

AI-Generated Recommendations: Roles of Language Style, Perceived AI Human-likeness, and Recommendation Agent

Abstract

This research investigated the impact of linguistic styles on the acceptance of artificial intelligence (AI)-generated recommendations, using three experiments. Specifically, we considered the use of figurative versus literal language in ChatGPT. The findings of Study 1 indicated that figurative language positively affects visit intention, with imagery vividness serving as a mediator in the underlying process. Study 2 revealed that the effect of figurative language on ChatGPT recommendations was stronger for those who perceived the AI as human-like. Conversely, Study 3 showed that while the figurative language used by ChatGPT significantly boosted visit intention compared with literal language, this enhancement was less pronounced when recommendations were made by a human agent.

Keywords: Figurative language; Generative AI; ChatGPT; travel destination recommendations; AI human-likeness; Recommendation agent

1. Introduction

Artificial intelligence (AI) systems have transformed how consumers access information and make decisions, particularly in hospitality and tourism (Kim et al., 2023a; 2023b). ChatGPT, an advanced AI chatbot developed by OpenAI, has significantly impacted the industry with large language models trained on extensive text data that provide data-driven, contextually rich, and linguistically nuanced suggestions (Ali et al., 2023). The global generative AI market in the travel industry is projected to reach \$3.58 billion by 2032 (Kolesnikov, 2024).

Leading hospitality and travel platforms, such as Expedia and Kayak, have recognized the potential of ChatGPT and used it to enhance the customer booking experience and streamline travel planning (Mauran, 2023). ChatGPT's advanced language-processing capabilities can offer personalized recommendations, answer queries, and assist users in planning trips more efficiently. However, integrating generative AI into hospitality and tourism is challenging. A primary concern is the cost associated with adopting such technologies (Vanian & Leswing, 2023) for customized AI-generated trip recommendations. These recommendations should consider the language, tone, and style preferences of potential customers to ensure effective AI communication and avoid providing misleading information. Nevertheless, ChatGPT's advanced language-processing capabilities not only enable personalized recommendations and efficient trip planning but also represent a novel intersection of linguistic expression and AI-driven suggestions (Baek & Kim, 2023a; Paul et al., 2023).

Previous research suggests a positive impact of human-like characteristics of AI chatbots on acceptance of AI technology (Kim et al., 2024; Pelau et al., 2021), user engagement (Schuetzler et al., 2020), investment behaviors (Baek & Kim, 2023b), and

prosocial behaviors (Baek et al., 2022). However, it often disregards the stylistic elements of AI-generated language that influence consumer decision-making.

Figurative language, including metaphors, similes, and personification, plays an important role in human communication, adding depth and emotional resonance (McQuarrie & Mick, 1996). Regarding travel recommendations, figurative language draws consumers' attention and shapes positive attitudes toward destinations (Djafarova, 2017). Kronrod and Danziger (2013) assert that figurative language in online hotel reviews generates more favorable attitudes toward hedonic consumption (e.g., vacation trips) than utilitarian consumption (e.g., business trips). However, the implications of leveraging linguistic techniques for AI-generated recommendations have remained unexplored. This presents a compelling opportunity to investigate how ChatGPT's figurative language affects prospective travelers' responses when seeking travel advice. This study fills this gap by answering the following questions: Does the use of figurative language enhance the persuasiveness of AI travel recommendations? How does the use of figurative language by ChatGPT (vs. a human agent) influence perceptions of recommended travel destinations? This study also examined whether prospective travelers' perceptions of AI human-likeness and recommendation agent types moderate the impact of figurative language on visit intention.

The study results have several theoretical and practical implications. First, we contribute to the growing body of research on hospitality and travel technology applications (Kim et al., 2023a; 2023b; Shi et al., 2021; Wong et al., 2023) by providing a comprehensive understanding of customer reactions to figurative language in AI-driven communications. Second, we extend the persuasion literature by exploring stylistic language use in human–AI interactions (Kim & Im, 2023; Choi et al., 2019). Practically, this study provides valuable insights for marketers integrating linguistic interfaces into AI-powered recommendation systems by elucidating how figurative language influences travel decision-making. Our

findings provide insights for designing generative AI-powered communication strategies for the tourism industry. Marketers can leverage our results to craft more compelling and persuasive AI-generated content by tailoring the language to evoke stronger imagery and emotional connections.

2. Prior Literature and Hypotheses

2.1. Generative AI and Hospitality and Travel Recommendations

Generative AI technologies are revamping the way consumers make decisions (Kumar et al., 2023). Drawing from large datasets, AI technologies instantly provide valuable insights and personalized recommendations to users (De Bruyn et al., 2020; Kotiloglu et al., 2017). Thus, prospective travelers can make informed decisions while significantly reducing their reliance on traditional travel intermediaries.

In the age of AI, ChatGPT has gained popularity among travelers seeking destination information (Kim et al., 2023a; Shin et al., 2023). Many online travel agencies and tourism organizations have integrated ChatGPT plugins into their services to cater to the growing demand for personalized tourism information and recommendations (Dwivedi et al., 2023; Mauran, 2023).

Although prior research has focused on enhancing the quality of these AI recommendation systems within the tourism sector (Kim et al., 2023a; 2023b; Ali et al., 2023), their nuanced language style remains to be analyzed. This is particularly relevant for generative AI, such as ChatGPT, which rely on natural language models to generate human-like conversations. Understanding how the language style used by these systems affects travel decision-making will enable marketers to provide more effective and persuasive recommendations. Table 1 presents empirical literature focusing on applying generative AI in hospitality and tourism. Although previous studies offer some insights into the impact of AI

recommendation systems on consumer travel decision-making, there is a significant gap in understanding how linguistic cues in AI-generated recommendations influence destination visit intentions. Specifically, little is known about how consumers react to figurative (vs. literal) language in ChatGPT recommendations. This study aimed to bridge this gap and contribute to the growing body of literature on AI-generated travel recommendations.

[Insert Table 1 here]

2.2. Language Style Matters: Figurative Versus Literal Language

Figurative and literal language are two common communication styles. Figurative language—encompassing linguistic techniques such as similes, metaphors, wordplay, and hyperboles—extends beyond the literal meanings of words and conveys additional connotations or meanings (Wu et al., 2017); it employs words and expressions that leverage indirect meanings (Kronrod & Danziger, 2013). Conversely, literal language communicates information clearly and concisely and is devoid of additional interpretations or meanings (Wu et al., 2017); it uses words and expressions according to their dictionary definitions (Kronrod & Danziger, 2013). Examples of literal language include straightforward statements of facts, descriptions of physical objects or actions, and definitions of terms (Kronrod & Danziger, 2013). Figurative language is more imaginative and creative than literal language.

Prior research on language styles suggests the advantage of figurative language in eliciting positive brand attitudes (Phillips & McQuarrie, 2009). Nonetheless, extant literature points out that the effectiveness of figurative language is contingent upon the communication context. For example, Kronrod and Danziger (2013) show that figurative language leads to more positive attitudes toward hedonic rather than utilitarian consumption. However, Wu et al. (2017) find a different pattern of language style effects in online hotel reviews, suggesting the moderating role of the reviewer's expertise level. They indicate that, when a review is

posted by a low-expertise reviewer, literal (vs. figurative) language leads to more positive attitudes and reservation intentions. Conversely, no differences in language style were observed when the reviewer possessed high expertise. Similarly, Leung (2021) shows that consumers evaluate longer online reviews written in literal language as more useful than those written in figurative language. This variance is explained by language expectancy theory, which suggests that people develop expectations regarding context-specific conversational norms, and these expectations influence the persuasiveness of messages (Burgoon, 1993). Accordingly, when the language style is congruent with the conversational norm of the context, it leads to positive message evaluation and good customer outcomes (e.g., attitude, intentions, and service experience). In this sense, AI-powered agents/robots must be configured to follow conversational norms in order to achieve optimal communication outcomes. Building on this insight, this study explored how language style affects consumer decision-making in the context of AI-generated travel recommendations.

2.3. Impact of Figurative Language on Destination Recommendations

Figurative language, perceived as more emotional and affective, is more appropriate for conveying emotional and hedonic experiences than utilitarian language (Gibbs, 2008; Ireland & Pennebaker, 2010; Kronrod & Danziger, 2013). Previous studies have indicated that advertising is more effective when figurative language tactics, such as metaphors and similes, are employed (Chang & Yen, 2013; Phillips & McQuarrie, 2009). This is because consumers expect creative, imaginative, and metaphorical expressions in advertising (Stern, 1988; Phillips & McQuarrie, 2009). Other studies have demonstrated that people use figurative language more when describing emotional (Fussell & Moss, 1998) and hedonic experiences (Kronrod & Danziger, 2013). These findings indicate that figurative language serves as a conversational norm when communicating hedonic and emotional information

(e.g., a review of an art gallery) more than functional and utilitarian information (e.g., insurance terms and conditions; Gibbs, 2008; Ireland & Pennebaker, 2010).

This study argues that figurative language is more conversationally normative than literal language in the context of ChatGPT travel destination recommendations. Travel destination decisions are largely hedonic in nature (Hosany & Gilbert, 2010). Destination marketing often relies on emotionally arousing content to convey the experiential qualities of a destination (Ma et al., 2024). This approach is plausible as the effectiveness of destination marketing is determined by the message's ability to evoke emotional and sensory responses in potential travelers (Djafarova, 2017). Figurative language emotionally transports the message recipient to the destination (Rahmani et al., 2019). Therefore, we posit that the use of figurative (vs. literal) language in ChatGPT's destination recommendations is more effective in encouraging target destination visit intentions. The following hypothesis is proposed:

***H1:** Using figurative (vs. literal) language in ChatGPT recommendations leads to stronger visit intention.*

2.4. Mediating Role of Imagery Vividness

Imagery vividness refers to the extent to which an individual generates detailed mental images in response to advertising and marketing campaigns (Nielsen et al., 2018). A reciprocal relationship exists between the increased use of metaphor and vivid imagery, suggesting that figurative language facilitates the creation of vivid mental images (Stephan et al., 2023; Ye & Mattila, 2022). Carston (2018) suggests that individuals experience mental imagery when they understand linguistic metaphors.

Thus, we postulate that figurative language facilitates the vivid appeal of a destination in the context of generative AI. For instance, ChatGPT describing a beach

destination as “having white sand and blue water” may not be convincing, despite its accuracy. Instead, the use of figurative language, such as “the beach caresses your feet while the serene turquoise water washes your concerns away,” may elicit vivid mental and emotional images that transport tourists to the recommended destination.

In summary, figurative language, with its rich imagery and emotional power, can emotionally transport a message recipient to a destination (Rahmani et al., 2019). AI-generated travel recommendations using figurative language capitalize on human imagination (Khatena & Khatena, 1990), allowing prospective tourists to mentally visualize recommended destinations, thereby fostering stronger visit intentions (Skard et al., 2021). Given the importance of imagery in shaping consumer acceptance of recommended travel destinations, we propose that imagery vividness mediates the effect of figurative language on consumer responses to travel recommendations. Thus, we suggest the following mediation hypothesis:

H2: Imagery vividness mediates the impact of figurative language in ChatGPT recommendations on visit intention.

2.5. Moderating Effect of Perceived AI Human-Likeness

The *Computers Are Social Actors* paradigm (Moon & Nass, 1996) offers insights into a potential factor that facilitates the positive effect of figurative language in ChatGPT’s travel destination recommendations. It suggests that, while people recognize that computers or robots are not humans, they may unconsciously apply social rules (e.g., offering greetings and politeness) and norms (e.g., reciprocity) while interacting with them if they exhibit human-like characteristics (e.g., human voices, human names, or emoji use; Nass & Moon, 2000).

Whereas most existing studies have focused on external cues to enhance the human-like features of robots or AI, such as applying anthropomorphic features (e.g., Lu et al., 2021; Seo, 2022; Zhang et al., 2024), we apply a human-like scale, following Giroux et al. (2022). We expect that, when users perceive ChatGPT as human-like, they will be more likely to apply interpersonal social rules and norms to their interactions. Subsequently, communication that follows the conversational norms of the communication context (i.e., using figurative language for travel destination recommendations) may be more persuasive. Conversely, if people perceive ChatGPT as a machine, they may not apply these conversational norms in their interactions. Therefore, language style may not affect the persuasiveness of ChatGPT's recommendations. Accordingly, we propose the following hypothesis:

***H3:** Perceived AI human-likeness moderates the effect of figurative language in ChatGPT recommendations on imagery vividness and visit intention. Specifically, the positive effects of figurative (vs. literal) language are stronger on imagery vividness and visit intention for those who perceive AI as human-like (vs. machine-like).*

2.6. Moderating Effect of Recommendation Agent Type

Prior evidence has demonstrated that individuals believe that ChatGPT exhibits human-like qualities (Al Lily et al., 2023). Given the prediction of H3, one could anticipate that figurative language use in destination recommendations made by ChatGPT would be as effective as the same recommendation made by a human agent. However, we argue that figurative language use is more effective in destination recommendations by ChatGPT (vs. a human travel agent). This argument is based on social information processing theory (Abele & Wojciszke, 2007) and intentionality theory (Brand, 1984; Bratman, 1987).

Social information processing theory suggests that message recipients infer the intentions of other parties and make judgments based on these inferences in social

interactions with meaningful outcomes, such as marketing communications (Abele & Wojciszke, 2007; Wojciszke et al., 2009). A significant aspect of judgment formation is whether the intentions of the other party are inferred to be self-focused (i.e., focusing on their own benefit) or other-focused (i.e., focusing on others' benefit; Wojciszke et al., 2009). Inferred self-focused (other-focused) intentions can decrease (increase) the credibility and persuasiveness of marketing communications or offers made by agents. For example, consumers perceive advertising as a manipulative attempt to satisfy the advertiser (Sweldens et al., 2010), whereas user-generated content is generally considered more credible as it is perceived as a genuine experience and opinion (Ayeh et al., 2013; Filieri et al., 2015). Similarly, users may infer that ChatGPT has little to no intention or self-motivated desired outcomes because of its nature as an independent chatbot programmed to provide information and assist users based on its algorithm without any inherent commercial objectives.

According to intentionality theory models, users perceive that AI agents have weaker intentions because they lack self-motivated desired outcomes in their interactions with users. As AI agents are machines that serve humans, people form lay beliefs that their actions serve human goals and fulfill extrinsic human desires (Huang & Chen, 2019; Kim & Duhachek, 2020). Supporting this notion, Garvey et al. (2023) demonstrate that consumers infer that AI agents lack intentions when administering offers, and this inference influences how consumers respond to offers that favor the agent (i.e., AI lacks selfish intentions) or customer (i.e., AI lacks benevolent intentions). Such inferences determine consumer acceptance of offers made by either AI or human agents.

Extending these theories to our study, and based on the premise that AIs lack the capacity for intentions, we propose that prospective travelers are less likely to infer manipulative intentions for travel destination recommendations offered by ChatGPT. We theorize that this difference in inferred intentions influences the effect of figurative language

use in travel destination recommendations, depending on the agent type. Specifically, in the case of a human travel agent, we expect the agent's intention to be driven more by manipulative attempts, undermining the processing of recommendations and attenuating the effect of language style on persuasion. Consequently, the positive effect of figurative language diminishes when a human provides travel destination recommendations. However, individuals may not infer manipulative intentions from ChatGPT recommendations; thus, they are more likely to be influenced by the language style when ChatGPT recommendations are made. Hence, we propose the following hypothesis:

H4: The type of recommendation agent moderates the effect of figurative language on visit intention. Specifically, the effect of figurative (vs. literal) language on visit intention is more pronounced when recommendations are made by ChatGPT. However, the effect is attenuated when recommendations are made by a human agent.

2.7. Overall Theoretical Framework and Empirical Studies

Figure 1 illustrates the overall theoretical framework with specific hypotheses and corresponding empirical studies. We conducted three experimental studies to test H1–H4. Specifically, Study 1 tested H1 and H2 by demonstrating the positive effect of figurative language in ChatGPT recommendations on visit intention (H1) and examining the mediating role of imagery vividness (H2). Study 2 replicated the findings of Study 1 and tested H3 by exploring how perceived AI human-likeness moderates the effect of figurative language on both imagery vividness and visit intention. Finally, Study 3 tested H4 by investigating the moderating role of agent type (ChatGPT vs. human) on the impact of figurative language on visit intention. Taken together, these empirical studies provide a comprehensive examination of the effects of figurative language in AI-generated travel recommendations.

[Insert Figure 1 here]

3. Study 1: Testing H1 and H2

Based on a comparison between figurative and literal language (Giora, 2002; Glucksberg & McGlone, 2001), Study 1 examined whether figurative language in ChatGPT recommendations can enhance visit intention. We also tested the mediating role of imagery vividness in explaining the effect of figurative language on visit intention.

3.1. Participants and Procedure

Participants were 119 US adults ($M_{\text{age}} = 40.18$, $SD = 11.57$; 47.9% female) recruited from the Cloud Research Connect panel in exchange for nominal compensation. They were randomly assigned to one of two experimental scenarios (linguistic style: figurative vs. literal) using a between-subjects design. Specifically, participants were instructed to imagine planning a Caribbean cruise and asking ChatGPT for recommended destinations. Subsequently, they were shown screenshots of their interactions with ChatGPT (Appendix A). Next, they evaluated the imagery vividness of two items (“When thinking about the trip to the recommended destinations, how vivid was the image that came to your mind?” and “When thinking about the trip to the recommended destinations, to what extent were you able to transport yourself to the destinations?”) on a semantic differential scale (1 = not at all, 7 = very much; Cronbach’s $\alpha = .92$; adapted from Phillips, 1996). They also assessed their intentions to visit the recommended destinations (“How much would you like to visit the places recommended by ChatGPT?”) on a semantic differential scale (1 = not at all/very low, 7 = very much/very high; Cronbach’s $\alpha = .92$; derived from Kim et al., 2023a). Further, they evaluated perceived realism on a semantic differential scale (1 = highly unrealistic, 7 = very realistic; adopted from Shin et al., 2023). Finally, they answered a manipulation check

question (“How would you evaluate the style of recommendation responses by ChatGPT?” 1 = not at all figurative, 7 = very figurative) and demographic questions.

3.2. Results

3.2.1. Manipulation and Confound Checks

Our manipulation of linguistic style was successful. Participants exposed to figurative language ($M = 5.62$, $SD = 1.20$) reported higher levels of figurativeness than those in the literal language condition ($M = 4.36$, $SD = 1.67$; $F(1, 117) = 22.52$, $p < .001$, $\eta^2 = .161$). Perceived realism also exceeded the neutral point ($M = 5.45$, $SD = 1.37$ vs. 4, $t(118) = 11.58$, $p < .001$). Additionally, no significant difference was observed in perceived realism between the two experimental conditions ($M_{\text{figurative}} = 5.40$, $SD = 1.38$ vs. $M_{\text{literal}} = 5.51$, $SD = 1.37$; $F(1, 117) = .19$, $p = .668$, $\eta^2 = .002$).

3.2.2. Imagery Vividness and Visit Intention

Figurative language positively impacted imagery vividness ($F(1, 117) = 7.81$, $p = .006$, $\eta^2 = .063$). A one-way analysis of variance (ANOVA) revealed that participants in the figurative language condition ($M = 5.46$, $SD = 1.31$) reported higher levels of imagery vividness than those in the literal language condition ($M = 4.74$, $SD = 1.50$). Furthermore, the influence of figurative language on visit intention was statistically significant ($F(1, 117) = 4.26$, $p = .041$, $\eta^2 = .035$). Specifically, the ANOVA revealed that participants in the figurative language condition ($M = 5.46$, $SD = 1.40$) reported stronger visit intention than those in the literal language condition ($M = 4.88$, $SD = 1.65$). Thus, H1 was supported.

3.2.3. Mediation Analysis

We conducted a mediation analysis using Hayes’ (2017) Model #4 macro with 5,000 bootstrapping samples. Figure 2 shows that ChatGPT recommendations using figurative language had a significant indirect effect on visit intention through imagery vividness, as

evidenced by the bias-corrected 95% confidence interval (CI) not including zero (index [a*b] = .53, SE = .21, 95% CI = [.149 to .968]; see Figure 1). Thus, H2 was supported.

[Insert Figure 2 here]

3.3. Discussion

Study 1 provides initial evidence for the positive impact of figurative language on imagery vividness and visit intention. These findings highlight the mechanism underlying this effect: imagery vividness acts as a key mediator, converting figurative language into a more concrete and persuasive mental image and enhancing the intention to visit the recommended destination.

4. Study 2: Testing H3

In Study 2, we conceptually replicated the findings of Study 1 and tested the moderating effect of perceived AI human-likeness on destination visit intention. We predict that imagery vividness and visit intention in figurative language are stronger when participants perceive ChatGPT as human.

4.1. Participants and Procedure

Participants were 204 US adults ($M_{\text{age}} = 41.12$, $SD = 12.29$; 56.4% female) recruited from the Amazon MTurk panel through Cloud Research in exchange for nominal compensation. They were randomly assigned to one of two experimental conditions (linguistic style: figurative vs. literal) using a between-subjects design. Perceived AI human-likeness was also measured. The general study procedure was similar to that in Study 1. Specifically, participants were instructed to imagine planning a vacation to the South Island of New Zealand and asking ChatGPT for recommended destinations. Subsequently, they

were shown screenshots of their interactions with ChatGPT (Appendix B). Next, participants were asked to rate their intention to visit the recommended destinations (Cronbach's $\alpha = .95$) and perceived imagery vividness (Cronbach's $\alpha = .89$) using the same items as in Study 1. Further, they were asked to rate a manipulation check for figurative language and perceived realism on semantic differential scales. Finally, they performed a filter task (i.e., service option choice) and indicated ChatGPT's perceived human-likeness on a 101-point scale bar (0 = I think that ChatGPT is very similar to a machine, 100 = I think that ChatGPT is very similar to a human; adopted from Giroux et al., 2022).

4.2. Results

4.2.1. Manipulation and Confound Checks

Our manipulation of linguistic style was successful. Participants exposed to figurative language ($M = 4.50$, $SD = 1.56$) reported higher levels of figurativeness than those in the literal language condition ($M = 4.10$, $SD = 1.30$; $F(1, 202) = 3.95$, $p = .048$, $\eta^2 = .019$). Perceived realism was also higher than the neutral point ($M = 5.51$, $SD = 1.17$ vs. 4; $t(203) = 18.40$, $p < .001$) and was similar between experimental conditions ($M_{\text{figurative}} = 5.57$, $SD = 1.07$ vs. $M_{\text{literal}} = 5.45$, $SD = 1.27$; $F(1, 202) = .60$, $p = .438$, $\eta^2 = .003$).

4.2.2. Imagery Vividness and Visit Intention

We replicated the results of Study 1. First, we observed the marginal effect of figurative language on imagery vividness ($F(1, 202) = 2.81$, $p = .095$, $\eta^2 = .014$); participants in the figurative language condition ($M = 5.30$, $SD = 1.28$) reported higher imagery vividness than those in the literal language condition ($M = 4.97$, $SD = 1.52$). Furthermore, the influence of figurative language on visit intention was marginally significant ($F(1, 202) = 2.93$, $p = .089$, $\eta^2 = .014$); participants in the figurative language condition ($M = 5.26$, $SD = 1.40$)

reported stronger visit intention than those in the literal language condition ($M = 4.93$, $SD = 1.35$).

4.2.3. *Moderating Effect of Perceived AI Human-Likeness*

We conducted a moderation analysis using Hayes' (2017) Model #1 macro with 5,000 bootstrapping samples. Figure 3 shows that the impact of language style on imagery vividness was moderated by perceived AI human-likeness. The interaction was significant (index = .008, $se = .003$, $t = 2.30$, $p = .022$, 95% CI = [.001–.015]). Specifically, when participants perceived ChatGPT as relatively human (+1 SD in measurement), imagery vividness was higher when they were exposed to figurative language (estimated $M = 5.77$) than literal language (estimated $M = 5.01$). However, when participants perceived ChatGPT as a machine (-1 SD in measurement), imagery vividness was similar when they were exposed to figurative (estimated $M = 4.79$) or literal language (estimated $M = 4.93$).

Further, the impact of language style on visit intention was moderated by perceived AI human-likeness. The interaction was significant (index = .007, $se = .003$, $t = 2.16$, $p = .032$, 95% CI = [.001–.014]). Specifically, when participants perceived ChatGPT as human (+1 SD in measurement; value = 59.54), visit intention was higher when they were exposed to figurative language (estimated $M = 5.73$) than literal language (estimated $M = 5.01$). Conversely, when participants perceived ChatGPT as a machine (-1 SD in measurement; value = 4.05), visit intention was similar when they were exposed to figurative language (estimated $M = 4.75$) as it was for literal language (estimated $M = 4.85$). Thus, H3 was supported.

[Insert Figure 3 here]

4.2.4. *Mediation Moderation Analysis*

We conducted a mediated moderation analysis (IV = language style, mediator = imagery vividness, moderator = perceived AI human-likeness, and DV = visit intention)

using Hayes' (2017) Model #7 macro with 5,000 bootstrapping samples. The overall mediated moderation was significant (index = .004, se = .002, 95% CI = [.001–.008]). Specifically, when participants perceived ChatGPT as human (+1 SD in measurement), the indirect effect of imagery vividness was significant (index $[a \times b] = .21$, SE = .08, 95% CI = [.071–.367]). Conversely, when participants perceived ChatGPT as a machine (-1 SD in measurement), the indirect effect of imagery vividness was nonsignificant (index $[a*b] = -.03$, SE = .08, 95% CI = [-.186 to .141]).

4.3. Discussion

Study 2 provided additional evidence of the positive impact of figurative language on imagery vividness and visit intention. Furthermore, it demonstrated the moderating role of perceived AI human-likeness in that the main predictions were stronger when participants perceived ChatGPT as human.

5. Study 3: Testing H4

Study 3 examined the moderating role of ChatGPT versus a human in determining the impact of figurative language on visit intention. This approach enabled us to isolate the effect of the recommendation source while maintaining the linguistic style manipulation from Studies 1 and 2.

5.1. Participants and Procedure

Participants were 259 US adults ($M_{age} = 38.98$, $SD = 11.47$; 50.6% female) recruited from the Cloud Research Connect Panel. They received nominal compensation for their participation. They were randomly assigned to one of four experimental conditions in a 2 (linguistic style: figurative vs. literal) \times 2 (recommendation agent: ChatGPT vs. human)

between-subjects design. First, participants were asked to imagine planning a vacation to Seoul, South Korea, after which they accessed a travel-assistant chat service. Subsequently, they were shown screenshots of chat messages with either ChatGPT or a human travel agent (Appendix C). Upon exposure to these chat message stimuli, participants completed the same measures of visit intention (Cronbach's $\alpha = .91$) and perceived realism used in Studies 1 and 2. Finally, they responded to manipulation check questions and provided demographic information.

5.2. Results

5.2.1. Manipulation and Confound Checks

Our manipulation of linguistic style was successful. Participants exposed to figurative language ($M = 5.12$, $SD = 1.54$) reported higher degrees of figurativeness than those in the literal language condition ($M = 4.29$, $SD = 1.71$; $F(1, 257) = 16.95$, $p < .001$, $\eta^2 = .062$). Perceived realism significantly exceeded the neutral point ($M = 5.50$, $SD = 1.17$ vs. 4, $t(258) = 20.68$, $p < .001$). Further, no significant difference existed in perceived realism between the two experimental conditions ($M_{\text{figurative}} = 5.35$, $SD = 1.19$ vs. $M_{\text{literal}} = 5.64$, $SD = 1.34$; $F(1, 257) = .383$, $p = .052$, $\eta^2 = .021$).

5.2.2. Visit Intention

No main effect of linguistic style ($F(1, 255) = .69$, $p = .408$, $\eta^2 = .003$) was observed, while a significant main effect of recommendation agent was observed for visit intention ($F(1, 255) = 5.97$, $p = .015$, $\eta^2 = .023$). As shown in Figure 4, a significant two-way interaction effect existed between linguistic style and recommendation agent type ($F(1, 255) = 5.56$, $p = .019$, $\eta^2 = .021$). Specifically, when the recommendation agent was ChatGPT, figurative language ($M = 5.14$, $SD = 1.16$) led to higher visit intention than literal language ($M = 4.63$, $SD = 1.51$; $F(1, 255) = 5.15$, $p = .024$, $\eta^2 = .020$). However, no significant difference in visit

intention was observed between figurative ($M = 4.37$, $SD = 1.38$) and literal language ($M = 4.61$, $SD = 1.07$) when the recommendation agent was human ($F(1, 255) = 1.15$, $p = .284$, $\eta^2 = .005$). Thus, H4 was supported.

[Insert Figure 4 here]

5.3. Discussion

Study 3 demonstrated that the type of travel recommendation agent (ChatGPT vs. human) significantly moderated the effect of figurative language on visit intentions. Specifically, participants reported a higher intention to visit a recommended destination when ChatGPT used figurative language. However, this effect was not observed with human agents. These findings suggest that figurative language enables ChatGPT to provide more impactful travel recommendations, effectively conveying the appeal of a destination.

6. General Discussion

6.1. Summary of Findings

We explored prospective travelers' responses to travel destination recommendations made by ChatGPT using figurative versus literal language. Study 1 confirmed the positive effects of figurative language on imagery vividness and visit intention. We found that imagery vividness mediated the impact of figurative language on ChatGPT recommendations. Study 2 provided convergent evidence that the effect of figurative language on imagery vividness and visit intention was more pronounced for participants who perceived the AI as human (vs. a machine). Study 3 revealed that when ChatGPT served as the recommendation agent, using figurative (vs. literal) language led to significantly higher visit intention. However, this effect was less pronounced when the recommendation agent

was human. Specifically, with a human agent, no significant difference was observed in visit intention between recommendations made using figurative or literal language.

6.2. Theoretical Implications

This study makes several contributions to the literature on AI and consumer behavior in tourism. First, it answers an important question: How can we increase consumer acceptance of AI-generated recommendations? Specifically, we extend the existing literature (Ali et al., 2023; Kim et al., 2023a; Shin et al., 2023; Wong et al., 2023) by identifying that linguistic style influences travelers' acceptance of ChatGPT recommendations. We demonstrate that figurative language increases the acceptance of ChatGPT recommendations by enhancing the vividness of destination imagery. While the prior literature primarily focuses on literal information processing of AI travel recommendations (e.g., the accessibility-diagnostics framework; Kim et al., 2023c), this study is among the first to highlight the benefit of enhancing the imagery vividness of the information provided by ChatGPT. Our findings suggest imagery vividness as an alternative theoretical approach for enhancing the acceptance of ChatGPT recommendations. Thus, the findings can motivate future investigations into how figurative language and imagery vividness can enhance the persuasiveness of information provided by generative AI in other domains of human–AI interaction.

Second, Study 2 demonstrates a moderating effect of perceived AI human-likeness on the positive impact of figurative language on imagery vividness and visit intention.

Human perceptions of AI can be a crucial construct in human–AI interactions. Giroux et al. (2022), analyzing moral decision-making in a retail setting under human and AI conditions, demonstrate that moral behavioral intention under AI is reduced when people perceive AI as relatively human-like rather than machine-like. Our findings also highlight the benefit of AI

human-likeness in human–AI interactions. Future studies should extend the role of this construct to various human–AI interaction contexts.

Third, the findings of Study 3 challenge the widespread assertion that people disregard advice from an AI (“Algorithm aversion”; Dietvorst et al., 2015; Longoni et al., 2019). Prior research has primarily focused on consumer aversion to AI when a human agent is available. For example, medical services provided by an AI are less preferred because individuals believe that AI agents are less capable of considering patients’ unique and situational characteristics (Longoni et al., 2019). Studies have investigated whether aversion to AI advice is attenuated or reversed based on increasing the human-likeness of AI (Castelo et al., 2019), requiring quantitative judgment to perform a task (Logg et al., 2019), personalizing AI recommendations to an individual’s unique characteristics (Longoni et al., 2019), and activating a utilitarian consumption goal (Longoni & Cian, 2022). We contribute to this line of thought by identifying the circumstances under which AI-generated recommendations are more persuasive than human ones when ChatGPT’s travel destination recommendations use figurative language.

As travel destination decisions are largely hedonic in nature (Hosany & Gilbert, 2010), our results contradict the “word-of-machine” effect—consumer preference for recommendations made by AI (vs. a human agent) when a utilitarian (vs. hedonic) goal is activated (Longoni & Cian, 2022). Although language style may contribute to this variance, the recommended destination visit intention in response to ChatGPT’s recommendations using literal language did not differ from that of a human travel agent in the current study. We suggest that this preference shift in AI recommendations occurs because people infer self-motivated intentionality in recommendations made by human travel agents. This novel finding can motivate future investigations into the circumstances under which the preference

for or resistance to AI recommendations is reversed within a single domain of decision-making, as well as the underlying mechanisms.

6.3. Practical and Public Policy Implications

These findings have practical implications for tourism marketing. First, when generative AI chatbots are used to create travel destination recommendations in figurative language, they effectively encourage travelers to vividly imagine and immerse themselves in the travel experience. For example, Microsoft's Copilot has made recent advancements in generative AI chatbot technology, allowing users to choose the conversation style. Digital marketers who wish to integrate generative AI chatbots into their travel advisory services can customize the creative mode to generate figurative and metaphoric dialogues that help travelers better visualize and establish an imaginative connection with their destinations.

Second, we suggest that AI-powered tourism platforms would be more appealing if they incorporated anthropomorphic elements into their UX designs, particularly when targeting segments that tend to perceive AI as human. Our findings emphasize how ChatGPT's unique linguistic capabilities can be leveraged to craft more persuasive destination recommendations than those of human travel agents. Marketers can potentially leverage AI-powered customer service and booking systems using ChatGPT, which generates metaphorical descriptions that paint vivid mental pictures of travel experiences. Based on our findings, the persuasive linguistic skills of ChatGPT have advantages over those of human agents. However, caution should be exercised regarding the overuse of figurative language, as some consumers may perceive it as exaggerated. Although human experts would play a role, generative AI can increasingly automate and optimize tourism recommendations.

Finally, our findings have important implications for policymakers, highlighting the need for regulations on AI applications in hedonic marketing, particularly regarding the use

of language styles. Following Kronrod and Danziger (2013), we demonstrate that AI-generated recommendations employing figurative language significantly influence consumer intentions in hedonic consumption decisions (i.e., travel decisions). As AI becomes more humanlike in its interactions, public policy should address the ethical implications of using it and its language tactics in marketing. This includes establishing boundaries regarding the use of figurative language that may unduly influence consumer decisions, especially in sectors with significant financial implications such as gambling and gaming. Public policy must balance the leveraging of the innovative potential of generative AI in enhancing marketing communication strategies while ensuring ethical practices and consumer protection. This involves monitoring and controlling AI recommendation systems to ensure that their persuasive capabilities align with consumer welfare and ethical marketing standards.

6.4. Limitations and Future Research Directions

This study has some limitations that offer opportunities for future research. First, although we examined the effect of language style across multiple destinations, the effect varied in strength depending on the contextual factors of the recommended destinations. For instance, the positive effect of figurative language may be more pronounced in the case of temporally or spatially distant travel, given the positive relationship between the two dimensions of distance and consumer reliance on metaphors in information processing (Jia & Smith, 2013). Future research should systematically investigate the destination characteristics that amplify or diminish the figurative language effect in ChatGPT travel destination recommendations.

Second, our study was based on a US adult sample. However, as ChatGPT is global, it is important to consider how its effects vary across cultures. While figurative language is common across cultures (Wierzbicka, 1999), its use and interpretation can differ significantly.

For instance, metaphorical expressions may be common in emotional conversations in one culture but not in others (Junker & Blacksmith, 2006). These differences could affect how travelers from various backgrounds respond to ChatGPT's figurative recommendations. Future research should investigate how travelers from different cultural backgrounds interpret and respond to ChatGPT's figurative language recommendations. Such cross-cultural studies can validate our findings and identify variations in conversational norms across cultures, ultimately enhancing our understanding of the international applicability of AI-generated figurative language to travel recommendations.

Finally, an explanation of the theoretical and practical boundaries of nuanced language-style effects is needed. The current study provides converging evidence for imagery vividness as a driver of positive tourist responses (i.e., visit intention) to ChatGPT's travel destination recommendations. Nonetheless, we believe that tourist responses to AI recommendations are complex phenomena likely determined by multiple factors (Inman et al., 2018). For example, Kim et al. (2023a) investigate choice overload—people's tendency to avoid several options under ChatGPT recommendation conditions—and assert that individuals under ChatGPT recommendation conditions accept a relatively large set of choices (60 or 70). Although people perceive ChatGPT as an information source capable of providing many options, the use of figurative language can increase their mental busyness during information processing. Therefore, the positive effect of figurative language on recommendations is limited when numerous options are suggested. Thus, how language style influences human–AI interactions is a compelling avenue for future research.

Future research should explore additional mediating mechanisms that may influence consumer responses to AI-generated travel recommendations. For instance, perceived AI competence and objectivity could serve as mediators (Song & Lin, 2024), particularly when using literal language. Exploring how perceptions of generative AI capabilities interact with

language style to influence visit intentions could enrich our understanding of consumer responses to AI-generated travel recommendations. Investigating alternative explanations for the positive effects of figurative language and other psychological mechanisms that shape tourist preferences for generative AI recommendation systems is a promising topic for future research.

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Table 1: Summary of Generative AI and ChatGPT Research in Hospitality and Tourism

Authors	Methodology	Mediator	Main findings
Ali et al. (2023)	Survey	Perceived trust	ChatGPT's relevance, credibility, usefulness, and intelligence positively influence on travelers' behavioral intentions through perceived trust.
Kim et al. (2023a)	Experiment	Perceived accuracy	Numerous ChatGPT recommendations positively affect recommendation satisfaction and purchase intention. The impact of more recommendations depends on recommendation agents (ChatGPT vs. online travel agent).
Kim et al. (2023b)	Experiment	Perceived trustworthiness	Travelers' acceptance of and satisfaction with ChatGPT's recommendations decrease when quality and ethical concerns are prominent.
Pham et al. (2024)	Survey	ChatGPT trust, attitude, and satisfaction	Perceived warmth, communication speed, and perceived competence are positively related to trust in ChatGPT. Both trust and satisfaction positively impact tourists' continuance intention to use ChatGPT.
Pillai & Sivathanu (2020)	Survey	AI chatbot adoption intention	Perceived ease of use, usefulness, trust, intelligence, and anthropomorphism positively predict AI chatbot usage for travel planning.
Tosyali et al. (2023)	Experiment	Destination image	Informativeness of tourist-chatbot interaction significantly impacts destination image and visit intention.
Xu et al. (2024)	Survey	Expertise, trust, and parasocial interaction	Social influence and perceived value have positive influences on tourists' acceptance of using ChatGPT through perceived expertise, trust, and parasocial interaction.
Current study	Experiment	Imagery vividness	Figurative (vs. literal) language in ChatGPT recommendations affects visit intentions. The effect of figurative language depends on perceived AI human-likeness and recommendation agent.

Figure 1: Theoretical Framework and Empirical Studies

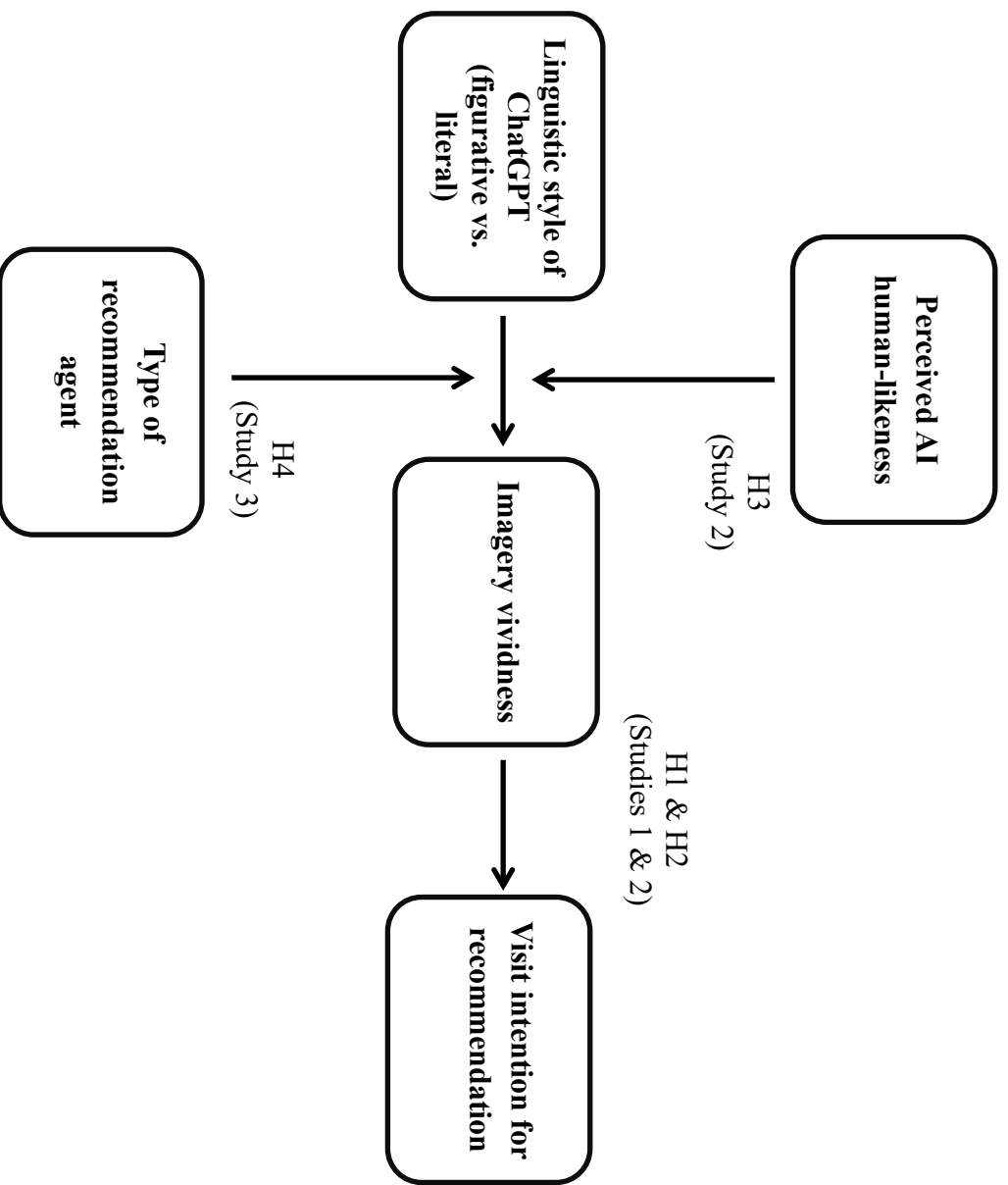
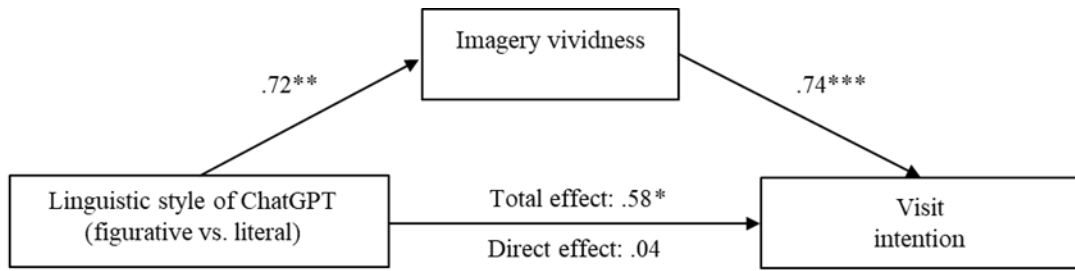


Figure 2: Mediation Model (Study 1)



Note: The indirect effect of imagery vividness is significant (95% CI = .149 to .968); path coefficients are unstandardized betas; $*p < .05$, $**p < .01$, and $***p < .001$.

Figure 3: Effect of Linguistic Style and Perceived AI Human-likeness on Imagery Vividness and Visit Intention (Study 2)

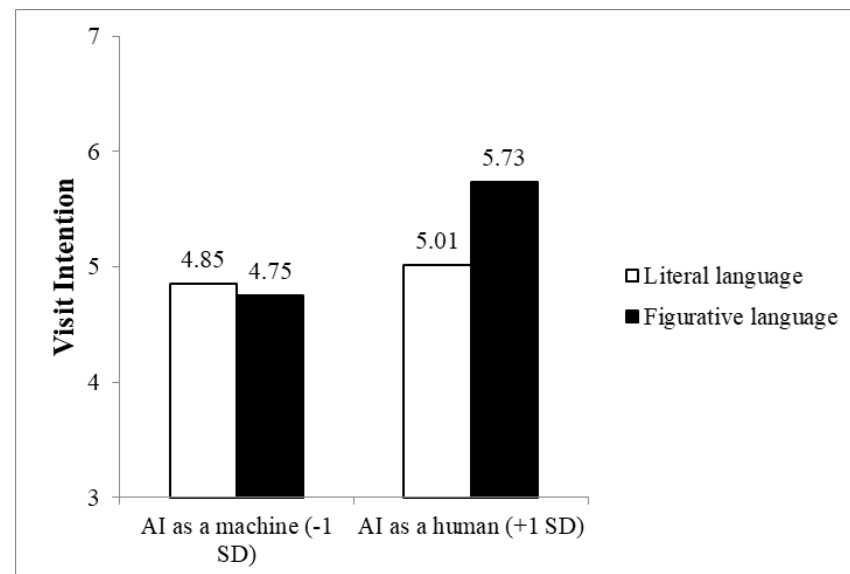
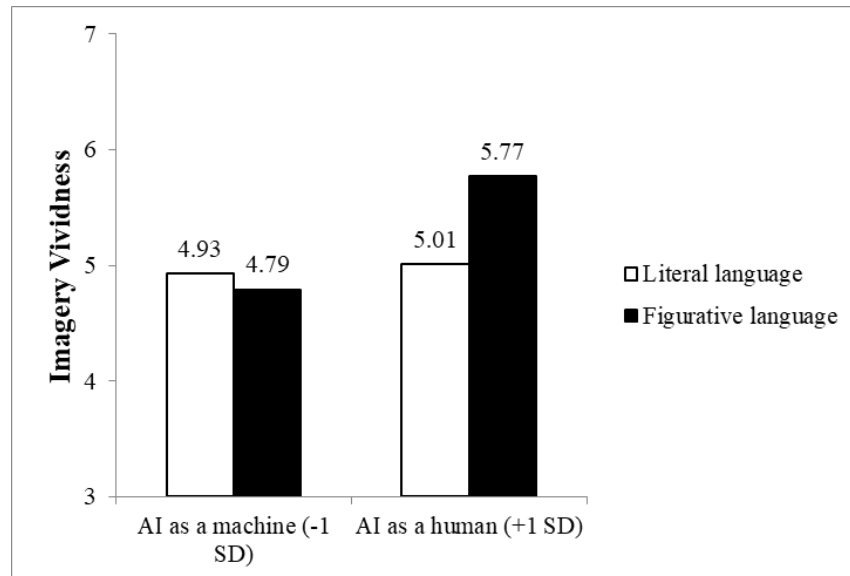
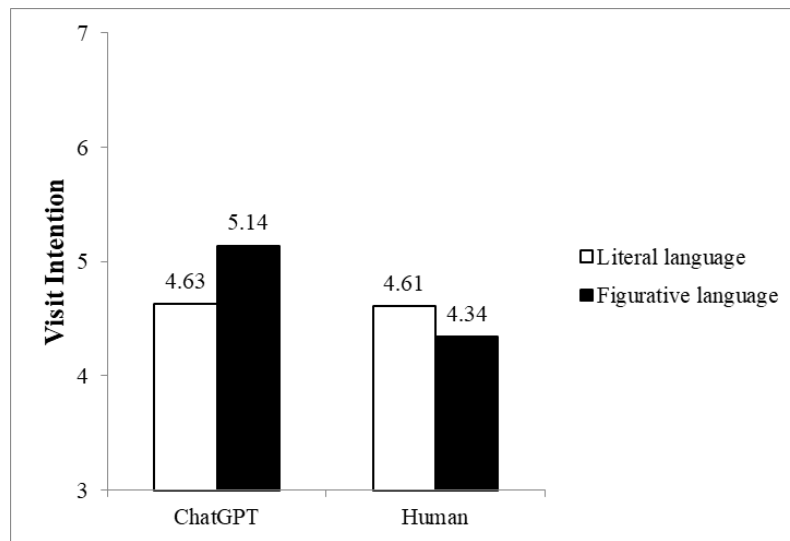


Figure 4: Effect of Linguistic Style and Recommendation Agent Type on Visit Intention (Study 3)



Appendix A
Stimuli for Study 1
Figurative Language



You

Could you suggest a recommended destination for the Caribbean cruise?



ChatGPT

St. Lucia emerges from the Caribbean Sea like a postcard-perfect dream, a paradisiacal canvas painted with the vibrant strokes of nature's palette. This island, resembling an emerald jewel in the tropical expanse, boasts a landscape so picturesque that it's as if the very earth sculpted its contours with the finesse of an artist's brush.

Literal Language



You

Could you suggest a recommended destination for the Caribbean cruise?



ChatGPT

St. Lucia is an island destination in the Caribbean known for its picturesque landscapes and volcanic topography. The island features two prominent volcanic peaks, the Pitons, which rise dramatically from the sea. These twin peaks are a significant geological feature and a popular symbol of St. Lucia.

Appendix B

Stimuli for Study 2

Figurative Language

You
Recommend two places of South Island of New Zealand for visitors

ChatGPT
Certainly! Here are two must-visit places on the South Island of New Zealand:

- Lake Tekapo and the Church of the Good Shepherd:**
Imagine a scene straight out of a dream—a pristine turquoise lake surrounded by snow-capped peaks. Lake Tekapo, set amidst the Southern Alps, offers a surreal and tranquil setting. The Church of the Good Shepherd, a small stone chapel on the lake's edge, provides an iconic focal point. Visit during the evening to witness a breathtaking display of starlight, as the area is part of the Aoraki Mackenzie International Dark Sky Reserve.
- Abel Tasman National Park:**
Picture golden sandy beaches, crystal-clear turquoise waters, and lush coastal forests blending harmoniously. Abel Tasman National Park, located at the top of the South Island, is a coastal paradise. Explore its beauty by hiking the Abel Tasman Coast Track, taking a scenic kayak trip along the coastline, or enjoying a relaxing cruise. The park is a haven for wildlife, and the pristine landscapes create a serene and idyllic escape.

These two destinations showcase the diverse beauty that the South Island of New Zealand has to offer, from serene lakeside charm to the coastal splendor of a national park.

Literal Language

You
Recommend two places of South Island of New Zealand for visitors

ChatGPT
Certainly! Here are two must-visit places on the South Island of New Zealand:

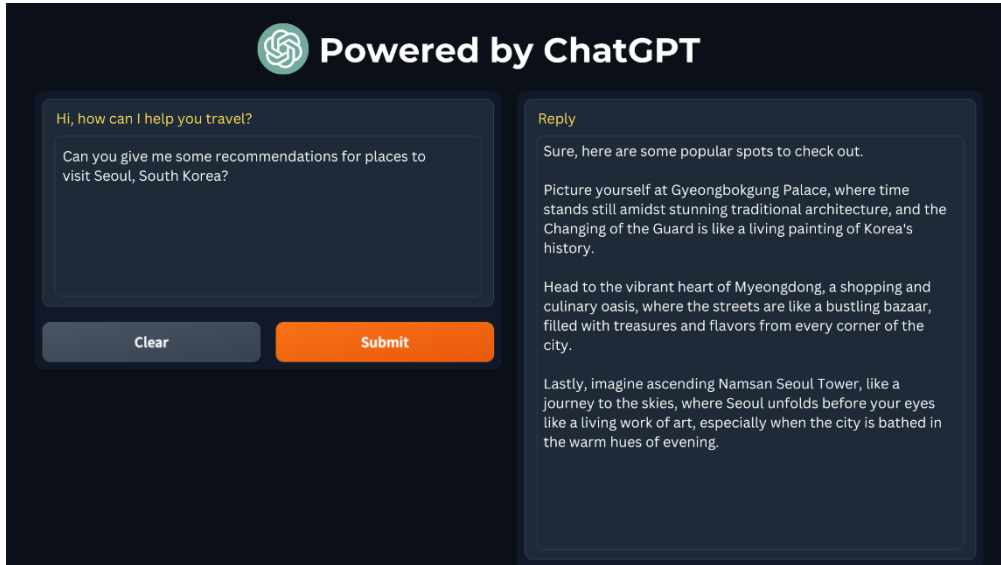
- Lake Tekapo and the Church of the Good Shepherd:**
Lake Tekapo, situated in the Mackenzie Basin, is renowned for its striking turquoise-blue waters. The lake is surrounded by snow-capped peaks, creating a stunning alpine backdrop. The Church of the Good Shepherd, located on the lake's shore, is a historic stone church offering a picturesque view of the lake and the Southern Alps. Visitors can enjoy activities like stargazing due to the area's low light pollution.
- Abel Tasman National Park:**
Abel Tasman National Park, situated at the northern tip of the South Island, boasts golden sandy beaches, crystal-clear waters, and lush coastal forests. The park is a popular destination for outdoor activities, including the Abel Tasman Coast Track—a renowned coastal hiking trail. Visitors can explore the park by hiking, taking a scenic kayak trip along the coastline, or opting for a relaxing cruise. The park is home to diverse wildlife, and its pristine landscapes showcase the natural beauty of the New Zealand coast.

These descriptions provide a straightforward overview of the natural beauty and attractions of Lake Tekapo with the Church of the Good Shepherd and Abel Tasman National Park on the South Island of New Zealand.

Appendix C

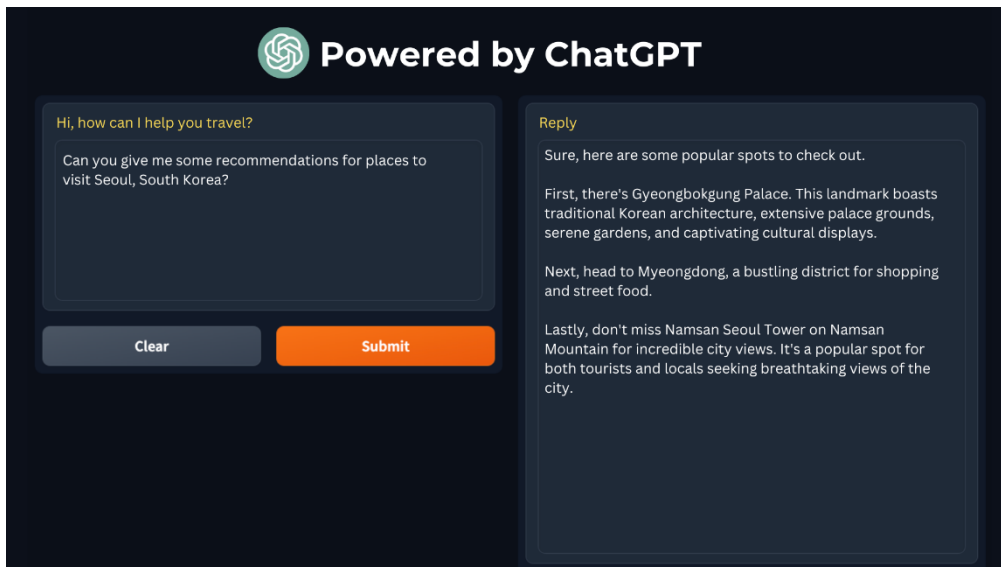
Stimuli for Study 3

Figurative Language by ChatGPT



The screenshot shows the ChatGPT interface with a dark theme. At the top, the OpenAI logo and the text "Powered by ChatGPT" are visible. The user's prompt is: "Hi, how can I help you travel? Can you give me some recommendations for places to visit Seoul, South Korea?". The response is: "Sure, here are some popular spots to check out. Picture yourself at Gyeongbokgung Palace, where time stands still amidst stunning traditional architecture, and the Changing of the Guard is like a living painting of Korea's history. Head to the vibrant heart of Myeongdong, a shopping and culinary oasis, where the streets are like a bustling bazaar, filled with treasures and flavors from every corner of the city. Lastly, imagine ascending Namsan Seoul Tower, like a journey to the skies, where Seoul unfolds before your eyes like a living work of art, especially when the city is bathed in the warm hues of evening."

Literal Language by ChatGPT



The screenshot shows the ChatGPT interface with a dark theme. At the top, the OpenAI logo and the text "Powered by ChatGPT" are visible. The user's prompt is: "Hi, how can I help you travel? Can you give me some recommendations for places to visit Seoul, South Korea?". The response is: "Sure, here are some popular spots to check out. First, there's Gyeongbokgung Palace. This landmark boasts traditional Korean architecture, extensive palace grounds, serene gardens, and captivating cultural displays. Next, head to Myeongdong, a bustling district for shopping and street food. Lastly, don't miss Namsan Seoul Tower on Namsan Mountain for incredible city views. It's a popular spot for both tourists and locals seeking breathtaking views of the city."

Appendix C (Continued)
Stimuli for Study 3

Figurative Language by Human Agent

The screenshot shows a chat interface for 'Jessica Travel Agent'. At the top left is a circular profile picture of a woman. To its right, the name 'Jessica' is in a larger font, and 'Travel Agent' is below it. The chat area is split into two columns. The left column contains a yellow header 'Hi, how can I help you travel?' and a text box with the question 'Can you give me some recommendations for places to visit Seoul, South Korea?'. Below the text box are two buttons: 'Clear' (grey) and 'Submit' (orange). The right column contains a yellow header 'Reply' and three paragraphs of text. The first paragraph says 'Sure, here are some popular spots to check out.' and describes Gyeongbokgung Palace. The second paragraph describes Myeongdong. The third paragraph describes Namsan Seoul Tower.

Jessica
Travel Agent

Hi, how can I help you travel?

Can you give me some recommendations for places to visit Seoul, South Korea?

Clear Submit

Reply

Sure, here are some popular spots to check out.

Picture yourself at Gyeongbokgung Palace, where time stands still amidst stunning traditional architecture, and the Changing of the Guard is like a living painting of Korea's history.

Head to the vibrant heart of Myeongdong, a shopping and culinary oasis, where the streets are like a bustling bazaar, filled with treasures and flavors from every corner of the city.

Lastly, imagine ascending Namsan Seoul Tower, like a journey to the skies, where Seoul unfolds before your eyes like a living work of art, especially when the city is bathed in the warm hues of evening.

Literal Language by Human Agent

The screenshot shows a chat interface for 'Jessica Travel Agent' with the same header as the first image. The left column is identical. The right column contains a yellow header 'Reply' and three paragraphs of text. The first paragraph says 'Sure, here are some popular spots to check out.' and lists Gyeongbokgung Palace. The second paragraph lists Myeongdong. The third paragraph lists Namsan Seoul Tower.

Jessica
Travel Agent

Hi, how can I help you travel?

Can you give me some recommendations for places to visit Seoul, South Korea?

Clear Submit

Reply

Sure, here are some popular spots to check out.

First, there's Gyeongbokgung Palace. This landmark boasts traditional Korean architecture, extensive palace grounds, serene gardens, and captivating cultural displays.

Next, head to Myeongdong, a bustling district for shopping and street food.

Lastly, don't miss Namsan Seoul Tower on Namsan Mountain for incredible city views. It's a popular spot for both tourists and locals seeking breathtaking views of the city.