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How Social Cues Influence the Perception of AI-based Conversational Agents in Digital Work towards AI Identity and Trust

Full research paper

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Abstract

As an emerging domain of Information Systems (IS) research, conversational agents (CAs) increasingly blend with human-computer interaction (HCI) phenomena. Popular use cases, such as task support or customer service, reveal multiple touchpoints that may influence the interaction between a human and a CA. Especially in work scenarios, characteristics such as competence and sympathy become relevant. Consequently, CAs are often represented by male or female avatars and enhanced with social cues. Therefore, it is essential to understand the influences of social cues such as gender on the perception of CAs in a digital work setting. Consequently, we focus on the impact of gender-specific social cues of CAs on users' perceptions of sympathy and competence towards the CA. To explore this, the study is based on a between-subjects experiment (N = 179, three conditions). The results indicate that gender-specific social cues positively affect perceptions of sympathy and competence. However, the findings do not show a difference between male and female CAs.

Keywords Digital Work, Conversational Agents, Identity, Trust, Anthropomorphism.

1 Introduction

When asked: “What impact do you think the gender of a CA has on perceived trust and identification with it?” ChatGPT responded: “[...] Overall, the impact of a CA’s gender on perceived trust and identification is complex and multifaceted, and it can vary widely among users. It’s important for developers to carefully consider these factors and strive to create CA experiences that are inclusive, respectful, and responsive to the diverse needs and preferences of their user base.”

In its most recent version, the artificial intelligence (AI)-based conversational agent (CA) ChatGPT does not have an assigned gender, nor does it have any features that would imply a gender. The system has gained immense popularity over the past few months, accumulating one million users in just five days (Doshi et al. 2023). This success might be attributed to its level of sophistication in communicating with users and providing competent and user-specific help in a natural conversation (Ray 2023). One central concept that helps to understand the interaction with digital technology is AI identity, which answers the question “Who am I as a professional when collaborating with AI in the workplace?” (Mirbabaie et al. 2022). Thus, an identification with CA in digital work may support the acceptance and use of such an action to support the implementation of fitting gender cues. However, CA’s derivation of the wrong gender in stereotyped contexts can also cause biases yielding sexist outputs in conversations. Thus, gender cues, such as names or specific pronouns, are central to communication with CAs.

A CA is a software-based system that facilitates the interaction between humans and computers by using natural language to communicate in either text-based or voice-based interaction (Diederich et al. 2022). The term is often used interchangeably with virtual assistants, dialogue systems, chatbots, or conversational AI. CAs are explicitly designed to mimic human-to-human interaction for the comfort of the user (Kuang et al. 2023; Li and Suh 2021). This can be supported by applying social cues such as formal or informal language, simulating a sense of humour, or simulating an adequate response time that seems realistic for humans (Diederich et al. 2022; Li and Suh 2021). Having addressed other social cues, we now focus on gendered cues throughout the paper.

This social cue that aims to mimic human-to-human interaction is the implementation of a gender, which is used, for example, by Amazon’s Alexa (Fortunati et al. 2022). The perception of gender can be influenced by the CAs’ avatar, name, and voice, although it has been proven that a name and voice do suffice to create the illusion of a gender (Tolmeijer et al. 2021; Xu et al. 2022). There are also CAs omitting features typically associated with either a male or female (Nickel and Meyer 2025), which are thus referred to as non-gendered CAs within this paper. Developers of broadly deployed CAs such as Amazon’s Alexa and Apple’s Siri decided to implement gender typical social cues (voice typically associated with a female voice or a name typically associated with a female name) to improve the user experience by increasing the human-likeness (Li and Suh 2021). ChatGPT, in contrast, has been used successfully without an implemented gender. This raises a new imperative to understand the implications of the presence or absence of gender-specific social cues in digital work contexts.

Implementing a CA with a specific gender using social cues has already proven beneficial in evoking a sense of warmth towards the CA (Moussawi et al. 2023; Xu et al. 2022). However, there are also differences in the perception of competence in the CA depending on the CA’s gender and the application field (Law et al. 2021; Nickel and Meyer 2025). These differences can be based on gender stereotyping, which is deeply rooted in humans’ subconscious (Feine et al. 2020).

CAs are gaining increased recognition in research and as potential assistants and team members in a work context (Dutta et al. 2023; Hofeditz et al. 2022; Moussawi et al. 2023; Schwarz et al. 2024). The deployment of digital technology, such as CAs, in digital work is predicted to cause significant changes in work routines (Chui et al. 2022). Changes in workplace routines evoked by new technology may pose a threat to knowledge workers’ professional identity, leading to a sense of job loss or status loss. This has been defined as an AI identity threat that describes reasons that may reduce a positive AI identity (Mirbabaie et al. 2022). However, previous research also indicated that CAs can help workers with lower skill levels increase their productivity. When used as tools, they can be perceived as an extension of the self, a concept defined as the extended self (Mirbabaie, Stieglitz, and Frick 2021; Rapp et al. 2023). Furthermore, employees can recognize the CA as an extension of the team and thus identify with it as part of their own identity or the team identity, which in turn has the potential to strengthen the general team spirit (Mirbabaie, Stieglitz, Brünker, et al. 2021) and promote a healthy work attitude among employees (Alahmad and Robert 2020). This identification with technology is based on the concept of IT-identity (Moussawi et al. 2023).

In digital work environments, where physical presence and non-verbal signals like body language, attire, or facial expressions are largely absent, users rely heavily on minimal social cues (e.g., voice tone, name, interaction style) to infer interpersonal characteristics like gender, competence, and trustworthiness. This heightened reliance makes gendered social cues particularly potent in digital workplace interactions. Empirical evidence shows that CA gender can significantly influence trust formation, depending on the perceived role of the agent. For instance, Jeon (2024) demonstrates that in functional contexts, male-voiced agents garnered higher levels of trust, while in experiential contexts, female-voiced agents promoted stronger grounding and identification. In healthcare-like settings, female voice assistants have been shown to boost both perceived warmth and competence, affecting user engagement. Meanwhile, broader research on conversational AI in digital workplaces shows that trust develops through cognitive, emotional, and organizational layers, highlighting the importance of emotional trust, which can be strongly affected by subtle identity cues. Introducing a CA in digital work can result in a lack of trust in these systems (Gkinko and Elbanna 2023). Trust can be divided into human-like trust and system-like trust (Chen et al. 2024; Moussawi et al. 2023). Individuals feel more human-like trust towards systems that use many social cues, which can be expressed in perceived integrity, skills, competence, or benevolence. A lack of trust can lead to even more drastic identity threats (Craig et al. 2019). In the special case of generative AI, scholars proposed the concept of AI identity threat, emphasizing the high intelligence and human-like features of generative AI (Zhou et al. 2025). Given that professional identity, team dynamics, and trust in AI are critical in workplace collaboration, understanding how gendered cues shape perceptions is essential. Gender cues in CAs may support or undermine AI identity formation, impact perceived trustworthiness, and reflect or reinforce workplace stereotypes.

However, a central question is whether gender influences perceiving the CA as an extension of the self or more of a threat to one's professional integrity within the team (Duan et al. 2025; Mirbabaie et al. 2022; Zhou et al. 2025). This perceived AI identity or AI identity threat could be amplified or mitigated by factors such as social cues simulating a certain gender. Understanding this dynamic is essential in digital work contexts, where trust in technology plays a critical role. Thus, it is necessary to investigate whether gender cues in CAs contribute positively to AI identity formation, raise AI identity threats, or influence the degree of human-like trust. We therefore raised the following two research questions (RQs):

RQ1: How does a CA with gender cues influence AI identity and AI identity threat in digital work?

RQ2: How does a CA with gender cues influence the perception of human-like trust towards the CA in digital work?

To answer these two research questions, we conducted an online experiment in which $N = 198$ participants solved a work-related task together with a CA. They were assigned to one of three groups (2x3 between-subjects): one group was assisted by a female CA, one group by a male CA, and the last group by a non-gendered CA. After the interaction, we used an online questionnaire to measure the perceived AI identity, AI identity threat, and human-like trust.

We contribute to Information Systems (IS) research by providing social cue design, particularly gender cues as contextual factors, influencing the role of identity and trust in digital work. We also contribute to human-computer interaction in the context of digital work by providing a better understanding of individual factors that influence the interaction. Our contribution for practitioners highlights what should be considered when developing CAs and the extent to which contextual factors should be considered.

2 Background

2.1 The Relationship of Gender and Conversational Agents in Digital Work

People assign gender stereotypes – either consciously or subconsciously – to gendered CAs (Nickel and Meyer 2025). Known examples are the IBM Watson Assistant, the Salesforce Einstein, and the Amazon Alexa, which are typically assigned to a specific gender. This phenomenon, which has been researched many times, has the potential to harm human-computer interaction (Avgustis et al. 2021; Bryant et al. 2020; Hildebrandt et al. 2023; Law et al. 2021; Nickel and Meyer 2025; Tolmeijer et al. 2021). Considering computer agents, this phenomenon can be explained by the Social Actors (CASA) paradigm, which states that people attribute the same social norms and rules that are usually applied in human-human interaction to human-computer interaction (Xu et al. 2022). As a result, gender stereotyping among humans can be transferred to gender stereotyping systems when they have specific social cues, such as a name or a voice (Nickel and Meyer 2025; Tolmeijer et al. 2021). Some studies focused on the

perception of competence or friendliness of the CA being influenced by the CA's perceived gender (Nickel and Meyer 2025). Other studies found context-specific influences (Nickel and Meyer 2025; Law et al. 2021; Rheu et al. 2021). In one example, male CAs are perceived as more competent in male-associated topics and male-associated jobs than females. In contrast, female CAs are perceived as more emotionally attuned in female-associated issues but are not necessarily perceived as more competent in female-associated jobs (Nickel and Meyer 2025). Studies have further found evidence for non-gendered CAs to be perceived as more competent, as gender stereotypes are omitted when it comes to interacting with the CA, and thus, the actual skills and qualities of the CA are focused on more (Nickel and Meyer 2025).

There are multiple work tasks that a CA can assist with, for example, by giving advice during decision-making processes, prioritizing tasks, providing reminders or information, creating teams, and more (Dutta et al. 2023; Feng and Buxmann 2020; Hofeditz et al. 2022; Rapp et al. 2023; Rzepka et al. 2022). Nevertheless, for employees to perceive the interaction with the CA as satisfactory, it is essential that a CA is helpful and performs well (Feng and Buxmann 2020). A CA can support digital work productivity and enhance well-being (Hofeditz et al. 2022; Moussawi et al. 2023) when implemented to a user's satisfaction.

However, it remains unclear to what extent social cues that simulate a particular gender of a CA influence how it is perceived in a digital work context. Creating a CA with human-like features and attributes had not been seen as necessary up until now in a more pragmatic scenario, such as in an office (Feng and Buxmann 2020; Kuang et al. 2023). Before spending large amounts of resources on implementing such a CA in a digital work environment, it is essential to examine possible effects on work-related phenomena such as AI identity, AI identity threat, and human-like trust. This knowledge, in turn, could ensure that the CA is a true optimizer of a team's work and will indeed make the interaction between an employee and a CA as effective, efficient, and enjoyable as possible.

2.2 AI Identity and AI Identity Threat in Digital Work

AI identity can be described as “the extent to which individuals perceive the collaboration with AI in the workplace as an indispensable component of themselves” (Mirbabaie et al. 2022, p.77). In this context, a positive identification supports the adoption of CAs in digital work. However, a negative identification can support the development of identity threats evoked by the introduction of AI at the workplace. Contemporary CA are AI-based software systems that have the potential to derive structured and evidence-based decisions surpassing the abilities of humans (Buxman et al. 2021; Leschanowsky et al. 2024). Therefore, it is necessary to consider the AI identity and related threats in the context of CAs and digital work.

Moreover, AI-based systems mimic human interactions to the point where they have the potential to be seen as a member of one's team (Mirbabaie, Stieglitz, Brünker, et al. 2021; Rapp et al. 2023). Further, a positive association with one's AI identity can increase the satisfaction employees experience on the job (Alahmad and Robert 2020; Avgustis et al. 2021; Dutta et al. 2023; Mirbabaie, Stieglitz, Brünker, et al. 2021). A way to strengthen AI identity could be to implement gender as a social cue to increase the human-likeness of an AI-based system (Fossa and Sucameli 2022; Li and Suh 2021; Nickel and Meyer 2025). This can lead to a more enjoyable interaction than a non-gendered AI-based system (Li and Suh 2021). Individuals also tend to feel more sympathy towards interaction partners of the same gender than those of the opposite gender. This is because people are more attracted to things that are similar to themselves (Wang et al. 2024). Concerning identity threat, the extent to which people feel threatened by interaction with another gender remains unanswered. The perception of threats may depend on which gender the AI system is perceived as. However, the direct relation between gendered versus non-gendered AI-based systems and AI identity has to be researched, and thus, we formulate the following hypothesis:

H1a: *A gendered CA strengthens AI identity more compared to a non-gendered CA.*

Interactive AI-based systems offer the possibility to accelerate work processes and enhance human performance (Hofeditz et al. 2022; Schoebel et al. 2024), even more so when AI is perceived as an extension of one's abilities (Mirbabaie, Stieglitz, Brünker, et al. 2021; Moussawi et al. 2023; Rapp et al. 2023). Particularly, when the social cues of an AI-based system align with the characteristics of the user, a more sympathetic perception of the AI-based system develops in the eyes of the user (Avgustis et al. 2021; Hofeditz et al. 2022; Rzepka et al. 2022; ter Stal et al. 2020). The sense of the CA belonging to the group can be described based on the Social Identity Theory, in which similar characteristics between two entities - in this case, the user and the CA having and identifying with the same gender - can strengthen the sense of ingroup (Nickel and Meyer 2025). As a logical consequence, AI identity should

be strengthened by matching the CA's gender to the user's gender. Hence, the following hypothesis is formulated:

H1b: *The effect between a CA's gender and AI identity is moderated by the user's gender. The AI identity is stronger with a CA of the same gender.*

AI identity threat, on the other hand, describes the sense of being disadvantaged in one's peer group as a result of being associated with the AI-based system (Mirbabaie, Stieglitz, Brünker, et al. 2021; Schwarz et al. 2024). When considering AI-based systems, negative aspects come to mind, such as AI having the potential to replace humans or not possessing a moral conscience in decision-making contexts that could affect people's lives (Buxmann et al. 2021; Kuang et al. 2023). This perception of AI could negatively affect work productivity. When assigning a gender to the AI-based system, the overall sympathy towards the AI-based system increases (Li and Suh 2021). Thus, prevalent gender perception may have an influence on such relationships. As a logical consequence, the threat association could decrease as a result, and thus the following hypothesis is formulated:

H1c: *The effect between a CA's gender and AI identity threat is moderated by the user's gender. A female-identifying user will perceive more AI identity threat with a male CA compared to a female CA, and a male-identifying user will perceive more AI identity threat with a female CA compared to a male CA.*

H1d: *A gendered CA reduces AI identity threat more compared to a non-gendered CA.*

A further accelerator of AI identity threat could be the mismatch between the CA's gender and the user's gender, as the CA is no longer perceived as belonging to the ingroup (Avgustis et al. 2021; Nickel and Meyer 2025; Pinelli et al. 2023; Rzepka et al. 2022). Following the logic of the Social Identity Theory (Diederich et al. 2022), two entities that do not have similar characteristics could be perceived as outgroups. Thus, the user could feel threatened by the CA. However, from the reviewed related work, it remains evident that it is highly valuable to examine how different sets of social cues of CAs, such as those suggesting a gender, affect AI identity and AI identity threat, as there is very little research on those topics available (Schoebel et al. 2024). The findings of this research will thus expand the AI identity theory and AI identity threat theory by addressing whether gendering a CA is necessary to induce AI identity or reduce AI identity threat.

2.3 Human-Like Trust in Conversational Agents in Digital Work

CAs are often deployed in settings that process sensitive data, such as clinical settings or decision-making tasks in corporate settings (Gkinko and Elbanna 2023; Hofeditz et al. 2022; Kuang et al. 2023; Rheu et al. 2021). This is why trust in technology and CAs is an essential component of human-computer interaction research. Many researchers have investigated how social cues of a CA could influence the trust perception of the CA and have established inconsistent findings (Leschanowsky et al. 2024; Li and Suh 2021). Some studies state that the degree to which a CA is perceived as having anthropomorphic features increases trust perception (Li and Suh 2021). This would go hand in hand with the trust theory, which states that when CAs provide competent and intelligent services, trust in that CA will increase when perceived as human-like (Li and Suh 2021). IS research distinguishes between human-like trusting beliefs, such as perceived competence, integrity, abilities, and benevolence, and system-like trusting beliefs, such as reliability, functionality, and helpfulness (Chen et al. 2024; Gkinko and Elbanna 2023; Moussawi et al. 2023). In this work, we focused on human-like trust instead of system-like trust, as with CAs, we consider a technology that aims to mimic natural human-to-human communication, and which is not designed as a platform.

In general, multiple studies have revealed ambiguous findings regarding the role of gendered CAs in trust perception, with contradicting findings regarding female and male CAs (Law et al. 2021; Nickel and Meyer 2025; Rapp et al. 2023; ter Stal et al. 2020), context-specific differences (Bryant et al. 2020; Rheu et al. 2021), and even non-gendered CAs proving to have no different influence on trust perception compared to gendered CAs (Tolmeijer et al. 2021). It is therefore essential to consider more specific trusting constructs (such as human-like trusting beliefs) to understand the relationship between trust and a CA's gender. Based on the fact that the gendered CAs used in this study will have salient gender attributes – name and voice – (Xu et al. 2022) compared to the non-gendered CA, we assume that gendered CAs will evoke more human-like trust than non-gendered CAs. Thus, the following hypothesis can be formulated:

H2a: *A gendered CA invokes more human-like trust in the CA compared to a non-gendered CA.*

Regarding differences between female and male CAs, there are also multiple ambiguous findings in the related work reviewed. On the one hand, differences in perceived competence in a female and male CA

have been found (Nickel and Meyer 2025). Forms of gender stereotyping could be found, proving that gender stereotyping is so deeply rooted in our subconscious that it can be transferred to technology (Feine et al. 2020; Fossa and Sucameli 2022; Law et al. 2021). On the other hand, the female gender is more common in virtual assistants, customer service bots, and voice assistants (Tolmeijer et al. 2021), which could distort users' perception of preferring a female CA over a male CA. Given the inconsistent findings regarding differently gendered CAs and the perception of them, the following hypothesis remains undirected, yet a difference is suspected.

H2b: *There is a difference between female and male gendered CAs and their influence on human-like trust perception.*

The ambiguous findings can be attributed to different social cues that were applied, differences in trust measures, and varying use cases. It is therefore necessary to examine human-like trust towards CAs in contexts relevant for IS research, such as digital work (Schoebel et al. 2024). Pursuing the trust theory, trust as a construct in this paper is defined as trust in the ability of the CA to provide competent and helpful assistance (Chen et al. 2024; Moussawi et al. 2023) in a digital work scenario using commonly accepted scales that measure both human-like and system-like trust towards CAs. These characteristics are mirrored in the items of the trusting belief-specific technology scale created by Chen et al. (2024) and the human-computer trust scale developed by Moussawi et al. (2023).

Within this paper, the focus will be on gender as a set of social cues that will be shown in the form of the CA's name and voice pitch, as these have proven to be sufficient to evoke the perception of a gender in a CA (Tolmeijer et al. 2021; Xu et al. 2022). An avatar will not be included to avoid the potential impact of perceived attractiveness on trust perception (Rheu et al. 2021; Schwarz et al. 2024). In addition, the general trusting stance as described by Moussawi et al. (2023) the participants' trust propensity can give insight into potential subconscious influences when interacting with the CA. The findings of this study expand the research regarding trust in CAs by suggesting that certain social cues can increase trust in the CA's abilities within a work environment compared to a non-gendered CA.

3 Method

3.1 Research Design

To examine the effect of CAs' gender on the perceived AI identity, AI identity threat, and trust, we conducted an online survey study as a 2x3 factorial between-subjects design. Participants took part in a work task and will collaborate with a CA to fulfil the task. This method is suitable for answering the RQs as it allows for measuring the factors in a controlled environment, reconstructing a real-world situation, including an interaction with a CA in a digital work scenario. More specifically, participants were asked to select a potential co-worker for a project. SoSciSurvey¹ was used to implement all questionnaires, and Google DialogFlow was used for interaction with the CA, which uses Natural Language Processing (NLP), allowing a classification as an AI-based system. The CA is designed explicitly for this study task and will represent the CA. The independent variable is the CA's gender, which is presented as a scenario and randomized as either female, male, or non-gendered.

		CA's gender		
		female (Pia)	male (Tom)	non-gendered
user's gender	female	Group 1	Group 2	Group 3
	male	Group 4	Group 5	Group 6

Table 1. Experimental Groups

To facilitate the analysis of our hypotheses, participants will be divided by their gender (male/female). The assignment of the groups is shown in Table 1. Individuals who identify as non-binary are not considered, due to the limited number of possible participants, which may lead to possible results being insignificant. There were six different groups based on the gender of the CA and the participants. The

¹ <https://www.surveycircle.com/de/>

CAs differed in terms of the given name and the voice introduction (for the female and male-gendered CAs). The non-gendered CA did not have a name or voice, as this might influence the perception of the gender. Even if the CA had received a gender-neutral name, it could be classified as a male or female name (even when it happens unconsciously (Feine et al. 2019)). The same would happen if the CA had a voice.

3.2 Procedure

We recruited German-speaking participants via social media (e.g., LinkedIn) and participant recruitment platforms such as SurveyCircle². The online experiment was conducted exclusively in German-speaking countries to avoid potential cultural differences. A prerequisite to take part was that the participants had to be at least 18 years old and had to be experienced in digital work. Overall, $N = 198$ valid datasets could be collected. Participants were first informed about the content, the purpose, and the following procedure of the study. After permitting the declaration of consent, they receive an explanation for the use of either a computer or smartphone with functioning speakers or headphones, or participating in a quiet room.

The study started with a definition of a CA as described in an earlier section (Chapter 2: Related Work). The definition is essential because the participant's previous experience with CAs is questioned directly after. Then, participants were asked about their general trusting stance and previous CA interaction experience, i.e., if they already use a smart speaker or if a CA is integrated into their smartphone's operating system. Afterwards, participants were randomly assigned to one of the three groups, either the male CA Tom, the female CA Pia, or the non-gendered CA without a specific name. The introduction of the CA was done via text for all three CAs and additionally via voice for the male CA, Tom, and the female CA, Pia. Therefore, a female or male voice soundtrack was implemented and played in the study. After the voice soundtrack had been played in its entirety, the participants were able to continue with the survey by clicking on a button that was not clickable while the voice was played.

The interaction between the participants and the CA was implemented in Google DialogFlow, which can be seen in Figure 1 (see Appendix). The communication was designed explicitly for this study. Both free-text implementations and the selection of buttons were used to design communication between the participants and the CA. Also, the interaction can be divided into different intents and scenes that can happen during the interaction between participants and the CAs. For example, a welcome intent at the start of the conversation in which the CA welcomes the subjects and intents regarding the information of potential co-workers was implemented for the study. In total, 19 task and conversation-related intents were implemented to guide the interaction between a participant and one of the three CAs. The interaction was embedded inside the online survey and took place on the same page as the scenario description. After finishing the CA interaction, there was a safety check to assess the situation's realism and identify any technical issues. This helps to interpret the interaction in more detail. Thereafter, all participants received the same survey, including the scales mentioned above, in the following order: trust in belief-specific technology, HCTM Scale, AI identity, and AI identity threat scale (Mirbabaie et al. 2022). In addition, they were asked about their AI identity and the threat to it. Closing the study, participants were asked to provide their demographic data, including gender, age, education, and field of work. At the end of the experiment, the participants received a debriefing, in which they were informed about the interaction and the research goal. The whole procedure is illustrated in Figure 2 (see Appendix).

4 Findings

4.1 Quantitative Findings: Effects on AI Identity, AI Identity Threat, and Trust

To compute statistical power, a G*power analysis was done, yielding a sample size of 264 participants. After deleting incomplete and biased datasets, we had a sample size of $N = 198$ participants with an average age of 27 ($M = 27.04$; $SD = 7.72$). One hundred twenty-three participants (62 %) of the sample identified themselves as female, 73 (37 %) as men, and two (1 %) as diverse. Hence, the sample size is not equally divided. 174 (74 %) participants had a university degree, 48 (24 %) had a high school diploma, and four (2 %) had other educational specifications. The proportion of students was 123 (72 %), 46 participants (23 %) were working full-time, and ten (5 %) were employed differently.

² <https://surveycircle.com/en/>

Descriptive findings show that participants have an AI identity with an average of $M = 2.71$ ($SD = 1.16$) within a range of $R = 1.00$ - 6.00 . The AI identity threat was at an average of $M = 2.54$ ($SD = 1.13$). Trust in a CA had a mean of $M = 3.86$ ($SD = .8$), and a general trusting stance had a mean of $M = 4.48$ ($SD = .77$). For evaluating hypotheses 1a, 1d, 2a, and 2b, t-tests were conducted. For evaluating hypotheses 1b and 1d, an ANOVA was executed. Statistical requirements needed to be tested beforehand. Normal distribution was tested with the Shapiro-Wilk Normality test for AI identity, AI identity threat, trust in CA, and general trust. For all variables, the p-value was below 0.05, so a normal distribution is not given (AI identity: $W = 0.962$, $p < .001$; AI identity: $W = 0.951$, $p < .001$; trust in CA: $W = 0.977$, $p < .001$; trust in General: $W = 0.96$, $p < .001$).

Variance heterogeneity was tested with the Levene Test and was given for all variables: trust in CA, $F(1,196) = 1.309$, $p = 0.254$; AI identity, $F(1,196) = 0.392$, $p = 0.532$; AI identity threat, $F(1,196) = 0.438$, $p = 0.509$. Homoscedasticity was tested with the Breusch-Pagan Test before running the ANOVA. Homoscedasticity was given in all cases: AI identity, $BP = 3.641$, $df = 2$, $p = 0.162$ and AI identity threat, $BP = 1.290$, $df = 2$, $p = 0.525$. Contrary to expectations, in H1a, an effect of gendered ($M = 2.77$, $SD = 1.15$) and non-gendered ($M = 2.69$, $SD = 1.19$) CAs on AI identity could not be found. The t-test was not significant, $t(196) = 0.46$, $p > 0.1$. Hypothesis 1a needs to be rejected.

	Estimate	std. Error	t-value	p-value
(Intercept)	6.063	2.535	2.392	0.018
Gender CA	-1.415	1.004	-1.409	0.161
Gender User	-1.141	1.043	-1.094	0.276
CA: User	0.450	0.421	1.068	0.288

Table 2. Results of Moderation Analysis on Hypothesis 1c

The interaction model set up in Table 2 did not show significant results ($\Delta R^2 = 3.45\%$, $F(3, 126) = 1.50$, $p > .01$; $CI[-1.75, 3.06]$), and the interaction term did not show significant results ($p = 0.288$). Therefore, hypothesis H1b was rejected.

Regarding the analysis of trust, different effects of a gendered and a non-gendered CA on trust were expected. The t-test did not show any significance, $t(196) = .03$, $p > 0.1$. Hence, a gendered CA ($M = 3.89$, $SD = 0.88$) showed no difference regarding the effect on trust in comparison to a non-gendered CA ($M = 3.9$, $SD = 0.69$). Female and male CAs showed the same effects on trust ($M = 3.89$, $SD = 0.84$ vs. $M = 3.89$, $SD = 0.92$). The t-test was not significant, $t(130) = -.008$, $p > 0.1$.

	Estimate	std. Error	t-value	p-value
(Intercept)	3.807	2.742	1.388	0.167
Gender CA	-0.250	1.087	-0.230	0.818
Gender User	-0.399	1.128	-0.354	0.724
CA: User	0.076	0.456	0.166	0.869

Table 3. Results of Moderation Analysis on Hypothesis 1d

The interaction model set up in Table 3 is not significant ($\Delta R^2 = 0.76\%$, $F(3, 126) = 0.32$, $p > .01$, 95% , $CI[-1.81, 2.81]$). The interaction term does not show any significance either ($p = 0.869$). Therefore, there is no effect of a user's gender on the relationship between a gendered CA and AI identity, hypothesis H1b was rejected. In H1d, an effect of gendered vs. non-gendered CAs on AI identity threat was expected. The t-test was not significant, $t(196) = 1.06$, $p > 0.1$. Hence, an effect could not be supported ($M = 2.66$, $SD = 1.14$) ($M = 2.48$, $SD = 1.19$).

4.2 Exploratory Findings: The Role of Gender and Age When Perceiving Conversational Agents

As all established hypotheses need to be revised, exploratory research was conducted. Within that, a regression analysis on the general trusting stance was completed. A positive relation of general trust and

AI identity was found, $F(1,196) = 32.58, p < .001$. So, the more trust the participants had in technology in general, the higher their AI identity. A second positive relation could be found between the general trusting stance and trust in CAs, $F(1,196) = 12.5, p = <.001$. The higher the general trust, the higher the trust in the CA. Regarding the samples' age, a negative relation between the age of the sample and trust in the CA was found, $F(1,196) = 5.684, p = 0.018$. Further interesting findings are tendencies that the older the sample, the lower the general trust in technology, the higher the perceived AI identity threat, and the lower the perceived AI identity. Regarding gender, it was found that women trust CAs more than men do, $t(1,194) = 2.58, p = 0.01$. Moreover, women tend to have a stronger AI identity than men, and men tend to have a stronger AI identity threat than women. But women and men tend to have similar levels of general trust in technology.

5 Discussion

5.1 Gendering Conversational Agents as a Personal Preference

Although previous research assumed a correlation between perceived social cues that simulate a certain gender and perceived human-like trust (Li and Suh 2021), our findings suggest that the gender of a CA does not influence its perception of human-like trust. This contradicts our hypothesis that the human-likeness of gendered CAs is higher than that of non-gendered CAs, as suggested by prior studies (Fossa and Sucameli 2022; Li and Suh 2021; Nickel and Meyer 2025). Developers and researchers might need to reconsider whether assigning a specific gender to CAs is necessary and instead focus more on social cues that do not reinforce stereotypes. It's also possible that, although a CA has a certain gender, system-like characteristics outweigh this human-like feature in a corporate environment (Feng and Buxmann 2020; Gkinko and Elbanna 2023). These factors could be more significant when it comes to identifying with the CA or perceiving a threat over the long term. In such cases, designing CAs primarily with functionality in mind, before considering gender, may be best for collaborative work settings. Participants also did not perceive an AI identity threat. The absence of perceived threat to human identity from AI suggests that CAs have the potential to foster positive interactions and collaboration without threatening human identity. This could highlight the potential for CAs to enhance human experiences and capabilities across various domains, from customer service to creative work. Conversely, it may also suggest that perceived threat depends heavily on the task and context, especially since participants did not act within their natural work environment. Mirbabaie et al. (2021) proposed reasons why employees might perceive an AI identity threat: changes to work, loss of status, and AI identity predicting overall AI identity threat in the workplace. In this collaborative context, the gender of the CA does not appear to influence AI identity threat. It's likely that factors outlined by Mirbabaie et al. (2021) are more influential (Dutta et al. 2023). The participants' gender also did not moderate these relationships (H1b and H1c). The same reasoning applies: completing the task and obtaining necessary information from the CA mattered more to participants than the CA's gender. Additionally, because the CA is technology-based, it may be seen as part of the outgroup for human users, potentially outweighing any ingroup or outgroup sentiments related to gender (mis-)matches between the CA and user (Pinelli et al. 2023). Participant gender also does not affect trust toward differently gendered CAs (H2a and H2b). This suggests universal trust factors in human-computer interaction and emphasizes the importance of gender-inclusive design principles in AI development. Previous research shows mixed results regarding trust in gendered CAs. Moussawi et al. (2022) found no influence of anthropomorphic features on user trust, while perception of high intelligence—perceived as threatening—can lower trust (Moussawi et al. 2023). This indicates many factors beyond gender influence trust. In other settings, anthropomorphism generally increased trust and warmth toward the CA (Leschanowsky et al. 2024; Moussawi et al. 2023; Xu et al. 2022). However, in this work context, the gender of a CA does not seem to affect how it is perceived.

The digital work context can lead to gender taking on a subordinate role in the functionality of the CA. Designing CAs without a specified gender can also be observed in new practical implementations and use cases of CAs. However, common voice assistants such as Siri, Alexa, and Google Assistant possess a gender and voice that can be clearly assigned to a gender. Although there is an option to change the voice of these assistants, it can be noticed that all three CAs are pre-set to features associated with typically female features.

5.2 Implications

This study contributes to the existing IS research by examining the effect of a CA's gender as one of the most often implemented social cues on the perceived AI identity, the AI identity threat, and trust towards the CA in a collaborative work context. The results of this study suggest that the gender of the CA does not have a significant impact on the above-mentioned factors in the given context. This

underscores the importance of prioritizing effectiveness and functionality and the consideration of a gender-neutral CA as an opportunity to avoid stereotypical characteristics and promote inclusivity and equality. The findings contradict some previous studies, indicating that the human-likeness of gendered CAs is higher than that of non-gendered CAs, contrary to the hypothesis that this would increase the AI identity. However, our findings contest these findings and suggest that the effectiveness and sophisticated functionality of the CA may be more important in identifying with the CA or perceiving a threat than the gender of the CA.

Further, our study adds value for practitioners and the development of CAs in a collaborative work context. The results suggest that designing an effective CA should be the priority before considering the anthropomorphic or aesthetic features, such as the gender or avatar of the CA. Further, designing a non-gendered CA may be a better option, as it may help to eliminate potential gender biases that can arise when using gendered CAs (Feine et al. 2020). However, it should be noted that the user's personal preference regarding gendered or non-gendered CAs should be considered when designing CAs. Both gendered and non-gendered CAs are widely adopted and have a high number of users. Examples of gendered CAs include Apple's Siri, Google Assistant, and Amazon Alexa, while the recently developed CAs, ChatGPT by OpenAI and Bard by Google, are non-gendered. This implies that assigning a gender to a CA is a personal (or corporate) choice and depends on the use case. However, developers could consider the opportunity of designing a gender-neutral CA to mitigate unintended stereotypes and potential sexism.

6 Conclusion

By conducting a between-subjects experiment, this study provides insights into the AI identity and AI identity threat, and human-like trust towards CAs in a digital work setting by suggesting that a CA's gender is irrelevant for these factors, which can be considered a chance to mitigate stereotypes. Our findings indicate that the gender of the CA, or the omission of gender, in a digital work context has no influence on the perceived AI identity threat and trust towards the CA. We contribute to IS research by adding value to the human-computer interaction research stream and demonstrating that social cues in CAs may not influence an employee's identity and contribute to identity threats. Although previous research suggests that people perceive CAs in the workplace as both a tool for expanding their own abilities and as team collaborators, social cues and especially gender do not pose a threat to employees' identity in the workplace. Practitioners should therefore focus on CA effectiveness and functionality to enhance collaborative work settings and efficient use.

However, the study has its limitations. First, the interaction with the CA was brief and occurred in a simulated work setting. This could have affected the results, as participants did not engage enough with the CA to develop an AI identity, sense of threat, or trust. Second, there is a possible selection bias in our study design, as we only recruited participants via two online platforms. Future research could explore the effects of a gendered CA in a real work environment over a longer period, which would better reveal the consequences of interacting with a CA and offer further insights into the potential advantages or disadvantages of working with a CA in digital work. For this purpose, a single case study can be conducted to evaluate CA effects in a real work environment and to overcome participant selection bias. Next, there is limited generalisability in our study, given that all participants were German-speaking, and the results may not be fully transferable to individuals with other linguistic or cultural backgrounds. Therefore, cultural and linguistic factors should be considered when transferring these findings to non-German-speaking populations. Research could extend the study in other linguistic contexts to ensure generalisability. Additionally, it is important to note that the CA was used in a language work setting. Participants relied on it to help select a colleague. While this scenario allowed us to examine human-AI interactions in a familiar and realistic task, it may have also limited the threat level to AI identity, as there was little opportunity for participants to feel anxious about their own identity. Future studies should therefore investigate digital work environments that allow for greater professional judgment or role conflict and assess whether gender cues in AI become more significant in these contexts.

7 References

- Alahmad, R., and Robert, L. 2020. "Artificial Intelligence (AI) and IT Identity: Antecedents Identifying with AI Applications", *Proceedings of the Americas Conference on Information Systems*, Virtual Conference.
- Avgustis, I., Shirokov, A., and Iivari, N. 2021. "‘Please Connect Me to a Specialist’: Scrutinising ‘Recipient Design’ in Interaction with an Artificial Conversational Agent," in *Proceedings of the IFIP Conference on Human-Computer Interaction (INTERACT)*, Bari, Italy. pp.155-176.

- Bryant, D., Borenstein, J., and Howard, A. 2020. "Why Should We Gender?: The Effect of Robot Gendering and Occupational Stereotypes on Human Trust and Perceived Competency," in *Proceedings of the 2020 ACM/IEEE International Conference on Human-Robot Interaction*, Cambridge United Kingdom, pp. 13–21. (<https://doi.org/10.1145/3319502.3374778>).
- Buxmann, P., Hess, T., and Thatcher, J. B. 2021. "AI-Based Information Systems," *Business & Information Systems Engineering* (63:1), pp. 1–4. (<https://doi.org/10.1007/s12599-020-00675-8>).
- Chen, J., Guo, F., Ren, Z., Li, M., and Ham, J. 2024. "Effects of Anthropomorphic Design Cues of Chatbots on Users' Perception and Visual Behaviors," *International Journal of Human-Computer Interaction* (40:14), pp. 3636–3654. (<https://doi.org/10.1080/10447318.2023.2193514>).
- Chui, M., Roberts, R., and Yee, L. 2022. "Generative AI Is Here: How Tools like ChatGPT Could Change Your Business," *Quantum Black AI by McKinsey*. (<https://www.mckinsey.com/capabilities/quantumblack/our-insights/generative-ai-is-here-how-tools-like-chatgpt-could-change-your-business>, accessed July 22, 2025).
- Craig, K., Thatcher, J. B., and Grover, V. 2019. "The IT Identity Threat: A Conceptual Definition and Operational Measure," *Journal of Management Information Systems* (36:1), pp. 259–288. (<https://doi.org/10.1080/07421222.2018.1550561>).
- Diederich, S., Brendel, A. B., Morana, S., Kolbe, L. 2022. "On the Design of and Interaction with Conversational Agents: An Organizing and Assessing Review of Human-Computer Interaction Research," *Journal of the Association for Information Systems* (23:1), pp. 96–138. (<https://doi.org/10.17705/1jais.00724>).
- Doshi, R. H., Bajaj, S. S., and Krumholz, H. M. 2023. "ChatGPT: Temptations of Progress," *The American Journal of Bioethics* (23:4), pp. 6–8. (<https://doi.org/10.1080/15265161.2023.2180110>).
- Duan, W., McNeese, N., and Li, L. 2025. "Gender Stereotypes toward Non-Gendered Generative AI: The Role of Gendered Expertise and Gendered Linguistic Cues," in *Proceedings of the ACM on Human-Computer Interaction* (9:1), pp. 1–35. (<https://doi.org/10.1145/3701197>).
- Dutta, D., Mishra, S. K., and Tyagi, D. 2023. "Augmented Employee Voice and Employee Engagement Using Artificial Intelligence-Enabled Chatbots: A Field Study," *International Journal of Human Resource Management* (34:12), pp. 2451–2480. (<https://doi.org/10.1080/09585192.2022.2085525>).
- Feine, J., Gnewuch, U., Morana, S., and Maedche, A. 2019. "A Taxonomy of Social Cues for Conversational Agents," *International Journal of Human-Computer Studies* (132), pp. 138–161. (<https://doi.org/10.1016/j.ijhcs.2019.07.009>).
- Feine, J., Gnewuch, U., Morana, S., and Maedche, A. 2020. "Gender Bias in Chatbot Design," in *Chatbot Research and Design* (Vol. 11970), A. Følstad, T. Araujo, S. Papadopoulos, E. L.-C. Law, O.-C. Granmo, E. Luger, and P. B. Brandtzaeg (eds.), Cham: Springer International Publishing, pp. 79–93. (https://doi.org/10.1007/978-3-030-39540-7_6).
- Feng, S., and Buxmann, P. 2020. "My Virtual Colleague: A State-of-the-Art Analysis of Conversational Agents for the Workplace," in *Proceedings of the Hawaii International Conference on System Sciences*, Hawaii, USA.
- Fortunati, L., Edwards, A., Edwards, C., Manganelli, A. M., and De Luca, F. 2022. "Is Alexa Female, Male, or Neutral? A Cross-National and Cross-Gender Comparison of Perceptions of Alexa's Gender and Status as a Communicator," *Computers in Human Behavior* (137), pp. 1–9. (<https://doi.org/10.1016/j.chb.2022.107426>).
- Fossa, F., and Sucameli, I. 2022. "Gender Bias and Conversational Agents: An Ethical Perspective on Social Robotics," *Science and Engineering Ethics* (28:3), pp. 1–23. (<https://doi.org/10.1007/s11948-022-00376-3>).
- Gkinko, L., and Elbanna, A. 2023. "Designing Trust: The Formation of Employees' Trust in Conversational AI in the Digital Workplace," *Journal of Business Research* (158), pp. 1–10. (<https://doi.org/10.1016/j.jbusres.2023.113707>).
- Gulati, S., Sousa, S., and Lamas, D. 2019. Design, development and evaluation of a human-computer

- trust scale. *Behaviour & Information Technology*, 38(10), pp. 1004-1015. (<https://doi.org/10.1080/0144929X.2019.1656779>).
- Hildebrandt, F., Lichtenberg, S., Brendel, A. B., Riquel, J., Dechant, D., and Bã, F. 2023. "Conversational Agents in Service Context: Towards a Classification of Human-like Design Expectations," in *Proceedings of the Americas Conference on Information Systems*, Panama City, Panama.
- Hofeditz, L., Harbring, M., Mirbabaie, M., and Stieglitz, S. 2022. "Working with ELSA-How an Emotional Support Agent Builds Trust in Virtual Teams," in *Proceedings of the Hawaii International Conference on System Sciences*, Hawaii, USA.
- Jeon, J.-E. 2024. "The Effect of AI Agent Gender on Trust and Grounding," *Journal of Theoretical and Applied Electronic Commerce Research*, 19(1), pp. 692-704. (<https://doi.org/10.3390/jtaer19010037>).
- Kuang, E., Soure, E. J., Fan, M., Zhao, J., and Shinohara, K. 2023. "Collaboration with Conversational AI Assistants for UX Evaluation: Questions and How to Ask Them (Voice vs. Text)," in *Proceedings of the CHI Conference on Human Factors in Computing Systems*, Hamburg, Germany. (<https://doi.org/10.1145/3544548.3581247>).
- Law, T., Chita-Tegmark, M., and Scheutz, M. 2021a. "The Interplay Between Emotional Intelligence, Trust, and Gender in Human-Robot Interaction: A Vignette-Based Study," *International Journal of Social Robotics* (13:2), pp. 297-309. (<https://doi.org/10.1007/s12369-020-00624-1>).
- Leschanowsky, A., Rech, S., Popp, B., and Baeckstroem, T. 2024. "Evaluating Privacy, Security, and Trust Perceptions in Conversational AI: A Systematic Review," *Computers in Human Behavior* (159), pp.1-39 (<https://doi.org/10.1016/j.chb.2024.108344>).
- Li, M., and Suh, A. 2021. "Machinelike or Humanlike? A Literature Review of Anthropomorphism in AI-Enabled Technology," in *Proceedings of the Hawaii International Conference on System Sciences*, Hawaii, USA.
- McKnight, D. H., Carter, M., Thatcher, J. B., and Clay, P. F. 2011. "Trust in a specific technology: An investigation of its components and measures," *ACM Transactions on Management Information Systems*, 2(2), pp.1-25 (<https://doi.org/10.1145/1985347.1985353>).
- Mirbabaie, M., Brünker, F., Möllmann Frick, N. R. J., and Stieglitz, S. 2022. "The Rise of Artificial Intelligence – Understanding the AI Identity Threat at the Workplace," *Electronic Markets* (32:1), pp. 73-99. (<https://doi.org/10.1007/s12525-021-00496-x>).
- Mirbabaie, M., Stieglitz, S., Brünker, F., Hofeditz, L., Ross, B., and Frick, N. R. J. 2021. "Understanding Collaboration with Virtual Assistants – The Role of Social Identity and the Extended Self," *Business & Information Systems Engineering* (63:1), pp. 21-37. (<https://doi.org/10.1007/s12599-020-00672-x>).
- Mirbabaie, M., Stieglitz, S., and Frick, N. R. J. 2021. "Hybrid Intelligence in Hospitals: Towards a Research Agenda for Collaboration," *Electronic Markets* (31:2), pp. 365-387. (<https://doi.org/10.1007/s12525-021-00457-4>).
- Moussawi, S., Koufaris, M., and Benbunan-Fich, R. 2022. "The Role of User Perceptions of Intelligence, Anthropomorphism, and Self-Extension on Continuance of Use of Personal Intelligent Agents," *European Journal of Information Systems* (32:3), pp. 601-622. (<https://doi.org/10.1080/0960085X.2021.2018365>).
- Nickel, K., and Meyer, C. 2025. "Why Female Virtual Conversational Agents Exhibit Greater Social Presence: Insights From the Stereotype Content Model," *Journal of Consumer Behaviour* (24:3), pp. 1358-1372. (<https://doi.org/10.1002/cb.2475>).
- Ocampo, A. 2022. "ChatGPT Is the Latest Viral AI Model. Why Is It so Successful?," *Skippet*. (<https://www.skippet.com/post/chatgpt-why-is-it-successful>, accessed May 3, 2023).
- Pinelli, M., Sarda, E., and Bry, C. 2023. "How Can I Help You? The Influence of Situation and Hostile Sexism on Perception of Appropriate Gender of Conversational Agents," *International Review of Social Psychology* (36:1), pp.1- 10. (<https://doi.org/10.5334/irsp.669>).
- Rapp, A., Boldi, A., Curti, L., Perrucci, A., and Simeoni, R. 2023. "Collaborating with a Text-Based Chatbot: An Exploration of Real-World Collaboration Strategies Enacted during Human-Chatbot Interactions," in *Proceedings of the CHI Conference on Human Factors in Computing Systems*, Hamburg, Germany. (<https://doi.org/10.1145/3544548.3580995>).

- Ray, P. P. 2023. “ChatGPT: A Comprehensive Review on Background, Applications, Key Challenges, Bias, Ethics, Limitations and Future Scope,” *Internet of Things and Cyber-Physical Systems* (3), pp. 121–154. (<https://doi.org/10.1016/j.iotcps.2023.04.003>).
- Rheu, M., Shin, J. Y., Peng, W., and Huh-Yoo, J. 2021. “Systematic Review: Trust-Building Factors and Implications for Conversational Agent Design,” *International Journal of Human–Computer Interaction* (37:1), pp. 81–96. (<https://doi.org/10.1080/10447318.2020.1807710>).
- Rzepka, C., Berger, B., and Hess, T. 2022. “Voice Assistant vs. Chatbot – Examining the Fit Between Conversational Agents’ Interaction Modalities and Information Search Tasks,” *Information Systems Frontiers* (24:3), pp. 839–856. (<https://doi.org/10.1007/s10796-021-10226-5>).
- Schoebel, S., Schmitt, A., Benner, D., Saqr, M., Janson, A., and Leimeister, J. M. 2024. “Charting the Evolution and Future of Conversational Agents: A Research Agenda Along Five Waves and New Frontiers,” *Information Systems Frontiers* (26:2), pp. 729–754. (<https://doi.org/10.1007/s10796-023-10375-9>).
- Schwarz, D., Zarccone, A., and Laquai, F. 2024. “Talk to Your Cobot: Faster and More Efficient Error-Handling in a Robotic System with a Multi-Modal Conversational Agent,” in *Proceedings of Mensch Und Computer 2024*, Karlsruhe, Germany, pp. 520–532. (<https://doi.org/10.1145/3670653.3677484>).
- ter Stal, S., Tabak, M., op den Akker, H., Beinema, T., and Hermens, H. 2020. “Who Do You Prefer? The Effect of Age, Gender and Role on Users’ First Impressions of Embodied Conversational Agents in eHealth,” *International Journal of Human–Computer Interaction* (36:9), pp. 881–892. (<https://doi.org/10.1080/10447318.2019.1699744>).
- Tolmeijer, S., Zierau, N., Janson, A., Wahdatehagh, J. S., Leimeister, J. M. M., and Bernstein, A. 2021. “Female by Default? – Exploring the Effect of Voice Assistant Gender and Pitch on Trait and Trust Attribution,” in *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems*, Yokohama Japan, pp. 1–7. (<https://doi.org/10.1145/3411763.3451623>).
- Wang, S., Claudy, M., and Yan, Q. 2024. “Collaborating with AI in Brainstorming: How Gender Cues of Virtual Agents Affect User Idea Generation and Selection,” in *Proceedings of the Pacific-Asia Conference on Information Systems*, Ho Chi Minh City, Vietnam, pp. 1–16.
- Xu, K., Chen, X., and Huang, L. 2022. “Deep Mind in Social Responses to Technologies: A New Approach to Explaining the Computers Are Social Actors Phenomena,” *Computers in Human Behavior* (134), pp. 1–13. (<https://doi.org/10.1016/j.chb.2022.107321>).
- Zhou, J., Lu, Y., and Chen, Q. 2025. “GAI Identity Threat: When and Why Do Individuals Feel Threatened?,” *Information & Management* (62:2), pp. 1–13. (<https://doi.org/10.1016/j.im.2024.104093>).

Appendix 1: Example Interaction a Gendered Conversational Agent (Female: Pia)

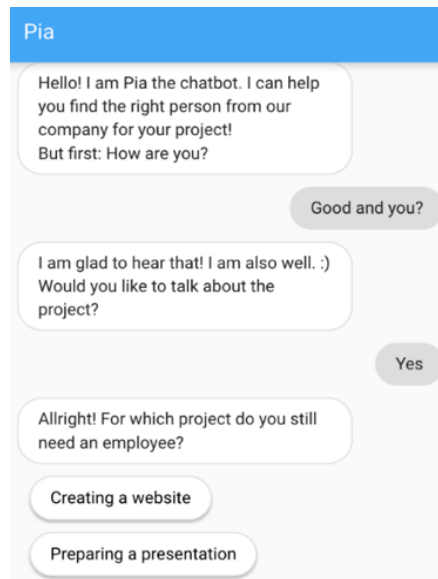


Figure 1. Example Interaction with the Female CA (Pia) in DialogFlow

Appendix 2: Structure of the Online Experiment

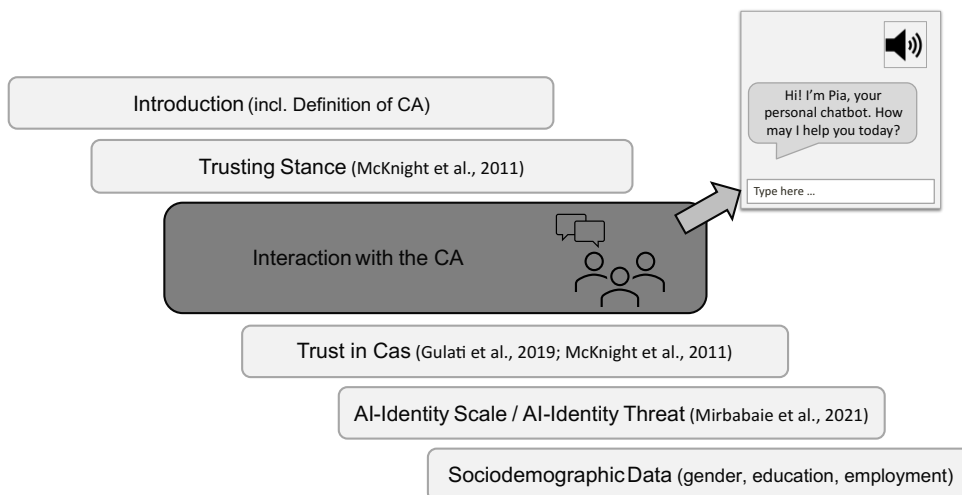


Figure 2. Online Survey Structure

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