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Subconscious influences on perceived cleanliness in hospitality settings

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ABSTRACT

Due to the COVID-19 pandemic, now and for years to come, guests at hospitality venues will have heightened awareness with regard to formulating their perceptions of cleanliness. While perceived cleanliness has received attention in our existing body of literature, this conceptual paper integrates potential subconscious influencers on cleanliness perceptions into our understanding. Specifically, findings contained in various streams of research suggest that a number of factors can have subconscious influences on individuals’ perceptions of cleanliness in service environments. Such factors include the degree of lighting, the presence of plants / greenery, the shininess of surfaces, the use of ambient scents, the use of white bedding, and the presence of cleaning staff. Evidently, the sooner hospitality venues (particularly airlines, lodging operations, restaurants, and cruise ships) are perceived as clean and safe, the faster they will recover from the pandemic. As such, this paper is rich with both practical and research implications.

1. Introduction

Fear among consumers is a major disruptor of hospitality businesses during the COVID-19 pandemic (Alonso et al., 2020). To recover from the pandemic, hospitality venues need to be perceived by potential guests as safe and clean. Existing research, however, demonstrates that there is a low correlation between perceived cleanliness and actual cleanliness (Molenaar and Hu, 2013; Robin et al., 2007). While no one would likely recommend that an establishment that is not actually clean attempt to bolster perceived cleanliness; the opposite should also be avoided. That is, a venue that is actually clean should avoid being perceived as unclean, particularly as the world is recovering from a virus-driven pandemic.

While the concept of perceived cleanliness has received attention on a routine basis in the hospitality literature (e.g. Vos et al., 2019a, 2019b), there are some potential subconscious influencers of cleanliness perceptions that can be found in other research fields such as medical, psychology, family business and physiology. Therefore, the purpose of this paper is to introduce these subconscious influencers to the hospitality discipline. From a research implications perspective, it is hoped that this contribution will stimulate further studies into moderating factors that influence the strength of these subconscious influencers.

From a managerial perspective, several of the subconscious influencers of perceived cleanliness detailed in this paper can be applied relatively quickly at hospitality venues of all sizes because they are low-cost tactics. Many of the hospitality businesses in tourism are small and medium-sized enterprises (SME) and run by families (e.g. Thomas et al., 2011; Buhalis and Peters, 2006; Getz and Carlsen, 2005). Family businesses often face limited financial capital and resources, which makes them particularly vulnerable to external shocks (Kim and Vonortas, 2014). Although our examples are from large hospitality business, it is prudent to note that they can also be applied for small family-run hospitality venues. Many hospitality providers already demonstrate their acknowledgement of the power of the subconscious by training staff to fold toilet tissue into a triangular point in guests’ restrooms. This tactic is thought to increase the perceived cleanliness perceptions of the restroom (Feldman, 1989). Thus, a contribution of this paper is to equip providers with other tactics that can also influence perceived cleanliness of their experience scapes.

To achieve the above described purpose, the next section of this paper synthesizes the existing hospitality literature on the perceived cleanliness construct. Second, subconscious influencers of perceived cleanliness are brought forth from disparate streams of literature along with theoretical support for each. Third, the managerial and research implications of this contribution are detailed. Lastly, an agenda for further inquiry into this topic area is offered.

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2. Perceived cleanliness

2.1. Synopsis of cleanliness research in the hospitality sector

Logically, guests have been known to base their decisions to select, stay, or return to a hospitality operation upon their perceptions of cleanliness (Barber et al., 2011; Barber and Scarcelli, 2010). In fact, even a study published five years before the COVID-19 pandemic by Zemke et al. (2015) finds that young guests and females are often willing to pay a premium for enhanced disinfection. Harnessing online reviews posted by guests, text-analysis studies have echoed the importance of cleanliness in shaping guest perceptions (Magnini et al., 2011; Xie et al., 2014).

Regarding the measurement of perceived cleanliness, in 2003, a study conducted on a sample of hotels in New Zealand offered specific guidance to industry regarding commonly found deficiencies in hotel cleanliness and how to rectify those deficiencies (Lockyer, 2003). In subsequent years, a couple of scales were developed and purified that can be used to measure the perceived cleanliness of a hospitality environment with survey-based approaches. For example, Barber and Scarcelli (2010) offered a 23-item scale that captures perceptions of both interior and exterior cleanliness in a restaurant context. More recently, Vos et al. (2019a) developed a cleanliness perception scale (CPS) that can be applied to service settings. This CPS scale evaluates 14 items among the following four dimensions: 1) cleanliness; 2) freshness; 3) lack of clutter; and 4) perceived service quality.

2.2. Perceived cleanliness and COVID-19 recovery

The COVID-19 pandemic has elevated the need for cross-disciplinary research for addressing pandemic-induced challenges such as issues pertaining to cleanliness. Along these lines, Wen et al. (2020, p. 2) highlight the importance of interdisciplinary studies on COVID-19 in Tourism Recreation Research:

The spread of COVID-19 and associated travel and movement bans have infiltrated nearly all aspects of daily life. These restrictions also threaten to cripple the tourism and hospitality industry; accommodation services have ground to a halt, and restaurants are shuttering...no work in the tourism literature appears to have integrated a medical or health sciences perspective to reveal theoretical and practical insight for the tourism and hospitality industry. Interdisciplinary research is thus strongly encouraged in this vein, particularly with regards to the current pandemic. For instance, COVID-19 has sparked public concerns about general cleanliness, hygiene, and healthcare accessibility.

As a matter of survival, hotels worldwide have either initiated internal efforts or partnered with external entities (e.g., Hilton partnered with Lysol and the Mayo Clinic) to enhance their cleanliness protocols and/or to better communicate their cleanliness protocols to guests. Recent headlines in the industry trade journal titled Hotel News Now emphasize this point:

Conveying hotel cleanliness during COVID-19 crisis (Bagnera et al., 2020)

Hotel firms seek outside help to set cleaning protocols (Miller and Baker, 2020)

The aforementioned trade journal articles describe a number of innovative strategies that are being implemented in the hospitality sector. The information contained in this current paper, however, can augment those strategies by further signaling cleanliness on a subconscious-level.

3. Potential subconscious influences on perceived cleanliness

Bitner’s (1992) seminal article on servicescapes in the Journal of Marketing serves as the guidepost for much subsequent research in the area of atmospherics. Bitner (1992) uses Mehrabian and Russell’s (1974) approach – avoidance framework to anchor the effects discussed in the conceptual article. In doing so, Bitner (1992) identifies the role of the subconscious and also highlights the role of symbolic meanings in interpreting atmospheric cues. Such subconscious influences on customers’ atmospheric perceptions should not be underestimated because it has been posited for more than a century that most human brain activity occurs on unconscious levels (Freud, 1915).

Pizam and Tasci (2019) updated the servicescape concept by coining the term “experiencescape,” which includes additional human elements such as employees and other stakeholders. Similar to the original conceptualization of the servicescape concept, experiencescape include many elements, such as lighting, that can influence guests both consciously and subconsciously. As such, the remainder of this section delineates the subconscious influences on perceptions of cleanliness potentially prompted by the following atmospheric cues:

- Degree of lighting
- Presence of plants/greenery
- Shininess of surfaces
- Ambient scents
- All (solid) white bedding
- Presence of cleaning staff

To integrate the findings of this review, this paper presents a conceptual framework regarding subconscious influences on perceptions of cleanliness in hospitality venues (see Fig. 1). Before proceeding further with this integrative review there are two points to bring forward. First, while the impetus here is to identify subconscious influencers of perceived cleanliness, research indicates that the distinction between subconscious and conscious perceptions are typically not clear cut because no information that a person can act upon can be 100% unconscious (Rothkirch et al., 2018; Overgaard and Mogensen, 2015, 2017). Second, while the focus of this paper is on perceived cleanliness, as seen in Fig. 1, some of the predictors of perceived cleanliness can also serve to heighten actual cleanliness as well.

3.1. Degree of lighting

Theoretical anchoring for this linkage between lighting and perceived cleanliness can be derived from multiple streams of literature. First, Morgan and Hunt’s (1994) commitment and trust theory of relationship marketing contends that relationships are founded upon commitment and trust. More specifically, trust is a key component in the fostering of customer/provider relationships and arises when one party gains confidence in the other’s reliability and integrity (Magnini et al., 2007). In this vein, brighter lighting in service environments can subconsciously signal reliability and integrity because the service provider is exposing more opportunity for the consumer to readily examine the experiencescape with greater detail in comparison to a dimly lit environment.

Mehrabian and Russell’s (1974) PAD [ Pleasure – Arousal – Dominance] emotional state model has been used by some researchers to theoretically anchor lighting influences on consumers’ behaviors and perceptions (Summers and Hebert, 2001). Mehrabian (1976) posited that the interaction of pleasure, arousal, and dominance guides individuals’ behaviors and perceptions within various physical environments. One factor, in particular, is lighting: “brightly lit rooms are more arousing than dimly lit ones” (Mehrabian, 1976, p. 80). In service settings, arousal is a significant predictor of approach – rather than avoidance – behavior (Donovan and Rossiter, 1982). According to this logic, because consumers are apt to approach environments that they perceive as attractive, brightly lit settings are often perceived as cleaner than dim ones.

Even in well-managed hospitality operations, it is plausible that a potential risk associated with being brightly lit is the increased...
likelihood of exposing debris. That is, it is not possible for any operation to always be perfectly clean. An experiment conducted by Molenaar and Hu (2013) found that when debris is detected by a customer in a brightly lit environment, the environment is perceived as cleaner (despite the debris) than if the setting is dimly lit. Therefore, it can be concluded that well-lit environments generally outperform dim environments with regard to perceived cleanliness even if they are not perfectly clean at every moment. Because additional lighting can potentially expose uncleanliness, Fig. 1 depicts degree of lighting as having an influence on both perceived and actual cleanliness. In summary, all other factors being equal, hospitality venues with bright lighting are perceived as cleaner than venues with dim lighting.

3.2. Presence of plants/greenery

Hospitality venues that have indoor plants/greenery can be perceived as cleaner than venues that do not have indoor plants/greenery. Mehrabian and Russell’s (1974) framework synthesized above can serve as a theory-based foundation for the psychological and physiological effects that indoor plants/greenery can have on individuals in service environments (Kristjansson, 2017). Greenery has been found to reduce stress (Dijkstra et al., 2008; Ulrich et al., 1991) and increase enjoyment, relaxation, and psychological restoration (Hartig et al., 1996; Kaplan and Kaplan, 1989). Some researchers couple Mehrabian and Russell’s (1974) framework with stress recovery theory (SRT) to interpret such effects of plants/greenery (Kristjansson, 2017). SRT posits that individuals who are exposed to environments with non-threatening natural elements such as plants/greenery experience a reduction in stress and an improved emotional state (Ulrich et al., 1991). Specifically addressing indoor plants, Dijkstra et al. (2008) built upon this stream of research by empirically validating the presence of attractiveness as a mediating variable. More specifically, the Dijkstra et al. (2008) study utilized a single-factor between-subjects design (indoor plants vs. no plants) in a hospital room context to find that an indoor plant improves environment attractiveness which, in turn, reduces stress.

Because environment attractiveness mediates the indoor plant/stress reduction linkage, it is logical that indoor plants influence perceptions of cleanliness which is a critical facet of environment attractiveness. In fact, a dimension of Pizam and Tasci’s (2019) experiencescape research previously described includes the following (p.27):

- Natural Component
- Outside landscape
- The use of nature in internal design
- Natural elements for attractiveness
- Natural elements for functionality
- The balance between natural and built elements
- Etc.

In this vein, Pijls and Groen (2012) conducted a study of sensory cues related to cleanliness in service environments. The methodology entailed two questionnaires followed by a visual association task in which study participants created mood boards. A common theme that was identified on the ‘clean’ mood boards was green plants/leaves (Pijls and Groen, 2012). In a different study, Jumeno and Matsumoto (2013) conducted an experiment in which subjects were asked to perform tasks in an office environment. The experiment manipulated the presence of plants in the office (from zero to seven). The study found that the presence of plants significantly improved the subjects’ perceptions of the office’s comfort, freshness, and cleanliness (Jumeno and Matsumoto, 2013).

3.3. Shininess of surfaces

All other factors being equal, hospitality venues that have shiny surfaces on furniture are perceived as cleaner than venues that do not have furniture with shiny surfaces. This influence of shiny surfaces is theoretically anchored with the concept of embodied cognition that advances the notion that some abstract concepts can be signaled through the use of concrete expressions (Barsalou, 2008; Lakoff and Johnson, 1999). For instance, as detailed in the next section of this paper, the notion of wealth can be signaled through the color gold. To state this logic differently, abstract concepts can be constructed through the use of sensorimotor information in which the confluence of both sensory and motor influences shape perceptions. In accord with this logic, perceived cleanliness is a multi-dimensional abstract concept and can be signaled through the use of sensorimotor information such as the shininess of a surface (Broeders et al., 2011).

As previously explained, Vos et al. (2019a) employed Churchill’s (1979) and Matsunaga’s (2010) methodological procedures to develop a perceived cleanliness scale for service settings. The qualitative iteration
in the scale development process uncovered that individuals perceive that smooth and shiny materials bolster perceived cleanliness (Vos et al., 2019a, a; Vos et al., 2018b). This information was incorporated into the smooth / tactile dimension of the resulting scale. In an earlier study, examining sensory clues of cleanliness conducted by Pijs and Groen (2012) words such as “shine” and “reflection” were associated with “clean.” Along these lines, Broeders et al. (2011) found that individuals sitting at tables with shiny surfaces perceived heightened perceptions of cleanliness. From a practical perspective, the use of some shiny surfaces, such as glass, might backfire in high traffic areas due to the visibility of fingerprints and smudges. On the contrary, it is important to note that there are many shiny surfaces, such as those made from acrylic materials, that do not easily show blemishes in high volume hospitality settings.

3.4. Ambient scents

The use of well-orchestrated ambient scents can also cause hospitality venues to be perceived as cleaner than venues that do not orchestrate their ambient scents. “In natural settings, there’s no smell-neutral space. Space is always filled with smells produced by components of the environment, influenced by climate and human actions” (Beer, 2007, p. 187). While restaurants typically already have smells associated with their experiencescapes, other hospitality sector providers (e.g. airlines, cruise operators, and hotels) should understand that their patrons consciously and subconsciously assess the cleanliness of the experiencescape through the sense of smell. This signaling facilitated by the sense of smell can be evidenced by visiting a travel-related social media platform such as TripAdvisor and searching for the phrase ‘smells clean’. Any readers of this paper can themselves readily visit a blog site such as TripAdvisor and perform this search. It can be seen that numerous hotels record many posts in which their guests use the phrase smells clean when describing their experiences at the properties.

The primary theoretical underpinning of most smell-related studies in service settings is the approach-avoidance logic described earlier in this paper. Regarding approach behaviors, for example, scents have been found to bolster gambling in casinos (Hirsch, 1995) and increase intentions to visit a retail environment (Spangenberg et al., 1996). Research finds that such approach behaviors facilitated by ambient scents are due, in part, to increased attention (Vilaplana and Yamanaka, 2015). This contention is detailed by Morrin and Ratneshwar (2003, p. 12): “Specifically, the presence of ambient scent may affect the encoding of information by facilitating ‘approach behavior’ and thus increasing the amount of attention consumers give to brand stimuli.”

With the above theoretical anchoring as the basis, the following question surfaces: What scents can enhance perceptions of perceived cleanliness in hospitality environments? While more research is needed to inform the answer to this question, existing literature suggests several options. First, the smell of cleaning products can bolster perceptions of cleanliness (Spence et al., 2014). Such a strategy might be appropriate in certain environments (e.g. in a restroom) but might be too overt of a signal in other experiencescapes in which guests are being encouraged to relax.

A second option for signaling cleanliness through smell relates to fresh air. For many years, fresh air has been associated with cleanliness and health (Hobday, 2019; Hobday and Dancer, 2013). In 1898, for example, British medical doctor Arthur Ransome wrote:

... abundant fresh air, together with sunshine, acts antiseptically upon both the bodies and the clothing of patients, destroying all organic impurities which may emanate from either, and so purifying the air that enters the respiratory organs.

Therefore, under appropriate conditions (e.g. temperature not too hot or too cold), if the ambient scents on the exterior of a hospitality setting are pleasant, they should be permitted to stream in naturally: e.g. the smell of pine trees, the salt air of the ocean, fresh flowers. If the exterior temperature is too hot or too cold to allow fresh air to stream in naturally during certain times per year, then these nature-based scents can be diffused in the public areas of a hospitality venue. To achieve perceptions of fresh air – and consequently perceptions of cleanliness – the diffused scent should match the naturally occurring nature-based scent of the area.

A third option exists for those hospitality operations that are located in metropolitan areas with no apparent nature-based aromas in their immediate surroundings: prime cleanliness perceptions by defusing various ambient scents in experiencescapes. Certain scents such as citrus have been demonstrated to prime perceptions of cleanliness (King et al., 2016; Lwin and Wijaya, 2010). Such a smell-induced priming effect has been empirically demonstrated by a number of studies (Dijksterhuis et al., 2005; Douce et al., 2013; Schifferstein and Blok, 2002). Essentially, “a scent can prime certain concepts to consumers, and once these constructs are activated, consumers are more sensitive to subsequent congruent elements” (Douce et al., 2013, p. 66).

Along these lines, it is germane to also note that certain scents such as lavender and citrus are empirically demonstrated to reduce anxiety in people (Lehrner et al., 2005). In the post COVID-19 era, few would likely refute the need to relax and ease the stress of nervous patrons as they resume their public interactions. Whether such relaxation scents can also significantly bolster cleanliness perceptions should be further explored as this line of research advances. For instance, further research might tease-out managerially useful moderating and mediating variables.

3.5. All (solid) white bedding

All other factors being equal, hospitality venues that use solid white bedding are perceived as cleaner than venues that use nonwhite or a combination of bedding colors. The influences of colors on individuals’ perceptions of their surroundings, and various stimuli within those surroundings, have been well-documented in both psychology and marketing research streams for decades. Early theory-based anchoring focused on a two-dimensional framework consisting of arousal-evaluation (Crowley, 1993; Lee et al., 2018). More recently, however, embodied and referential meaning frameworks have become the dominant paradigm (Labrecque and Milne, 2012; Labrecque et al., 2013; Lee et al., 2018). This embodied and referential meaning approach emerged from the aesthetics philosophy literature (Zeltner, 1975) and focuses more on associating meanings with colors than did the previous theory-based approaches (Lee et al., 2018). In such frameworks, the embodied component addresses meanings intrinsic to stimuli that can elicit hedonic or valanced meanings (Labrecque and Milne, 2012; Meyers-Levy and Zhu, 2010); for example: blue is known to elicit feelings of happiness (Bagchi and Cheema, 2013). The referential meaning component of the frameworks emerges from the psychology literature and focuses upon color-meaning associations (Elliot and Maier, 2014; Whitfield and Whitley, 1990); for instance: the color gold is associated with high status perceptions (Lee et al., 2018).

Employing the above discussions as theory-based anchoring, in an effort to signal cleanliness, this paper contends that all bedding in lodgings operations should be solid white. While the bed sheets are typically already white, this logic applies to exterior layers of bedding: bed foot scarfs, bed runners, comforters, duvets, pillow shams, etc. Why white? The referential meaning or symbolism associated with white is cleanliness and purity (Bourn, 2011; Morton, 1997; Palmer et al., 2013). Why bedding? While recent research finds that colors of other experiencescape elements, such as walls, can influence hospitality guests’ perceptions (Siamonava et al., 2018), bedding is critical in the post COVID-19 era because that is where guests become immersed in a tangible element and cannot be protected by measures such as masks, gloves, or hand sanitizer.

Some large hotel chains such as Hampton Inn and Suites and Hilton
Garden Inn appear to already understand the importance of all solid white bedding. Hilton Garden Inn offers the adjustable Garden Sleep System® bed, featuring “fresh, white, cozy duvets and crisp linens” (Zemke et al., 2015, p. 694). Any readers of this paper can themselves readily visit TripAdvisor or a similar blog site and view hotel pictures. Such images on blog sites serve to confirm that the strategy of signaling cleanliness through the use of solid white bedding has not been adopted by all hotel chains. Moreover, the practice appears to be slower to diffuse among independent hotels.

3.6. Presence of cleaning staff

All other factors being equal, hospitality venues that have cleaning staff visible to the guest are perceived as being cleaner than venues that do not employ visible cleaning staff (or do so less frequently). The drama metaphor brought forward by Fisk and Grove (1996) highlights the importance of actors [employees], an audience [guests], and the stage [anywhere employees can be seen or heard] (Van Marrewijk and Broos, 2012). Because of the COVID-19 pandemic, the cleaning staff in hospitality environments now have increased importance in the service delivery production than in pre-pandemic times. As such, these cleaning staff members should be more visible to the guest. There is now diminished utility associated with attempting to divert the bulk of cleaning to times when the establishment is closed. While practicality mandates that some cleaning tasks can only be performed when the venue is empty, the notion of diverting as much cleaning as possible to off-peak times should be reconsidered in the ‘new normal’ brought about by the pandemic.

To the knowledge of the authors, two of the seminal studies to lend support to the notion that the site of cleaning staff improves customers’ perceptions of cleanliness were conducted by Whitehead et al. (2007) and Whatley et al. (2012). While useful for gaining traction for this line of reasoning, both the Whitehead et al. (2007) and Whatley et al. (2012) studies were qualitative and performed within the context of medical service delivery. Vos et al. (2019b), however, extended this stream of evidence by conducting two field experiments in train stations in the Netherlands. In both of these experiments, “the presence of cleaners positively influenced passengers’ perceptions of staff, cleanliness, and comfort (Vos et al., 2019b).

It seems plausible that the positive cleanliness-related influences associated with viewing cleaning personnel might be even more pronounced if data were collected in pandemic or post-pandemic times. Moreover, Van Vlijmen (2017) and Ashforth and Kreiner (1999) find that cleaning personnel often feel ignored, left-out, and unimportant. Therefore, it is important to note that shifting more cleaning tasks to becoming a component of the primary service delivery process could serve to alleviate some of these negative perceptions experienced by the cleaning staff (Vos et al., 2019b).

4. Implications

For recovering tourism and hospitality businesses from the COVID-19 pandemic, it is essential to know about the effects of cleanliness in venues. Business failure research has revealed that the emotional attachment of the owner-manager to the business in small family-run hospitality venues, the sometimes lacking experience in business and marketing background, as well as the general low level of innovation increase the likelihood of business collapse (Zehrer, 2009; Pikkemaat and Zehrer, 2016). These factors underscore the importance of dissembling practically relevant, yet theoretically grounded, research to hospitality and tourism providers in all sizes of operations. Thus, the following practical implication of this paper is apparent: if a hospitality venue is actually clean, perceptions of cleanliness can be bolstered by managing the elements described in this paper. Such elements include: the degree of lighting, the presence of plants / greenery, the shininess of surfaces, the use of ambient scents, the use of white bedding, and the presence of cleaning staff. These factors influence guests largely on a subconscious level. Some of these elements are more appropriately applied in some hospitality sectors relative to others: for example: an airline cannot readily adopt the bedding cues but can implement an aroma strategy. It is hoped by the authors of this paper that all hospitality practitioners can find one or more actionable element(s) in this paper that can bolster the cleanliness perceptions of their guests.

Because small and medium-sized tourism providers can sometimes lag behind large firms in terms of strategic management (Zehrer, 2009), these businesses should focus on the advantages of their size, such as being closer to customers, being more flexible, being more authentic and local, which in turn makes it easier to integrate customers and deliver more individual and personal services with high service quality (Pikkemaat and Zehrer, 2016). While many small entities might not have the same formalized strategic management processes in place as larger firms, they can sometimes implement strategic actions faster (such as implementing some of the perceived cleanliness cues in this paper) in comparison to larger organizations with additional layers of bureaucracy.

Efforts also should be made to disseminate the information in this article through numerous channels, including for example, incorporating perceived cleanliness topics into teaching content at the university level and in industry webinars. Additionally, if implemented, small family firms in tourism receive a great chance to better market and sell their cleanliness activities and create more memorable service experiences, which their customers share via online communities.

From a research perspective, by making connections between various streams of research, we add to the current body of literature and contribute to the cross-pollination of COVID-relevant research to inform the hospitality sector. That is, findings from hospitality, marketing, medical, psychology, family business and physiology studies are brought together here to illustrate which subconscious cues can heighten cleanliness perceptions in a hospitality context. This synthesis gives rise to a number of questions for further research which are presented in the next section.

5. An agenda for future research

Like all studies, the present paper has limitations that need to be taken into account when identifying directions for future research. First, it would be prudent to empirically examine a host of potential moderating and mediating variables. For instance, a guest’s nationality might moderate some of the effects discussed in this paper. Specifically, encoded meanings of cues such as colors are known to vary culturally (Athanasopoulos, 2005; Roberson et al., 2005). In addition, other variables, such as relaxation, might mediate a given stimuli’s connection with perceived cleanliness – for instance, in the case of ambient scents, the smell of citrus. As another example, emerging research finds that a hotel guest’s age can influence the coding of atmospheric cues (Nanu et al., 2020). As such, further exploring moderating and mediating variables could advance our understanding of subconscious influences on perceived cleanliness.

Additional predictor variables of perceived cleanliness might also be considered in future research extensions. As suggested in Fig. 1, for example, the amount of clutter in the built environment might influence perceptions of cleanliness. In addition, given the worldwide media attention on social distancing during the COVID-19 pandemic, it seems that during and even following the pandemic, less-crowded experiences might be perceived as cleaner than crowded ones.

Another issue for future consideration pertains to the face of the service provider. In food and beverage operations, for instance, following the COVID-19 outbreak, will face masks being worn by frontline providers help or hinder perceptions of cleanliness? To some guests, the face mask could signal detail in the area of cleanliness and hygiene. To other guests, however, the face mask could be a reminder of
the pandemic and just how vulnerable one can be when dining at a public establishment.

In addition, because this integrative review synthesized findings from other disciplines, more detail is needed regarding precisely how some of the predictors of perceived cleanliness can be optimized in a hospitality context. For instance, how bright does lighting need to be in order to have significant influences on perceived cleanliness? Do such lighting effects differ in various hospitality settings (e.g., hotels versus restaurants)? Regarding greeneries, how many plants are needed? Or, in terms of aroma, is there a point at which an ambient scent can become over-powering; thus, inhibiting or even reversing its influence on cleanliness perceptions?

Research is also warranted that examines potential connections between hospitality firms’ eco-friendly initiatives and the cleanliness perceptions of guests. That is, because plants and greenery can bolster perceptions of cleanliness, it could be informative to investigate whether eco-friendliness, in general, could also enhance perceptions of cleanliness. Findings in this area could prove theoretically and managerially fruitful.

Lastly, previous research has found that sensory messaging in advertisements has various effects on visitors and potential patrons at hospitality venues (Magnini and Gaskins, 2010; Magnini and Karande, 2010). Therefore, it could be useful to investigate whether embedding sensory information in marketing messages can influence perceived cleanliness. For instance, would photos posted on social media that include greeneries in the experience space have a significant effect on cleanliness perceptions of potential guests in comparison to photos that do not include greeneries.

More generally, as with any academic work, it is hoped that the present paper will stimulate other researchers to study the issue of cleanliness perceptions of guests and the role that this can play in securing competitive advantages for such service providers. More extensive research is certainly needed in this important area.

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