

Increasing Hotel Loyalty Through Psychological Ownership

Cornell Hospitality Quarterly
2025, Vol. 66(3) 277–293
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DOI: 10.1177/19389655241309634
journals.sagepub.com/home/cqx



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Abstract

The hospitality industry has long emphasized guest satisfaction as key to building loyalty. However, in such a highly competitive and service-oriented market, interventions to increase satisfaction may often be too costly relative to their marginal impact on guest loyalty. This research proposes a new and potentially lower-cost avenue for increasing guest loyalty to the hotel: guests' sense of ownership of their hotel rooms. An analysis of 14,689 online reviews on TripAdvisor, a naturalistic field experiment in a hotel ($N = 82$), as well as two controlled lab simulation studies (combined $N = 1,002$) jointly demonstrate that increasing psychological ownership of a hotel room significantly increases guest loyalty to the hotel, independent of customer satisfaction. This work extends our current understanding of psychological ownership and customer loyalty by demonstrating how psychological ownership of a tangible service element can enhance brand loyalty via a mechanism that does not rely on changes in satisfaction. In doing so, we highlight the role of psychological ownership as an underexplored and cost-efficient driver of loyalty in hospitality settings.

Keywords

guest satisfaction; psychological ownership; loyalty; intervention

Throughout its lengthy history, the hospitality industry has evolved into a market characterized as highly service-oriented, customer-focused, and importantly, hyper-competitive. Challenges that come from this evolution, such as rising competition, slower growth rates, and the saturation of markets, pose formidable barriers for hospitality firms aiming to expand or simply maintain their market shares (Dogru et al., 2020; Tepeci, 1999; Zervas et al., 2017). In this fiercely competitive market landscape, loyal customers are an especially important asset for a firm, as they have deep attachment and commitment toward the company (K. Y. Lee et al., 2007; So et al., 2013), expressed through increased revisit intention (Mattila, 2006), positive word of mouth (Han & Ryu, 2012), share of visits (Tanford, 2013), and brand referrals (Liat et al., 2014).

Satisfaction stands as a reliable method to enhance loyalty, as customers who are more satisfied are more affectively involved with the brand and show greater loyalty to it (Mattila, 2006; So et al., 2016). Hospitality firms thus acknowledge that their survival and growth depend on their ability to deliver unique, memorable, and satisfying guest experiences (Walls et al., 2011). However, given the industry's hyper-competitive nature, creating satisfying experiences distinct enough to stand out from the competition has become increasingly challenging. Further complicating the challenge, the competitive intensity escalates customers' expectations and diminishes the marginal utility of satisfaction (Ngobo, 1999), leading to a plateau in customer loyalty

once a certain threshold of satisfaction level is reached (Finn, 2012).

In an industry as service-oriented and competitive as hospitality, where nearly every player in the market has achieved high levels of customer satisfaction, a critical question that arises is whether there are other cost-effective strategies that firms can adopt to increase loyalty. This research proposes that subtle interventions to increase guests' psychological ownership of their hotel rooms can increase loyalty, irrespective of these interventions' effectiveness in enhancing satisfaction. Specifically, we discover that even minor adjustments in guest experience, such as allowing customers to select their rooms from a floor plan upon check-in, are cost-effective yet effective in fostering a stronger sense of room ownership and, subsequently, greater loyalty to the hotel.

We draw upon the psychological ownership literature, which primarily indicates that increasing psychological ownership of an object enhances valuation of and stewardship toward the owned object (Peck & Shu, 2009; Shu & Peck, 2011), with some evidence suggesting that these

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effects might extend to other entities associated with the object (e.g., Fuchs et al., 2010; Pyo et al., 2021; Zhang et al., 2014). We directly test whether psychological ownership of an object, such as a hotel room, can increase stewardship on a broader scale, specifically overall loyalty to the hotel. Since psychological ownership influences perceptions and behaviors through a sense of ownership—feelings that the target is associated with the self—rather than the satisfaction derived from the owned object, hotel strategies aimed at increasing guests' psychological ownership of their rooms could potentially enhance loyalty without necessarily making marked changes in guest satisfaction.

Our research makes several contributions to the psychological ownership and loyalty literature. First, we are the first to examine the impact of psychological ownership of a tangible service element on brand loyalty, with a particular emphasis on how this impact can be independent of changes in satisfaction (see Table 1). The insights on this end are especially valuable for firms in service-oriented industries such as hospitality, where satisfaction levels are already high, and further improvements in satisfaction are both costly and challenging to achieve. In addition, while recent work in the hospitality and tourism literature has acknowledged the role of psychological ownership in achieving various tourism-related goals, such as fostering an emotional bond with a travel destination (Liu et al., 2022; Scarpi, 2024), reducing harmful tourist behaviors (Qu et al., 2021), and strengthening Airbnb hosts' attachment to the platform (H. Lee et al., 2019), our research uniquely applies the concept of psychological ownership to hotel-specific settings. Specifically, we test how psychological ownership of a hotel room influences various loyalty goals, including increasing intentions to return to the hotel, encouraging positive and effortful reviews, stimulating positive word of mouth about the hotel, as well as referrals to the hotel. Finally, our research methodologically stands out by employing both observed and experimentally manipulated psychological ownership. This mixed-method approach sets our work apart from most work in the hospitality and tourism literature that primarily relies on self-reported scale measurements. By employing diverse methods to assess and manipulate psychological ownership, we enhance the validity of our findings and provide multiple example strategies for practical applications in the hospitality industry.

The Impact of Psychological Ownership

What is psychological ownership? Distinct from legal ownership, psychological ownership is a perceptual state and is best described as the territorial feeling that something is “mine!” (Pierce et al., 2001). Psychological ownership was first explored in organizational settings where it has been

found that employees who feel psychological ownership toward their employer's firm are more engaged and productive (Pierce et al., 2001; Van Dyne & Pierce, 2004). From those organizational findings, the concept of psychological ownership has been brought into consumer behavior research, where it has been found to increase consumers' value of products (Morewedge et al., 2021; Peck & Shu, 2009; Shu & Peck, 2011). Prior research has shown that peoples' perceptions of ownership can be increased even for objects not legally owned, such as public lakes and parks (Peck et al., 2021). In the hospitality literature, it is generally applied to the overall destination (H. Lee et al., 2019; Liu et al., 2022; Qu et al., 2021) rather than a specific tangible service element like a hotel room. In essence, psychological ownership can develop for objects that are both material (e.g., a consumer product) and immaterial (e.g., one's company) and is a concept distinct from legal ownership.

Research on psychological ownership has identified three antecedents: control, investment of self, and intimate knowledge (Pierce et al., 2001, 2003). If any of these antecedents is increased, the overall feeling of ownership toward the target increases. The first antecedent, controlling the target, includes the ability to use an object and to decide who else uses an object (Rudmin & Berry, 1987). Children as young as 3 years old infer that an object belongs to the person who decides whether others may use it (Neary et al., 2009). Even physical control, such as merely touching an object (Peck & Shu, 2009) or imagining touching an object (Peck et al., 2013), leads to an increase in psychological ownership. Controlling aspects of a service or process leads to a greater feeling of ownership (Asatryan & Oh, 2008; Kirk et al., 2015; Y. Lee & Chen, 2011).

The second antecedent, investing the self into the target, refers to the investment of an individual's time, effort, attention, and energy into the target (Pierce et al., 2001). As discussed in the study by Pierce et al. (2001), Locke (1690) felt that we own what we produce since we invest our labor in the process. Four-year-old children are more likely to infer ownership if someone made a picture (Nancekivell & Friedman, 2014), or if someone creatively modified it (Kanngiesser et al., 2010), both investments of labor. It has also been found that naming an object, an investment of the self, results in greater psychological ownership of that object (Kirk et al., 2018; Stoner et al., 2018).

The final antecedent of psychological ownership is coming to intimately know the target. This is often discussed as being associated and familiar with the target (Beggan & Brown, 1994; Pierce et al., 2001; Rudmin & Berry, 1987). If a person has more information and knowledge about a specific object, they feel more ownership toward it. For example, a person may feel a local restaurant is “their” restaurant because they frequently eat there,

Table 1.
Examples of Research Examining the Relationship Between Psychological Ownership and Loyalty Behavior.

Authors	Psychological Ownership	Target	Dependent Variable	Examined Relationship to Satisfaction?	Findings
Asatryan & Oh (2008)	Measured	A restaurant	Loyalty intention toward the target	No	Greater psychological ownership of a restaurant had a positive association with intentions to reject offers from competing restaurants, revisit the restaurant even with price increases, and recommend the restaurant to others.
Fuchs et al. (2010)	Manipulated perceived control, or empowerment	A product	Loyalty intention toward the target; loyalty intention toward the target's manufacturer (Study 2)*	No	Greater psychological ownership of a product increased the likelihood of referring the product to others and verbally defending it in public. It also increased consumers' expected enjoyment of using the product in public as well as loyalty to the product's company.
Kirk et al. (2015)	Measured	An investment/gamble	Word of mouth intention	No	Greater psychological ownership toward a financial investment had a positive association with word of mouth intentions to talk about one's investment decision to others.
Kirk et al. (2018)	Manipulated each of the three antecedents of PO	Tangible and intangible targets	Intention to post about target on social media	No	Greater psychological ownership toward a target increased the likelihood of posting about the target on social media through increased feelings of territoriality.
H. Lee et al. (2019)	Measured	A platform	Loyalty intention toward the target	No	Airbnb hosts feeling greater psychological ownership toward the platform exhibited greater stewardship toward the platform and its users.
Liu et al. (2022)	Measured	A travel destination	Loyalty intention toward the target	No	Tourists with a greater sense of psychological ownership toward a destination indicated greater satisfaction and a heightened sense of responsibility and stewardship toward the destination's well-being.
Peck et al. (2021)	Manipulated each of the three antecedents of PO	Public goods	Actual loyalty behavior and loyalty intention toward the target	No	Greater psychological ownership toward public goods such as public parks increased effort in caring for these resources.
Zhang et al. (2014)	Measured	An online brand community	Loyalty intention toward the brand*	No	Greater psychological ownership of an online brand community had a positive association with intentions to protect a brand against attack, maintain a relationship with a service brand, and resist competitor advances.
This article	Observed PO and manipulated each of the three antecedents of PO	Hotel room	Actual loyalty behavior and loyalty intention toward the hotel*	Yes	Greater psychological ownership of a hotel room increased loyalty to the hotel, while controlling for satisfaction.

Note. Asterisks denote dependent variables that assess loyalty toward entities beyond target objects.

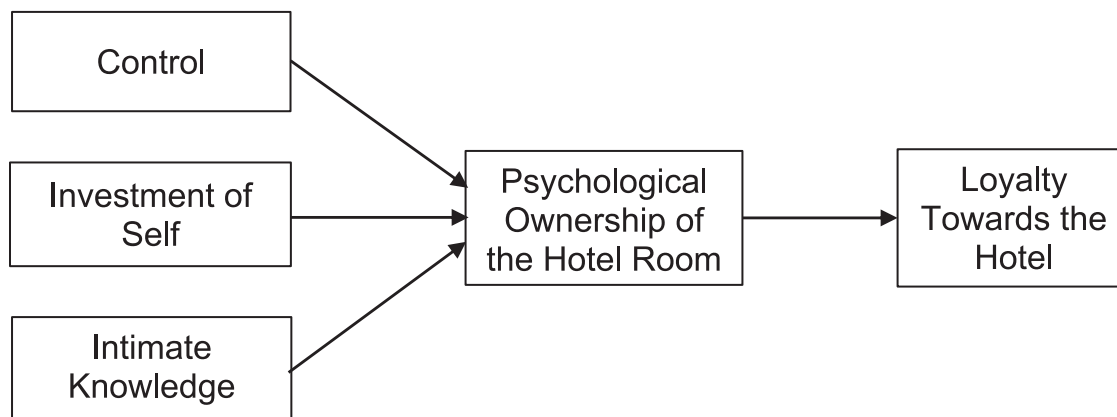


Figure 1.
Theoretical Model.

or a particular destination is “their” spot because they have visited before (Liu et al., 2022). The more unique the knowledge held by the customer, the higher the feeling of ownership.

Once activated, psychological ownership implicitly enhances affective reaction to the target and increases perceived value of it (Peck & Shu, 2009; Shu & Peck, 2011). This is at least in part because the feeling of ownership associates a target to the self (Weiss & Johar, 2013). People generally have positive self-views, and this positive self-evaluation transfers to an object associated with the self, leading them to evaluate the target more positively (Beggan, 1992; Dommer & Swaminathan, 2013; Shu & Peck, 2011). In one study, for instance, people with more positive implicit self-views evaluated the self-associated objects more positively (Gawronski et al., 2007).

Important downstream consequences of this value-enhancing process include increased stewardship toward the target object. The extant psychological ownership literature has shown that psychological ownership of a target translates to stewardship for the target because individuals feeling stronger ownership toward a target become more likely to take on responsibilities to take care of it (Liu et al., 2022; Peck et al., 2021; Shu & Peck, 2018). When the owned target is a consumer good or brand, resulting stewardship is manifested in loyalty behaviors (see the article by Peck & Luangrath, 2023 for a review on brand stewardship). Greater psychological ownership of a firm increases positive word of mouth about the firm and reduces intention to switch to competitors (Asatryan & Oh, 2008); greater psychological ownership of a product increases the likelihood of posting about the product on social media (Kirk et al., 2018) and referring the product to others (Fuchs et al., 2010), all of which are well-founded indicators of customer loyalty.

Psychological Ownership and Loyalty to the Hotel

Can a feeling of ownership over a target (a hotel room) motivate loyalty to the target’s category (the hotel brand) at large? Psychological ownership may have far-reaching effects beyond the owned object (Peck & Luangrath, 2023). Effects of ownership have been found to be contagious, such that psychological ownership for a target can readily develop into psychological ownership for more abstract categories to which the target belongs (Pyo et al., 2021). For instance, a prior study found that psychological ownership of a particular product increases loyalty to the product’s manufacturer (Fuchs et al., 2010). Another study found that psychological ownership of an online brand community increases the willingness to defend the brand’s reputation (Zhang et al., 2014). Psychological ownership of a hotel room during one’s stay could thus similarly influence attitude toward the hotel brand. Drawing on these findings, we predict that a guest’s psychological ownership toward a hotel room will generate greater loyalty to the hotel brand.

Overall, we propose that increasing guests’ psychological ownership of an individual hotel room can lead to increased customer loyalty to the hotel. In particular, we predict that psychological ownership of a room will increase the willingness to care for the room, as well as the broader context to which the room belongs: the hotel. Figure 1 provides a summary of our predictions.

Of note, because psychological ownership increases the personal relevance and valuation of the owned object, higher levels of psychological ownership may increase satisfaction, which may then increase customer loyalty (Kwortnik & Han, 2011). We suggest, however, that the effect of customers’ psychological ownership of the room on their loyalty to the hotel will hold even when increased

psychological ownership does not significantly increase satisfaction with the hotel. This is because we expect the effect will be driven by feelings of ownership rather than feelings of satisfaction. That is, feelings of ownership should be able to increase loyalty even if its impact on satisfaction is minimal.

Prior research has established the effect of psychological ownership on loyalty in various contexts, yet the linkage between psychological ownership of a specific target (e.g., a hotel room) and loyalty toward its brand (e.g., the hotel chain) has not been examined closely. Our research adds to this literature by investigating how psychological ownership of a hotel room may increase loyalty to the hotel. In doing so, we also advance the loyalty literature by demonstrating that psychological ownership of a tangible service element can enhance brand loyalty via a mechanism that does not rely on changes in satisfaction. Throughout the studies that will follow, we employ multiple methods to assess psychological ownership and loyalty to ensure high external and ecological validity and generalize the effect across different measurements and hospitality contexts. We observe psychological ownership by analyzing the language used in online reviews, and manipulate psychological ownership using scenarios, simulations, and a field intervention. To assess loyalty, we measure loyalty behavior intentions as well as observe actual loyalty behaviors of hotel guests. Table 1 summarizes existing research and highlights the gap that our research addresses.

Overview of Studies

Four studies tested our predictions. Study 1 scraped and analyzed online reviews of a large chain hotel to test whether reviewers who exhibit stronger psychological ownership toward their particular hotel room invest greater effort in writing reviews, especially when their intention of writing a review is to endorse the hotel to others. Study 2, a field study conducted at a hotel, used a simple manipulation of psychological ownership of a hotel room and demonstrated an increase in hotel loyalty among guests. Study 3 tested our theoretical model in an experiment wherein we used hypothetical check-in scenarios to examine how the three antecedents of psychological ownership—control, investment of self, and intimate knowledge—can be deployed in a hospitality context to increase psychological ownership toward a hotel room and loyalty to the hotel. Finally, Study 4 simulated an online hotel check-in experience, mimicking current customer interfaces deployed in the hotel industry, and showed that similar customization programs that differ in level of active control can result in different levels of psychological ownership and loyalty.

Our data, data-analysis scripts, and survey materials are accessible at <https://osf.io/wz2j5>.

Study 1: Hotel Reviews on TripAdvisor

The main goal of Study 1 was to provide preliminary evidence on whether individuals expressing psychological ownership toward their hotel room put greater effort in an important loyalty behavior that takes place online: review writing. We analyzed reviews of a hotel that is part of a major chain on TripAdvisor. On TripAdvisor—one of the world's leading sources for user-generated reviews in the travel sector (About TripAdvisor, 2024)—hotel reviewers rate their satisfaction on a 1-to-5 grading system and write a review detailing their experience. Once a review is uploaded on the hotel's page on TripAdvisor, other users can mark it as “helpful,” with a tally displaying the number of helpfulness votes each review received.

To measure effort and time invested in writing a review, we employed two measures. First, the length of a review served as our primary dependent measure as a longer review contains more information and reflects more reviewer effort. Indeed, review length has been found to positively influence review helpfulness (Mudambi & Schuff, 2010; Yin et al., 2014). We also used the number of helpfulness votes each review received as a secondary dependent measure as this reflects the writer's intent to provide useful insights about their experience.

To assess psychological ownership toward a hotel room, we analyzed the raw text reviews and coded the use of first-person singular and plural possessive pronouns used to refer to rooms (e.g., “my room” and “our room”). This approach is based on prior research indicating that language use can inform intrinsic psychological ownership perception (Pennebaker et al., 2003; Rudmin & Berry, 1987). Specifically, the use of the first-person singular and plural possessive pronouns (“my” and “our”) has been shown to be highly predictive of psychological ownership toward the target (Kim & Johnson, 2015; Kou & Powpaka, 2021; Shi et al., 2011). Drawing upon this, we predicted that reviewers who expressed greater psychological ownership of their rooms, as indicated by their use of possessive pronouns, would be more willing to endorse the hotel, resulting in longer reviews and more helpfulness votes.

Data

We scraped guest reviews for a large franchise hotel located in Hawaii from TripAdvisor. The selection of this hotel was strategic for three primary reasons. First, it is reasonable to presume that the majority of the hotel's guests are visiting for leisure purposes, rather than business, which likely reduces the variability in the intent of their stay. Second, the

Table 2.
Summary Statistics of and Correlations Among Measures.

	Mean	SD	1	2	3	4
Possessive pronoun usage	0.002	0.005				
Review length	116.93	40.17	.077***			
Review helpfulness	0.25	0.95	.041***	.092***		
Satisfaction	3.85	1.18	-.046***	-.226***	-.247***	
Stay date	187.38	44.40	.029***	-.132***	.356***	-.121***

Note. *** $p < .001$.

hotel was notable for a remarkably large collection of reviews, one of largest among U.S. hotels. Finally, the satisfaction ratings of the hotel indicated a highly satisfactory guest experience (i.e., the mean was above the scale midpoint of 3; $p < .001$; median = 4).

The hotel had 16,714 guest reviews on TripAdvisor, with stay dates ranging from March 2002 to November 2023, the point at which we conducted our data scraping. For each review, we gathered stay date recorded as month and year, review text, the guest's satisfaction rating on a scale from 1 to 5, and the number of "helpful" votes the review received. After excluding reviews that were missing any of these data points (12% of total reviews), and those with word counts exceeding three standard deviations above the mean ($n = 3$), the final data included 14,689 reviews.

To measure the reviewer's psychological ownership of a hotel room, we first identified instances where the first-person singular and plural possessive pronouns ("my" or "our") appeared 10 or fewer characters before "room" in review texts (e.g., "Walking into our corner room . . .," "Our room was wonderful . . .," "Our room was cleaned everyday . . ."). Psychological ownership was quantified by calculating the number of times "room" was mentioned with possessive pronouns relative to the total word count. This measure served as a proxy for the reviewer's psychological ownership of the room. The primary dependent variable we used to measuring review effort was the total word count in each review text. We also assessed the number of "helpful" votes received as a secondary dependent variable, with reviews lacking votes coded as 0. Finally, to control for potential variations in review patterns over time, we used the stay date data to compute the elapsed time from the hotel's first reviewed stay to the stay date of each review, indicated in months.

Table 2 displays the summary statistics of and correlations between these measures.

Results

Psychological Ownership of a Hotel Room and Review Effort

We first began with a regression that did not include any control variables, using only standardized psychological

ownership of a hotel room to predict review effort. The results of this basic model, presented in Model 1 in Table 3, supported our prediction. Reviewers who demonstrated a greater sense of ownership toward their room tended to write longer reviews ($b = 3.10$, $SE = .33$, $t(14,687) = 9.37$, $p < .001$), indicating greater effort put into writing reviews.

Further analysis controlling for satisfaction and stay date maintained a positive association between psychological ownership of a hotel room and review effort ($b = 2.83$, $SE = .32$, $t(14,687) = 8.91$, $p < .001$; see model 2 in Table 3). These findings suggest that the observed correlation between psychological ownership and review effort is not solely dependent on satisfaction or the time of stay.

To examine whether psychological ownership increased review effort across satisfaction ratings, we regressed review effort on standardized psychological ownership of a hotel room, satisfaction, and their interaction while controlling for stay date, which revealed a non-significant effect of psychological ownership ($b = -.55$, $SE = 1.03$, $t(14,684) = -.53$, $p = .593$), a significant effect of satisfaction ($b = -8.68$, $SE = .30$, $t(14,684) = -29.06$, $p < .001$), qualified by a significant interaction between ownership and satisfaction ($b = .89$, $SE = .26$, $t(14,684) = 3.45$, $p < .001$). We decomposed this interaction using a floodlight analysis, which revealed that reviewers with a greater sense of psychological ownership toward a room put more effort writing their reviews when they were at least minimally satisfied with the hotel ($JN \geq 1.89$). Specifically, a greater sense of psychological ownership increased review length at high satisfaction levels (+1 SD; $b = 3.95$, $SE = .45$, $t(14,684) = 8.70$, $p < .001$), but this effect attenuated at low satisfaction levels (-1 SD; $b = 1.84$, $SE = .43$, $t(14,684) = 4.28$, $p < .001$).

We further disaggregated the effect of psychological ownership of a room on review effort across the five satisfaction levels, as the motivation behind writing a review might vary for each of the five satisfaction levels (see Model 1 in Table 4). We expected the impact of psychological ownership of the hotel on review effort would be most pronounced at the highest satisfaction rating of 5, based on the reasoning that highly satisfied guests are more motivated to write reviews that endorse and promote the hotel's

Table 3.
Study I Regression Results.

Dependent Variable	Review Length (Word Count)			Review Helpfulness (Number of Helpful Votes)		
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Psychological ownership	3.10*** (.33)	2.83*** (.32)	-.55 (1.03)	.13*** (.03)	.05 [†] (.02)	.15* (.06)
Satisfaction rating		-8.24*** (.27)	-8.68*** (.30)		-.32*** (.02)	-.31*** (.02)
Psychological ownership × Satisfaction			.89*** (.26)			-.03* (.02)
Review length				.01*** (.001)	.01*** (.001)	.01*** (.001)
Stay date		-.15*** (.01)	-.15*** (.01)		.05*** (.001)	.04*** (.001)
Pseudo R ²	.01	.08	.08	.02	.39	.39
Analysis method		OLS		Negative binomial regression		

Note. [†] < .10, **p* < .05, ***p* < .01, ****p* < .001.

Table 4.
Disaggregated Effects of Psychological Ownership on Review Length and Review Helpfulness Across the Five Satisfaction Levels.

Dependent Variable	Review Length (Word Count)	Review Helpfulness (Number of Helpful Votes)
Independent Variable	Model 1	Model 2
Satisfaction rating		
1	2.70* (1.15)	24.09* (11.94)
2	0.21 (1.09)	-0.25 (13.60)
3	2.21** (.76)	20.84 [†] (11.64)
4	2.31*** (.57)	20.93 [†] (12.27)
5	4.28*** (.53)	-13.38 (11.55)
Review length		0.01*** (.001)
Stay date	-0.14*** (.01)	0.03*** (.000)
pseudo R ²	.09	.39
Analysis method	OLS	Negative binomial regression

Note. [†] < .10, **p* < .05, ***p* < .01, ****p* < .001.

positive attributes to others, a behavior reflective of loyalty (Han & Ryu, 2012; Liat et al., 2014). Our findings indeed showed that guests wrote significantly longer reviews when their satisfaction ratings were equal to or above the scale midpoint (*ps* < .003). However, this pattern did not hold for satisfaction ratings of 2, which are below the midpoint (*b* = .21, *SE* = 1.09, *t*(14,684) = .19, *p* = .847). Interestingly, our analysis also revealed that psychological ownership significantly increased review effort at the lowest satisfaction rating of 1 (*b* = 2.70, *SE* = 1.14, *t*(14,684) = 2.35, *p* = .019). This suggests that when guests are extremely dissatisfied, their psychological ownership of a room might prompt them to compose longer, more detailed negative reviews.

Robustness Check. The patterns and statistical significance of these results did not change substantially when we (a) used whether or not a person referred to a room with a first-person possessive pronoun at least once (1 = yes, -1 = no)

as a measure of psychological ownership, (b) narrowed our focus to whether the first-person singular possessive pronoun “my” was used (1 = yes, -1 = no), or (c) tracked mentions of “room” without first-person possessive pronouns (i.e., “a room” or “the room”) and excluded reviews that did not mention the word “room” (*n* = 4,494) and used whether or not the word “room” was mentioned with a first-person possessive pronoun at least once as a measure of psychological ownership as a measure of psychological ownership.

We also modeled helpfulness votes as an alternative dependent variable, while controlling for word count. It is important to emphasize that the number of helpfulness votes can serve only as a proxy for review effort because it reflects how informative other users perceive a review to be, rather than measuring the actual effort the reviewer invested. For instance, other users might regard a less effortful but negative review as highly useful, due to the negativity bias that renders negative information more

useful (Casaló et al., 2015). Therefore, while the number of helpfulness votes could still provide valuable insights, it should be considered as an indirect indicator of review effort.

Because most of the reviews in our sample received zero helpfulness votes, the helpfulness votes measure ($M = 0.25$, variance = .91) exhibited significant overdispersion (an overdispersion parameter of 2.62, $p < .001$ in a log-likelihood ratio test). Thus, we opted for standard negative binomial regressions as opposed to Poisson regressions. Results indicated that reviews by guests who exhibited greater psychological ownership toward a room were more likely to be rated as helpful (Model 4 in Table 3). Importantly, the positive association between psychological ownership and the number of helpfulness votes remained marginally significant even after controlling for satisfaction and stay date ($b = 10.20$, $SE = 5.43$, $t(14,684) = 1.88$, $p = .060$; model 5 in Table 3). These results did not substantively change (a) when we excluded reviews that did not mention the word “room” at all, or when we used (b) Poisson regressions or (c) OLS regressions.

In addition, an exploratory analysis (Model 6 in Table 3) examining the interaction between psychological ownership and satisfaction on helpfulness votes revealed a significant effect of psychological ownership ($b = .15$, $SE = .06$, $t(14,683) = 2.56$, $p = .011$) and a significant effect of satisfaction ($b = -.31$, $SE = .02$, $t(14,683) = -15.77$, $p < .001$), qualified by a significant interaction ($b = -.03$, $SE = .02$, $t(14,683) = -1.97$, $p = .049$). Interestingly, further analysis decomposing this interaction showed that the impact of psychological ownership on helpfulness votes was more pronounced when satisfaction levels were low (-1 SD, $p = .022$) rather than high ($+1$ SD, $p = .591$), which aligns with the literature that suggests people deem negative information more useful than positive information (Baumeister et al., 2001; Casaló et al., 2015; Norris, 2021). In other words, users tended to find reviews with high psychological ownership more helpful especially when reviewers were less satisfied with their room. However, when disaggregating the effect of psychological ownership on the helpfulness votes across the five satisfaction levels, no consistent pattern emerged; rather, the effect of psychological ownership varied erratically across the satisfaction levels (Model 2 in Table 4). Given this variability, we note once again that interpreting this interaction as a measure of review effort warrants caution. Nevertheless, it is notable that the results continue to demonstrate that psychological ownership significantly predicted an increase in the number of helpfulness votes reviews received.

Discussion

Study 1 examined the effort put into writing reviews provided by thousands of actual hotel guests. Although

psychological ownership was generally associated with greater time and effort guests invested in writing their reviews, consistent with our hypothesis, this association was stronger for people who were highly satisfied with the hotel and likely writing reviews to endorse and recommend the hotel to others. The results were robust to different model specifications and data inclusion criteria.

Despite this study's external validity, it has several limitations that we seek to address in the subsequent experiments. First, one limitation of this observational data study is that despite controlling for alternative accounts like the consistency of the hotel and the timing of stays, due to the correlational nature of these data, we are unable to establish a causal relationship between psychological ownership of a hotel room and review effort. We thus conducted controlled experiments to test the causal effect of psychological ownership of a particular hotel room on overall hotel loyalty.

Second, because it is impossible to know from these data the number of guests who stayed at a hotel but did not provide a review on TripAdvisor, we could not assess the true proportion of guests who were willing to engage in loyalty behavior such as review writing. Study 1's results therefore represent the relationship between psychological ownership toward a room and review effort, conditional on choosing to write a review. In the remaining studies, we use a variety of dependent measures that more comprehensively capture the extent to which guests are willing to engage in loyalty behaviors.

Another limitation of this archival field study is the lack of insight into the factors that cultivate a sense of psychological ownership toward a room. Understanding these drivers is crucial as they could potentially shape loyalty behaviors after stay. In the following series of experiments where we manipulate psychological ownership, we present various ways in which hotels could foster guests' sense of ownership toward their room through simple low-cost adjustments to their check-in process.

Study 2: Hotel Field Experiment

To begin understanding the causal relationship between psychological ownership and consumer loyalty, we conducted a field study at a hotel in a Midwestern university town. In this field experiment, we directly manipulated one of the antecedents of psychological ownership, control, by having a guest either choose their room between two options or having a room assigned and then measured customer loyalty. We also assessed psychological ownership of a room, as well as the effort guests put into keeping their assigned hotel room clean. This cleanliness effort served as a behavioral proxy for psychological ownership of the room, based on prior findings that increased psychological ownership of an object increases stewardship of that object (Peck et al., 2021; Shu & Peck, 2018).

Method

The study was conducted under two conditions: guests were either assigned a room as usual ($N = 42$), or they had a choice between two different rooms ($N = 39$). Sample size was restricted by the terms of agreement with the partnering hotel.

As a part of the hotel's effort to assess customer opinions, a survey was left in the room for the guests to fill out and return. Included in the survey was a measure of satisfaction with the hotel ("How satisfied were you with your hotel stay?" 1 = not at all satisfied, 7 = very satisfied), the likelihood of engaging in loyalty behaviors such as returning to the hotel and telling others about the hotel (1 = extremely unlikely, 7 = extremely likely), and the sense of psychological ownership that they felt toward their hotel room, using three items derived from the study by Peck and Shu (2009) (e.g., "I felt like the room I stayed in was mine," 1 = *Strongly disagree*; 7 = *Strongly agree*; $\alpha = .84$). Finally, as a secondary measure of psychological ownership, we measured stewardship toward the room by asking the cleaning staff to track how clean the room was after the guest checked out on a 5-point scale (1 = *very messy*, 2 = *messy*, 3 = *average*, 4 = *clean*, and 5 = *very clean*). The cleaning staff was blind to both the hypothesis of the study and the assignment of guests to condition.

Results and Discussion

Interestingly, in the choice condition, many guests seemed unsure of which room to choose and asked the hotel staff what room they would choose. Given that the guests were seemingly unappreciative of having a choice, it is not surprising that there was only a small and marginally significant impact on guests' satisfaction ($M_{\text{choice}} = 6.13$, $M_{\text{no choice}} = 5.76$, $t(79) = 1.96$, $p = .054$). It should be noted that the overall means for satisfaction are very high regardless of room choice; people are generally extremely satisfied with their experience at the hotel.

To check whether our manipulation of psychological ownership was successful, we use both the survey measure and the behavioral measure. Guests who chose their own room reported a greater sense of ownership toward their room than those who did not ($M_{\text{choice}} = 5.40$, $SE = .18$, $M_{\text{no choice}} = 4.74$, $SE = .16$; $t(79) = 2.74$, $p = .008$, $d = .61$, 95% CI = [0.16, 1.05]). We also confirmed our manipulation of psychological ownership using our behavioral proxy, as we found that guests who were allowed to choose their own room left the room cleaner as judged by the staff ($M_{\text{choice}} = 4.00$, $SE = .16$, $M_{\text{no choice}} = 3.57$, $SE = .14$; $t(79) = 2.04$, $p = .044$, $d = .45$, 95% CI = [.01, .89]), suggesting they had greater motivation to steward for their room, consistent to prior findings (Peck et al., 2021; Shu & Peck, 2018).

Finally, and most relevant to our hypothesis, we tested whether psychological ownership of a room can increase loyalty to the hotel. Despite satisfaction being unaffected, guests who could choose their own room indicated that they were more likely to stay at the hotel in the future ($M_{\text{choice}} = 6.15$, $SE = .15$, $M_{\text{no choice}} = 5.57$, $SE = .19$; $t(79) = 2.38$, $p = .020$, $d = .53$, 95% CI = [0.08, 0.97]), as well as tell others about the hotel in the future ($M_{\text{choice}} = 6.28$, $SE = .11$, $M_{\text{no choice}} = 5.64$, $SE = .16$; $t(79) = 3.26$, $p = .002$, $d = .72$, 95% CI = [0.27, 1.17]). The results remain unchanged when controlling for each guest's length of stay and whether each guest has visited the hotel in the past. Of note, although the sample size was modest due to the terms of agreement with the partnering hotel, the effect sizes detailed in the Results section indicate sufficient statistical power, affirming the reliability and validity of our findings despite the limited sample size. In sum, Study 2's results indicate that a subtle manipulation such as having guests choose their own hotel rooms increases both psychological ownership of a room and customer loyalty in an actual hotel environment.

Study 3: Manipulating the Three Antecedents of Psychological Ownership

In Study 3, we transitioned to an online experimental environment to directly manipulate each of the three antecedents of psychological ownership using examples of hotel practices that correspond to each antecedent as our manipulation scenarios. In doing so, we propose different ways hotels can induce a sense of ownership toward a room and generalize our results across different scenarios. We predicted that having greater control over, investing mental and physical effort in, or gaining intimate knowledge about a hotel room would increase psychological ownership of the room, subsequently increasing guests' loyalty to the hotel. We also expected that this increase in loyalty would not depend on whether or not the manipulation affects guest satisfaction.

Pre-Test

We created four hotel-stay scenarios to manipulate the antecedents of psychological ownership: baseline, control over the target, investment of self, and intimate knowledge. In all scenarios, participants were told to imagine that they are traveling by themselves and will be staying at a hotel for a few days. In the neutral baseline condition, the hotel was described as very similar to other hotels they have stayed at before, lacking in any distinguishing features. In the first manipulation of psychological ownership condition (control), the hotel was described as one where participants could control and choose the softness of pillows, the type of music that plays when entering the room, the light settings, and the time for when housekeeping will come to clean the

room. The second manipulation of psychological ownership condition (investment of self) described a hotel where guests had freedom to invest time and effort in rearranging the modular furniture to suit their preferences. Finally, the third manipulation of psychological ownership condition (intimate knowledge) described a scenario where the guest noticed a unique fact about the hotel room that was unlikely to be recognized by other guests to that hotel—specifically the history of where the materials of the room's floors came from. Table 5 provides specific language used in all four conditions.

We conducted a pre-test to confirm that all three manipulation conditions activated their respective antecedents of ownership. In this pre-test, we recruited 593 participants from MTurk and randomly assigned them to one of four conditions. Participants went through the assigned scenario and answered questions assessing the three antecedents of psychological ownership, specifically, the extent to which they felt (a) their hotel room was highly responsive to their control; (b) they have invested their time, ideas, and effort into their hotel room; and (c) they have more background knowledge about their hotel room (1 = *disagree strongly*, 7 = *agree strongly*). A series of one-way ANOVA revealed a significant effect of condition on each of the three antecedent measures ($ps < .001$). Confirming our manipulation, planned contrasts comparing the manipulation scenarios to the baseline scenario revealed that the control scenario induced a greater feeling of control over the hotel room ($M_{\text{baseline}} = 3.30$, $SD = 1.53$ vs. $M_{\text{control}} = 5.32$, $SD = 1.25$; $F(1, 589) = 144.12$, $p < .001$, $\eta_p^2 = .20$), the investment of self scenario induced a greater feeling of investing themselves into the hotel room ($M_{\text{baseline}} = 2.95$, $SD = 1.61$ vs. $M_{\text{invest}} = 4.93$, $SD = 1.46$; $F(1, 589) = 37.66$, $p < .001$, $\eta_p^2 = .06$), and the intimate knowledge condition induced a greater feeling of having personal knowledge of the hotel room ($M_{\text{baseline}} = 3.61$, $SD = 1.55$ vs. $M_{\text{knowledge}} = 5.93$, $SD = .93$; $F(1, 589) = 223.07$, $p < .001$, $\eta_p^2 = .27$). While we observed overlaps between conditions, such as the self-investment manipulation also enhancing perceived control, it is important to emphasize that these overlaps are anticipated given that antecedents are not mutually exclusive (Pierce et al., 2003). A key takeaway is that initiatives aimed at activating one antecedent are likely to trigger another as well, ultimately achieving the goal of enhancing psychological ownership as a whole.

Method

Eight hundred and two participants ($M_{\text{age}} = 38.86$, range: 19–80; 338 males, 12 non-binary) on the online data survey platform Prolific participated in an online experiment in exchange for monetary payment. Each participant passed an attention check at the beginning of the study. Study 3 had a four-condition (baseline, control over the target, investment

of self, or intimate knowledge) between-subjects design. Participants were randomly assigned to read one of four guided hotel-stay simulation scenarios according to their randomly assigned condition. After reading the assigned scenario, participants imagined staying in this hotel room and wrote about their predicted experience. We then measured customer loyalty by asking participants to indicate how likely they were to engage in three customer loyalty behaviors (“After your hotel stay, how likely would you be to do the following: write a positive review of the hotel; stay at this hotel again; tell other people about this hotel”; 1 = *extremely unlikely*, 7 = *extremely likely*). Participants also rated how satisfied they would be with their stay (1 = *extremely dissatisfied*, 7 = *extremely satisfied*). Finally, to assess whether the antecedents indeed increased the psychological ownership of the hotel room, we asked participants to indicate how they felt about the hotel room on a scale of 1 (*disagree strongly*) to 7 (*agree strongly*): “I feel personal ownership toward this hotel room.”

Results

The Antecedents of Psychological Ownership. A one-way ANOVA revealed a significant main effect of the antecedents of psychological ownership ($F(3, 798) = 7.80$, $p < .001$). Confirming our manipulations of psychological ownership, post hoc tests (Bonferroni) revealed that participants in all three psychological ownership conditions, including the control ($M_{\text{control}} = 3.58$, $SE = .13$, $p < .001$, $d = .42$, 95% CI = [0.23, 0.62]), and investment of self ($M_{\text{investment}} = 3.56$, $SE = .13$, $p < .001$), and intimate knowledge ($M_{\text{knowledge}} = 3.29$, $SE = .12$, $p = .046$, $d = .26$, 95% CI = [0.07, 0.45]) conditions, felt significantly greater psychological ownership of the hotel room than participants in the baseline condition ($M_{\text{baseline}} = 2.84$, $SE = .12$). There were no significant differences between any of the three psychological ownership conditions (all $p > .32$).

Dependent Variables. The three loyalty items were averaged to form a loyalty index ($\alpha = .80$). A one-way ANOVA revealed a significant effect of the antecedents of psychological ownership ($F(3, 798) = 23.63$, $p < .001$) on loyalty. Supporting our theorizing, participants in the three ownership conditions ($M_{\text{control}} = 5.65$, $SE = .08$, $t(400) = 6.90$, $p < .001$, $d = .68$, 95% CI = [0.48, 0.88]; $M_{\text{investment}} = 5.26$, $SE = .08$, $t(388) = 3.52$, $p < .001$, $d = .36$, 95% CI = [0.16, 0.56]; $M_{\text{knowledge}} = 5.64$, $SE = .07$, $t(398) = 7.00$, $p < .001$, $d = .69$, 95% CI = [0.49, 0.89]) had significantly greater intention to engage in loyalty behaviors than those in the baseline condition ($M_{\text{baseline}} = 4.85$, $SE = .09$).

Finally, we examined the effect of the three antecedents of psychological ownership on customer satisfaction. The added guest experiences in our treatment scenarios may

Table 5.
Language for All Four Conditions.

Condition	Scenario	Writing Prompt	Psychological Ownership		Loyalty	
			M	SE	M	SE
Baseline	The front desk clerk welcomes you to the hotel and gives you the keys to room 437. On your way to the room, you realize that this hotel is very similar to many other hotels you have stayed at in the past. The lobby and main areas are arranged in a standard manner. When you reach your room, it has the typical furniture you would see in most hotels and is lacking in any distinguishing features from the last hotel you stayed at.	This hotel room is very similar to other hotel rooms you have stayed in. Please describe, in a few sentences, the last hotel room you remember staying in. What was the furniture like? How many beds were in the room? How large was the bathroom?	2.84	0.12	4.85	0.09
Intimate knowledge	The front desk clerk welcomes you to the hotel and gives you the keys to room 437. You get up to the room and notice one unique fact about your room. Other guests would not notice this, and you may be the only one who notices. The wood floors in room 437 are made with reclaimed wood from a beautiful old mansion that used to be up the street. You happen to have this unique inside knowledge about your hotel room because you have previously come across and read the history of both the old mansion and the construction of the hotel.	You have unique inside knowledge about your hotel room that its floors are reclaimed wood from an old mansion in the area. How might having this inside knowledge of your hotel room change how you feel in the room? Would this hotel room feel any different to you compared to a more standard hotel room?	3.29	0.12	5.64	0.07
Control	The front desk clerk welcomes you to the hotel and gives you the keys to room 437. As she does so, she shows you a menu of options for how you would like your room setup. You are able to pick the softness of your pillow, the type of music that plays when entering the room, the settings for the lights, and the time for when housekeeping will come every day to freshen the room. You select each option that fits you best so that the room will feel exactly the way you want it.	The menu of options for how you would like your room setup includes the softness of your pillow, the type of music that plays when entering the room, and the settings for the lights. What types of customization would you ask for in each of these categories? How would you want your room set up?	3.58	0.13	5.65	0.08
Investment of self	The front desk clerk welcomes you to the hotel and gives you the keys to room 437. As she does so, she lets you know that the furniture in all the rooms at this hotel is designed to be easily moved around and that you are free to arrange the room in any way you prefer. You get up to the room and spend about 20 minutes of your time pushing, pulling, and adjusting the bed and desk to rearrange as you prefer. You put some mental and physical effort into the room, and now the room feels exactly the way you like it.	When you arrived in the room, you spent about 20 minutes pushing, pulling, and adjusting the bed and desk to the ways you wanted. In a few sentences, please describe how you best like your hotel room to be arranged—for example, what kind of effort would you make to rearrange your room to your taste?	3.56	0.13	5.26	0.08

Table 6.
Room-Personalization Practices by Five Large U.S. Hotel Chains.

Hotel Chain	Personalization Offered	Specific Room-Personalization Services Offered	Service Implementation Method
Hilton	Yes	Room location, room setup	Guest's choice at online check-in
Hyatt	Yes	Housekeeping services	Based on guest profile
Marriott	Yes	Room setup	Based on guest profile
IHG	Yes	Room location, room setup	Based on guest profile
Wyndham	Yes	Room type	Based on guest profile

have increased willingness to engage in customer loyalty behaviors simply by making the stay more satisfying. Contrary to this account, we found evidence that psychological ownership of a room drives customer loyalty with minimal impact on satisfaction. A one-way ANOVA revealed a significant overall main effect on satisfaction ($F(3, 798) = 14.20, p < .001$), but investigation of the individual manipulations tells a more mixed story. The ownership conditions of control and intimate knowledge did increase satisfaction in comparison to the baseline condition ($M_{\text{baseline}} = 5.81, SE = .06; M_{\text{control}} = 6.28, SE = .06, p < .001, d = .54, 95\% \text{ CI} = [0.34, 0.74]; M_{\text{knowledge}} = 6.11, SE = .06, p = .003, d = .34, 95\% \text{ CI} = [0.14, 0.53]; M_{\text{baseline}} = 5.81, SE = .06$), but investment of self had no effect on satisfaction ($M_{\text{investment}} = 5.80, SE = .07, p = .999$). That investment of self increases customer loyalty while not affecting satisfaction suggests that psychological ownership of a room may motivate customer loyalty through a psychological mechanism independent of changes in satisfaction.

To test this further, we regressed customer loyalty on standardized psychological ownership of the hotel room while controlling for standardized satisfaction with the hotel stay. We used standardized variables across studies to improve the interpretability of the estimates and to address multicollinearity concerns (Marquardt, 1980). This analysis revealed a positive relationship between psychological ownership of the room and customer loyalty ($B = .26, SE = .03, t(799) = 8.20, p < .001$) independent of satisfaction with the hotel ($B = .67, SE = .03, t(799) = 21.36, p < .001$). This result provides additional evidence that psychological ownership of a room motivates customer loyalty through a process that need not involve satisfaction. Of note, including psychological ownership, subsequent to satisfaction, increased the McFadden's R^2 from .17 to .20, indicating that psychological ownership contributes additional explanatory power beyond what is accounted for by satisfaction alone.

Study 4: A Hyper-Personalized Hotel Room

In this study, we explore implications of our findings in context of hyper-personalization in hospitality. Many

hotels enhance guest experience via personalizing how the room is set up to each guest's preferences. For example, Table 6 outlines the room-personalization practices of five major U.S. hotel chains. Such personalization can be done by asking guests to indicate their preferences each time they book a stay (as done by Virgin Hotels, 2022), or by tracking guest profiles to automatically personalize the room based on each guest's preference history (as done by Marriott International, 2017). Although both methods effectively deliver the end result of more personalized guest experiences, we suggest that personalization that enhances guests' psychological ownership of their hotel room has a stronger impact on overall loyalty.

Using scenarios that closely mirror actual practices in hospitality, Study 4 provides a stronger test of our effect by keeping the end result of customization constant. We manipulate perceived control using a high-control scenario in which participants directly indicate preferences before check-in and a low-control scenario where a hotel automatically personalizes the room based on preference data saved in guests' profiles. We predicted that the level of satisfaction from the personalized room outcome should be constant since both rooms reflect their custom preferences. Regardless, we expected having greater active control over how the room is set up will increase participants' psychological ownership of the room, which will further increase hotel loyalty.

Methods

Two hundred participants ($M_{\text{age}} = 36.40$, range: 19–78; 79 males, 6 non-binary) on Prolific participated in an online experiment in exchange for monetary payment. Participants were randomly assigned to one of two between-subjects conditions: Psychological Ownership high vs. low. We asked all participants to imagine that they had been planning to stay at a hotel by themselves for a few days and were now booking a room using the hotel's mobile application. In the high ownership condition, participants read that they could personalize their hotel room to their taste on an app. They then went through the experience of selecting a floor, a room on that floor, minibar contents, the type of music that will play when entering the room, pillow softness, a time for housekeeping visits, and room temperature

Panel A

Let's pick a room first.
Please choose a floor of your preference.

Choose a floor

4th Floor

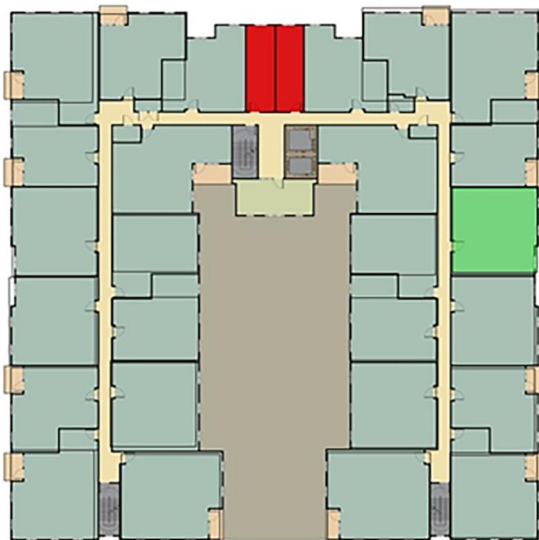
9th Floor

16th Floor

Please choose a room you prefer the most.

Choose your room

9th Floor | Standard King Bed



Choose the type of music that plays when you enter the room.

Classic

New Age

Jazz

Pop

Other
(please
indicate)

Panel B

Now, please indicate your room preference.

Choose what you would like in your mini bar

Sparkling water

Champaign

San Pelliogirino

Belgian beers

Mexican Coke

Two bags of macadamia

Diet Coke

Chocolate chip cookies

Sprite

Shortbread cookies

Sparkling rosé

Choose the softness of your pillows.

soft

soft-medium

medium

medium-firm

firm

Choose a time for when housekeeping will come every day to
freshen the room.

early morning

late morning

early afternoon

late afternoon

Set your room temperature.

50

60

70

80

Set to

Choose your light settings.

dim

☐ ☐ ☐

bright

cool color

☐ ☐ ☐

warm color

Figure 2.

Depiction of High Control Manipulation in Study 3.

Note. (Panel A) Choice of a floor, room, and music. (Panel B) Choice of minibar selection, pillows, housekeeping time, temperature, and lighting. An online demonstration of this manipulation can be found at: <https://tinyurl.com/hctrl>.

and light settings (Figure 2). After making a series of choices, participants were led to a confirmation page where they were told they have successfully booked the room of their choice. In the low-ownership condition, participants were told that the hotel stores and uses their guest information and previous hotel usage history data to personalize the room on their behalf. Participants were shown the same list

of personalization items as in the high-ownership condition, but they were told the hotel would automatically set these items to match their preferences before their arrival. They were then led to a confirmation page, indicating which room they were assigned to.

After the booking-confirmation page, all participants imagined arriving to their hotel room after a long trip to see

that everything from the location of the room to the temperature, was set to their taste, as either they or the hotel's data-driven personalization system had specified. We then asked participants to write about how they would feel about the modifications made to their room during their stay to help them visualize their stay at the hotel. We next assessed participants' satisfaction with their room, loyalty to the hotel, and psychological ownership of their room using the same measures used in Study 2. As a manipulation check, participants indicated the extent to which they felt they had a control over how their hotel room was set up on a scale of 1 (*disagree strongly*) to 7 (*agree strongly*).

Results

Manipulation Check. Confirming our manipulation of psychological ownership via control, participants in the high (vs. low) ownership condition indeed felt they had greater control over how their hotel room was prepared ($M_{\text{high}} = 6.38, SE = .09; M_{\text{low}} = 4.96, SE = .16; t(198) = 7.78, p < .001, d = 1.10, 95\% CI = [0.80, 1.40]$) and perceived greater psychological ownership of the room ($M_{\text{high}} = 5.00, SE = .17; M_{\text{low}} = 4.51, SE = .16; t(198) = 2.08, p = .038, d = .29, 95\% CI = [0.02, 0.57]$).

Of note, participants in the high-ownership condition also spent longer time to complete the study ($M_{\text{high}} = 325.34$ seconds, $SE = 15.65; M_{\text{low}} = 268.71$ seconds, $SE = 18.15; t(198) = 2.36, p = .019$) as they had an extra task of making a series of choices about the room and, therefore, may have felt more invested in their room. Although both raw and log-transformed time duration did not predict psychological ownership of the room ($ps \geq .45$), we still note that any effect of greater investment of self would not alter our prediction that the high ownership condition will elicit greater psychological ownership of the room.

Dependent Variables. The average of the three items assessing loyalty ($\alpha = .82$) showed that participants in the high-ownership condition indicated significantly greater intention to engage in loyalty behaviors than participants in the low-ownership condition ($M_{\text{high}} = 6.36, SE = .07; M_{\text{low}} = 6.03, SE = 1.17; t(198) = 2.38, p = .018, d = .34, 95\% CI = [0.06, 0.62]$). Furthermore, consistent with our prediction, the level of satisfaction with the hotel stay was high for participants in both conditions and did not meaningfully differ ($M_{\text{high}} = 6.57, SE = .09; M_{\text{low}} = 6.29, SE = .11; t(198) = 1.94, p = .054$).

We also regressed customer loyalty on standardized psychological ownership of a room and satisfaction with the hotel. As in Study 3, psychological ownership of the room was positively related to customer loyalty ($B = .27, SE = .05, t(197) = 5.84, p < .001$) while controlling for satisfaction with the hotel ($B = .62, SE = .05, t(197) = 13.18, p < .001$). The inclusion of psychological ownership in the

model, subsequent to satisfaction, increased the McFadden's R^2 from .25 to .31, indicating that psychological ownership contributes additional explanatory power beyond what is accounted for by satisfaction alone.

Using scenarios derived from real room-personalization practices in the hospitality industry, Study 4 provided further evidence that increasing psychological ownership of a hotel room increases loyalty behavior intentions, even without any significant alterations to guests' experiences and their satisfaction with the room. While room customization leads to high satisfaction regardless of its implementation, seemingly minor strategic differences in the implementation of customization can increase psychological ownership of the room and significantly increase loyalty to the hotel.

General Discussion

In the hospitality industry, where customer satisfaction is generally high across firms, achieving meaningful increases in satisfaction to enhance loyalty is both costly and challenging (Finn, 2012; Ngobo, 1999). Compared to common practices serving this goal, such as providing luxurious treatments, activity programs, and fine amenities, encouraging customers to feel greater sense of ownership towards their hotel room may not seem like the most obvious path to increasing loyalty. Our research, however, finds that small adjustments in guest experiences that increase guests' psychological ownership of a hotel room can be a cost-effective way to increase loyalty. Four studies, including an analysis of web-scraped online hotel reviews, a naturalistic field experiment in a hotel, and two controlled lab studies, jointly suggest that increasing guests' psychological ownership of a hotel room increases loyalty to the hotel, even if it results in minimal or no improvement in satisfaction.

Our research contributes to the literature in several ways. First, while prior research has primarily focused on how psychological ownership enhances stewardship toward the target object, our studies demonstrate that psychological ownership of a hotel room does more than just increase stewardship toward the target (i.e., measured by cleanliness of a room in Study 2). We find that increases in psychological ownership of a hotel room also increase loyalty toward the overall hotel, as measured by the amount of effort guests exerted in writing a review (Study 1) and by intentions to return to the hotel, write positive reviews, and spread positive word of mouth about the hotel (Studies 2–4).

Second, while most of the existing research tests the effect of psychological ownership on loyalty through survey-based measures of both constructs (see Table 1), our research provides evidence from a multi-method approach. We not only observe psychological ownership by analyzing the language used in online reviews (Study 1) but also manipulate it using scenarios, simulations, and an

intervention in the field. In assessing loyalty, we measure both loyalty behavior intentions and actual loyalty behavior, the latter operationalized as the effort put into writing online reviews. Overall, our multi-method studies offer high external and ecological validity and generalizes the effect of psychological ownership of a hotel room on loyalty across different measurements and hospitality contexts.

Third, our focus on the effect of psychological ownership of a target on loyalty to the brand is able to show effects independent of changes in guest satisfaction, as the effect persisted when the manipulation of psychological ownership had only marginal (Studies 2 and 4) or no (Study 3; the investment of self condition) impact on customer satisfaction. Collectively, these findings provide evidence that psychological ownership influences loyalty through a mechanism that operates independently of satisfaction.

Practical Implications

Beyond theoretical contributions, our research offers practical insights for hospitality firms looking to increase guest loyalty when guests' satisfaction levels are already high. In the hospitality industry, where achieving high levels of guest satisfaction is a primary goal, hotels may often be hesitant to alter or update their guest experience design, especially when current strategies are already successful in attaining similar satisfaction levels. However, our research suggests that even small adjustments in the design of guest experiences, aimed at enhancing perceived control, can be significantly beneficial in enhancing guest loyalty. We propose that small nudges to increase guests' perceived control that are as costless as simply asking customers to choose their own room on a floor plan do not necessarily require substantial new investments or overhauls of existing systems. Instead, it involves subtle shifts in how options are presented and made available to guests, fostering a greater sense of ownership and, consequently, loyalty.

Of note, the interventions we document in our empirical studies led to increased loyalty while preserving high satisfaction across all study conditions. Hospitality firms may thus be able to improve loyalty from implementing interventions that stimulate any of the three psychological ownership antecedents even if such interventions might not substantially increase satisfaction. Overall, insights from our observational and empirical studies provide firms evidence-based strategies to design guest experiences that effectively foster loyalty.

Limitations and Future Research

We tested our effect across multiple measurements and settings. However, we highlight considerations for the generalizability of these findings and suggest avenues for future research. First, investigating the boundary conditions of the

antecedents of psychological ownership and their effects on loyalty remains an area for exploration. Understanding the contexts or conditions under which these antecedents influence loyalty provides deeper insights into designing interventions to increase psychological ownership of a room and loyalty to a hotel. Future research could also illuminate whether perceived control, investment of self, and intimate knowledge differentially impact loyalty across different customer segments or hospitality settings. In addition, we note that our exploration of how intimate knowledge and investment of self may be activated within the hospitality context is confined to Study 3. Future research could develop and test novel approaches to manipulate these antecedents in hospitality settings.

To demonstrate the generalizability of our findings, we tested the effect using online reviews, scenarios, a simulation of hotel application check-in, as well as in the field. We note, however, that we focused on U.S. samples, including online participants and hotel guests. Future research could examine whether this effect applies more broadly by testing the effect outside the U.S. context and with other populations. For example, as research suggests that customer engagement in word of mouth varies across cultures (Chung & Darke, 2006; Lam et al., 2009), our effects may thus be moderated by cultural differences.

A further limitation of our empirical work is that the specific attributes of guest experience influencing satisfaction, such as surprise, delight, service quality, and social interactions with hotel staff, are only broadly captured under our general guest-satisfaction construct. We encourage future research to clearly distinguish and identify how these specific aspects of the guest experience are related to, or distinct from, psychological ownership. Exploring how psychological ownership influences diverse dimensions of the guest experience could provide deeper understanding of its relationship with loyalty and satisfaction.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, or publication of this article.

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