

Moderate rating bias in interpersonal recommendations

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ABSTRACT

Tourists often convey ratings in interpersonal recommendations to close others. However, extant research offers limited insight into whether such recommendations are received as intended. This research uncovers a “Moderate Rating Bias,” where tourists systematically overestimate close others’ likelihood of accepting their moderately rated recommendations (e.g., 3 out of 5). We show that this bias stems from asymmetric evaluations of such recommendations: recommenders focus on shared preferences, interpreting moderate ratings through a social lens, while recipients emphasize their unique preferences, viewing them more objectively. This bias diminishes when ratings clearly indicate positive (e.g., 5 out of 5) or negative (e.g., 1 out of 5) experiential quality or when moderate ratings reflect divergent performance across experiential dimensions (e.g., “excellent food, poor service”). We present evidence from five experiments (four preregistered and one with an incentive-compatible design) to support our theorizing. These findings provide novel insights into how tourists interpret peer recommendations and offer guidance for managing tourism experiences.

1. Introduction

“People influence people. Nothing influences people more than a recommendation from a trusted friend.”

– Mark Zuckerberg (2017)

Tourism experiences are inherently difficult to evaluate before consumption, posing substantial challenges for tourists making travel decisions (Sirakaya & Woodside, 2005; Williams & Baláz, 2015). While online word-of-mouth (WOM) platforms like TripAdvisor, Expedia, Google Review, and Yelp aim to assist tourists through peer-generated content, the sheer volume of information often leads to decision difficulty and confusion (Lu et al., 2016; Zarezadeh et al., 2023). In response, tourists are now increasingly turning to recommendations from their personal networks—such as family, friends, and acquaintances (Accor, 2024; Kim, 2024; McKinsey & Company, 2024)—as well as from parasocial relationships formed through digital and social media platforms (Deng et al., 2021; Meng et al., 2024). These interpersonal recommendations are not only valued for their trustworthiness (Brown et al., 2007; Murphy et al., 2007) but also serve as effective tools for navigating the vast landscape of travel information (Litvin et al., 2008; Oliveira et al., 2020), significantly influencing destination choices and trip preparation

(Fernández Cavia et al., 2020).

However, the experiential and taste-dependent nature of tourism consumption (Gilovich & Gallo, 2020; Spiller & Belogolova, 2017) creates a fundamental challenge in how tourists communicate value to one another, even in interpersonal contexts. Ratings thus have emerged as a key component of interpersonal tourism recommendations. While WOM literature has extensively examined how tourists process and respond to ratings in anonymous online reviews (e.g., Park & Nicolau, 2015; Vermeulen & Seegers, 2009; Yang et al., 2018; Ye et al., 2009; Zhang et al., 2010), surprisingly little is known about how ratings are interpreted when conveyed through interpersonal recommendations.

The present research addresses this gap by examining how tourists interpret numeric ratings in interpersonal recommendations—informal, subjective evaluations of tourism experiences shared with someone personally known—from both recommenders’ and recipients’ perspectives. Through this investigation, we uncover a “moderate rating bias,” where tourists systematically overestimate others’ likelihood of accepting their moderately rated interpersonal recommendations. In line with prior research (e.g., Filieri, 2016; Filieri, Raguseo, & Vitari, 2018; Mudambi & Schuff, 2010; Park & Nicolau, 2015), we define moderate ratings as numerical evaluations that fall in the middle range of a rating scale—typically 3 out of 5 ratings or equivalent midpoint

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values—representing mixed or ambiguous assessments of experiential quality. We propose that this bias stems from two asymmetric egocentric beliefs from recommenders' versus recipients' perspectives: while recommenders emphasize shared preferences when providing recommendations to others, recipients prioritize their unique preferences when receiving such recommendations. As such, the perceived preference similarity between the recommender and the recipient looms larger among recommenders (than recipients) for moderately rated interpersonal recommendations. Instead of attributing this observed effect to a general projection bias spanning all rating levels, our theoretical framework highlights the role of inherent ambiguity in moderately rated options. Consistent with this view, we demonstrate that this bias diminishes when ratings are extreme—either highly negative or highly positive (e.g., “1 out of 5”, “5 out of 5”, etc.), or when the moderate ratings can be explained by diverging performance across experiential dimensions (e.g., “excellent food, but poor service”). We present evidence from five experiments that supports our theorizing.

Our findings make several important theoretical contributions. First, we enrich the WOM literature (e.g., Filieri & McLeay, 2014; Litvin et al., 2008; Murphy et al., 2007) by demonstrating how tourists perceive interpersonal recommendations with numeric ratings. The extant research on ratings zooms in on online reviews (Chen & Lurie, 2013; Z. Liu & Park, 2015), where thousands of reviewers share subjective evaluations of tourism experiences with limited knowledge of their audience's preferences. However, the interpretation of personal ratings shared within established social relationships, and by extension within parasocial relationships built on shared preferences, remains largely unexplored. Our work fills this gap and sheds light on systematic differences between recommenders' and recipients' perspectives on moderate ratings in interpersonal recommendations.

Second, our research advances the understanding of numeric ratings, especially moderate ones. Past research on online reviews presents mixed evidence on the role of moderate ratings in tourism decisions. While moderate ratings provide nuanced and rich information about experiential aspects (Mudambi & Schuff, 2010; Racherla & Friske, 2012), they are often perceived as less helpful than extreme ones (Kwok et al., 2017; Park & Nicolau, 2015). However, little research has examined the effectiveness of moderate ratings in interpersonal recommendations, particularly in understanding how tourists' perspectives as recommenders versus recipients shape the acceptance of such recommendations. This research highlights an asymmetric emphasis on shared preferences, a fundamental aspect of interpersonal recommendations, leading recommenders to systematically overestimate recipients' likelihood of accepting moderately rated recommendations.

Third, we extend research on egocentric biases (e.g., Ames, 2004; Epley et al., 2004; Ames, 2004; Epley et al., 2004; Tamir & Mitchell, 2013; A. Wang et al., 2023) by uncovering their unique manifestations in the context of tourism recommendations. While prior research has established that people more readily project their preferences onto others rather than introject others' preferences into themselves (Krueger & Clement, 1994; Robbins & Krueger, 2005; Van Boven & Loewenstein, 2003), we show that this asymmetry is particularly pronounced when tourists estimate the likelihood of adopting recommendations for moderately rated options. Further, we also advance our understanding of moderate rating bias by identifying novel boundary conditions for this effect: this bias diminishes when experiential quality is conveyed unambiguously via clearly positive or negative ratings (i.e., rating extremity), or when moderate ratings are explained by varied performance across different aspects of the experience (i.e., explanation granularity).

In what follows, we first present our theorizing about the moderate rating bias in the context of interpersonal recommendation. After that, we present evidence from five experiments that provides converging support for our theorizing. We conclude with a discussion of the theoretical and practical implications of our findings and potential directions for future research.

2. Theoretical background

2.1. Word-of-mouth (WOM) in tourism

Word-of-mouth communication (WOM) is one of the most influential forces shaping individuals' perceptions, attitudes, and behaviors in the tourism industry. WOM allows tourists to share information and opinions that can guide others' decisions regarding destinations, services, and experiences (Brown et al., 2007; Filieri & McLeay, 2014). WOM takes two primary forms: traditional WOM rooted in interpersonal communications and electronic WOM (e-WOM) occurring through digital and social media platforms (i.e., online reviews) (Berger, 2014). Despite the growth of e-WOM (Bilgihan et al., 2016; Mariani et al., 2016), traditional interpersonal communications have simultaneously adapted to these changes and continue to exert comparable—at times even greater—influence on tourism decisions (Ishida et al., 2016). In fact, interpersonal recommendations exchanged through existing social ties, such as friends, relatives, acquaintances, and even parasocial relationships formed via online travel communities, often carry greater weight due to shared knowledge, trust, and perceived expertise (Bilgihan et al., 2016; Yang et al., 2024), offering distinct advantages over the more anonymous and less personalized online reviews.

2.2. Interpersonal recommendations versus online reviews

Interpersonal recommendations refer to a form of communication between individuals wherein personal experiences, opinions, or advice about products, services, or experiences are shared, typically without any financial incentive (Chung & Buhalis, 2008; Litvin et al., 2008). Such communication can occur either face-to-face (traditional WOM) or through digital platforms (e-WOM), functioning as a means of personal influence in which the interaction between the recommender and the recipient can substantially shape the recipients' attitudes and behaviors (Chu & Kim, 2011; Luo & Zhong, 2015). Interpersonal recommendations have emerged as a powerful tool in tourism, facilitating information acquisition and adoption for potential travelers (Confente, 2015; Zhang et al., 2021).

Interpersonal recommendations hold a unique position in tourism due to three systematic differences compared to online reviews. First, in terms of targeting and personalization, interpersonal recommendations are directed specifically at the recipient, with the recommender tailoring the recommendation to the recipient's specific query or need. In contrast, generic online reviews are not targeted at a specific recipient and lack this level of personalization. The level of personalization makes interpersonal recommendations particularly valuable in addressing travelers' idiosyncratic preferences and concerns (Xiang & Gretzel, 2010; Yoo & Gretzel, 2008).

Second, in terms of source credibility and perceived trustworthiness, recommendations from personal contacts (e.g., family, friends, acquaintances, etc.) are often viewed as more trustworthy than other sources of tourism information (Duffy, 2015; Guzzo et al., 2022). This difference in trust stems from accountability: online reviewers face few social repercussions for their opinions, while interpersonal recommenders must account for social responsibility and the potential impact on personal relationships when offering evaluations (Berger, 2014). Compared to potentially incentivized online reviews, interpersonal recommendations are perceived as more unbiased and authentic accounts of travel experiences (Litvin et al., 2008; Munar & Jacobsen, 2013) and thus influence destination choices for many travelers (Coromina & Camprubí, 2016; Fernández Cavia et al., 2020; Murphy et al., 2007).

Third, in terms of risk mitigation, the perceived personalization and authenticity in interpersonal recommendations are particularly valuable in tourism compared to online reviews. Given the subjective and intangible nature of tourism experiences (Sirakaya & Woodside, 2005), travelers often rely on WOM to mitigate uncertainty and reduce

perceived risks (Bronner & de Hoog, 2011). Amid growing concerns about the prevalence of fake online reviews (Crotty, 2025; *Tourism Review News Desk*, 2025; TripAdvisor, 2023), tourists increasingly turn to sources they deem more credible—frequently guided by homophily, or the perception that others share similar socio-demographic attributes, lifestyles, or tastes (Chan et al., 2017).

Despite these systematic differences between online reviews and interpersonal recommendations, the role of numeric ratings conveyed in such recommendations remains underexplored. In light of this gap, we examine how recommenders and recipients construe recommendations with numeric ratings, with particular attention to moderately rated experiences for the reasons explained below.

2.3. The role of numeric ratings in interpersonal recommendations

Our current understanding of how tourists interpret and use numeric ratings primarily comes from the extensive research on online reviews, where such ratings serve as standardized evaluation tools across digital platforms (e.g., Filieri, 2016; Filieri et al., 2021; Phillips et al., 2017). However, tourists also frequently encounter numeric ratings when receiving personalized recommendations from peers. These interpersonal contexts differ fundamentally from anonymous virtual settings, potentially shaping how ratings are used and interpreted in decision-making by both recommenders and recipients.

2.3.1. Functions of numeric ratings

In anonymous online environments, ratings function as impersonal data points, often aggregated from unknown sources to reflect collective opinions (Decker & Trusov, 2010). In contrast, interpersonal recommendations are embedded in social contexts, including established relationships of trust and shared interests (Bansal & Voyer, 2000; Brown et al., 2007). As a result, recipients are likely to interpret ratings differently when they come from a friend or someone familiar with their tastes, benefiting from source credibility and shared preferences (Ayeh et al., 2013; Wang et al., 2012). Similarly, recommenders may alter their rating approach when the recipient is someone they personally know or are familiar with, offering more honest criticism or providing nuanced explanations alongside numerical assessments, which is often motivated by relational maintenance goals or protective concerns (Dubois et al., 2016; Mazzarol et al., 2007). These social dynamics likely transform the role of ratings as decision-making tools in tourism, with interpersonal recommendations carrying greater weight than anonymous online reviews (Yaniv et al., 2011).

While numeric ratings in both contexts effectively quantify subjective, multifaceted tourism experiences (Dolnicar & Huybers, 2007), making them easier to compare (e.g., “I would rate Restaurant A as 4/5 and Restaurant B as 2/5”; Vermeulen & Seegers, 2009) and communicate (Filieri & McLeay, 2014), their interpretation may differ significantly. In online reviews, ratings are often valued for their perceived objectivity and reliability compared to purely descriptive comments (De Langhe et al., 2016), allowing readers to readily factor this information into their decisions (Filieri & McLeay, 2014; Ladhari & Michaud, 2015; Luo & Zhong, 2015) and sift through large volumes of textual information (Forman et al., 2008; Yang et al., 2018). Conversely, in interpersonal contexts, numeric ratings may serve more as conversation starters than decision heuristics, prompting further discussion and context-sharing between recommenders and recipients. Despite these differences, the general preference for using ratings in both types of WOM communication is well-established, though little is known about how tourists weigh ratings, especially moderate ones, when they are conveyed in interpersonal recommendations.

2.3.2. Interpretations of moderate ratings

Extant research on online reviews presents contradictory findings regarding how moderate ratings are perceived by reviewers and readers, which is informative to our theorizing on how moderate ratings function

in the context of interpersonal recommendations. From the reviewers’ perspective, moderate ratings enhance review credibility by providing balanced assessments that highlight both positive and negative aspects of the reviewed options (Filieri, Raguseo, & Vitari, 2018). This balanced approach is believed to offer a more accurate representation of the overall experience than polarized ratings, which tend to be one-sided (Eslami et al., 2018; Mudambi & Schuff, 2010). Such credibility is particularly important in multifaceted tourism experiences, such as accommodations or restaurants, where various aspects contribute to overall satisfaction. Unlike extremely positive or negative ratings that often focus narrowly on specific aspects, moderate ratings may be perceived as delivering a more comprehensive evaluation (Xiang et al., 2017), thereby increasing their persuasiveness and perceived reliability (Crowley & Hoyer, 1994; Eisend, 2006; Filieri, 2016).

Readers’ reactions to moderate ratings, however, can be more complex. One stream of research suggests that readers, like reviewers, value moderate ratings for their perceived objectivity. They might consider extreme ratings (positive or negative) as emotionally driven and, therefore, less informative about the actual quality of an option (Kim & Gupta, 2012), reducing their persuasiveness (Eslami et al., 2018; Tang et al., 2014). In contrast, another stream of research suggests that readers may find moderate ratings less informative than extreme ones (Kwok et al., 2017; Park & Nicolau, 2015; Purnawirawan et al., 2012). Since moderate ratings often lack clear positive or negative judgments, they may require greater cognitive effort to interpret, making them less motivating and more difficult to process (Liu, 2006; Tang et al., 2014).

These conflicting findings, largely derived from online review contexts, highlight a potential misalignment in how moderate ratings are perceived by reviewers and readers. The social dynamics of interpersonal recommendations may further amplify this misalignment, given that recommenders and recipients may place different levels of importance on shared preferences when providing and receiving moderately rated recommendations.

2.4. Moderate rating bias

Research examining interpersonal dynamics reveals a consistent asymmetry in how people assess others’ preferences compared to their own in ambiguous situations (Krueger, 2002; Van Boven & Loewenstein, 2003). Individuals exhibit a strong egocentric tendency to overestimate preference similarity between themselves and others, that is, to *project* their own preferences onto others (i.e., assuming others share similar tastes as theirs) rather than *introjecting* others’ preferences (i.e., aligning their own preferences with others’) (Mussweiler, 2001). This preference overestimation primarily stems from two interrelated and mutually reinforcing mechanisms. First, people can access their own thoughts, preferences, and evaluative criteria more readily than those of others, which creates an initial anchor on self-focused preferences (Epley et al., 2004). Second, perspective-taking—i.e., assessing others’ thoughts, preferences, and evaluative criteria—is cognitively demanding and often insufficient to overcome this initial bias (Lin et al., 2010). Together, these mechanisms systematically bias individuals towards overestimating the extent to which others would share their preferences when making decisions (Dunning & Van Boven, 2001; Simpson & Todd, 2017). This egocentric tendency is particularly pronounced when judging close others—such as friends, family, and in-group members—because perceived similarity reduces motivation to engage in effortful perspective-taking while simultaneously strengthening assumptions of shared preferences and identities (Robbins & Krueger, 2005; Wang et al., 2012; Woo & Mitchell, 2020).

We propose that these interactive mechanisms—wherein accessible self-preferences serve as defaults that inadequate perspective-taking fails to sufficiently adjust—play a pivotal role in creating asymmetric interpretations of moderately rated interpersonal recommendations. Specifically, recommenders treat moderate ratings as a means to convey nuanced evaluations that balance divergent performance across

different experiential dimensions (e.g., “good food, but awful service”). Underlying this approach is the recommenders’ emphasis on shared preferences with the recipients, which leads them to believe that recipients will interpret the nuances behind their moderate ratings in the same way they do. As a result, this assumption of preference similarity leads recommenders to view their moderate ratings to be more acceptable to recipients than they actually might be.

Recipients, however, approach these ratings with a stronger emphasis on their unique preferences. Even when receiving recommendations from people they personally know, recipients recognize that their specific preferences, standards, and experiential requirements may differ from those of the recommender (Carter & Gilovich, 2010). Consequently, they tend to interpret moderate ratings at their face value, viewing them as indicators of uniformly mediocre performance across all dimensions (e.g., “average food and service”). Thus, recipients may struggle to determine whether such seemingly average experiences would satisfy their personal needs and expectations, undermining their likelihood of adopting moderately rated recommendations. We refer to this systematic misalignment between recommenders’ and recipients’ acceptance of moderately rated recommendations as the “Moderate Rating Bias.” Specifically, we hypothesize:

H1. Recommenders overestimate the acceptance of their moderately rated recommendations compared to the actual acceptance by recipients.

H2. Moderate rating bias is driven by the recommenders’ perception of greater preference similarity with recipients than the recipients perceive themselves.

2.4.1. Boundary conditions: rating extremity and explanation granularity

Drawing on research indicating that people are particularly prone to egocentric perspectives, especially when the context is ambiguous (Ames, 2004; Epley et al., 2004; Robbins & Krueger, 2005; Todd & Tamir, 2024), we theorize that the moderate rating bias should diminish under conditions of low ambiguity. In this research, we examine two boundary conditions that reduce the ambiguity underlying moderate rating bias: (1) *rating extremity*, wherein the ratings are clearly valenced as either positive or negative, and (2) *explanation granularity*, wherein the moderate rating is explained by divergent versus average performance across experiential dimensions.

We posit that the interpretation of numeric ratings is jointly determined by two distinct information sources: the numeric value itself, facilitating more objective interpretation (e.g., rating a restaurant ‘5 out of 5’ because it has the highest possible quality) and the social context in which the rating occurs, prompting more subjective interpretation (e.g., rating a restaurant ‘5 out of 5’ because I know my friend would love this style of cuisine). Critically, individuals’ reliance on these two information sources varies systematically with rating ambiguity. When ratings carry clear valence (i.e., highly positive or negative), the numeric value provides unambiguous information about the recommended option’s experiential quality, reducing reliance on social cues. In such cases, both recommenders and recipients can focus primarily on the rating’s valence as a clear evaluative signal rather than relying on subjective inferences of preference overlap. Conversely, when ratings are ambiguous (i.e., moderate ratings), the numeric value provides limited guidance on experiential quality, prompting greater reliance on social cues. These subjective interpretations are particularly vulnerable to egocentric bias, as individuals in ambiguous situations tend to assume others share their own preferences rather than accurately inferring what others might prefer.

In other words, the moderate rating bias is rooted in the subjective interpretation of social cues, such that when objective informational cues about the recommended option’s experiential quality (i.e., clearly valenced ratings) are present, they should attenuate the asymmetry in recommenders’ and recipients’ evaluations of recommendation

acceptance. Thus, we hypothesize:

H3. Recommenders’ tendency to overestimate recipients’ acceptance of their recommendations attenuates when the ratings are clearly positive or negative.

Following a similar line of reasoning, we propose that moderate rating bias will also diminish when interpretive clarity is provided through detailed explanation. Prior research suggests that the granularity of the conveyed information, which is reflected in its specificity, diversity, and precision, affects recipients’ confidence in its accuracy and leads to more favorable evaluation of the target product (Eisend, 2006; Mason et al., 2013). Consistent with this view, we predict that explaining moderate ratings with specific experiential dimensions will reduce the ambiguity that typically triggers egocentric processing. Specifically, when performance varies across dimensions (e.g., “excellent food, but poor service”), this granular information provides clear evaluative signals about different aspects individuals might value, thus resolving ambiguity. However, when performance is consistently mediocre across all dimensions (e.g., “average food and service”), the overall evaluative ambiguity remains, maintaining conditions that foster egocentric projection. Therefore, we hypothesize:

H4. Recommenders’ tendency to overestimate recipients’ acceptance of their moderately rated recommendations attenuates when the rating reflects divergent performance across dimensions and persists when it reflects uniformly average performance across dimensions.

We illustrate the key predictions pertaining to “Moderate Rating Bias” in Fig. 1 and subsequently test them in a series of purposefully designed experiments.

3. Experiment overview

We conducted five experiments (four preregistered) to systematically examine our theoretical framework (see Table 1). Experiment 1 provides an initial demonstration of the hypothesized “Moderate Rating Bias” (H1) and sheds light on the underlying psychological mechanism (H2). Building on these findings, Experiments 2a and 2b examine the robustness of this effect in a parasocial context. Experiment 2a replicates the effect in a different travel-related domain using an incentive-compatible design, while Experiment 2b corroborates the finding in a context where participants share real, self-generated recommendations with a peer who has similar preferences. Experiment 3 tests a theoretically relevant boundary condition, showing that the moderate rating bias uniquely manifests in response to rating ambiguity—emerging with moderate ratings but dissipating with polarized ratings that clearly signal positive or negative experiential quality (H3). Finally, Experiment 4 further illuminates the underlying mechanism, showing that the moderate rating bias persists when moderate ratings imply uniformly average performance across dimensions, but this bias diminishes when moderate ratings reflect divergent performance across different experiential aspects (H4).

For all experiments, we report all participants who completed the experiments, along with all manipulations, measures, and procedures used. We collected basic demographic information, such as gender and age, across all experiments. In the main manuscript, we present findings relevant to our focal hypotheses, while additional preregistered exploratory measures, detailed rationale for control variables, and all experimental stimuli are reported in Supplementary Materials. All the data files and preregistration documents are shared via the Open Science Framework (link).

4. Experiment 1

Experiment 1 aimed to provide an initial test of the proposed moderate rating bias and its underlying mechanism. We hypothesized that recommenders tend to assume a greater preference similarity with

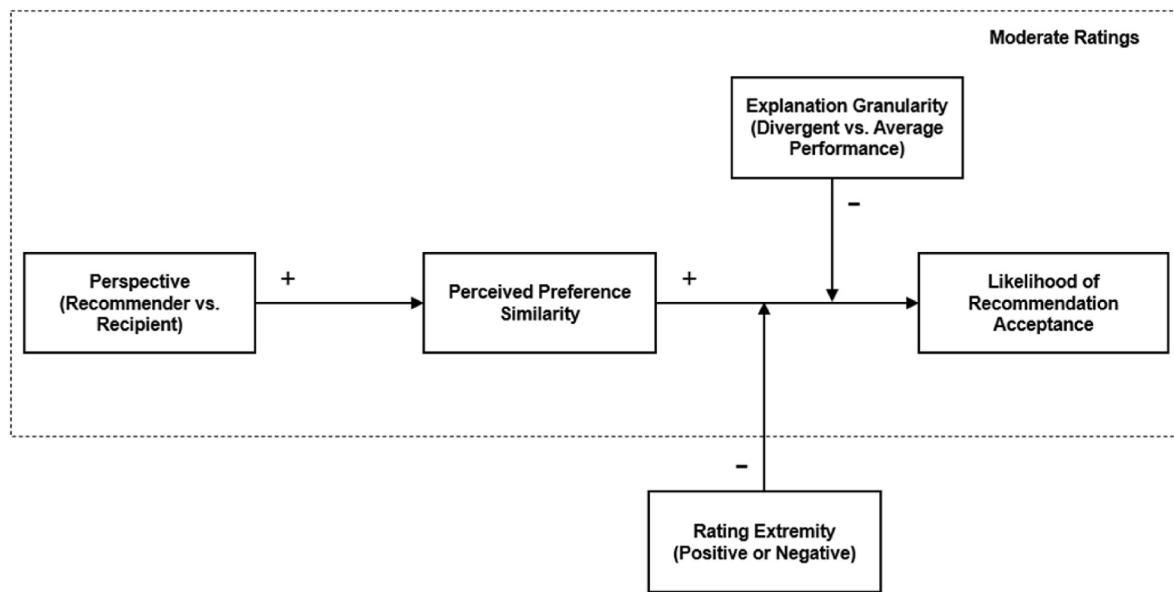


Fig. 1. Theoretical framework.

Table 1
Overview of experiments.

Experiments	Hypotheses Tested	Design	Method	Domain	Key Measure(s)	Sample Overview
Exp 1	H1, H2	Single-factor (perspective: recommender vs. recipient) between-subjects	Scenario-based experiment	Restaurants	Likelihood of visiting the recommended restaurant Perceived preference similarity	U.K.- and U.S.-based participants from Prolific ($N = 297$; $M_{Age} = 44.65$, $SD_{Age} = 13.59$; 52.5% female)
Exp 2a	H1	Single-factor (perspective: recommender vs. recipient) between-subjects <i>yoked</i> design	Incentive-compatible consequential product choice paradigm	Travel Amenity Kits	<i>Recommenders</i> : Estimating the number of participants (out of 100) who would purchase the recommended travel kit <i>Recipients</i> : Indicating whether to purchase the recommended travel amenity kit	U.K.- and U.S.-based participants from Prolific ($N = 209$, $M_{Age} = 40.36$, $SD_{Age} = 13.34$; 50.7% female)
Exp 2b	H1	Single-factor (perspective: recommender vs. recipient) between-subjects <i>yoked</i> design	Real (user-generated) recommendations	Outdoor Experiences in the UK	Likelihood of planning a visit to the recommended outdoor experience	Recommenders: UK-based participants ($N = 301$; $M_{Age} = 40.48$, $SD_{Age} = 13.12$; 54.8% female) Recipients: UK- and US-based ($N = 301$; $M_{Age} = 47.71$, $SD_{Age} = 14.20$; 58.5% female)
Exp 3	H1, H3	2 (perspective: recommender vs. recipient) x 5 (rating: 1 vs. 2 vs. 3 vs. 4 vs. 5) between-subjects design	Scenario-based experiment	Restaurants	Likelihood of planning a visit to the recommended restaurant	U.K.- and U.S.-based participants from Prolific ($N = 798$; $M_{Age} = 43.12$, $SD_{Age} = 13.09$; 62.2% female)
Exp 4	H1, H2, H4	2 (perspective: recommender vs. recipient) x 3 (reason: control vs. divergent performance vs. average performance) between-subjects	Scenario-based experiment	Restaurants	Likelihood of visiting the recommended restaurant Perceived preference similarity	U.K.- and U.S.-based participants from Prolific ($N = 721$, $M_{Age} = 43.12$, $SD_{Age} = 13.09$, 62.2% female)

recipients when providing moderately rated recommendations than the recipients themselves do when receiving such recommendations, leading recommenders to overestimate the likelihood of acceptance for such recommendations.

4.1. Method

4.1.1. Participants and design

We recruited U.K.- and U.S.-based participants from Prolific ($N = 297$; $M_{Age} = 44.65$, $SD_{Age} = 13.59$; 52.5% female) and randomly assigned them to one of two conditions in a single-factor (perspective: recommender vs. recipient) between-subject design.

4.1.2. Procedure and measures

In both conditions, participants read a scenario about restaurant recommendations in a new city (see Web Appendix A for details). Those in the recommender condition were asked to imagine providing a recommendation to a friend visiting the city. Conversely, those in the recipient condition were asked to imagine receiving a restaurant recommendation from a friend who had previously visited the city. Both conditions presented an identical recommendation: “I only know one restaurant called “Core” in the neighborhood you’re staying in. I would give it a 3 out of 5 rating.”

Following the scenario, participants indicated their friend’s (recommender condition) or their (recipient condition) likelihood of

visiting the restaurant (“How likely would you/your friend be dining in this restaurant?”) using a 100-point slider scale labeled “likelihood.” They then rated perceived preference similarity between themselves and their friend (“How similar do you think you and your friend’s restaurant preferences are?”) on an 11-point scale with endpoints “not similar at all” and “very similar.” Finally, we obtained a number of additional measures for exploratory purposes. Details are reported in Web Appendix B.

4.2. Results

4.2.1. Likelihood of visiting

As hypothesized, participants in the recommender condition predicted a higher likelihood of visiting the recommended restaurant ($M_{\text{Recommender}} = 18.03$, $SD_{\text{Recommender}} = 1.87$) than those in the recipient condition ($M_{\text{Recipient}} = 17.47$, $SD_{\text{Recipient}} = 2.13$; $t(295) = 2.41$, $p = .016$, Cohen’s $d = 0.28$). These results provided initial support for the moderate rating bias.

4.2.2. Preference similarity

Consistent with our theorizing, participants in the recommender condition reported a higher preference similarity with their peer ($M_{\text{Recommender}} = 6.81$, $SD_{\text{Recommender}} = 1.82$) than did those in the recipient condition ($M_{\text{Recipient}} = 6.30$, $SD_{\text{Recipient}} = 1.96$; $t(295) = 2.32$, $p = .021$, Cohen’s $d = 0.28$).

4.2.3. Mediation analysis

To examine our theorizing about the underlying psychological mechanism driving the moderate rating bias, we conducted a mediation analysis (PROCESS Model 4, Hayes, 2022) with 5000 bootstrap samples. As predicted, our analysis revealed a significant indirect effect of perspective (recommender vs. recipient) on the likelihood of visiting the recommended restaurant via perceived preference similarity ($\beta = 0.14$, $SE = 0.07$, 95% CI = [0.02, 0.30]; see Fig. 2). Specifically, recommenders (vs. recipients) perceived a greater similarity between themselves and their friend ($\beta = 0.51$, $SE = 0.22$, $p = .021$, 95% CI = [0.08, 0.94]), inflating the predicted likelihood of their friend (vs. themselves) visiting the recommended restaurant ($\beta = 0.28$, $SE = 0.06$, $p < .001$, 95% CI = [0.17, 0.40]). The residual direct effect of perspective was no longer significant after accounting for its indirect effect via preference similarity ($\beta = 0.42$, $SE = 0.23$, 95% CI = [−0.03, 0.86]).

4.3. Discussion

The findings of Experiment 1 provide initial evidence of the hypothesized moderate rating bias. They show that people tend to overestimate others’ likelihood of accepting their recommendations for moderately rated options. This effect arises from two asymmetric egocentric biases: recommenders perceive a greater preference similarity between themselves and the recipients of their recommendations, while recipients tend to view their own preferences as unique.

In a supplementary experiment (see Web Appendix C for details), we tested the robustness of moderate rating bias when tourists experience varied costs of searching for alternative restaurants. In everyday life, tourists often obtain recommendations via multiple channels. For instance, a tourist can confirm a friend’s recommendation by searching for additional information on online review platforms. However, the cost of searching for alternative solutions can vary: tourists may face higher search costs in countries where they do not speak the language or are unfamiliar with local review platforms, compared to destinations where the language and platforms are familiar to them. Our results show that recommenders consistently overestimate the likelihood of their recommendations being accepted, irrespective of the search cost recipients face.

5. Experiment 2A

Experiment 2a sought to replicate the moderate rating bias within an incentive-compatible setting, using a different decision in a travel-related domain (i.e., the purchase of travel amenity kits). In particular, this experiment aimed to demonstrate the generalizability of the moderate rating bias in interpersonal recommendations, extending beyond personal relationships (e.g., family, close friends, acquaintances, etc.) to parasocial relationships formed through shared preferences for travel and tourism products, services, and experiences. We hypothesized that recommenders would overestimate the proportion of recipients who would ultimately purchase a moderately rated option they recommended. This experiment was preregistered.

5.1. Method

5.1.1. Participants and design

We recruited U.K.- and U.S.-based participants from Prolific ($N = 209$, $M_{\text{Age}} = 40.36$, $SD_{\text{Age}} = 13.34$; 50.7% female)¹ and randomly assigned them to one of two conditions in a single-factor (perspective: recommender vs. recipient) between-subjects design.

First, all participants were asked to indicate their travel preferences by answering three questions: their travel style or approach, what they value most when traveling, and the typical duration of their trips (see Web Appendix A for details). Then, they read a scenario about a travel amenity kit—a bundle of travel-related items curated for travelers for convenience, comfort, safety, organization, or entertainment during their journey, which was priced at \$25 and had a moderate rating (i.e., 3 out of 5).²

In the recommender condition, participants were asked to imagine that other Prolific workers with similar travel preferences are seeking their recommendation and that they recommend this travel kit to their peers. In the recipient condition, participants were asked to imagine that they are seeking a recommendation for a travel amenity kit and receive this kit as a recommendation from a peer Prolific worker with similar travel preferences.

5.1.2. Measures

In the recommender condition, participants were asked to indicate on a slider scale, out of 100 Prolific workers with whom they shared the travel kit recommendation, how many would choose to purchase it, assuming each won a \$25 cash prize—equivalent to the kit’s value. In the recipient condition, participants were informed that, as a token of appreciation for participating in this research, they had a chance to win a \$25 cash prize. They were then asked to indicate whether they would choose to purchase this kit if they won (1 = “Yes, I would buy this travel kit”, 0 = “No, I wouldn’t buy this travel kit”). We recorded the proportion of participants who chose to purchase the kit. To reinforce the incentive-compatible design, one participant from the recipient condition was randomly selected as the winner and received a reward consistent with their decision.

Additionally, for exploratory purposes, we measured how frequently participants used travel amenity kits on an 11-point scale with endpoints “not at all” and “very frequently.” Details are reported in Web Appendix D2.

¹ As preregistered, we excluded participants who failed the attention check (i.e., recalling the rating of the travel amenity kit incorrectly), resulting in a total of 32 exclusions and a final sample size of 209.

² This travel amenity kit was chosen based on a separate pretest with Prolific participants ($N = 30$, $M_{\text{Age}} = 41.93$, $SD_{\text{Age}} = 14.23$; 66.7% female), who evaluated ten different options using a 5-point rating scale, with endpoints 1 = “Terrible” and 5 = “Excellent”. We selected the kit for which the mean rating was closest to the moderate level (i.e., 3 out of 5). Details are reported in Web Appendix D1.

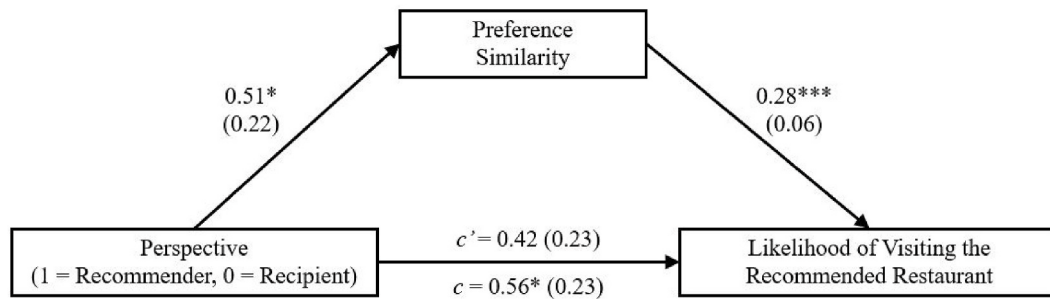


Fig. 2. Mediation Analysis (Experiment 1)

Note: * $p < .05$; ** $p < .01$; *** $p < .001$ (standard errors are in parentheses).

5.2. Results

We compared the mean predicted purchase rate for the travel kit in the recommender condition ($M_{\text{Recommender}} = 0.37$, $SD_{\text{Recommender}} = 0.24$) with the actual purchase rate in the recipient condition ($M_{\text{Recipient}} = 0.26$, $SD_{\text{Recipient}} = 0.44$). A binomial test revealed that recommenders significantly overestimated the recipients' purchase likelihood for the moderately rated travel kit they recommended ($p < .001$, one-tailed; Cohen's $h = 0.21$).

5.3. Discussion

Experiment 2a further confirms the moderate rating bias in an incentive-compatible setting. Consistent with our theorizing, we found that recommenders significantly overestimated the proportion of recipients who would ultimately purchase the moderately rated option they recommended. Importantly, these findings demonstrate the robustness of our findings in contexts where travelers exchange recommendations based on shared preferences. By replicating this phenomenon in a different travel-related domain with actual purchase opportunities, this experiment underscores the practical implications of moderate rating bias.

6. Experiment 2B

Experiment 2b aimed to enhance the ecological validity of our findings by incorporating a more realistic parasocial context. Unlike our earlier experiments that relied on experimenter-provided, scenario-based recommendations, Experiment 2b asked participants to generate their own moderate recommendations to share with peer travelers who have similar preferences. Notably, instead of using a rigid rating (e.g., 3 out of 5), participants were given the option to update their ratings to align with their recommendations. This approach allowed us to examine the robustness of the predicted bias, accounting for moderate ratings' naturalistic variance. This experiment was [preregistered](#).

6.1. Method

6.1.1. Participants and design

We recruited 602 participants via Prolific for a two-part, yoked between-subjects experiment. In part 1 (recommender condition), UK-based participants ($N = 301$; $M_{\text{Age}} = 40.48$, $SD_{\text{Age}} = 13.12$; 54.8% female) were asked to share local outdoor experiences that are suitable for a casual family trip with peer Prolific workers. In part 2 (recipient condition), each recommendation listed by participants in part 1 was yoked to a distinct participant from the UK or the US ($N = 301$; $M_{\text{Age}} = 47.71$, $SD_{\text{Age}} = 14.20$; 58.5% female).

First, all participants were asked to indicate their travel preferences by answering three questions: whether they currently live with children, how frequently they engage in outdoor experiences, and the intensity of the outdoor experiences they typically engage in (see Web [Appendix A](#)

for details). In the recommender condition, participants were asked to list a local outdoor experience (including its name and location) that they considered moderate in experiential quality, rating it "3 out of 5". They were informed that their recommendation would be shared with a peer Prolific worker who has similar travel preferences (i.e., with or without children). In the recipient condition, participants received a recommendation based on their travel preferences (i.e., with or without children).³

6.1.2. Measures

In the recommender condition, participants were given the opportunity to adjust the rating of their moderate outdoor recommendation before sharing it with another Prolific worker. They could make this adjustment using a slider scale ranging from 1 ("Terrible") to 5 ("Excellent") in increments of one decimal point. Participants then indicated how likely they thought the peer prolific worker would be to plan this outdoor experience—assuming no constraints on visiting—using an 11-point scale with endpoints "not at all" and "very likely".

In the recipient condition, participants were presented with a moderate recommendation (including its name and location), along with the final rating provided by the recommender on a five-point scale. Then they indicated how likely they would be to plan this outdoor experience—assuming no constraints on visiting—using the same 11-point scale as in the recommender condition.

Finally, we collected demographic information (i.e., age and gender) from both groups of participants.

6.2. Results

In the recommender condition, most participants rated their recommended option near the midpoint of the five-point scale ($Mean = 3.70$, $SD = 0.71$; $Median = 3.70$; $Mode = 3.00$). However, the distribution was positively skewed ($Skewness = 0.40$, $SE = 0.14$), indicating that many participants recommended more favorable, clearly valenced outdoor experiences, rather than moderate ones. Since our primary interest lies in moderately rated recommendations, we grouped recommender-recipient pairs into two categories for further analysis: those who rated the outdoor experience moderately—between 2 and 4 (exclusive) ($N_{\text{Pairs}} = 161$; 53.5% of the total), and those who gave more extreme ratings—either negatively (≤ 2) or positively (≥ 4) ($N_{\text{Pairs}} = 140$; 46.5%

³ We recruited participants through Prolific using screening questions to identify whether they were currently living with children, which largely influences the selection of outdoor experiences. In Part 1 (recommender condition), 118 participants reported living with children and 183 did not. In Part 2 (recipient condition), we recruited 118 participants with children and 183 without, to ensure that recommenders and recipients shared similar life circumstances likely to influence travel preferences. This design reflects real-world recommendation dynamics, in which people often exchange advice with others based on homophily.

of the total).

6.2.1. Group with moderate ratings

An independent samples *t*-test revealed that recommenders perceived recipients as more likely to plan a visit to recommended outdoor experiences than recipients themselves reported ($M_{\text{Recommender}} = 6.63$, $SD_{\text{Recommender}} = 2.15$ vs. $M_{\text{Recipient}} = 5.96$, $SD_{\text{Recipient}} = 2.82$, $t(320) = 2.38$, $p = .018$, Cohen's $d = 0.27$). To further examine this asymmetry within yoked recommender–recipient pairs, we conducted a paired samples *t*-test. The results again showed a significant moderate rating bias, even when recommendations and their associated ratings were held constant ($t(160) = 2.35$, $p = .020$, Cohen's $d = 0.19$).

6.2.2. Group with extreme ratings

An independent samples *t*-test showed no significant difference between recommenders and recipients in their predicted likelihood of planning the recommended outdoor experience ($M_{\text{Recommender}} = 7.86$, $SD_{\text{Recommender}} = 2.44$ vs. $M_{\text{Recipient}} = 7.74$, $SD_{\text{Recipient}} = 2.15$, $t(278) = 0.42$, $p = .678$), suggesting that the moderate rating bias diminished when ratings were more extreme. A paired samples *t*-test within yoked recommender–recipient pairs revealed a consistent pattern ($t(139) = 0.43$, $p = .669$).

6.3. Discussion

The results of Experiment 2b further support our earlier findings, reinforcing the robustness of the moderate rating bias. Specifically, this bias persisted between recommenders and recipients even when the ratings assigned to moderate recommendations naturally varied around the midpoint of a five-point scale. However, the bias weakened, leading to an overall increase in recommendation acceptance, as ratings became more strongly valenced—that is, as they deviated further from the scale midpoint (see Web Appendix E for additional details). This pattern suggests that clearly valenced ratings reduce the ambiguity inherent in moderate recommendations.

Notably, the distribution of final ratings was positively skewed, with relatively few ratings falling at the lower end of the scale. This skew limited our ability to fully examine the bias across the entire range of the five-point scale, particularly for negatively valenced recommendations. We address this limitation in the next experiment by using a more controlled manipulation of recommendations across all rating levels on a five-point scale.

7. Experiment 3

Building on the findings of Experiment 2b, Experiment 3 examined a fundamental assumption underlying the moderate rating bias: that the ambiguous nature of moderate ratings increases recommenders' reliance on perceived preference similarity between themselves and recipients when predicting recommendation acceptance. We tested this assumption by varying the rating levels in a controlled setting to determine whether providing less ambiguous cues about the positive or negative aspects of the experience reduces recommenders' tendency to overestimate recipients' likelihood of accepting their recommendations. This experiment was [preregistered](#).

7.1. Method

7.1.1. Participants and design

We recruited U.K.- and U.S.-based participants from Prolific ($N = 798$; $M_{\text{Age}} = 43.12$, $SD_{\text{Age}} = 13.09$; 62.2% female) and randomly assigned them to one of ten conditions in a 2 (perspective: recommender vs. recipient) $\times$ 5 (rating: 1 vs. 2 vs. 3 vs. 4 vs. 5) between-subjects design.

In all the conditions, participants read the same restaurant recommendation scenario as in Experiment 1. We varied the restaurant's

rating in the recommenders' statement, with the rating ranging from "1 out of 5" to "5 out of 5." Details are reported in Web [Appendix A](#).

7.1.2. Measures

Similar to Experiment 1, participants indicated their friend's (recommender condition) or their (recipient condition) likelihood of visiting the restaurant ("How likely would you/your friend be dining in this restaurant?") using a 100-point slider scale labeled "likelihood". We modified the scale point of this focal dependent variable to show that the moderate rating bias was not an artifact of any systematic measurement error. Finally, several exploratory measures were collected to examine potential alternative explanations. Details are reported in Web Appendix F.

7.2. Results

A two-way ANOVA with the likelihood of visiting as the dependent variable revealed a significant main effect of perspective ($F(1, 788) = 9.11$, $p = .003$, $\eta_p^2 = 0.01$), such that participants believed their peer was more likely to visit the recommended restaurant than they were. There was also a significant main effect of rating ($F(4, 788) = 1101.43$, $p < .001$, $\eta_p^2 = 0.85$), such that higher ratings increased the predicted likelihood of visiting the recommended restaurant. Importantly, these main effects were qualified by a significant interaction between perspective and rating ($F(4, 788) = 3.72$, $p = .005$, $\eta_p^2 = 0.02$; see [Fig. 3](#)), suggesting that the moderate rating bias was more pronounced at certain rating levels.

A post-hoc analysis revealed that, when the ratings were extremely low ("1 out of 5"), indicating a clearly negative experience, or extremely high ("5 out of 5"), indicating a clearly positive experience, the predicted likelihood of visiting did not differ between recommenders and recipients (1 out of 5: $M_{\text{Recommender}} = 8.05$, $SD_{\text{Recommender}} = 7.77$ vs. $M_{\text{Recipient}} = 6.95$, $SD_{\text{Recipient}} = 9.52$; $t(788) = 0.54$, $p = .589$; 5 out of 5: $M_{\text{Recommender}} = 84.53$, $SD_{\text{Recommender}} = 9.49$ vs. $M_{\text{Recipient}} = 87.20$, $SD_{\text{Recipient}} = 10.46$; $t(788) = -1.28$, $p = .200$).

The moderate rating bias emerged as the ratings approached the scale midpoint. The difference between recommenders and recipients in predicted visiting likelihood was marginally significant for "2 out of 5" ratings ($M_{\text{Recommender}} = 21.32$, $SD_{\text{Recommender}} = 10.75$ vs. $M_{\text{Recipient}} = 17.69$, $SD_{\text{Recipient}} = 14.50$; $t(788) = 1.73$, $p = .084$, Cohen's $d = 0.28$) and "4 out of 5" ratings ($M_{\text{Recommender}} = 77.56$, $SD_{\text{Recommender}} = 9.76$ vs. $M_{\text{Recipient}} = 73.95$, $SD_{\text{Recipient}} = 15.06$; $t(788) = 1.77$, $p = .077$, Cohen's $d = 0.28$).

Consistent with our earlier findings, the bias was the strongest for moderate ratings ("3 out of 5"), with participants predicting a significantly greater likelihood of visiting the restaurant for their peer than for themselves ($M_{\text{Recommender}} = 52.91$, $SD_{\text{Recommender}} = 18.48$ vs. $M_{\text{Recipient}} = 44.69$, $SD_{\text{Recipient}} = 18.71$; $t(788) = 4.00$, $p < .001$, Cohen's $d = 0.44$).

7.3. Discussion

The findings of Experiment 3 shed light on rating extremity as a critical boundary condition for the moderate rating bias. Specifically, these results show that when ratings are moderate (around the scale midpoint), their interpretive ambiguity prompts reliance on assumed preference overlap between recommenders and recipients, leading recommenders to overestimate recipients' acceptance of their recommendations. However, this bias dissipates with extreme ratings (either positive or negative), as clear indicators of overall quality minimize reliance on preference projection, thus creating a consensus between recommenders and recipients in interpreting and accepting the recommendations.

8. Experiment 4

Experiment 4 further examined how interpretive clarity affects

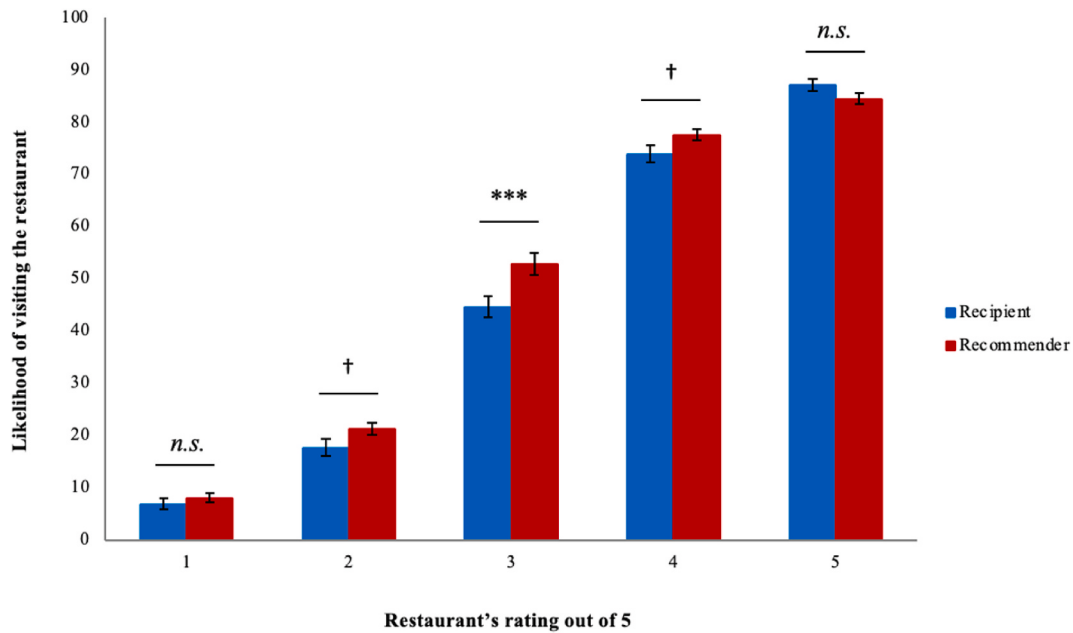


Fig. 3. Likelihood of Visiting the Recommended Restaurant from Recommenders' and Recipients' Perspectives Based on the Restaurant's Rating (Experiment 3)
 Note: $^{\dagger}p < .10$; $*p < .05$; $**p < .01$; $***p < .001$ (Error bars depict standard errors.).

moderate rating bias. We hypothesized that detailed, dimension-specific explanations reduce the ambiguity that prompts egocentric interpretations of moderate ratings. When moderate ratings are attributed to divergent performance across dimensions (e.g., “excellent food, but poor service”), this bias weakens due to clear evaluative cues. In contrast, when moderate ratings reflect consistently mediocre performance across dimensions (e.g., average food and service), the bias persists due to unresolved ambiguity. This experiment was preregistered.

8.1. Method

8.1.1. Participants and design

We recruited U.K.- and U.S.-based participants from Prolific ($N = 721$, $M_{\text{Age}} = 43.12$, $SD_{\text{Age}} = 13.09$, 62.2% female) and randomly assigned them to one of six conditions in a 2 (perspective: recommender vs. recipient) $\times$ 3 (reason: control vs. divergent performance vs. average performance) between-subjects design.

The manipulation of perspective was the same as that in the previous experiments: participants read that either they or their friend received a recommendation for a restaurant in a new city. Across conditions, the restaurant was rated “3 out of 5.” In the control condition, as in Experiment 1, no explanation was provided for the moderate rating. In the divergent performance condition, the moderate rating was explained by varying performance across two experiential aspects (i.e., “the food is excellent, but the service is poor”). In the average performance condition, the moderate rating was explained by uniformly mediocre performance across both experiential aspects (i.e., “the food and service are both average”). Details are reported in Web Appendix A.

8.1.2. Measures

Similar to Experiment 1, participants first indicated their own or their friend's likelihood of visiting the recommended restaurant (on an 11-point scale with endpoints “not likely at all” and “very likely”). They also indicated the perceived preference similarity between them and their friend (on an 11-point scale with endpoints “not similar at all” and “very similar”). Finally, a number of additional measures were collected for exploratory purposes. Details are reported in Web Appendix G.

8.2. Results

8.2.1. Likelihood of visiting

A two-way ANOVA with the likelihood of visiting the restaurant as the dependent variable revealed significant main effects of both perspective ($F(1, 715) = 15.71$, $p < .001$, $\eta_p^2 = 0.02$) and reason ($F(2, 715) = 28.35$, $p < .001$, $\eta_p^2 = 0.07$). Importantly, these main effects were qualified by a significant interaction between perspective and reason ($F(2, 715) = 3.21$, $p = .041$, $\eta_p^2 = 0.01$; see Fig. 4). A post-hoc analysis revealed that, consistent with our prior findings, when no explanation for the moderate rating was provided, participants overestimated others' likelihood of visiting the recommended restaurant ($M_{\text{Recommender-Control}} = 4.99$, $SD_{\text{Recommender-Control}} = 2.04$ vs. $M_{\text{Recipient-Control}} = 4.23$, $SD_{\text{Recipient-Control}} = 2.22$; $t(715) = 2.75$, $p = .006$, Cohen's $d = 0.36$). Similarly, participants overestimated others' likelihood of visiting the recommended restaurant when the moderate rating was explained by uniformly mediocre performance across dimensions ($M_{\text{Recommender-Average}} = 4.58$, $SD_{\text{Recommender-Average}} = 2.13$ vs. $M_{\text{Recipient-Average}} = 3.53$, $SD_{\text{Recipient-Average}} = 2.21$; $t(715) = 3.80$, $p < .001$, Cohen's $d = 0.49$). However, this moderate rating bias diminished when the moderate rating was explained by divergent performance across different aspects ($M_{\text{Recommender-Divergent}} = 5.56$, $SD_{\text{Recommender-Divergent}} = 1.92$ vs. $M_{\text{Recipient-Divergent}} = 5.48$, $SD_{\text{Recipient}} = 2.37$; $t(715) = 0.31$, $p = .754$).

8.2.2. Preference similarity

Across all conditions, we found consistent evidence of egocentric bias (projection vs. introjection): participants perceived greater preference similarity with their peer as recommenders ($M = 6.99$, $SD = 1.88$) than as recipients ($M = 6.33$, $SD = 2.02$; $F(1, 715) = 20.43$, $p < .001$, $\eta_p^2 = 0.03$). Neither the main effect of reason ($F(2, 715) = 0.50$, $p = .607$) nor its interaction with perspective was significant ($F(2, 715) = 0.82$, $p = .443$).

8.3. Discussion

Experiment 4 identifies a theoretically relevant boundary condition for the moderate rating bias, corroborating the proposed underlying mechanism. The findings highlight how recommenders and recipients differ in their relative emphasis on preference similarity versus the

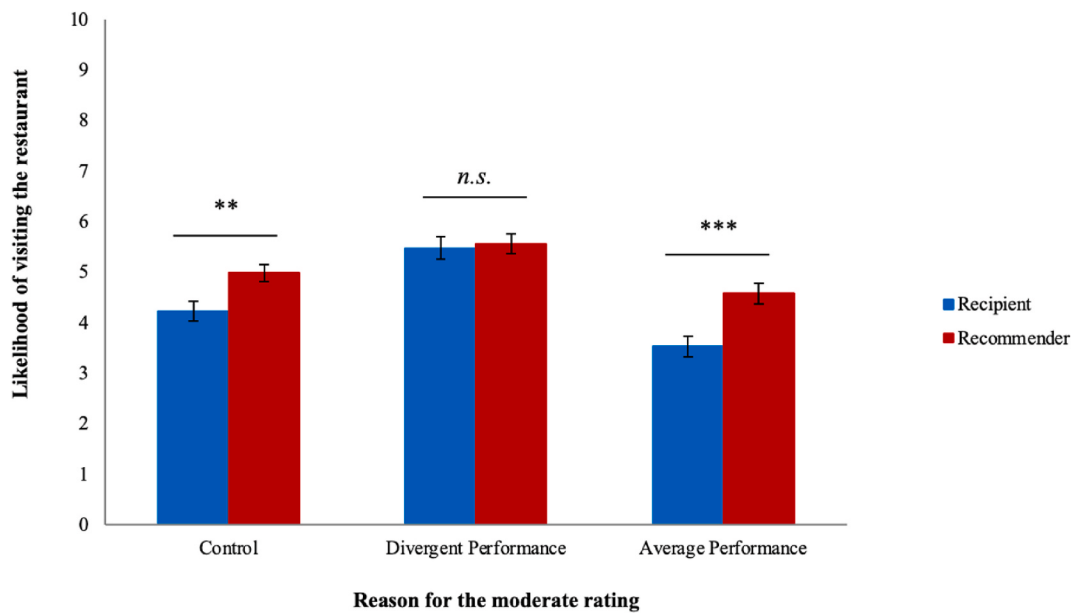


Fig. 4. Likelihood of Visiting the Recommended Restaurant as a Function of Perspective and Reason for the Moderate Rating (Experiment 4) Note: $^{\dagger}p < .10$; $*p < .05$; $**p < .01$; $***p < .001$ (Error bars depict standard errors.).

rating itself. Recipients consistently view their preferences as more unique than recommenders do, but this egocentric bias weakens with granular, dimension-specific evaluative cues. Specifically, when moderate ratings reflect divergent performance across dimensions, recipients focus more on the rating's substance, increasing their acceptance of the recommended option. Conversely, when moderate ratings reflect uniformly average performance across dimensions, recipients rely more on their egocentric perspective and prioritize their unique preferences, becoming less inclined to accept the recommendation.

9. General discussion

This research identifies a novel “moderate rating bias,” demonstrating that people systematically overestimate others' likelihood of accepting moderately rated recommendations (e.g., “3 out of 5”). Across five experiments, we show that this bias arises because recommenders assume greater preference similarity with recipients, while recipients perceive their preferences as unique (Experiment 1). This phenomenon extends beyond personal relationships (e.g., family, close friends, acquaintances, etc.) to encompass parasocial relationships wherein travelers exchange interpersonal recommendations based on perceived shared preferences (Experiments 2a and 2b). Notably, we identify two critical boundary conditions for this moderate rating bias: the bias diminishes when ratings are unambiguously positive or negative (Experiment 3) and when moderate ratings result from divergent performance (rather than uniformly average performance) across different dimensions of the experience (Experiment 4).

9.1. Theoretical contributions

Our research makes several important theoretical contributions to tourism literature. First, we expand the WOM literature by demonstrating how numeric ratings conveyed in interpersonal recommendations influence tourism decisions. Unlike anonymous online reviews, wherein tourists have little knowledge of their audience's identity, tastes, and preferences (Dellarocas, 2003; Filieri, 2016; Tidwell & Walther, 2002), interpersonal recommendations leverage shared preferences and mutual interests between recommenders and recipients (Yaniv et al., 2011). While these shared preferences should help both

parties develop a common understanding and appreciation of recommended options, our findings suggest that for moderately rated recommendations, a greater emphasis on shared (rather than unique) preferences can lead recommenders to overestimate recipients' willingness to accept such recommendations. Our findings thus highlight how the social dynamics of interpersonal recommendations dominate pragmatic considerations in shaping tourism decisions.

Second, we advance the understanding of moderate ratings by revealing divergent perceptions of them in interpersonal tourism recommendations. Previous research has documented the paradoxical nature of moderate ratings in online reviews: while moderate ratings provide rich information about experiences, they are often perceived as less helpful than extreme ones (Kwok et al., 2017; Mudambi & Schuff, 2010; Park & Nicolau, 2015; Racherla & Friske, 2012). Our research extends this understanding by uncovering a novel dimension of this phenomenon in interpersonal recommendations. Specifically, we demonstrate that recommenders consistently place greater emphasis on shared preferences when recommending moderately rated options, leading them to overestimate recipients' likelihood of accepting such recommendations.

Third, we broaden the understanding of egocentric biases (Tamir & Mitchell, 2013; Wang et al., 2023) by documenting their distinct manifestation in interpersonal tourism recommendations. Building on prior research that shows individuals tend to project their own preferences onto others rather than introject others' preferences (Krueger & Clement, 1994; Robbins & Krueger, 2005; Van Boven & Loewenstein, 2003), we examine how these biases operate within tourism and travel-related consumption—a domain characterized by subjectivity, experiential diversity, and personal salience. Recent work suggests that under conditions of ambiguity, people tend to rely on an accessibility-based egocentric anchoring mechanism, assuming greater similarity between themselves and others (Ames, 2004; Epley et al., 2004). Consistent with this account, we find that egocentric projection uniquely manifests in interpersonal recommendations featuring moderate ratings but diminishes when ratings are extreme—either highly positive or highly negative. Such extreme evaluations provide clearer diagnostic signals about the experiential quality, thereby reducing reliance on egocentric inference. Moreover, we demonstrate that providing granular, dimension-specific information further attenuates egocentric bias, particularly when moderate ratings arise from divergent

performance across experiential dimensions rather than reflecting overall mediocrity.

9.2. Practical implications

Our findings offer valuable insights for various tourism industry stakeholders. When sharing moderately rated interpersonal recommendations, tourists should provide detailed explanations that highlight experiential variations across different dimensions and connect specific aspects to recipients' unique preferences. For example:

"This hotel is a 3 out of 5. The rooms are just average, but the rooftop restaurant is exceptional and aligns with your love for culinary experiences."

This dimensional approach acknowledges that a moderate overall rating may conceal variations in experiential quality across different aspects, thus helping counteract the moderate rating bias we identified. Conversely, recipients should proactively request specific details and clarify their priorities upfront—recognizing that moderate ratings may reflect excellence in certain dimensions rather than overall mediocrity. For example:

"Just so you know, I'm more into local interactions than luxury accommodations."

Broadly, such exchanges would encourage more tailored recommendations and support nuanced decision-making in the evolving digital tourism landscape, where social features embedded in platforms increasingly transform anonymous reviews into dynamic, interpersonal interactions (Liu & Park, 2015; Ponsignon & Derbaix, 2020; Xiang et al., 2015).

First, platforms can introduce guided justification prompts that trigger when users submit moderate ratings. These prompts would be particularly helpful in encouraging richer, more balanced justifications, thus mitigating ambiguity. For example:

"Help others understand your 3-star rating: What exceeded expectations? What disappointed you? What brought your rating down from 4 stars? What kept you from giving it 2 stars?"

Second, many modern platforms already employ social cues—such as reviewer profiles and reputation badges—to enhance credibility and foster community engagement (Cheung et al., 2008; Filieri et al., 2018; Gu & Zhu, 2023). Through interactive features like comments, following options, and community rankings, these platforms facilitate exchanges between reviewers and readers, creating strong parasocial relationships similar to those developed between travel influencers and their followers on YouTube and Instagram (Camilleri & Kozak, 2022; Tsiotsou, 2016). Because such relationships are often rooted in homophily (Hwang & Zhang, 2018; Yuan & Lou, 2020), they may be especially susceptible to moderate rating bias. Therefore, instead of simply matching users with reviewers or travel influencers who share similar tastes—which may exacerbate the moderate rating bias—platforms can implement perspective-taking tools to prompt diverse perspectives. For example:

"How might your 3-star experience be received by budget travelers versus luxury seekers? Would you consider this experience more suitable for solo travelers or families with children?"

Simultaneously, platforms could help users articulate their unique preferences through "preference declaration" systems, enabling more targeted recommendations—shifting the focus away from assumed similarity. For example, while forums like the "r/travel" subreddit (with more than 14 million members) encourage travelers to share detailed free-form posts when seeking advice, this practice could be enhanced with structured templates—similar to the "r/SuggestALaptop" subreddit, which requires users to fill out a form specifying their preferences before requesting recommendations.

Third, travel apps could also improve their rating systems by having recommenders assess experiences across multiple dimensions. Platforms like TripAdvisor and Qunar already offer dimension-based ratings, which may help reduce the moderate rating bias (Liu et al., 2023). Similarly, social media platforms like Instagram and Facebook, which serve as sources of trip inspiration for 75% of travelers (Hinton, 2024), could introduce recommendation templates that prompt users to provide separate ratings for different aspects of their travel experiences. Additionally, platforms could incorporate AI-based tools to provide recommenders with real-time feedback on the granularity of their explanation for moderate ratings, by calculating a review quality score. For instance:

"Your review clarity: 60%. Consider including both pros and cons—what you liked or enjoyed, as well as what you didn't."

Such tools could support more personalized, dimension-specific recommendations that move beyond the assumptions of similarity and better reflect diverse individual preferences, thus mitigating the moderate rating bias.

9.3. Limitations and future research

Future research could explore several promising directions. Our experiments focused on the key distinction between recommenders and recipients by abstracting the complex interactive dynamics between these roles. As some of our observed effect sizes appear modest, we interpret these results with appropriate caution. While small effects detected in controlled experimental settings often uncover robust phenomena worthy of attention (Funder & Ozer, 2019; Prentice & Miller, 2016), they must be interpreted carefully in light of real-world complexities. For example, tourists often rely on multiple, potentially conflicting information sources (Munar & Jacobsen, 2013), experience time pressure that forces rapid, high-stakes decisions (Li et al., 2023), and engage in complex, multi-episode experiences (e.g., multi-city tours, museum exhibitions) that resist simple global evaluation (Peluso et al., 2022). Our observed effects may manifest differently in these more intricate contexts, prompting future research to assess their generalizability.

Our research also underscores the need to further explore the social dynamics driving the moderate rating bias, particularly across different cultures. Previous studies have documented systematic cultural variations in rating patterns: high power distance cultures tend toward polarized ratings, while high uncertainty avoidance cultures favor moderate ones (Stamoulampros et al., 2019). In collectivistic cultures that emphasize group harmony, reviews tend to be more moderate, whereas in individualistic cultures that emphasize unique personal experiences, reviews often lean towards the extremes (Fong & Burton, 2008). Moreover, collectivist reviewers tend to carefully consider the social implications of their recommendations, leading to more nuanced evaluations. Cultural norms surrounding opinion-sharing may thus shape perceptions of "moderate" ratings—a 3 out of 5 rating may be acceptable in some cultures but indicate significant shortcomings in others (Koh et al., 2010). Future research could examine these cultural nuances to deepen our understanding of the moderate rating bias.

9.4. Conclusion

This research reveals a persistent moderate rating bias in interpersonal tourism recommendations, where recommenders consistently overestimate recipients' willingness to accept moderately rated recommendations due to disproportionate emphasis on shared preferences. Notably, this bias extends beyond personal relationships to parasocial ones, highlighting the powerful role of social dynamics in shaping tourism decisions.

For tourism practitioners, our findings suggest that recommenders should explicitly articulate the dimensional variations underlying

moderate ratings, connecting specific aspects to recipients' stated preferences rather than assuming shared evaluative frameworks. Recipients, in turn, should proactively communicate their unique priorities and request detailed justifications when receiving moderate ratings, recognizing that such ratings may mask excellence in personally relevant dimensions.

For platform operators, we recommend implementing guided justification prompts and perspective-taking tools for moderate ratings, encouraging richer explanations of both positive and negative aspects. Platforms should also consider developing structured preference declaration systems and incorporate AI-based review quality scoring that provides real-time feedback on explanation granularity.

For the broader tourism ecosystem, these insights become increasingly critical as digital platforms continue fostering parasocial relationships between reviewers and their audiences. As anonymous reviews transform into interpersonal interactions through social features, understanding and mitigating moderate rating bias will be essential for supporting more effective tourism decision-making in an increasingly connected travel landscape.

CRedit authorship contribution statement

Nahid Ibrahim: Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Sarah Wei:** Writing – review & editing, Writing – original draft, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Neel Ocean:** Writing – review & editing, Validation, Conceptualization.

Impact statement

This research advances our understanding of a prevalent factor in tourist decisions: the interpretation of interpersonal recommendations, particularly those with moderate ratings. Despite tourists' reliance on interpersonal recommendations to navigate the overwhelming amount of descriptive information on tourism experiences, no research has investigated how recommenders and recipients interpret moderately rated options. This research fills this gap and demonstrates a robust psychological bias: tourists consistently overestimate how likely others are to accept their moderately rated recommendations. This bias stems from the inherent ambiguity of moderate ratings, wherein recommenders emphasize their shared preferences when making recommendations, while recipients prioritize their unique preferences. By systematically examining the underlying mechanisms driving this bias and its boundary conditions, our findings offer valuable insights for tourism professionals to improve their offerings and customer engagement. Our research offers theoretical and practical insights for managing interpersonal communication tools and improving experiences in the tourism industry.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.tourman.2025.105290>.

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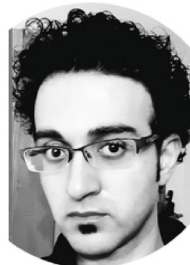
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