anaraky et al. [8] studied older and younger adults' privacy decision making with a simple interface and found that older adults' decisions are more likely to be based on privacy calculus than younger adults' decisions. These results show that not having deficit-based assumptions can contribute to the research in this area.

II. Disentangling Age

In this work, we propose to study older and younger adults' privacy decisions with respect to their levels of privacy literacy, privacy self-efficacy, and privacy concerns.

A. Digital Literacy

In the privacy literature, digital literacy is noted as one of the factors relating to online privacy decisions [5], [9], [10]. The general argument in the literature is that a high digital literacy may reduce the likelihood of privacy violations. Furthermore, literature suggests that there is a digital divide between young and older adults with older adults having lower levels of digital literacy [11].

B. Privacy Self-efficacy

Privacy self-efficacy is a well-studied construct in the privacy literature and is shown to influence privacy decisions [12]–[14]. Individuals with higher self-efficacy are able to better align their privacy attitudes with their behaviors [12]. Zeissing et al. [7] for example, hypothesized that older adults have lower privacy self-efficacy compared to their younger counterparts. However, they found the opposite and concluded that their measure of privacy self-efficacy reflects confidence in own-protection abilities which is different than comprehensiveness and completeness of such abilities. They called for future research to study this construct further.

C. Privacy Concerns

While many scholars argue that younger adults are less concerned than older adults, few studies actually measured and compared older and young adults' levels of concerns [15], and there is no consensus among studies that measured privacy concerns for both age groups. Van den Broeck et al. [4] for example, found that older users have higher privacy concerns. However, paradoxically they are less likely to utilize privacy features. Hoofnagle [15] studied young and older adults' concerns and did not find significant differences in their concerns. Studying privacy concerns across both age groups is necessary to answer some of the remaining research questions in the field.

III. Acknowledgment

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