JABBS
Journal of Applied Business & Behavioral Sciences

Credamo PRESS

"What's in a Name?": The Effect of AI Agent Naming on Psychological Ownership and Responsible Behaviors in the Shared Economy

Valerie Lynette Wang[a], Liying Zhou[b,*]

[a] College of Business and Public Management, West Chester University, Pennsylvania, West Chester, PA 19383, USA

[b] School of Business Administration, Guizhou University of Finance and Economics, Huaxi District, Guiyang, 550025, China

How to cite: Wang, L.V., & Zhou, L.Y. (2025). "What's in a Name?": The Effect of AI Agent Naming on Psychological Ownership and Responsible Behaviors in the Shared Economy. *Journal of Applied Business & Behavioral Sciences, 1(2),* 144-162. https://doi.org/10.63522/jabbs.102008

Abstract

As artificial intelligence (AI) continues to permeate shared economy services, understanding how AI design elements impact user behavior has become increasingly important. This research examines how naming AI agents influences responsible behaviors in shared economy contexts and explores psychological ownership as a mediating mechanism. Across four experiments, we demonstrate that allowing users to name AI agents significantly increases their likelihood to engage in responsible behaviors, such as conserving resources and maintaining shared property. We further investigate two theory-driven moderators—interaction frequency and usage context (private vs. public)—that impact the strength of this naming effect on responsible behaviors via psychological ownership. Our findings offer theoretical insights into the underlying processes that enhance responsible behaviors in the shared economy and provide actionable guidance for practitioners aiming to foster user responsibility through AI design.

Keywords: AI agent naming; Psychological ownership; Responsible behaviors; Shared economy; Interaction frequency; Usage context

1. Introduction

The integration of artificial intelligence (AI) into shared economy services has revolutionized how consumers interact with shared resources, offering unprecedented convenience and personalization (Huang & Rust, 2018; Gao et al., 2023). From ride-sharing platforms employing AI for route optimization to home-sharing services using AI assistants for personalized guest experiences, AI's role in facilitating and enhancing shared services is both significant and growing (Hamari et al., 2016; Bock et al., 2020). As AI becomes more embedded in these platforms, understanding how specific AI design elements influence user behavior has become a critical area of inquiry for both scholars and practitioners.

One underexplored design element is the naming of AI agents. Naming is a fundamental aspect of humanizing technology, fostering a sense of familiarity and emotional connection between users and

* Correspondence: zhouly@mail.gufe.edu.cn

Received 7 March 2025; Revised 5 May 2025; Accepted 5 May 2025

AI (Waytz et al., 2014). Prior research indicates that anthropomorphism—the attribution of human-like characteristics to non-human entities—can significantly impact user engagement and trust in AI systems (Epley et al., 2007; Kim & Sundar, 2012; Gilkson & Woolley, 2020). However, the specific effect of allowing users to name AI agents on subsequent behaviors, particularly in the context of responsible behaviors within the shared economy, remains largely unexplored.

Responsible behaviors—such as conserving resources, maintaining shared property, and adhering to usage guidelines—are essential for the sustainability and efficiency of shared economy services (Huang et al., 2023; Benoit et al., 2017). Psychological ownership, the state in which individuals feel as though the target of ownership or a piece of that target is "theirs" (Pierce et al., 2003), has been identified as a key driver of such behaviors (Peck et al., 2021). When users develop a sense of ownership over shared resources, they are more likely to engage in actions that preserve and enhance those resources (Jussila et al., 2015).

Despite the acknowledged importance of psychological ownership in promoting responsible behaviors (Peck et al., 2021), there is a paucity of research examining how AI design elements can be leveraged to enhance psychological ownership in shared economy contexts. Specifically, the potential for AI agent naming to cultivate psychological ownership and, consequently, responsible behaviors has not been adequately addressed. This gap is noteworthy given the increasing reliance on AI interfaces in shared services and the need for strategies that encourage users to act responsibly without imposing strict regulations or oversight (Huang & Rust, 2021).

The present research aims to fill this gap by investigating how allowing users to name AI agents affects their engagement in responsible behaviors within shared economy services. Across four experiments, we examine whether naming AI agents enhances psychological ownership and, in turn, promotes actions such as resource conservation and property maintenance. We also explore two theory-driven moderators—interaction frequency and usage context (private vs. public)—to understand the conditions under which the naming effect is most pronounced.

Our study makes several contributions to the literature. First, it extends the understanding of psychological ownership in the context of AI-enhanced shared economy services, highlighting the role of AI agent naming as a novel antecedent. Second, it adds to the body of work on human-AI interaction by demonstrating how subtle design elements can have meaningful impacts on user behavior (Rai et al., 2019). Third, by identifying key moderators, we provide nuanced insights into when and how AI naming can be most effective in fostering responsible behaviors.

In the following sections, we review the relevant literature on psychological ownership and responsible behaviors, discuss the theoretical underpinnings of AI agent naming, and develop our hypotheses. We then present four experiments that test these hypotheses, followed by a general discussion of the implications for theory and practice.

2. Theoretical Background and Hypotheses Development

2.1 Psychological Ownership and responsible behaviors

Psychological ownership is defined as the state in which individuals feel as though the target of ownership (material or immaterial) is theirs, leading to feelings of possession and attachment (Pierce et al., 2001). This construct arises when individuals invest their time, effort, and identity into an object or entity, resulting in a personal connection that goes beyond legal ownership (Pierce et al., 2003; Van Dyne & Pierce, 2004). Psychological ownership has been extensively studied in organizational

contexts, where it has been linked to positive outcomes such as increased job satisfaction, organizational commitment, and proactive behaviors (Avey et al., 2009; Mayhew et al., 2007).

In the realm of consumer behavior, psychological ownership influences how individuals interact with products and services, affecting their attitudes and actions toward the target (Kirk et al., 2015; Morewedge et al., 2021). When consumers develop a sense of ownership over a product or service, they are more likely to engage in behaviors that protect and enhance its value (Peck et al., 2009). This includes responsible behaviors such as careful usage, maintenance, and conservation of shared resources (Jussila et al., 2015).

Responsible behaviors in the shared economy are critical for the sustainability and efficiency of shared services (Benoit et al., 2017; Huang et al., 2023). Shared resources are susceptible to overuse and neglect due to the diffusion of responsibility among multiple users, a phenomenon known as the "tragedy of the commons" (Hardin, 1998). Psychological ownership can mitigate this issue by instilling a sense of personal responsibility and stewardship among users (Pierce & Jussila, 2011). When users feel that a shared resource is "theirs," they are more likely to act in ways that preserve and respect the resource, reducing misuse and promoting longevity (Shu & Peck, 2011).

Moreover, psychological ownership fosters emotional attachment and identification with the target, which can lead to intrinsic motivation to engage in responsible behaviors without external incentives or enforcement (Deci & Ryan, 2000; Belk, 1988). This internalization of responsibility is particularly valuable in shared economy contexts where monitoring and enforcing responsible usage can be challenging (Hamari et al., 2016).

Therefore, enhancing psychological ownership among users of shared economy services is a promising avenue for promoting responsible behaviors. Understanding the antecedents of psychological ownership in these contexts is essential for developing strategies that encourage users to take personal responsibility for shared resources.

2.2 The Role of AI Agent Naming

The act of naming is a fundamental human behavior that facilitates attachment and personalization toward objects and entities (Epley et al., 2007; Stoner et al., 2018). In consumer behavior, naming products or services can enhance the perceived personal relevance and emotional connection users feel toward them (Chandler & Schwarz, 2010). This personalization can lead to increased psychological ownership, as the named entity becomes integrated into the individual's self-concept (Belk, 1988; Mittal, 2006; Stoner et al., 2018).

In the context of AI agents within shared economy services, allowing users to name the AI can foster a sense of personal connection and ownership. When users assign a name to an AI agent, they may perceive it as more personalized and integral to their experience, enhancing feelings of possession (Waytz et al., 2014). This personalization transforms the AI from a generic tool into a companion-like entity, strengthening the emotional bond between the user and the AI (Nass & Moon, 2000; Franke et al., 2010).

Anthropomorphism, or attributing human-like qualities to non-human entities, plays a significant role in this process (Waytz et al., 2010). Naming is a key component of anthropomorphism that can increase trust and affinity toward technology (Eyssel & Hegel, 2012; Glikson & Woolley, 2020). Research has shown that anthropomorphized products can lead to higher levels of psychological ownership and favorable consumer behaviors (Chandler & Schwarz, 2010; Kim & McGill, 2011).

Furthermore, enhanced psychological ownership resulting from naming may lead to increased responsible behaviors. When users feel a sense of ownership over an AI agent, they may extend that feeling to the shared resources managed or facilitated by the AI, prompting them to take better care of those resources (Pierce & Jussila, 2011). This can manifest in actions such as conserving resources, adhering to usage guidelines, and maintaining the condition of shared property.

Based on this reasoning, we propose that:

H1: Naming AI agents positively influences responsible behaviors in shared economy services.

2.3 Psychological Ownership as a Mediator

The act of naming AI agents not only personalizes the user experience but also fosters a sense of psychological ownership over the AI and, by extension, the shared resources it manages. Psychological ownership arises when individuals perceive an object or entity as "theirs," leading to feelings of possession and responsibility (Pierce & Jussila, 2011). This sense of ownership can develop through controlling the target, intimately knowing the target, or investing oneself into the target (Pierce et al., 2011).

When users name an AI agent, they actively participate in customizing and personalizing the technology, thereby investing a part of themselves into it (Fuchs et al., 2010). This personal investment enhances their emotional connection to the AI, making it more than just a tool—it becomes an extension of themselves (Belk, 1988). The naming process can also increase users' perceived control over the AI, as they feel they have shaped its identity (Kirk et al., 2015).

Psychological ownership has been shown to mediate the relationship between personalization efforts and consumer behaviors (Peck & Shu, 2009; Shu & Peck, 2011). For instance, in marketing contexts, increased psychological ownership leads to higher product valuation and a greater likelihood of engaging in protective behaviors toward the owned object (Atasoy & Morewedge, 2018). In shared economy services, where users do not have legal ownership, psychological ownership can still promote stewardship behaviors, encouraging users to act responsibly toward shared resources (Jussila et al., 2015).

Furthermore, psychological ownership can lead to intrinsic motivation to engage in responsible behaviors without the need for external incentives (Deci & Ryan, 2000). When users feel a sense of ownership, they are more likely to take personal responsibility for the care and maintenance of shared resources, reducing issues related to the tragedy of the commons (Hardin, 1998).

Based on this theoretical foundation, we propose that psychological ownership mediates the effect of naming AI agents on responsible behaviors. Specifically, naming the AI agent enhances psychological ownership, which in turn increases users' willingness to engage in actions that preserve and respect shared resources.

H2: Psychological ownership mediates the relationship between AI agent naming and responsible behaviors in shared economy services.

2.4 Interaction Frequency as a Moderator

Interaction frequency refers to the number of times users engage with a product or service within a certain period (Bolton & Lemon, 1999). In the context of AI agents in shared economy services, higher interaction frequency can lead to greater familiarity and a stronger relationship between the user and the AI agent (Verhagen et al., 2014; Sundar, 2020). Frequent interactions provide more opportunities for users to invest time and effort into the AI agent, thereby enhancing their sense of psychological ownership (Pierce et al., 2001).

Self-investment is a key pathway through which psychological ownership develops (Pierce et al., 2003). The more users invest their time, energy, and attention into interacting with the AI agent, the more likely they are to feel that the AI is "theirs" (Fuchs et al., 2010). High interaction frequency allows users to become more accustomed to the AI's functionalities and personalize their experience, strengthening their emotional attachment and perceived control (Karahanna et al., 2015).

We propose that interaction frequency moderates the effect of AI agent naming on psychological ownership and, subsequently, responsible behaviors. Specifically, when users frequently interact with a named AI agent, the impact of naming on psychological ownership is amplified due to increased self-investment. This enhanced psychological ownership then leads to a greater likelihood of engaging in responsible behaviors, such as caring for shared resources and adhering to usage guidelines.

Conversely, when interaction frequency is low, the effect of naming on psychological ownership may be attenuated. Infrequent interactions provide limited opportunities for users to develop a strong connection with the AI agent, reducing the influence of naming on their sense of ownership and, consequently, on their responsible behaviors.

Based on this reasoning, we hypothesize:

H3: Interaction frequency moderates the indirect effect of AI agent naming on responsible behaviors via psychological ownership, such that the effect is stronger at higher levels of interaction frequency.

2.5 Usage Context (Private vs. Public) as a Moderator

The usage context of a shared economy service—whether it is experienced in a private or public setting—can significantly influence users' psychological ownership and subsequent behaviors (Bardhi & Eckhardt, 2012; Kirk et al., 2015). Private usage contexts offer exclusivity and personal space, allowing users to form deeper connections with the service and its associated technologies (Belk, 2010). In contrast, public usage contexts involve sharing the space or resources simultaneously with others, which can dilute the sense of personal ownership and responsibility (Lamberton & Rose, 2012).

In private settings, users have uninterrupted access to the service, enabling them to personalize their experience and invest more of themselves into the interaction (Mittal, 2006). This exclusivity enhances feelings of control and personal association, key drivers of psychological ownership (Pierce et al., 2003). When users are the sole occupants or primary users in a setting, they are more likely to perceive the AI agent and the environment as extensions of themselves, strengthening the impact of naming on psychological ownership (Kirk et al., 2015).

Moreover, private usage contexts reduce social inhibition and increase the likelihood of users engaging deeply with the AI agent (Moon, 2000). Without the presence or judgment of others, users may feel more comfortable personalizing the AI agent and expressing attachment, further enhancing psychological ownership (Chen et al., 2012). This heightened sense of ownership can lead to increased responsible behaviors, as users feel a greater personal stake in the care and maintenance of the shared resources (Van Dyne & Pierce, 2004).

In contrast, public usage contexts involve shared spaces where multiple users interact with the service and the AI agent. The presence of others can diminish individual feelings of ownership due to the diffusion of responsibility and reduced personal control (Fritze et al., 2020). In such settings, the impact of naming the AI agent on psychological ownership may be weaker, as users may perceive the AI as a communal tool rather than a personal extension (Bardhi & Eckhardt, 2017).

Therefore, we propose that the usage context moderates the indirect effect of AI agent naming on responsible behaviors via psychological ownership. Specifically, the effect of naming on psychological

ownership and subsequent responsible behaviors is stronger in private usage contexts compared to public ones.

H4: Usage context moderates the indirect effect of AI agent naming on responsible behaviors via psychological ownership, such that the effect is stronger in private usage contexts than in public usage contexts.

3. Study 1: AI Agent Naming and Resonsible Behaviors

3.1 Methodology

(1) Participants

We recruited 150 participants (59.3% female; Mage = 28.1 years, SD = 8.3) from Credamo, a leading provider of high-quality research participants that ensures data quality through strict identity verification, attention checks, and response validation mechanisms. The standard deviation for age is relatively large, reflecting a diverse participant pool typical of online panels; however, random assignment to conditions ensures this variability does not systematically bias the results or affect the comparability between the experimental groups. Participants were adults residing in China and were randomly assigned to one of two conditions: named AI assistant (n = 75) or unnamed AI assistant (n = 75).

(2) Design and Procedure

The study employed a single-factor between-subjects experimental design with the independent variable being the naming of the AI assistant (named vs. unnamed). The objective was to assess whether naming the AI assistant would influence participants' willingness to engage in responsible behaviors within a shared electric scooter service.

Participants were informed that they would be evaluating a new shared electric scooter service equipped with an AI assistant designed to enhance the user experience by providing navigation tips, safety reminders, and battery status updates.

In the named condition, participants were told they could personalize their experience by assigning a name to the AI assistant. They were prompted with the following instruction: "To personalize your AI assistant, please assign it a name of your choice." Participants entered their chosen name before proceeding.

In the unnamed condition, the AI assistant was referred to generically as "AI Assistant," and participants were not given the option to assign a name.

All participants were then presented with a simulated interface of the scooter's dashboard, which included interactive elements demonstrating the AI assistant's features. The interaction was standardized across conditions, with the only difference being the presence or absence of the personalized name.

After the interaction, participants completed a questionnaire measuring their willingness to engage in responsible behaviors related to the shared scooter service.

(3) Measures

Responsible behaviors. Participants' willingness to engage in responsible behaviors was measured using a four-item scale adapted from prior research on pro-environmental and stewardship behaviors (e.g., White et al., 2012). The items assessed participants' willingness to: 1) return scooters to designated areas, 2) follow safety guidelines, 3) maintain cleanliness, and 4) report issues ($\alpha = 0.89$). All items were measured on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree). Scale items used across all studies were presented in the participants' native language (Mandarin

Chinese for Credamo participants, English for Prolific participants) and were reviewed for linguistic clarity and cultural appropriateness. Minor wording adjustments were made where necessary to ensure comprehension, without altering the core meaning of the original scales.

(4) Manipulation Check

To verify the effectiveness of the naming manipulation, participants indicated whether they had assigned a name to the AI assistant (yes/no). Those in the named condition were also asked to recall their assigned name via an open-ended text input box.

3.2 Results

(1) Manipulation Check

The manipulation check confirmed the effectiveness of the naming manipulation. In the named condition, 100% of participants reported that they assigned a name to the AI assistant and were able to recall the name when prompted. In the unnamed condition, none of the participants reported assigning a name to the AI assistant. This indicates that participants in both conditions correctly perceived the presence or absence of the naming feature as intended.

(2) Main Effect of AI Agent Naming on responsible behaviors

An independent samples t-test was conducted to compare the mean scores of responsible behaviors between the named and unnamed conditions. The results revealed a significant difference between the two groups. Participants who named the AI assistant reported a higher willingness to engage in responsible behaviors ($M_{named} = 5.05$, $SD = 2.12$) compared to those who did not name the AI assistant ($M_{unnamed} = 4.22$, $SD = 2.33$). This difference was statistically significant, $t = 2.30$, $p < 0.05$, indicating that naming the AI assistant positively influenced responsible behaviors.

3.3 Discussion

The results of Study 1 provide empirical support for H1, demonstrating that naming the AI assistant in a shared electric scooter service increases users' willingness to engage in responsible behaviors. These findings align with theoretical perspectives on psychological ownership and personalization. By allowing users to name the AI assistant, the service fosters a personal connection and sense of ownership over the AI, which translates into more responsible behavior toward the shared resource. This suggests that even simple personalization features can have meaningful impacts on user behavior in shared economy contexts.

4. Study 2: Psychological Ownership as the Underlying Mechanism

4.1 Methodology

(1) Participants

We recruited 250 participants (54.8% female; $M_{age} = 31.2$ years, $SD = 9.6$) through Prolific. Participants received monetary compensation for their involvement. Eligibility criteria included being at least 18 years old and having a valid driver's license to ensure familiarity with car rental services. Similar to Study 1, the standard deviation for age indicates demographic diversity within the sample recruited via Prolific. Random assignment ensured that this variation did not confound the experimental manipulation. Participants were randomly assigned to one of two conditions: named AI assistant ($n = 125$) or unnamed AI assistant ($n = 125$).

(2) Design and Procedure

The study employed a single-factor between-subjects experimental design to investigate the mediating role of psychological ownership in the relationship between AI agent naming and responsible behaviors. The independent variable was the naming of the AI assistant (named vs. unnamed), and the dependent variable was participants' willingness to engage in responsible behaviors within a shared car rental service. Psychological ownership was measured as the mediating variable.

Participants were informed that they would be evaluating a new shared car rental service equipped with an AI assistant designed to enhance the driving experience by providing navigation assistance, car status updates, and safety alerts.

In the named condition, participants were prompted to personalize the AI assistant by assigning it a name. The instructions read: "To personalize your driving experience, please assign a name to your AI assistant. This name will be used during your interactions." Participants entered their chosen name before proceeding.

In the unnamed condition, the AI assistant was referred to generically as "AI Assistant," and participants were not given the option to assign a name.

All participants were then presented with a simulated driving scenario via an interactive interface. The simulation included:

Navigation Assistance: The AI provided route guidance to a specified destination.

Car Status Updates: Information on fuel levels, tire pressure, and engine health.

Safety Alerts: Notifications about speed limits, traffic conditions, and potential hazards.

The interactions were standardized across conditions, with the only variation being the presence of the personalized name in the named condition versus "AI Assistant" in the unnamed condition.

After completing the simulation, participants were directed to an online questionnaire measuring psychological ownership and their willingness to engage in responsible behaviors.

(3) Measures

Psychological ownership was assessed using a five-item scale adapted from Van Dyne and Pierce (2004) and Peck and Shu (2009): 1) feels like my own, 2) sense of personal ownership, 3) feels like a part of me, 4) high degree of personal ownership, and 5) sense of attachment ($\alpha = 0.92$).We used the same four-item scale as in Study 1 ($\alpha = 0.88$) to measure responsible behaviors, adapted to the car-sharing context: (1) refuel the car before returning, (2) keep the car clean and remove trash, (3) report mechanical issues promptly, and (4) follow traffic rules.

(4) Manipulation Check

We used the same manipulation check as in Study 1. Participants in the named condition recalled the assigned name via an open-ended text input box.

4.2 Results

(1) Manipulation Check

The manipulation check confirmed the effectiveness of the naming manipulation. In the named condition, 100% of participants reported that they assigned a name to the AI assistant and were able to recall the name when prompted. In the unnamed condition, none of the participants reported assigning a name to the AI assistant.

(2) Main Effect of AI Agent Naming on Responsible Behaviors

An independent samples t-test was conducted to compare the mean scores of responsible behaviors between the named and unnamed conditions. The results replicated the main effect observed in Study 1. Participants who named the AI assistant reported a higher willingness to engage in responsible

behaviors (M_named = 4.88, SD = 2.13) compared to those who did not name the AI assistant (M_unnamed = 4.29, SD = 2.31). This difference was statistically significant, $t = 2.11$, $p < .05$, supporting the hypothesis that naming the AI assistant positively influences responsible behaviors.

(3) Mediation Analysis

To test the mediating role of psychological ownership, we conducted a mediation analysis using PROCESS Model 4 (Hayes, 2018; 5,000 bootstrap samples). Results revealed that AI agent naming positively influenced psychological ownership ($\beta = 0.45$, SE = 0.18, $p < .05$), which in turn predicted responsible behaviors ($\beta = 1.07$, SE = 0.07, $p < .001$). The indirect effect was significant ($\beta = 0.48$, 95% CI = [0.10, 0.86]), while the direct effect was not significant ($\beta = 0.11$, SE = 0.21, $p = .58$), indicating full mediation.

4.3 Discussion

Study 2 extends Study 1's findings by identifying psychological ownership as the underlying mechanism through which AI agent naming influences responsible behaviors. The results demonstrate that naming an AI assistant enhances users' psychological ownership, which in turn promotes responsible behaviors in a shared car rental context.

5. Study 3: Interaction Frequency as a Moderator

5.1 Methodology

(1) Participants

We recruited 400 participants (55.3% female; M = 31.5 years, SD = 12.2) from Credamo. Participants were randomly assigned to one of four conditions in a 2 (AI Agent Naming: named vs. unnamed) × 2 (Interaction Frequency: high vs. low) between-subjects design.

(2) Design and Procedure

The study examined the moderating effect of interaction frequency in a shared bicycle rental context. In addition to the AI agent naming manipulation used in previous studies, we manipulated interaction frequency. Participants in the high frequency condition engaged in five separate cycling sessions over a week, while those in the low frequency condition engaged in a single cycling session.

The AI assistant provided route suggestions based on user preferences, safety tips about traffic rules and cycling practices, and performance feedback including distance, calories, and speed across all conditions.

(3) Measures

Psychological ownership was measured using the same scale as Study 2 ($\alpha = 0.93$). Responsible behaviors were measured using the same scale as Study 1 ($\alpha = 0.89$).

(4) Manipulation Checks

We used the same manipulation check for AI naming as in previous studies. For interaction frequency, participants reported the number of times they used the bicycle service (one vs. five times).

5.2 Results

(1) Manipulation Checks

Both manipulations were successful. All participants in the naming conditions correctly recalled their assigned names, and participants accurately reported their assigned interaction frequency (high vs. low).

(2) Main Effect and Moderation Effect Analysis

A two-way ANOVA was conducted to examine the main effects of AI agent naming on responsible behaviors. The results replicated the main effect observed in previous studies. Participants in the named conditions reported higher willingness to engage in responsible behaviors (M = 4.98, SD = 2.08) compared to those in the unnamed conditions (M = 4.22, SD = 2.04), $F(1, 396) = 14.21$, $p < .001$. This supports H1 that naming the AI assistant positively influences responsible behaviors.

The interaction between interaction frequency and AI agent naming was significant ($F(1, 396) = 4.020$, $p < 0.05$). Specifically, the effect of naming was more pronounced at high interaction frequency, where naming the AI agent ($M_{named} = 5.64$) led to higher responsible behaviors compared to the control ($M_{unnamed} = 4.48$). However, the difference in responsible behaviors for named versus unnamed agents was smaller at low interaction frequencies ($M_{name} = 4.31$ vs. $M_{unnamed} = 3.96$, see Figure 1).

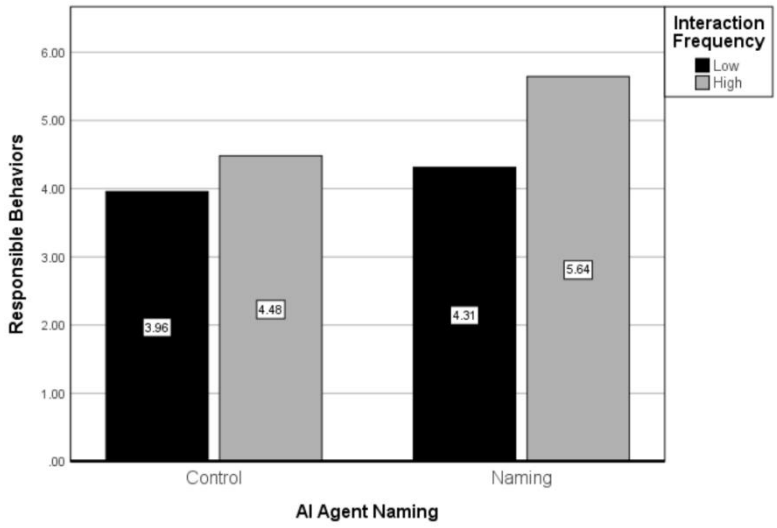

Figure 1. Interaction Effect of AI Agent Naming and Interaction Frequency on Responsible Behaviors

(3) Moderated Mediation Analysis

The moderated mediation analysis using PROCESS Model 7 (Hayes, 2018; 5,000 bootstrap samples) showed that the effect of AI agent naming on psychological ownership was stronger in the high interaction frequency condition ($\beta = 0.30$, SE = 0.12, $t = 2.56$, $p < .05$) than in the low interaction frequency condition ($\beta = 0.10$, SE = 0.11, $t = 0.84$, $p = 0.40$). Psychological ownership significantly predicted responsible behaviors ($\beta = 0.66$, SE = 0.12, $t = 5.34$, $p < .001$).

The index of moderated mediation was significant (Index = 0.26, SE = 0.12, 95% CI [0.04, 0.50]). The indirect effect was stronger in the high interaction frequency condition (Effect = 0.20, SE = 0.08, 95% CI [0.04, 0.38]) than in the low interaction frequency condition (Effect = 0.06, SE = 0.07, 95% CI [-0.08, 0.21]). Thus, H3 was supported.

5.3 Discussion

Study 3 demonstrates that interaction frequency strengthens the relationship between AI naming and responsible behaviors through psychological ownership. The effect was more pronounced when users had multiple interactions with the named AI assistant, suggesting that repeated engagement enhances the development of psychological ownership.

6. Study 4: Usage Context as a Moderator

6.1 Methodology

(1) Participants

We recruited 320 participants (52.86% female; M = 31.7 years, SD = 9.2) from Credamo. Participants were randomly assigned to one of four conditions in a 2 (AI Agent Naming: named vs. unnamed) × 2 (Usage Context: private vs. public) between-subjects design.

(2) Design and Procedure

Participants were informed that they would be evaluating a new vacation rental service featuring an in-home AI assistant designed to enhance their stay by providing local recommendations, assisting with household controls (e.g., lighting, temperature), and offering reminders about house rules. Beyond the AI agent naming manipulation used in previous studies, we manipulated usage context. In the private usage context, participants were told they were the sole occupants of the vacation rental during their stay. The instructions read: "You have booked the entire property and will have exclusive access to all amenities. No other guests will be sharing the space." In the public usage context, participants were informed that the vacation rental was a shared space with other guests present. The instructions read: "You have booked a room in the property and will share common areas with other guests who also interact with the AI assistant." The AI assistant provided local recommendations, assisted with household controls (e.g., adjusting the thermostat, controlling lights), and offered house rule reminders across all conditions.

(3) Measures

Psychological ownership was measured using the same scale as Study 2 ($\alpha = 0.90$). Responsible behaviors were measured using the adapted scale from previous studies ($\alpha = 0.88$): conserve energy, follow house rules, clean before checkout, and report damages.

(4) Manipulation Checks

We used the same manipulation check for AI naming as in previous studies. For usage context, participants indicated whether they had exclusive access or shared the property.

6.2 Results

(1) Manipulation Checks

The naming manipulation was successful, with all participants in the named conditions correctly recalling their assigned names. The usage context manipulation was also effective, with participants accurately identifying their assigned context (private vs. public).

(2) Main Effect and Moderation Effect Analysis

A two-way ANOVA was conducted to examine the effects of AI agent naming and usage context on responsible behaviors. Overall, there was no significant main effect of naming on responsible behaviors ($M_{named} = 4.11$, $M_{unnamed} = 3.89$; $F(1,316) = 0.94$, $p = 0.33$). However, the interaction between usage context and AI agent naming reached significance, $F(1,396) = 4.72$, $p < 0.05$. In the private usage context, participants in the named condition reported higher levels of responsible behaviors ($M = 4.39$) than those in the unnamed condition ($M = 4.22$). By contrast, in the public usage context, there was no significant difference between the naming conditions ($M_{named} = 3.29$ versus $M_{unnamed} = 3.56$, see Figure 2).

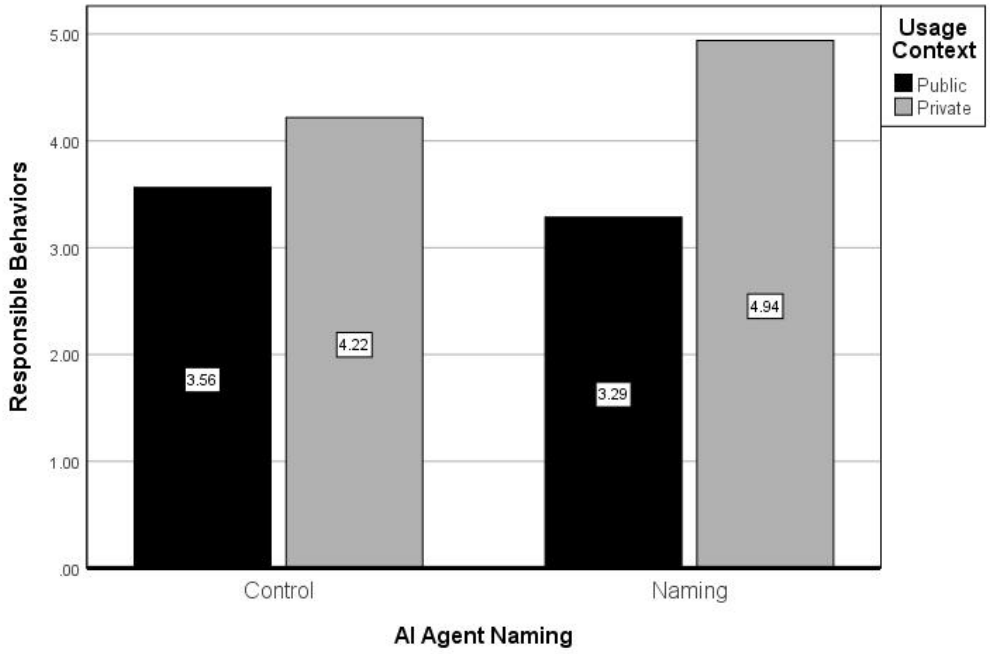

Figure 2. Interaction Effect of AI Agent Naming and Usage Context on Responsible Behaviors

(3) Moderated Mediation Analysis

The moderated mediation analysis was conducted using PROCESS Model 7 (Hayes, 2018) with 5,000 bootstrap samples. The analysis revealed a significant moderated mediation effect (Index = 0.37, SE = 0.14, 95% CI [0.14, 1.13]). Specifically, the conditional indirect effect of AI agent naming on responsible behaviors through psychological ownership was stronger in the private usage context (Effect = 0.26, SE = 0.11, 95% CI [0.05, 0.92]), whereas in the public usage context the indirect effect was not significant (Effect = -0.09, SE = 0.08, 95% CI [-0.42, 0.27]).

6.3 Discussion

Although the main effect of AI agent naming on responsible behaviors was not significant in this study, the significant interaction with usage context provides important insights. The data indicate that naming the AI agent leads to enhanced responsible behaviors—but only within private usage contexts. This pattern suggests that when users have exclusive access to a resource, the opportunity to name the AI assistant may bolster psychological ownership, thereby fostering a greater sense of personal responsibility for the shared asset. In private contexts, users may experience heightened feelings of control and connection, which are essential components of psychological ownership (Pierce et al., 2003). Conversely, in public usage contexts, where the sense of exclusivity is diminished due to shared occupancy, the benefits of naming on psychological ownership—and consequently on responsible behavior—appear to be attenuated.

These findings imply that naming alone is not universally sufficient to promote responsible consumption. Instead, its effectiveness seems to be contingent upon the broader contextual factors that influence the development of psychological ownership. In settings where individuals perceive a stronger personal stake, such as private rentals, naming can serve as a catalyst for responsible behavior.

In contrast, in public contexts where ownership feelings are diluted, the naming effect does not emerge. This outcome is consistent with the tenets of psychological ownership theory, which emphasize the roles of control and exclusivity in eliciting ownership feelings.

7. General Discussion

Our research provides empirical evidence for the role of AI agent naming in promoting responsible behaviors in shared economy services. Through four experiments, we demonstrate that allowing users to name AI agents enhances psychological ownership, which subsequently increases responsible behaviors. We further identify two boundary conditions that illuminate when and how this effect manifests.

7.1 Theoretical Contributions

This research advances marketing theory in several important ways. First, we extend psychological ownership theory by demonstrating its applicability to AI-enabled services. While prior research has established psychological ownership's importance in traditional consumer-object relationships (Pierce et al., 2003), we show that this psychological mechanism operates differently in human-AI interactions. Specifically, we find that psychological ownership can develop even without physical possession or legal ownership, suggesting that the traditional pathways to psychological ownership (control, intimate knowledge, and self-investment) may manifest uniquely in digital service contexts.

Second, we contribute to the growing literature on shared economy services by identifying a novel mechanism—AI agent naming—that can promote responsible behaviors. Previous research has primarily focused on economic incentives or social norms to encourage responsible behavior (Hamari et al., 2016). Our findings reveal that subtle design elements in AI interfaces can achieve similar or better results without monetary incentives or explicit rule enforcement. This suggests that psychological mechanisms may be more cost-effective and sustainable than traditional approaches to promoting responsible behaviors.

Third, we extend personalization theory by demonstrating that its effectiveness varies systematically with contextual factors. While extant research has documented personalization's benefits (Kim & Sundar, 2012; Sundar & Marathe, 2010), our findings reveal an important boundary condition: the privacy paradox in shared services. Specifically, we find that personalization's effectiveness increases in private usage contexts but may backfire in public settings where privacy concerns are salient. This helps reconcile conflicting findings in prior personalization research and suggests that personalization strategies should be context-dependent.

Fourth, we contribute to the emerging literature on anthropomorphism in marketing by showing that its effects are not uniformly positive. Our findings suggest that while anthropomorphic elements can enhance psychological ownership, their effectiveness depends on the usage context and interaction frequency. This nuanced understanding helps explain why previous research has found mixed effects of anthropomorphism in service interactions.

7.2 Managerial Implications

Our findings offer actionable insights for service providers seeking to enhance consumer responsibility through AI design. The demonstrated effectiveness of AI naming suggests that platforms should incorporate customization options in their AI interfaces. However, managers should recognize that naming alone is insufficient; its impact is amplified under specific conditions.

First, high interaction frequency enhances the naming effect, suggesting that providers should encourage regular engagement with AI assistants. This might be achieved through gamification elements or loyalty programs that reward consistent interaction.

Second, private usage contexts maximize the benefits of naming, implying that personalization features are particularly valuable in exclusive-use scenarios. This suggests that providers should consider differentiating their AI interaction strategies between private and shared service contexts. Managers should also consider the practical challenges of implementing AI naming features, such as the potential costs associated with customization at scale and the difficulties in maintaining interaction consistency across diverse user segments and evolving service offerings.

These findings can guide the design of AI interfaces across various shared economy contexts, from transportation services to accommodation platforms. Service providers should implement progressive personalization strategies that gradually increase customization as users become more familiar with the service. Additionally, developing context-aware AI interfaces that adjust their interaction style based on usage settings is crucial. Organizations should also focus on designing feedback mechanisms that reinforce the connection between psychological ownership and responsible behavior, while creating user onboarding experiences that emphasize the personal relationship with the AI assistant. Furthermore, it is important to address potential ethical considerations. For example, fostering strong psychological ownership through naming could lead to unintended user dependency on the AI or adverse emotional reactions if the service is significantly altered or discontinued. Companies should proactively consider these possibilities and design AI interactions that promote healthy user relationships with the technology.

7.3 Limitations and Research Directions

While our research establishes the causal effect of AI naming on responsible behaviors, several limitations suggest directions for future research. First, our experiments focused on immediate behavioral intentions rather than actual behaviors. Field experiments could validate these effects in natural settings with real consequences, particularly examining whether the effects persist over extended periods. It is also important to acknowledge the limitations inherent in experimental realism; simulated environments might not fully capture the complexities of real-world motivations and consequences associated with responsible behaviors in shared economy contexts. Future studies could explore methods to enhance the ecological validity of such experiments.

Second, our investigation centered on psychological ownership as the key mediating mechanism. Future research could explore complementary processes such as social presence or emotional attachment. Of particular interest would be understanding how different psychological mechanisms might interact or compete in influencing responsible behaviors. Additionally, while we identified interaction frequency and usage context as moderators, other variables could also act as boundary conditions. For instance, users' pre-existing attitudes towards technology, levels of tech-savviness, or varying degrees of privacy sensitivity might influence the strength of the naming effect on psychological ownership and subsequent behavior. Investigating these potential moderators could offer a more comprehensive understanding.

Finally, cross-cultural research could examine how cultural values moderate the effectiveness of AI naming and personalization strategies (Adomavicius & Tuzhilin, 2005). This is particularly important given the global nature of many shared economy platforms.

These research directions would not only advance our theoretical understanding but also provide valuable insights for the growing number of companies deploying AI in their service operations. As AI continues to mediate more consumer interactions, understanding how to design these interfaces to promote responsible behavior becomes increasingly critical for sustainable service management.

Funding

This research was funded by the National Natural Science Foundation of China, grant number 72362006.

Acknowledgements

The authors would like to thank the reviewers for their helpful suggestions.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics Statement

The authors declare no conflicts of interest.

Conflicts of Interest

The authors declare no conflicts of interest.

References

Adomavicius, G., & Tuzhilin, A. (2005). Personalization technologies: A process-oriented perspective. *Communications of the ACM, 48(10),* 83-90. https://doi.org/10.1145/1089107.1089109

Atasoy, O., & Morewedge, C. K. (2018). Digital goods are valued less than physical goods. *Journal of Consumer Research, 44*(6), 1343-1357. https://doi.org/10.1093/jcr/ucx102

Avey, J. B., Avolio, B. J., Crossley, C. D., & Luthans, F. (2009). Psychological ownership: Theoretical extensions, measurement and relation to work outcomes. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 30(2)*, 173-191. https://doi.org/10.1002/job.583

Bardhi, F., & Eckhardt, G. M. (2012). Access-based consumption: The case of car sharing. *Journal of Consumer Research, 39*(4), 881-898. https://doi.org/10.1086/666376

Bardhi, F., & Eckhardt, G. M. (2017). Liquid consumption. *Journal of Consumer Research, 44(3),* 582-597. https://doi.org/10.1093/jcr/ucx050

Belk, R. W. (1988). Possessions and the extended self. *Journal of Consumer Research, 15(2),* 139-168. https://doi.org/10.1086/209154

Belk, R. (2010). Sharing. *Journal of Consumer Research, 36(5),* 715-734. https://doi.org/10.1086/612649

Benoit, S., Baker, T. L., Bolton, R. N., Gruber, T., & Kandampully, J. (2017). A triadic framework for collaborative consumption (CC): Motives, activities and resources & capabilities of actors. *Journal of Business Research, 79,* 219-227. https://doi.org/10.1016/j.jbusres.2017.05.004

Bock, D. E., Wolter, J. S., & Ferrell, O. C. (2020). Artificial intelligence: disrupting what we know about services. *Journal of Services Marketing, 34(3),* 317-334. https://doi.org/10.1108/JSM-01-2019-0047

Bolton, R. N., & Lemon, K. N. (1999). A dynamic model of customers' usage of services: Usage as an antecedent and consequence of satisfaction. *Journal of Marketing Research, 36(2),* 171-186. https://doi.org/10.1177/002224379903600203

Chandler, J., & Schwarz, N. (2010). Use does not wear ragged the fabric of friendship: Thinking of objects as alive makes people less willing to replace them. *Journal of Consumer Psychology, 20(2),* 138-145. https://doi.org/10.1016/j.jcps.2009.12.008

Chen, C. D., Yen, D. C., & Hwang, M. I. (2012). Factors influencing the continuance intention to the usage of Web 2.0: An empirical study. *Computers in Human Behavior, 28(3),* 933-941. https://doi.org/10.1016/j.chb.2011.12.014

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11(4),* 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Epley, N., Waytz, A., & Cacioppo, J. T. (2007). On seeing human: A three-factor theory of anthropomorphism. *Psychological Review, 114(4),* 864-886. https://doi.org/10.1037/0033-295X.114.4.864

Eyssel, F., & Hegel, F. (2012). (S)he's got the look: Gender stereotyping of robots. *Journal of Applied Social Psychology, 42(9),* 2213-2230. https://doi.org/10.1111/j.1559-1816.2012.00937.x

Fuchs, C., Prandelli, E., & Schreier, M. (2010). The psychological effects of empowerment strategies on consumers' product demand. *Journal of Marketing, 74(1),* 65-79. https://doi.org/10.1509/jmkg.74.1.65

Franke, N., Schreier, M., & Kaiser, U. (2010). The “I designed it myself” effect in mass customization. *Management Science, 56(1),* 125-140. https://doi.org/10.1287/mnsc.1090.1077

Fritze, M. P., Marchand, A., Eisingerich, A. B., & Benkenstein, M. (2020). Access-based services as substitutes for material possessions: the role of psychological ownership. *Journal of Service Research, 23(3),* 368-385. https://doi.org/10.1177/1094670520907691

Gao, Y., & Liu, H. (2023). Artificial intelligence-enabled personalization in interactive marketing: a customer journey perspective. *Journal of Research in Interactive Marketing, 17(5),* 663-680. https://doi.org/10.1108/JRIM-01-2022-0023

Glikson, E., & Woolley, A. W. (2020). Human trust in artificial intelligence: Review of empirical research. *Academy of Management Annals, 14(2),* 627-660. https://doi.org/10.5465/annals.2018.0057

Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The sharing economy: Why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology, 67(9),* 2047-2059. https://doi.org/10.1002/asi.23552

Hardin, G. (1998). Extensions of"the tragedy of the commons". *Science, 280(5364),* 682-683. https://doi.org/10.1126/science.280.5364.682

Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40(3),* 879-891. https://doi.org/10.3758/BRM.40.3.879

Hayes, A. F. (2018). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach (2nd ed.). New York, NY: Guilford Press. https://www.jstor.org/stable /24018134

Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. *Journal of Service Research, 21(2),* 155-172. https://doi.org/10.1177/1094670517752459

Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science, 49,* 30-50. https://doi.org/10.1007/s11747-020-00749-9

Huang, L., Yuan, H., Dong, X., Chen, Z., & Zhou, L. (2023). Social norms and socially responsible consumption behavior in the sharing economy: The mediation role of reciprocity motivation. *Journal of Cleaner Production, 414,* 137750. https://doi.org/10.1016/j.jclepro.2023.137750

Jussila, I., Tarkiainen, A., Sarstedt, M., & Hair, J. F. (2015). Individual psychological ownership: Concepts, evidence, and implications for research in marketing. *Journal of Marketing Theory and Practice, 23(2),* 121-139. https://doi.org/10.1080/10696679.2015.1002330

Karahanna, E., Xu, S. X., & Zhang, N. (2015). Psychological ownership motivation and use of social media. *Journal of Marketing Theory and Practice, 23(2),* 185-207. https://doi.org/10.1080/ 10696679.2015.1002336

Kim, K., & McGill, A. L. (2011). Gaming with Mr. Slot or gaming the slot machine? Power, anthropomorphism, and risk perception. *Journal of Consumer Research, 38(1),* 94-107. https://doi.org/10.1086/658148

Kim, Y., & Sundar, S. S. (2012). Anthropomorphism of computers: Is it mindful or mindless? *Computers in Human Behavior, 28(1),* 241-250. https://doi.org/10.1016/j.chb.2011.09.006

Kirk, C. P., Swain, S. D., & Gaskin, J. E. (2015). I'm proud of it: Consumer technology appropriation and psychological ownership. *Journal of Marketing Theory and Practice, 23(2),* 166-184. https://doi.org/10.1080/10696679.2015.1002335

Lamberton, C. P., & Rose, R. L. (2012). When is ours better than mine? A framework for understanding and altering participation in commercial sharing systems. *Journal of Marketing, 76(4),* 109-125. https://doi.org/10.1509/jm.10.0368

Mayhew, M. G., Ashkanasy, N. M., Bramble, T., & Gardner, J. (2007). A study of the antecedents and consequences of psychological ownership in organizational settings. *Journal of Social Psychology, 147(5),* 477-500. https://doi.org/10.3200/SOCP.147.5.477-500

Mittal, B. (2006). I, me, and mine—how products become consumers' extended selves. *Journal of Consumer Behaviour, 5(6),* 550-562. https://doi.org/10.1002/cb.202

Moon, Y. (2000). Intimate exchanges: Using computers to elicit self-disclosure from consumers. *Journal of Consumer Research, 26(4),* 323-339. https://doi.org/10.1086/209566

Morewedge, C. K., Monga, A., Palmatier, R. W., Shu, S. B., & Small, D. A. (2021). Evolution of consumption: A psychological ownership framework. *Journal of Marketing, 85(1),* 196-218. https://doi.org/10.1177/0022242920957007

Nass, C., & Moon, Y. (2000). Machines and mindlessness: Social responses to computers. *Journal of Social Issues, 56(1),* 81-103. https://doi.org/10.1111/0022-4537.00153

Peck, J., Kirk, C. P., Luangrath, A. W., & Shu, S. B. (2021). Caring for the commons: Using psychological ownership to enhance stewardship behavior for public goods. *Journal of Marketing, 85(2),* 33-49. https://doi.org/10.1177/0022242920952084

Peck, J., & Shu, S. B. (2009). The effect of mere touch on perceived ownership. *Journal of Consumer Research, 36(3),* 434-447. https://doi.org/10.1086/598614

Pierce, J. L., & Jussila, I. (2011). *Psychological ownership and the organizational context: Theory, research evidence, and application.* Edward Elgar Publishing. https://doi.org/10.4337/9780857934451

Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of Management Review, 26(2),* 298-310. https://doi.org/10.5465/amr.2001.4378028

Pierce, J. L., Kostova, T., & Dirks, K. T. (2003). The state of psychological ownership: Integ-rating and extending a century of research. *Review of General Psychology, 7(1),* 84-107. https://doi.org/10.1037/1089-2680.7.1.84

Rai, A., Constantinides, P., & Sarker, S. (2019). Next generation digital platforms: Toward human-AI hybrids. *MIS Quarterly, 43(1),* iii-ix. https://wrap.warwick.ac.uk/113653/

Shu, S. B., & Peck, J. (2011). Psychological ownership and affective reaction: Emotional attachment process variables and the endowment effect. *Journal of Consumer Psychology, 21(4),* 439-452. https://doi.org/10.1016/j.jcps.2011.01.002

Stoner, J. L., Loken, B., & Stadler Blank, A. (2018). The name game: How naming products increases psychological ownership and subsequent consumer evaluations. *Journal of Consumer Psychology, 28(1),* 130-137. https://doi.org/10.1002/jcpy.1005

Sundar, S. S. (2020). Rise of machine agency: A framework for studying the psychology of h-uman–AI interaction (HAII). *Journal of Computer-Mediated Communication, 25(1),* 74-88. https://doi.org/10.1093/jcmc/zmz026

Sundar, S. S., & Marathe, S. S. (2010). Personalization vs. customization: The importance of agency, privacy, and power usage. *Human Communication Research, 36(3),* 298-322. https://doi.org/10.1111/j.1468-2958.2010.01377.x

Van Dyne, L., & Pierce, J. L. (2004). Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behavior. *Journal of Organizational Behavior, 25(4),* 439-459. https://doi.org/10.1002/job.249

Verhagen, T., van Nes, J., Feldberg, F., & van Dolen, W. (2014). Virtual customer service agents: Using social presence and personalization to shape online service encounters. *Journal of Computer-Mediated Communication, 19(3),* 529-545. https://doi.org/10.1111/jcc4.12066

Waytz, A., Cacioppo, J. T., & Epley, N. (2010). Who sees human? The stability and importance of individual differences in anthropomorphism. *Perspectives on Psychological Science, 5(3),* 219-232. https://doi.org/10.1177/1745691610369336

Waytz, A., Heafner, J., & Epley, N. (2014). The mind in the machine: Anthropomorphism increases trust in an autonomous vehicle. *Journal of Experimental Social Psychology, 52,* 113-117. https://doi.org/10.1016/j.jesp.2014.01.005

White, K., MacDonnell, R., & Ellard, J. H. (2012).Belief in a just world: Consumer intentions and behaviors toward ethical products. *Journal of Marketing, 76(1),* 103-118. https://doi.org/10.1509/jm.09.0581

About Author(s)

Valerie Lynette Wang is an associate professor of Marketing in the College of Business and Public Management at West Chester University. Dr. Wang earned her PhD degree at Ohio University. Her teaching interests are Social Media, Digital Media Management, Marketing Analytics, and Advertising. She has published articles in journals such as *Journal of Business Research*, *Marketing Intelligence & Planning*, *Journal of Advertising Research*, *Global Business and Organizational Excellence*, *Asia Pacific Journal of Marketing and Logistics*, and *Industrial Marketing Management*, among others.

Liying Zhou is an associate professor at Guizhou University of Finance and Economics. He received his PhD in Management Information Systems from the City University of Hong Kong. His research focuses on the B2B marketing, human-computer interaction, and e-commerce. His works have been published on *Journal of Business Research*, *Information & Management*, *Industrial Marketing Management* and *European Journal of Marketing*, among others.