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Abstract: Conversational AI (CAI) systems which encompass voice- and text-based assistants are on the rise and have been largely integrated into people's everyday lives. Despite their widespread adoption, users voice concerns regarding privacy, security and trust in these systems. However, the composition of these perceptions, their impact on technology adoption and usage and the relationship between privacy, security and trust perceptions in the CAI context remain open research challenges. This study contributes to the field by conducting a Systematic Literature Review and offers insights into the current state of research on privacy, security and trust perceptions in the context of CAI systems. The review covers application fields and user groups and sheds light on empirical methods and tools used for assessment. Moreover, it provides insights into the reliability and validity of privacy, security and trust scales, as well as extensively investigating the subconstructs of each item as well as additional concepts which are concurrently collected. We point out that the perceptions of trust, privacy and security overlap based on the subconstructs we identified. While the majority of studies investigate one of these concepts, only a few studies were found exploring privacy, security and trust perceptions jointly. Our research aims to inform on directions to develop and use reliable scales for users' privacy, security and trust perceptions and contribute to the development of trustworthy CAI systems.

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