# Knowledge of Deaths in Hotel Rooms Diminishes Perceived Value and Elicits Guest Aversion

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Jesse M. Bering<sup>1</sup>, Emma R. Curtin<sup>1</sup>, and Jonathan Jong<sup>2</sup>

### **Abstract**

Guest deaths are an inevitable aspect of the hospitality industry. In Study I, participants read a vignette in which the previous guest died of natural causes, suicide, or homicide. Those who learned of a death (a) saw the room as less valuable, (b) opted to stay in a more basic room in which no death occurred, despite both rooms being offered for free, and (c) anticipated feeling uneasy when imagining an overnight stay. In Study 2, we investigated the persistence of this bias. Perceived room value and anticipatory well-being can be expected to return to baseline levels only many years after the death event. Similar to "stigmatized properties" in real estate, these data confirm an irrational and recalcitrant cognitive bias surrounding consumers' views of death-affected hotel rooms.

### **Keywords**

stigmatized properties, decision-making, superstition, hotel, guest death

### **Corresponding Author:**

Jesse M. Bering, Centre for Science Communication, University of Otago, 133 Union Street East, Dunedin 9016, New Zealand.

Email: jesse.bering@otago.ac.nz

<sup>&</sup>lt;sup>1</sup>Centre for Science Communication, University of Otago, Dunedin, New Zealand

<sup>&</sup>lt;sup>2</sup>Centre for Research in Psychology, Behaviour and Achievement, Coventry University, Coventry, UK

A stigmatized property is one whose desirability or value is reduced for reasons unrelated to its physical condition or features. It has been "psychologically impacted", typically by death, and especially by "unnatural" deaths such as homicide or suicide (Warner, 1993). This psychological impact translates into economic effects. Using archival sales data for a total of 4,893 apartment transactions in Hong Kong from 2004 to 2009, Man and Wong (2012) found that flats in which a death has occurred sell for around 7.5% less than comparable ones (e.g., by floor size, sea views, amenities, etc.). This price-value decrement of 7.5% is commensurate to a study by Larson and Coleman (2001) on stigmatized property sales in the Midwestern United States, which similarly demonstrated a clear aversion to death-related homes. A California appraiser specializing in such properties estimated that a well-publicized murder lowers the selling price by 15–35% and takes twice as long to sell (see Alfano, 2014). These negative effects are not limited to the home in question: Data from Australia show that house prices tend to fall about 4.4% within a 0.2-mile radius of a stigmatized property; thus, the stigma attaches to other nearby homes as well (Lipsey, 2015). Moreover, these effects last for years (Edmiston, 2011).

Although it is clear that deaths—unnatural deaths in particular—impact people's purchasing preference, it is not clear why this is so. On one hand, the reluctance of potential buyers may be based on pragmatic considerations about difficulties upon future resale. Buyers may also make inferences about the safety of the neighborhood if the stigmatized property was the site of a homicide. Less reasonably, they may be disgusted by the fact that a corpse had been in the property, a potential source of harmful contagions. Like many evolutionarily responses, our affective response toward potentially contaminating substances such as dead bodies may be hypersensitive (Boyer & Liénard, 2006; Rozin, Markwith, & McCauley, 1994; Rozin, Millman, & Nemeroff, 1986). The stigmatization may also be driven by moral contagion effects: Previous research has found that people are reluctant to touch objects that are morally tainted, such as shaking the hand of a dishonest person, sitting at the seat of someone caught stealing, and even wearing an evil person's (e.g., Adolf Hitler's) sweater (Eskine, Novreske, & Richards, 2013; Nemeroff & Rozin, 1994). Eskine et al. (2013) showed that this moral contagion effect is moderated by disgust sensitivity. Furthermore, Rottman, Kelemen, and Young (2014) found that while moral judgements against homicide were predicted by concerns about harm, moral judgements against suicide were associated with disgust and purity concerns, including beliefs about suicide "tainting the soul" of the perpetrator.

The purpose of the present study is to investigate the causes behind people's reluctance to inhabit spaces in which deaths have occurred. Rather than looking at stigmatized properties in the context of home purchasing, we elected to study the impact of a prior hotel guest's death on consumer behavior. For several reasons, this latter context provides a purer test of consumers' psychological

reaction to the notion of occupying a physical space in which a death has occurred. Unlike purchasing a home, which is typically a personal, emotional endeavor that comes with considerable financial risk and plans for long-term habitation, the average hotel stay is relatively inexpensive, fleeting, and does not tend to elicit strong emotions. Furthermore, in the case of a hotel stay, monetary concerns are not confounded with realistic resale considerations (i.e., avoiding a home not because one has irrational beliefs about the property oneself, but out of consideration that *other* future buyers in the purchasing chain may hold such superstitions).

Like deaths in residential properties, the occurrence of deaths in hotel rooms and other forms of temporary commercial accommodation is an unfortunate but inevitable aspect of the industry (Burke, 2015; Denton & Barber, 2012; Frye, 2009). Although precise figures are closely guarded and difficult to come by, the annual financial loss to affected businesses is suspected to be substantial (Frye, 2009). As with home deaths, the reason for the deleterious impact of hotel room deaths on revenue can be understood in both practical and psychological terms. In the first instance, the occurrence of a death in a given room renders the guest suite out of service until the proper authorities have released the scene. For forensic incidents such as suicides, homicides, or suspicious deaths, especially, this duration of nonavailability can last up to several weeks, while the site is being processed. If the death involved "violations of the body envelope" (e.g., blood spatter), the room will need to be quarantined for health and safety reasons while it is properly cleaned. Wherever structural impairments (e.g., bullet holes on walls) or damage to furnishings are coincident, necessary renovations or aesthetic modifications will also extend this inoperative period, incurring both actual and opportunity costs. Even after such improvements have been made, however, negative effects may linger, and these cannot always be easily resolved through surface improvements. Anecdotal evidence suggests that the psychological impact of a hotel-room death can significantly compromise the tenability of the business. Somber images of crime-scene tape, police officials, and coroners are off-putting to the average consumer and may raise legitimate concerns about guest safety. In high-profile cases, such images may remain in the news long after the room has been cosmetically refurbished and brought back into circulation (Burke, 2015). In addition to these challenging realities, many clients harbor "irrational" beliefs about staying in a room in which a prior guest has died. Such beliefs may be either explicit (e.g., a verbally endorsed belief that the room is haunted) or implicit (e.g., reflected in superstitious behaviors), or in many cases, some combination thereof.

The present study therefore used a controlled experimental procedure in an effort to systematically gauge people's attitudes, decision-making, comfort, and perception of value for a hotel room in which a hypothetical prior guest has died. Being particularly interested in psychological contagion effects, we controlled for more pragmatic concerns, such as fears about hazardous room conditions, murderers still at large in the vicinity of the hotel, or contamination from bodily fluids. Thus, we sought to empirically isolate the role of emotional aversion to such rooms in response to the death event, ipso facto. Furthermore, to examine moral contagion effects, we compared unnatural deaths (i.e., homicide and suicide) to death by a natural cause, hypothesizing that the former will provoke a stronger, more negative effect in prospective guests than the latter, as manifested in participants' subjective valuation of room cost as well as their answers to various survey items designed to measure their (un)ease at the offer of a free overnight stay in the targeted room. Finally, based on previous research on the role of disgust in the moral contagion effect (Eskine et al., 2013) and attitudes toward suicide (but not homicide; Rottman et al., 2014), we expected suicides to elicit more adverse moral contagion effects than homicides.

# Study I

### Method

Participants. Adults (N = 338) residing in the United States were recruited from Amazon Mechanical Turk (MTurk), an online crowd-sourcing website offering small payments in return for survey participation and found to yield valid and reliable data (Buhrmester, Kwang, & Gosling, 2011). Participants who completed the entire survey in less than 2 min were excluded from analyses (eight participants). This time cutoff was arbitrary but necessary to avoid response-set bias; it was deemed a reasonable point at which adequate cognitive processing of the survey material could reliably occur. Furthermore, to reduce the risk of participants taking the survey multiple times, wherever more than one response was submitted from the same IP address, only the first response set was retained for analysis (14 responses deleted). The final sample comprised 316 participants (166 female, 150 male;  $M_{\rm age} = 36.4$  years, SD = 11.4).

### Materials and Procedures

Hotel room task. Informed consent was obtained from all participants prior to their involvement in this study. All participants were asked to read a brief vignette instructing them to envision a plausible real-world scenario in which they came across a convenient hotel while in urgent need of accommodation. After reading this fictitious introductory narrative, they were asked to make a forced-choice decision about their preference between the hotel's only two available guestrooms (one "standard" room and one "luxury" suite, differing accordingly in price). Participants then responded to various open-ended and

multiple-choice questions designed to measure their general (un)ease at the idea of staying in one of these rooms. The basic vignette was as follows:

Imagine that you are traveling on a long-distance road trip in the United States and, given that it's getting late, you have decided to pull over to the nearest hotel to get some much-needed sleep. On checking into the hotel, the manager at the desk notifies you that you are the 100th guest that week and, as such, they are pleased to inform you that you have won a free two-night stay. There are only two rooms left available, however. One of these rooms is an average, standard guest room that typically goes for \$105 per night. The other room, by contrast, is a more luxurious, upmarket suite that is typically priced at \$215 per night.

The vignette was accompanied by side-by-side color photographs of the two rooms (see Appendix A). Beneath these images, participants in all but the control condition were presented with an additional piece of information:

Before making your decision about which room you want, the hotel manager tells you that they feel it necessary to inform you that the last guest to stay in the luxury suite died in the bed from [x]...

Participants were randomly assigned to one of the four experimental conditions, in which the previous occupant of the luxury suite was said to have died (or not) in the room's bed. Thus, the foregoing sentence ended differently depending on the condition: "died in the bed from an allergic reaction to prescribed drugs" for *natural*, "died in the bed after being deliberately poisoned with drugs by their spouse" for *homicide*, and "died in the bed from suicide after purposefully overdosing on drugs" for *suicide*. The statement about the cause of death was presented in bold text to ensure that the participants saw and read this key information. *Control* participants were not presented with any additional information after reading the basic vignette and instead advanced directly to the study questions.

These particular death descriptions were used because they were matched by general mode of death (i.e., death by drugs) while differing in the death-related intent of the decedent. Both the homicide and natural conditions presented participants with an unintentional death scenario, whereas the suicide condition represented the intention of the actor to die. In using drugs as the underlying mode of death, we also controlled for violations of the body envelope (e.g., minimizing blood or other bodily fluids in an effort to address concerns of physical contamination). Additionally, we attempted to eliminate other extraneous factors that did not directly relate to our hypotheses (e.g., using spousal murder in the homicide condition to allay possible fears of a serial killer on the loose). To enhance participants' feelings of proximity to and immersion in the

death event, the deaths were explicitly stated as having occurred in the bed, spending the night in the luxury suite entailed coming into direct physical contact with an artifact intimately linked with the prior guest's death.

After reading the vignette and assigned text, all participants proceeded to the survey. The first-two survey items were open-ended questions assessing participants' subjective judgements about the "actual value" of each of the two hotel rooms based on the (death) information they had just received. Participants were reminded of the hotel's regular nightly rates for the standard room and luxury suite (i.e., US\$105 and US\$215, respectively), then prompted to enter a monetary value for each room. Next, a follow-up optional survey item invited participants to justify or explain their rationale for the monetary values they had just ascribed to the rooms.

Participants were then given a forced-choice question in which they were asked to decide which of the two rooms—standard room or luxury suite—they would choose for their free stay. However, after making this decision, all participants (again, except those in the control group) read an additional piece of information:

As the manager enters your information into the computer, she apologies and notifies you that she was in fact incorrect about the choice of rooms: it seems another guest has reserved the standard room using the Internet. That leaves only the luxury suite available for your free stay tonight.

Thus, regardless of their answer to the previous question, all participants were allocated at this stage to the luxury suite for their free stay. This was done to ensure that participants in the experimental conditions responded to all subsequent survey items in reference to staying in the hotel room where a death had recently occurred.

Next, participants were presented with a randomized series of 10 Likert-type scale questions cumulatively designed to ascertain their overall (un)ease about staying in the luxury suite, with higher scores (scale: 1–5) indicative of greater uneasiness (see Table 1 for full list of questions; note that half of the items were reverse coded).

Finally, to investigate possible connections between people's afterlife beliefs and their response patterns on the hotel-room survey, participants were administered the Belief in Afterlife Scale (hereafter, BA; Osarchuk & Tatz, 1973), a 10-item scale measuring an individual's degree of (dis)belief in the afterlife using a 5-point Likert-type scale (Table 2). The BA Scale is a nonsectarian measure meant to tap into a general belief in the idea that, following a person's biological death, there is nonetheless a continuity in the symbolic or conscious existence of the deceased. Examples of BA scale items include "humans die in the sense of 'ceasing to exist'" and "there must be an afterlife of some sort." Again, to control for response bias, these agreement-related statements were balanced

**Table 1.** List of Questions Designed to Measure Participants' Level of (Un)ease at the Prospect of Staying Overnight in the Luxury (Death) Suite.

- 1. I would be comfortable spending the night in this room. (-)
- 2. I would sleep well in this room. (-)
- 3. I am likely to decline the offer of a free stay altogether and instead try to find another room at a different hotel.
- 4. I am willing to stay a second free night in this room. (-)
- 5. I would want to clean this room before I used it.
- 6. I am likely to think about the previous guests who stayed in this room.
- 7. I would feel safe staying in this room. (-)
- 8. I am likely to sleep somewhere in this room other than the bed.
- 9. I would feel clean upon waking up in the morning in this room. (-)
- 10. I would be more likely to wake up in the middle of the night than usual.

Note. Responses were given on a 5-point Likert-type scale ranging from "strongly agree" to "strongly disagree." A minus sign indicates that the participant's score for that item was reversed.

### Table 2. Belief in Afterlife Scale (BA).

- 1. Earthly existence is the only existence we have. (-)
- In the premature death of someone close, some comfort may be found in knowing that in some way the deceased is still existing.
- 3. Humans die in the sense of "ceasing to exist." (-)
- The idea of there existing somewhere some sort of afterlife is beyond my comprehension. (–)
- 5. We will never be united with those deceased whom we knew and loved. (-)
- 6. There must be an afterlife of some sort.
- 7. Some existentialists claim that when man dies, he ceases to exist: I agree (-)
- 8. The following statement is true: "There is no such thing as a life after death." (-)
- 9. Millions of people believe in a life after death: They are correct in so believing.
- 10. Enjoy yourself on earth, for death signals the end of all existence. (-)

Note. Responses were given on a 5-point Likert-type scale ranging from "strongly agree" to "strongly disagree" (Osarchuk & Tatz, 1973). A minus sign indicates that the participant's score for that item was reversed.

for directionality valence, such that higher BA scores (range: 1–5) reflected a stronger belief in the afterlife.

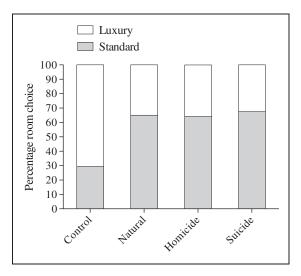
### Results

Preliminary analyses and BA. Participants held generally moderate-level BA. An overall score of 10 indicated absolutely no belief and a score of 50 an absolute conviction in the idea of an afterlife. The average for this study fell halfway between these points ( $M_{\rm belief} = 31.21$ , SD = 8.79). There was no significant

difference in BA scores between the four groups (death conditions): one-way analysis of variance (ANOVA), p = .2399. Simple logistic regression found no effect of BA scores on hotel room choice, B = -.016, SE = .013, Wald = 1.574, p = .21. Nor did multivariate analysis of variance find effects of BA scores on actual values ascriptions for the luxury and standard rooms, F(3) = 2.288, p = .08, and F(3) = 1.953, p = .121. Therefore, no further analyses were done with BA scores.

Choice of hotel room. To ascertain if the cause of the previous guest's death (natural death vs. homicide vs. suicide) affected participants' initial room choice (luxury suite where the previous guest had died vs. standard room where no death had occurred) when they were offered a free night's accommodation, we conducted a  $\chi^2$  test on the proportion of participants selecting each room type by condition. As predicted, the proportion of participants choosing the luxury suite was greatest for the control group (71%). By contrast, the proportion selecting the luxury suite was much lower for those in the natural (35%), homicide (36%), and suicide (32%) conditions, with individuals from these groups being significantly less likely than control participants to opt for the luxury suite:  $\chi^2$  (3, n = 316) = 31.30, p < .0001 (Figure 1).

Ascriptions of actual values to the hotel rooms. In general, we hypothesized that any death in the luxury suite would lead participants to judge the room as



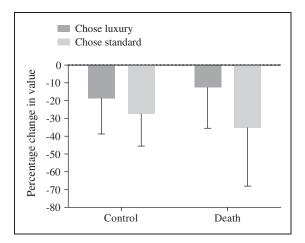
**Figure 1.** Proportion of participants from each of the four conditions choosing the luxury suite (in which the previous guest was said to have died) and standard room for Study 1.

depreciated in monetary value when compared with its stated going rate. To examine this, we compared the values attributed by each participant to both the luxury suite and standard rooms, calculating the percentage change in value for each room type. Contrary to our prediction that homicide or suicide would impact subjective price valuations more negatively than a natural death, across all participants, a one-way ANOVA showed no significant difference between death conditions in overall percentage change in ascribed value for the luxury (p = .0786, average change -25.96%), or standard (p = .9648, average change -7.66%) rooms. We therefore combined all three death conditions for the remaining analyses.

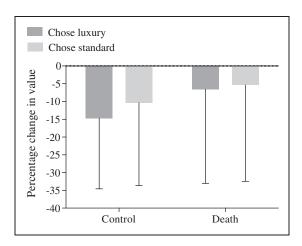
When the initial room choice was examined separately (i.e., participants' preference between staying in either the standard room or luxury suite before being told that the former was in fact unavailable), significant changes in attributed value emerged. Unpaired t tests with Welch's correction showed those in the (combined) death conditions who chose the standard room ascribed significantly lower monetary values to the luxury suite than did participants who initially chose the luxury suite (p < .0001). By contrast, for the control group, there was no significant difference in the changed value ascribed to the luxury suite by participants who initially chose either room type (p = .0647). When the same tests were done for values ascribed to the standard room, no significant differences were found between participants initially choosing either room type for any condition: p range = .4395-.3041 (Figures 2 and 3).

# Explicitly stated rationale for ascribed values

Of the 315 participants, 249 responded to the optional open-ended question inviting them to justify the values they had given. We coded this text material using a classification scheme that highlighted the role of the previous guest's death (or absence of such) in the participants' reasoning when deriving this figure. This led to five distinct, mutually exclusive categories (see Appendix B). Death-affected (DA) statements included those that acknowledged the death as affecting the ascribed value (e.g., "I would never pay more than US\$100 to stay in a room in which someone died."); death-denying (DD) statements included those in which participants went out of their way to point out that the death did not factor into their ascribed value (e.g., "Just because someone died [there] does not mean the room itself is less valuable."); general-value (GV) statements were those that referenced the hotel quality, issues of overpricing, or personal room preferences that affected the value but did not include any mention of the death (e.g., "The room looks too plain to be worth that much."); mixed (M) statements were those that included two or more of the foregoing categories (e.g., "I think the luxury room costs too much anyway and someone dying there only makes it less valuable."); and finally other (O) responses were unclassifiable, either because they were



**Figure 2.** Average percentage change in value ascribed to the luxury room by participants who chose each room type (luxury suite vs. standard room) for Study I.



**Figure 3.** Average percentage change in value ascribed to the standard room by participants who chose each room type for Study 1.

(e.g., "jfysk") or not related to the purpose of the study (e.g., "It's a lovely sunny day.").

Interrater reliability for these classifications was gauged by having two independent coders (the second author, E. C., and a research assistant naive to the hypotheses of the study) classify responses from the entire data set. Cohen's  $\kappa$  was excellent ( $\kappa$  = .98) and the few disagreements resolved upon discussion.

Given that very few participants gave mixed and other responses (n=2 per category), these categories were not included in  $\chi^2$  testing because doing so would violate the assumptions of the statistical analysis. However, a  $\chi^2$  test on the three remaining categories revealed that the number of participants invoking each justification category varied significantly between conditions:  $\chi^2$  (6, n=245) = 67.53, p<0.001. Specifically, more people in the suicide condition (n=34) gave DA justifications in their written statements than did participants from any other condition (see Table 3; n=28 and 20 for homicide and natural, respectively). As would be expected, participants in the control group (n=58) were the most likely to invoke GV justifications for their ascribed room values, followed by natural (n=29), homicide (n=26), and suicide (n=24). Finally, the number of participants making DD justifications was approximately even between natural and homicide (n=10 and 11, respectively), with only five participants from the suicide condition explicitly stating that the death of the previous guest did not factor into their valuations.

Responses to survey items. To examine the effect of death condition on overall feelings of (un)ease with regard to staying in the luxury suite, cumulative responses to the 10-item survey were compared across all four conditions. A one-way ANOVA of this total score (carried out by adding together each participant's scores across all 10 questions and then comparing these totals across the primary death manipulations) yielded a significant main effect of condition (p < .0001). A follow-up Tukey's multiple comparisons test revealed that the differences lay between control (M = 19.69) and death conditions ( $M_{\text{natural}} = 31.71$ ,  $M_{\text{homicide}} = 29.63$ ,  $M_{\text{suicide}} = 31.31$ ; multiplicity adjusted p < .0001 for all comparisons). Overall, participants in the death conditions expressed significantly more unease than did the control participants. However, contrary to our hypothesis that unnatural deaths (homicide and

**Table 3.** Explicitly Stated Rationale Classifications for Ascribed Values by Condition for Study I.

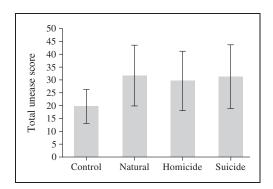
Condition	Control	Natural	Homicide	Suicide
Death acknowledge	0	20	28	34
Death deny	0	10	11	5
General value	58	29	26	24
Mixed	0	2	0	0
Other	I	1	0	0
Total	59	80	65	63

Note. The table shows the total number of participants providing each type of rationale.

suicide) would evoke more unease than a natural death, there were no meaningful differences between them (Figure 4).

Separate analyses for the individual survey items also indicated that the occurrence of the prior guest's death in the luxury suite strongly influenced participant's responses. As there were no significant differences between any of the three death conditions for any of the survey items, the three death conditions were collapsed for this analysis. Unpaired t tests with Welsh's correction showed the differences between control and the combined death conditions were highly significant (p < .0001) for all 10 survey-item comparisons. Participants who were told that the previous guest died in the room reported that they would feel less comfortable, would sleep less well, and were less likely to accept a second free night in the luxury suite than control participants. Furthermore, compared with those in the control group, people in the death conditions were also more likely to say they would decline the free stay altogether and try to find a different hotel, to think about the previous guest, to feel less safe, to sleep somewhere other than the bed, to feel "less clean" the following morning, and to wake up more often in the middle of the night.

Survey-item comparisons by room choice. The foregoing analyses did not differentiate between participants who initially selected the standard room and the luxury suite on the forced-choice item. We therefore conducted a series of separate analyses comparing the survey responses of participants who opted for the different room types (standard room vs. luxury suite). The rationale behind these additional analyses was to tease apart how people with strong negative feelings against staying in the luxury suite might reason differently from those inclined to stay in this more expensive room regardless of the death.



**Figure 4.** Average total (un)ease scores by condition for Study I. The higher figures on the Y-axis represent participants' greater cumulative uneasiness at the idea of staying overnight in the luxury suite (in which the previous guest was said to have died).

For people who opted for the standard room, an unpaired t test with Welch's correction found a main effect of condition on cumulative unease. Those in the three death conditions (combined) felt significantly less at ease than those in the control condition (p < .0001). By contrast, for those who opted to stay in the luxury suite, the same test failed to yield a significant effect of condition (p = .3537). In other words, for people who chose the luxury suite despite the fact that the previous guest had died there (n = 82), the death event seemed to have had no bearing at all; for everyone else (n = 156), it caused unease (Table 4).

A similar pattern emerged for analyses of the individual survey item responses (Table 4). An unpaired t test with Welch's correction for those opting for the luxury suite showed that only *Item* 6 ("think about previous guest") had a main effect of condition (p = .0005). Participants from the death conditions were significantly more likely to think of the previous guest than were those in the control group.

By contrast, individual item analyses for participants who initially selected the standard room revealed that all but Item 7 (feel safe) failed to yield a significant difference between the control and death conditions; all participants felt equally (un)safe about the prospect of staying in the luxury suite (M range = 2.217–3.056). With the exception of this "safety" item, however, control participants felt significantly more comfortable spending the night in the luxury suite, said they would sleep better, be less likely to decline the free offer altogether and find a different hotel, be more willing to spend a second free night in the luxury suite, be less likely to think about the room's previous guests,

**Table 4.** Multiplicity Adjusted p Values for Comparisons Between All Participants in All Conditions Across Each of the 10 Survey Items. Significant Differences Are Shaded in Gray.

Item	Control vs. natural	Control vs. homicide	Control vs. suicide	Natural vs. homicide	Natural vs. suicide	Homicide vs. suicide
I	<.0001	<.0001	<.0001	.4613	.9983	.364
2	<.0001	<.0001	<.0001	.5777	.9875	.3762
3	.0001	.002	<.0001	.9125	.9666	.6769
4	<.0001	<.0001	<.0001	.4381	.9963	.5742
5	.0002	<.0001	.0716	.9619	.2706	.1036
6	<.0001	<.0001	<.0001	.9974	.9711	.9947
7	.0024	.0061	.0012	.9944	.9978	.9726
8	<.0001	.0011	<.0001	.165	.7722	.6795
9	<.0001	.0046	<.0001	.4843	.9527	.2101
10	.0012	.0269	.0017	.7869	.9995	.8446

be more likely to sleep in the bed, feel cleaner upon waking, and would wake up less often in the middle of the night than participants in all three death conditions (p < .01; Table 4).

### Discussion

Study 1 provides clear evidence that having knowledge of a previous guest's death in a hotel room disturbs most people, leading the majority of prospective clients to perceive the affected room as being worth less money than the going rate and being more unsettling than a comparable nonstigmatized room on a number of psychological dimensions. In fact, when given a choice between a free stay in a more expensive "luxury" suite in which the previous guest died and a less expensive, more basic hotel room not associated with any death, the majority of participants ( $\approx 66\%$ ) opted for the latter. Despite the fact that the death did not signal any obvious risk (e.g., we controlled for rational fears of physical contamination by using a drug overdose scenario, and the domestic incident addressed threat of a homicidal stranger), the room was nevertheless psychologically impacted by irrational aversion.

However, the findings also demonstrate that this negative effect does not necessarily apply to all prospective clients. For a subset of individuals (i.e., those who chose the luxury suite despite knowing of a recent death there), the idea of staying overnight in a room in which the previous guest expired was not especially disturbing. This does not appear to be related to people's beliefs or lack thereof in the afterlife. Overall though, these empirical findings suggest that the discretionary caution employed by most hoteliers when it comes to containing information about guests' deaths is financially warranted: Rooms in which a death occurred are seen as being worth substantially less ( $\approx -26\%$ ) than comparable, nonstigmatized rooms.

Contrary to our hypothesis, the nature of the death (natural vs. unnatural) did not influence people's negative reactions to the room in question. The occurrence of any death, it seems, can drive the undesirable consequences of psychological stigmatization, at least for hotel-room occupancy. A slight exception to this was uncovered when we asked participants to justify the diminished values they ascribed to the rooms: Those who read that the previous guest died by suicide in the luxury suite were more likely than those in the homicide and natural death conditions to explicitly mention the death as motivating their lowered valuations for that room. This finding is consistent with data reported by Rottman et al. (2014), who showed that people tend to perceive suicide, but not homicide, as morally "tainting" the decedent's soul, an effect generalizing even to nonreligious observers. Possibly related to these data are cross-cultural prescriptions concerning the ritual disposal of suicide corpses (see Joiner, 2007). Folk beliefs around the world illustrate the notion that such bodies desecrate hallowed grounds. In medieval Britain, suicide corpses were mutilated to keep

vindictive spirits from harming the community; in parts of Ghana today, the body must be removed through a special aperture cut into the building so that the doorway is not contaminated, and if one hangs oneself, the tree must be felled and burned (Adinkrah, 2012). It is thus an intriguing possibility that implicit essentialist beliefs regarding the "contaminative" nature of suicide, in particular, were captured in people's written justifications for their ascribed values to the affected room.

What remains unclear from the results of Study 1 is the extent to which the negative effects of a hotel-room death persist over time. In real estate, data on stigmatized property sales indicate that homes can, and often do, recover from such incidents, eventually rebounding both in marketability and value. In jurisdictions with some of the strictest disclosure laws, such as California, sellers and brokers are legally obligated to disclose deaths on the property for a set period only, typically limited to three years after the incident. To determine if stigmatized hotel rooms can similarly regain value in the event of a guest's death being made public, we therefore ran a second study in which "time since death" served as the primary independent variable.

# Study 2

### Method

Participants. As with Study 1, adults (N=312) residing in the United States were recruited via MTurk. Also as before, to avoid possible response-set bias, participants who completed the survey in less than  $2 \min (n=22)$  were not included in the analyses. In addition, only the first response was retained wherever multiple responses were submitted from the same IP address (three responses deleted). A further 41 responses were excluded due to incompleteness. The final sample therefore totaled 246 participants (119 female, 127 male;  $M_{\rm age} = 35.40$  years, SD = 11.58).

### Materials and Procedures

Hotel room task. Informed consent was obtained from all participants prior to their involvement in this study. Participants read the same basic vignette as the one used in Study 1, in which they were asked to imagine being on a long-distance road trip, coming across a hotel while in need of sleep and winning a free stay in their choice of a standard room (normally US\$105 per night) or a luxury suite (normally US\$215 per night). Room options were presented along-side the same photographs from the previous study, and participants informed that a previous guest had died in the luxury suite. The key factor for the current study, however, was the time period since the previous guest had died. Participants were therefore randomly assigned to one of the five experimental

conditions: *control* (no information given about a guest's death), *yesterday* (a guest died in the luxury suite yesterday), *week* (a guest died in the luxury suite last week), *month* (a guest died in the luxury suite last month), or *years* (a guest died in the luxury suite many years ago). Those in the time-since-death conditions also read the following additional information, which was shown beneath the photographs of the rooms:

Before making your decision about which room you want, the hotel manager tells you that they feel it necessary to inform you that the last guest to stay in the luxury suite....

Depending on the condition to which participants had been randomly assigned, the sentence ended with "killed themselves in the bed in a deliberate drug overdose *yesterday/last week/last month/several years ago*." These death details were presented in bold text to ensure that the participants read the information. Since there were few notable differences in Study 1 for the cause-of-death variable (natural death vs. homicide vs. suicide), the death was standardized to suicide for the present study.<sup>1</sup>

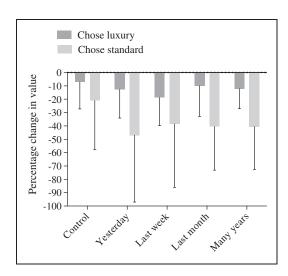
All participants then proceeded to the study questions and the procedure was identical to that of Study 1.<sup>2</sup> Participants were reminded of the nightly rates for the standard room (US\$105) and luxury suite (US\$215) and then asked how much they believed the rooms were "actually worth." In addition, they were provided with an optional open-ended text box to explain their rationale for why they entered these values. Next, participants were asked to choose which of the two rooms they would like to stay in before being told that the standard room was, in fact, no longer available. Just as for Study 1, this ensured that all participants answered the following survey questions in relation to staying overnight in the luxury suite, irrespective of their room preference.

### Results and Discussion

Choice of hotel room. To determine whether knowledge of a previous guest's death in the luxury suite influenced participants' room choice, we performed a  $\chi^2$  test on the proportion of participants selecting each room type by time-since-death condition. This revealed a highly significant effect:  $\chi^2$  (4, N=246)=34.83, p < .0001. As predicted, the proportion of people choosing the luxury suite was greatest for Control participants (73%). By contrast, it was only for participants in the Years condition that this choice of the luxury suite represented the majority choice (54%), with strikingly fewer participants from the day (27%), week (28%), and month (28%) conditions opting for the luxury suite over the standard room. In other words, it is only after "many years" that most people's aversion to staying in a room in which a previous guest had died begins to dissipate, with the effect in fact still lingering for many.

Ascriptions of actual values to the hotel rooms. A one-way ANOVA of the percentage change in the value ascribed to the luxury suite revealed a main effect of condition (p < .05). Follow-up Tukey's multiple comparisons test showed that the significant differences were between control (M = -9.74%) and week (M = 40.43%, multiplicity adjusted p = .0092), and control and month (M = -36.15%, multiplicity adjusted p = .0374). By contrast, no significant difference was found for percentage change in value between control and day multiplicity adjusted p = .1188), (M = -31.64%,control (M = -26.63%, multiplicity adjusted p = .3524), nor between any of the other time-since-death levels.<sup>3</sup> Overall, the room is perceived as regaining its baseline value in the wake of a previous guest's death, but the death only becomes negligible after "many years" (see Figure 5). When a similar analysis was applied to percentage change in value for the standard room, there was no effect of timesince-death condition (p = .1908).

As with Study 1, we sought to tease apart the foregoing effects for participants who had chosen the luxury suite over the standard room (n = 68 vs. 129, respectively) after learning that a previous guest had died there. Across all levels of the time-since-death variable, an unpaired t test with Welch's correction showed that participants who opted for the standard room ascribed significantly lower values to the luxury suite than did those who chose the luxury suite (p < .0001; Figure 5). By contrast, there was no such effect of room choice when the same analysis was performed for the percentage change in the value ascribed to the standard room (p = .6901). For both room-choice subgroups,



**Figure 5.** Average percentage change in value ascribed to the luxury room by participants in each condition for Study 2.

however, the percentage change in value attributed to the standard room was equivalent (i.e., nonsignificant) for all time-since-death levels (one-way ANOVA p range = .3524–.9913).

Unpaired t tests with Welch's correction uncovered no effect of time-since-death condition for control participants, either for those who chose the standard room (p=.3237) or the luxury suite (p=.2148). Within the four experimental conditions, however, a significant difference in the value ascribed to the luxury suite emerged for those choosing both room types. Compared with those who opted for the luxury suite, people who had opted initially for the standard room gave significantly lower values for the luxury suite in all four experimental (time-since-death) conditions: day (p < .005), week (p < .05), month (p < .005), and years (p < .0005). By contrast, there were no significant differences in the values ascribed to the standard room by participants choosing either room type, for any of the experimental conditions (p range from .1469 to .9407). Together, these findings show that a previous guest's death subjectively devalues that specific room for the majority of prospective clientele but not other rooms in the same hotel. Furthermore, the negative effect for this subgroup appears to last indefinitely, even after "many years."

Explicitly stated rationale for ascribed values. Of 246 participants, 193 chose to provide written rationale for their room valuations, and these qualitative data were then classified using the same coding scheme from Study 1. Interrater reliability for these classifications was obtained by having two independent coders (again, the second author, E. C., and a research assistant naive to the purposes of the study) classify all responses. Cohen's  $\kappa$  was excellent ( $\kappa$  = .99) and the few disagreements easily resolved upon discussion.

Similar to the previous study, there were so few mixed (n=7) and other (n=2) responses that these could not be included in further analyses. For the remaining three categories, however, the number of participants providing each type of rationale (DA, GV, DD; see Appendix B) differed significantly between experimental conditions:  $\chi^2$  (8, n=184) = 78.49, p < .0001, a finding which can be attributed to the control group's overrepresentation of GV statements.

The number of individuals who explicitly stated that the death played a role (DA) in their ascribed values decreased as a function of time since the death: day (n=27), week (n=25), month (n=18), years (n=15). By contrast, the number of participants who explicitly denied that the death played a role in their ascribed values (DD) showed no discernible pattern: day (n=4), week (n=10), month (n=6), and years (n=8). Similarly, for those who did not mention the death at all, but instead invoked more general rationalizations (GV) for their ascribed room values (such as style preferences or suspicions of default overpricing in the hotel industry), no clear trend emerged: day (n=9), week (n=6), month (n=10), years (10). As expected, participants from the control

group (i.e., those who heard nothing about a previous guest's death) gave the highest number of GV responses (n = 36; see Table 5).

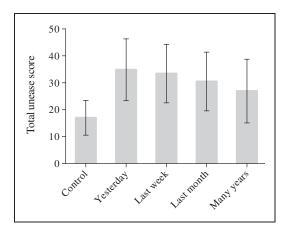
Responses to survey items. To explore the effect of time since death on overall (un)ease, we conducted a one-way ANOVA of the cumulative survey score. This yielded a main effect of condition (p < .0001). A follow-up Tukey's multiple comparisons test revealed that the differences lay between the control condition (M = 17.02) and all four time-since-death conditions (M range from 26.92 to 34.84; multiplicity adjusted p < .0001 in all instances). Significant differences in (un)ease also appeared between day (M = 34.84) and years (M = 26.92; p = .0018) as well as week (M = 33.43) and years (p < .05). These data reveal a general trend in which people's overall uneasiness about staying in a room in which the previous guest died is a function of the temporal proximity of the death, with cumulative uneasiness dissipating over time (see Figure 6).

Similar to Study 1, a series of one-way ANOVAs were then carried out separately for responses to each of the 10 survey items. All such analyses yielded strong main effects for the time-since-death condition (p < .0001 in all cases), with follow-up Tukey's multiple comparisons tests serving to identify the significant differences for each item. Compared with those from all four time-since-death conditions, control participants felt significantly more comfortable, would sleep better, were less likely to decline a free stay and try to find a different hotel, were more likely to accept an offer of a second free night's stay, were less likely to clean the room prior to their stay, were less likely to think about the previous guest, would feel safer staying in the room and cleaner upon waking up the following morning (p range < .0001 to .05). Exceptions were found for the 5th, 8th, and 10th survey items. Specifically, although control participants were significantly less likely to say they would feel the need to clean the room prior to their stay, to sleep somewhere other than the bed, and to wake during the night

**Table 5.** Explicitly Stated Rationale Classifications for Ascribed Values by Condition for Study 2.

Condition	Control	Day	Week	Month	Year
Death acknowledge	0	27	25	18	15
Death deny	0	4	10	6	8
General value	36	9	6	10	10
Mixed	0	2	0	3	2
Other	I	0	0	0	1
Total	37	42	41	28	36

Note. The table shows the total number of participants providing each type of rationale.



**Figure 6.** Average total (un)ease scores by condition for Study 2. The higher figures on the Y-axis represent participants' greater cumulative uneasiness at the idea of staying overnight in the luxury suite (in which the previous guest was said to have died).

than those in the day, week, and month groups, their responses did not differ meaningfully from those given by people in the years group (p = .650, .4107, and .0626, respectively).

In addition to the foregoing differences between the control and experimental groups, significant differences also emerged between other levels of the same variable. For example, those in the years condition (M=2.480) stated that they would be significantly more comfortable staying in the luxury suite than both day (M=3.541, p<.01) and week (M=3.531, p<.005) participants and would also sleep better (M=2.540) in this room than the latter groups (M=3.549, p<.005; M=3.490, p<.01, respectively). Those in the years condition (M=3.056) were significantly less likely to feel the need to clean the luxury suite prior to their stay than both day (M=4.000, p<.005) and week (M=3.792, p<.05) participants.

Moreover, participants in the years condition (M=4.145) were significantly less likely to say they would think about the previous guests than were those in the day group (M=3.407, p<.05) as well as significantly less likely (M=2.148) to sleep somewhere other than the bed than day (M=3.184, p<.005) and week (M=2.925, p<.05) participants and also to wake during the night. Finally, those who heard that the guest died in the luxury suite the day before (M=3.491) said they would feel less clean on waking in the room the next morning compared with those told the death occurred a month (M=1.772, p<.05) or years (M=2.741, p<.05) ago.

### General Discussion

The psychological processes underlying the construct of "stigmatized properties" in the real estate and hospitality industries remain little understood. In fact, they remain virtually unstudied (for an exception, see Man & Wong, 2012). To address this, we sought to empirically ascertain, first, if a cognitive bias against purchasing—or even just temporarily occupying—a physical space in which someone has died exists beyond conjecture and anecdotes (e.g., Burke, 2015; Denton & Barber, 2012; Frye, 2009). Second, we wanted to know if such a cognitive bias, should it exist, is driven by an essentialist reasoning similar to moral contagion fears (e.g., Eskine et al., 2013; Nemeroff & Rozin, 1994). Finally, we sought to determine whether such properties could ever truly recover from the stigma attached to a death made public.

Using a fictitious hotel-room death scenario to investigate people's feelings about staying overnight in a place where a stranger died, we were able to confirm that an aversion to such spaces indeed exists for most people. By controlling for a host of tangible factors that could be seen as legitimizing such a cognitive bias as rational decision-making, we isolated the emotive role of consumers' irrational feelings about such stigmatized properties. For example, when it comes to hotel rooms, the prospective guest may be leery of contamination because the death involved bodily fluids or virulent diseases (Rozin, Haidt, & McCauley, 2008). If the death were a homicide, safety would appear to be a sensible concern. In real estate, the buyer might claim not to be superstitious themselves but simply cognizant of other future buyers' superstitious beliefs and therefore is acting prudently by avoiding the property out of resale concerns (Edmiston, 2011; Warner, 1993). However, the present paradigm standardized contamination and fear confounds by using a drug-overdose scenario that served to systematically address any such logical reasoning, while the hotel-room scenario obviated resale considerations. Still, the cognitive bias we uncovered demonstrated that the mental operations motivating people's uneasiness toward such properties extends beyond mere practical or pecuniary considerations (for a review of the psychology of superstitious thinking, see Wiseman & Watt, 2004). These findings are consistent both with the models of moral contagion theory (e.g., Rozin et al., 1994) and precaution avoidance theory (Boyer & Liénard, 2006), in which people appear to act irrationally due to a hypervigilant avoidance of pathogenic agents (such as corpses) that would have been a common disease source in the evolutionary past.

In support of the latter model, and contrary to our prediction, we found that it makes almost no difference if the death is natural (e.g., a fatal allergic reaction to a prescribed drug) or unnatural (e.g., a deliberate overdose or poisoning by a spouse). Regardless of the cause of death, participants in our study perceived the

affected room as being worth less money and generating more anticipatory unease than a room in which a death did not occur. In fact, this cognitive bias was so powerful that the majority of people opted to stay in cheaper, basic accommodations in which no death was said to have occurred than a more expensive—butDA—luxury suite, even though both were offered for free. However, it would be interesting to know if, say, the natural death of an elderly guest would fuel the same clear stigmatizing effect as the toxicological example used in our study. In other words, it remains to be seen if a natural death in which the decedent's life does not end "prematurely" (e.g., a "more natural" natural death, such as an octogenarian dying peacefully in their sleep) would instantiate the same cognitive bias that we found in our studies.

However, the moral contagion model also found some support in the present data, in that individuals randomly assigned to the suicide condition were somewhat more likely to explicitly mention the death as the main reason they ascribed a reduced value to the luxury suite. Deaths by suicide might be especially potent when it comes to the perceived value of psychologically impacted properties, a heuristic related to essentialist reasoning in the moral domain in which the commission of social transgressions is seen as permeating unrelated aspects of the physical world (e.g., people's unwillingness to wear the clothes of a rapist or murderer, for instance, see Rozin et al., 2008). Rottman and his colleagues found that even nonreligious people perceive suicide victims as having violated an intrinsic moral imperative and the "souls" of these people are socially tarnished, whereas those of homicide victims are unadulterated (Rottman et al., 2014). If suicide is treated as a moral violation, the decedent's bad "essence" may be seen as intimately bound to the physical environment by acting in this fashion.

The majority of people appear to believe, either implicitly or explicitly, some nonphysical attribute connected to the death event is lingering in the affected physical space. This attribute may not exist in reality, but nevertheless it seems very capable of generating negative feelings, as shown in people's survey responses about their (un)easiness at staying overnight in a room with such a history. This form of reasoning may not be limited to the structure itself; at least one expert appraiser cautions that even razing a stigmatized property and rebuilding on the same grounds does not exorcize superstitious reasoning from observers' minds (Bell, Anderson, & Sanders, 2008). Likewise, archival sales data show that nearby homes are also negatively affected by stigmatized properties in the same neighborhood (Lipsey, 2015; although such records usually conflate suicides and unsolved homicides, ignoring rational price indicators such as residents' safety). That being said, results from the present study suggest that, at least for hotels, the stigma associated with a former occupant's death may be limited to the room itself; other rooms in the same establishment were not psychologically impacted. Compared with residential real estate, one speculative interpretation of this more circumscribed pattern is that the inherent

architectural discreetness of hotel rooms serves to "contain" the stigmatizing effect. Furthermore, the findings from Study 2 show that this effect is recalcitrant in that it dulls only after a substantial period of time has elapsed. Even then, the room is still compromised in subtle emotional ways. All else being equal, guests are more comfortable with the notion of staying in a room in which a death did not occur than one in which it did, regardless of how many years have passed.

An alternative explanation for the current data set is that having knowledge of an earlier death incident in one's room elicits distressing ideation, thereby influencing subjective price valuation and undermining customer satisfaction by intruding on the client's psychological well-being (e.g., Sanna, Stocker, & Clarke, 2003). Such an explanation might hold that the unsettling information shared with participants evokes negative ruminative thoughts (perhaps involving, but not necessarily limited to, imagining the death scene). However, it is worth pointing out that the minority subset of participants that was apparently unaffected by the death (i.e., the subgroup that opted for the luxury suite regardless of the death having occurred there) was no less likely to think about the previous guest(s) than those who were. In fact, these seemingly unaffected people's response to the "think about the previous guest" item was the only one in the entire survey that did not differ statistically from that of the other participants. This suggests that knowledge of a previous guest's death, in and of itself, does not jeopardize one's feelings about the room simply because it is difficult to erase the negative information from one's mind, but instead because, at least for most individuals, it (also) inspires irrational beliefs.

Nonetheless, the present findings clearly show that individual differences, seemingly unrelated to belief in the afterlife, mediate the negative psychological effects of stigmatized properties. Some individuals are not put off by the idea of staying in a hotel room in which the previous guest died, even when the death was as recent as the evening before. In cases of celebrity deaths, there can even be a macabre demand for such accommodations. Once the room number was leaked to the media, The Beverly Hilton hotel in Beverly Hills was reportedly besieged by fans requesting to stay in Room 434, where singer Whitney Houston died in the bathtub from a drug overdose in 2012 (Burke, 2015). The hotel decided to officially retire the room due to curiosity seekers capitalizing on insensitive photo ops. Such cases are far from typical, however, and tend to fall under the somewhat different conceptual umbrella of "dark hospitality," in which a small but active contingency knowingly seeks out notorious sites of death and dying (Garrett, 2008; Hay, 2015).<sup>4</sup>

When it comes to the deaths of random strangers and the average consumer's incidental exposure to such stigmatized properties during their travels, it is possible that the survey design method employed here, which involved a hypothetical hotel-room death, may have masked subtle measures of aversion in people who were ostensibly unaffected. This may also apply to those who provided DD explicit rationalizations when justifying their ascribed room values

(e.g., "Just because someone died does not mean the room itself is less valuable..."). Future investigations in this area might therefore attempt to use behavioral dependent measures that more closely approximate consumer decision-making in the real world.

In summary, the present work lends credence to hoteliers' discretion regarding the handling of information about deaths in hotel rooms. Overnight stays in such places are likely to generate unpleasant affect on an array of subjective dimensions. Due to cognitive biases inherent to human causal reasoning, once a room is identified as the site of such an incident, most prospective clientele will perceive that room, for a long time to come, as far less desirable than one without such a past.

# Appendix A

Images of hotel rooms for the standard room (L) and luxury suite (R) comparisons.



# Appendix B

Themes and illustrative quotes.

# Death Acknowledge (DA)

Explicitly acknowledges that the death is a determining factor in the participant's rationale for placing a given value on the room.

Examples: "I would never pay more than \$100 for a room in which someone died..."; "The fact someone died in the room is creepy..."

# Death Deny (DD)

Explicitly denies that the death is a determining factor in the participant's rationale for placing a given value on the room.

Examples: "Just because someone died does not mean the room itself is less valuable..."; or "The death does not bother me..."

# General Value (GV)

Responses that reference the hotel quality, overpricing, or personal room preferences that affect the value but do not mention the death in any way.

Examples: "The room looks too plain to be worth that much..."; "Hotel rooms are always overpriced..."; "I just estimated the cost."

# Mixed (M)

These are responses that match the criteria for two or more of the aforementioned categories.

Examples: "The death is off-putting and the room looks too plain anyway..."; "I think the luxury room costs too much anyway and someone dying there only makes it less valuable..."; or "I think the price of the room is typical. The death doesn't figure into the worth of the room..."

# Other (O)

Responses that can't be placed in any of the aforementioned categories either because they are nonsensical or because they have no relevance to the study.

Examples: "jfysk..."; "It's a lovely sunny day."

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### **Notes**

- 1. We decided to use suicide as the cause of death for Study 2 in light of the trends from the explicitly stated rationale from Study 1, whereby more people in the suicide condition described the previous guest's death as affecting their room valuations than did those in the two other death conditions.
- 2. With the exception that the Belief in Afterlife Scale was not included given the previous study's null findings for this measure.
- 3. Although the differential value changes for the death-affected luxury suite between the control and day conditions failed to reach significance, the trend described earlier is

- still clearly evident. Furthermore, the effect in question becomes apparent (p < .01) when removing a single outlier figure in the day condition that, contrary to all others in this category, showed an *increase* in perceived value.
- 4. The Stamford Plaza in Sydney, Australia, where Michael Hutchence, lead singer of the band INXS died, and the Highland Gardens Hotel in Hollywood, where singer Janis Joplin died, both charge premium rates for these infamous hotel rooms.

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## **Author Biographies**

Jesse M. Bering is an associate professor in the Department of Science Communication at the University of Otago. A research psychologist by training, he is a specialist in the cognitive science of religion and author of the critically acclaimed *The Belief Instinct* (2011, W. W. Norton), as well as numerous peerreviewed publications. His experimental studies on children's afterlife beliefs and ascriptions of purpose to natural events are regarded as landmark contributions to the field. As a well-known popular science writer, he has also written on the subject of religion (and specifically, on the nature of unbelief) for a wide range of high-profile media outlets, including *The Guardian, Scientific American, Slate*, and many others. He is presently writing a book on suicide.

**Emma R. Curtin** earned a Masters degree in Zoology from Massey University, New Zealand, and is currently working on her doctorate degree in that field. She is a research assistant in the Department of Science Communication at the University of Otago.

Jonathan Jong is coleader of the Brian, Belief, and Behaviour research group at Coventry University and research coordinator of AnthroLab at the University of Oxford. He is an expert in the explicit and implicit measurement of religious beliefs, and is currently coleading a £1.5-million cross-cultural research project on the relationship between religion and morality, funded by the Templeton World Charity Foundation.