



# Why Museological Merchandise Displays Enhance Luxury Product Evaluations: An Extended Art Infusion Effect

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## Abstract

As retailers are increasingly turning to museum and art gallery inspired techniques for displaying luxury products (museological display formats), we investigate whether such staging elicits more favorable product evaluations. Providing an extension to Hagtvedt and Patrick's (2008) classic art infusion effect, we propose that artistic essence is transferred to displayed merchandise via a second-order spillover effect, enhancing its perceived luxury to consumers. Across three experiments, the museological display format outperformed a more conventional, non-museological product display. Consumers reported higher purchase intentions, via a process whereby the merchandise was first perceived as being more luxurious and then less risk inducing. Explanations for why the museological display heightened perceptions of product luxury relating to service expectations, contamination, and visual appeal were also tested, but support for the *extended art infusion effect* remained undiminished.

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**Keywords:** Museological; Display format; Art infusion; Luxury perceptions; Second order spillover

## Introduction

Artist Andy Warhol once famously remarked that, “all department stores will become museums and all museums will become department stores”. Developing this theme, he claimed that, “the best museum is Bloomingdale’s!” His observations seem highly pertinent today with many high-end fashion brands, including Dior, Chanel and Louis Vuitton having proactively adopted *museological* design concepts in their flagship stores (Dion and Arnould 2011; Joy et al. 2014).

At the merchandise display level, luxury products are often staged in a manner that reflects the aesthetic components of a museum or art exhibit, resembling “icons or holy statues” (Kapferer 2012, p. 460) using sleek erudite fixtures, illuminated by adroit focused lighting (Joy et al. 2014). It is often as if the curator has removed the paintings from their frames, the

sculptures from their pedestals, and the ancient pots from their glass cases, and replaced them with consumer products which are transformed into exhibits in their own right, and relocated the gallery or museum into a retail emporium.

In their *future of retailing* article in this journal, Grewal, Roggeveen, and Nordfält (2017) stressed the importance of product staging techniques as a contemporary challenge for retailers wishing to capture an edge in making merchandise stand out in-store. Previous research shows that the way products are packaged, presented and revealed to consumers plays an important role in determining how they see, perceive and evaluate them (Madzharov and Block 2010; Huyghe and Van Kerckhove 2013; Patrick, Atefi, and Hagtvedt 2017; Reynolds-McInay, Morrin, and Nordfält 2017). With this in mind, the question we ask here is: do museological displays offer any benefit to retailers over-and-above other more conventional, non-museological formats, and if so, *how* and *why*? We aim to show that consumers see products as more luxurious, less risk inducing and more purchasable when presented in a museological format, therefore making a timely contribution to the merchandise staging literature.

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To explain our predictions, we build upon the body of art infusion research in marketing (Huetl and Gierl 2012; Lee, Chen, and Wang 2015; Pino, Guido, and Nataraajan 2017) and specifically Hagtvedt and Partrick's (2008) classic *art infusion effect*. They proposed that art, merely because it is “art”, spills over to the product, lending it specialness, sophistication and prestige. As such, when art images are integrated into packaging, advertising or the product itself, the merchandise is rated as more luxurious with a higher likelihood of purchase. Our study introduces an *extended art infusion effect*. Unlike the classic art infusion effect which directly incorporates artistic images (paintings, artifacts, sculpture, etc.) into the product or its visual communication, we argue that using only the associated *display fixtures* (frame, pedestal or glass cube) is sufficient for the product to experience an artistic infusion, via a second-order spillover, whereby the essence of the museum and art gallery spills over onto the museological display and from the display to product when presented together. Although the art infusion effect has been demonstrated in several prior studies, our research is the first to extend the theory, opening new avenues for practitioners and researchers alike.

As well as extending the domain of Hagtvedt and Partrick's (2008) theory to our museological display context, we augment their conceptual model to include an important mediator between luxury perceptions of the product and purchase intentions, namely perceived risk. Thus, we shed further light on how artistic connotations enhance other desirable outcomes for retailers, specifically by reducing the perceived risks (financial, social, psychological) linked to poor consumer decision-making.

The paper is organized as follows: we begin by developing a typology of salient cues comprising a museological display format for use in operationalizing empirical work. From here, we elaborate on the extended art infusion effect and outline the conceptual research model. Over three empirical studies, we confirm our expectation that museological displays outperform non-museological equivalents in terms of predicting important consumer outcomes. Alternative explanations for *why* luxury products experience a heightened luxury status are also considered, but we consistently find strong support for the extended art infusion effect as a salient explanation. Finally, implications for retailing theory and practice are discussed.

## Literature Review

### *Museological Store Design*

The retailing literature is rich with studies showing the importance of store environment design on shopping behavior (Baker, Grewal, and Parasuraman 1994; Grewal and Baker 1994; Baker et al. 2002; Spence and Gallace 2011). Several recent studies have highlighted the emergence of art-inspired *museological* retail store design in the brand museum marketplace (e.g., World of Coca Cola; Hollenbeck, Peters, and Zinkhan 2008), and later among luxury (Dion and Arnould 2011; Joy et al. 2014) and mid-tier retailers (Vukadin, Lemoine, and Badot 2016). These divergent store types share a common design philosophy which a number of ethnographic studies have begun to illuminate con-

sumers' experiences thereof. For instance, Joy et al. (2014) found that consumers' visiting the Louis Vuitton flagship store in Hong Kong described it as if being conceived by the curator of a top museum or art gallery. And indeed, merchandise is often presented alongside paintings or sculptures. For instance, Belgium fashion designer Dries Van Noten has paired his collections with, amongst others, portraits by artists John Singer Sargent (*Gabriel Fauré*) and Jacques Emile Blanche (*Marcel Proust*). In the same way that The Guggenheim in New York, or the Musée d'Orsay in Paris might use the gallery's environment to heighten visitors' expectations as to the exhibits, according to Dion and Arnould (2011, p. 514):

“...luxury brand flagship stores also substantively stage their wares so that they become talismanic, iconic... as works of art, they become extraordinary; they fall into a category outside that of banal mass production”.

However, how store designers stage the merchandise to signal luxury and distinctiveness from the mass market, and specifically the retail display cues used to communicate this image remains largely unclear. Given our focus is that of the product display, first we review the retail display literature to determine what cues differentiate a more conventional retail display format from a museological display.

### *Museological Display Cues*

Holistically, the store environment is seen as consisting of three distinct elements: (i) ambient, (ii) social and (iii) design (Bitner 1992; Grewal and Baker 1994; Baker et al. 2002). Ambient elements refer to the background conditions, including heating, lighting and music, while social elements refer to the manner and appearance of the sales personnel, and influence of other store customers. We focus on (iii), which captures the visual aspects of the store environment, be they functional, such as layout and tidiness of the merchandise, or more aesthetic, such as the color scheme, architecture, and materials used. However, rather than focusing on the “macro” store environment, we concentrate on the “micro” retail display format used to present luxury merchandise.

Using Kerfoot, Davies, and Ward's (2003) typology as a reference, we systematically reviewed the specialized museum (Borghini et al. 2009; Goulding 1999; Hoberman 2003; McLean 1995) and museological retailing literatures (Dion and Arnould 2011; Joy et al. 2014; Vukadin, Lemoine, and Badot 2016), before conducting a field study with 20 domain experts, namely curators, architects and students of museum studies. The nascent typology was then validated with a convenience sample of museum visitors (see pretest results). What emerged was a revised five component classification scheme comprising: (i) fixture type, (ii) quality of materials, (iii) organization/density, (iv) presentation technique, and (v) lighting. Specific cues relating to each component plus key studies and quotations by fieldwork participants are presented in Table 1.

*Fixture type* refers to the objects that facilitate the product's presentation (Kerfoot, Davies, and Ward 2003). In the museological tradition high value exhibits are placed on tables, pedestals,

Table 1  
 Museological display typology.

DISPLAY components	Museological display cues	Non-museological display cues	Representative quotations	Studies
Fixture type	Pedestals/tables/cubes	Shelves or rails	<i>"In textile museums garments are never just hanging..." (C); "The exhibits are never on the floor, they stand on cubes, tables and pedestals." (V)(R16)</i>	McLean (1995), Goulding (1999, 2000), Hoberman (2003), Kerfoot, Davies, and Ward (2003); Borghini et al. (2009), Dion and Arnould (2011), Joy et al. (2014)
	Glass cases	No glass cases	<i>"When I think of museums I think of cases and cabinets and things behind them." (C, V), (R19)</i>	
Qualities of materials	Reflective surfaces (e.g., glass, mirror, marble)	Matte surfaces (e.g., plastic)	<i>"We use conservation friendly materials... such as glass." (C); "You'll see modern reflective materials... glass is a dominant one." (A); "... reflective rather than matte surfaces." (V) (R11)</i>	Baker, Grewal, and Parasuraman (1994), Grewal and Baker (1994), Joy et al. (2014), Kerfoot, Davies, and Ward (2003); Spence and Gallace (2011)
	Gilded/golden/polished brass or chrome details (e.g., trims, handles, hinges)	Non gilded/golden/polished brass or chrome details	<i>"Metals and gold aren't affected by time and light... you'll see many gilded, golden details. (C) "... as sparse and heavy materials as possible." (S); "Paintings for instance have to be in thick gold frames, it indicates high-brow art." (V) (R12)</i>	
	(Hard)wood fixtures or surfaces	No (hard)wood fixtures or surfaces	<i>"... old-fashioned wooden cases..." (C); "Hardwood choices." (A); "... wooden fixtures." (V) (R12)</i>	
Organization/density	Neat and tidy (i.e., well-organised)	Messy and cluttered (i.e., unorganised)	<i>"Clear... meaning very minimal, nothing to destruct, is all about structure, there is not extraneous decoration... really clear." (C); "Well-organised exhibits." (V) (R9)</i>	Baker, Grewal, and Parasuraman (1994), Grewal and Baker (1994), Baker et al. (2002), Kerfoot, Davies, and Ward (2003), Hollenbeck, Peters, and Zinkhan (2008), Dion and Arnould (2011), Joy et al. (2014)
	Low display and merchandise density (e.g., single item display)	High display and merchandise density (e.g., multi-item display)	<i>"Space, to look the artefact at a 360°." (C, A); "There is no point of displaying two objects if one does the job, do not confuse people!" (C); "They are spreading out things..." (S), "They dedicate some space around each artwork." (V)(R18)</i>	
Presentation technique	Artistic staging (i.e., items for sales are displayed alongside artwork)	Artistic vacuum	<i>"Nothing is important without the presence of the artefact." (C); "An important museum element... the artefacts themselves!" (S); "The artworks in place!" (V) (R14)</i>	Mazursky and Jacoby (1986), Baker, Grewal, and Parasuraman (1994), McLean (1995), Goulding (1999), Hoberman (2003), Hagtvedt and Patrick (2008), Hollenbeck, Peters, and Zinkhan (2008), Borghini et al. (2009), Dion and Arnould (2011), Joy et al. (2014), Pino, Guido, and Natarajan (2017), Vukadin, Lemoine, and Badot (2016)
	Educational signage (i.e. the brand's storytelling technique e.g. screens in-store showing the brand biography/craftsmanship, educational materials)	No educational signage	<i>"Good labelling... there is nothing worse than looking at something and not be able to find what it is." (C); "The description is important, is the story that binds all artworks together." (V); "The signage helps to tell the story." (A); The quality of the audio-visual information provided... you get an education when you go around." (S) (R17)</i>	
	Creative director's/artist's credentials	No creative director's/artist's credentials	<i>"Interviews with Balenciaga... the designer!" (C); "Set ups of notable donors or artists." (C); "You can find artist's pictures, not necessarily as part of the exhibition." (V) (R10)</i>	
	Thematic display	Exposed displays	<i>"Exploring themes is interesting and helps to contextualise." (C); "Theming of the objects or the exhibition..." (S) (R14)</i>	

Table 1 (Continued)

DISPLAY components	Museological display cues	Non-museological display cues	Representative quotations	Studies
	Staged Distance	Open Access	<p>“Donors and private collectors often decide the barriers we use.”(C);</p> <p>“They are putting barriers in place. . .not necessarily barriers to know that you are not allowed in here is more about, you have to overcome this and get around.”(S); “They distance people from dominant objects.” (A); “You’ll be able to see things but you can’t touch them; therefore, they are special.” (V) (R17)</p>	
Lighting	Product focus	General focus	<p>“Lighting is really important. . .the feeling that lighting is not enough, possibly for preservation issues.” (C); “Softer warmer lights. . .museums are quite dark but usually there is a lot of light near the objects as opposed to the room.” (V); “Lighting is definitely the biggest one. . .the lighting is really subdued but specifically different from the rest of the gallery.” (S). (R19)</p>	<p>Kerfoot, Davies, and Ward (2003), Dion and Arnould (2011), Joy et al. (2014), Vukadin, Lemoine, and Badot (2016)</p>

Note: C = museum curator (to include fashion and textile museums), A = architect, S = museum studies, V = museum visitor.

or in glass cabinets. Likewise, fashion designers will often differentiate their most unique and iconic pieces by providing them similar platforms, rather than using hangers and rails or traditional shelving (Kerfoot, Davies, and Ward 2003), given multiple items displayed concurrently may become hidden or partially obscured from view (Joy et al. 2014).

*Quality of materials* are salient to the image portrayed by museological displays. While fixtures, fittings and trim need not actually be expensive, being perceptibly so, is important. Often, there is a profusion of reflective and translucent materials, offset with metal detailing to signal modernity, cleanliness and excellence (Yun and Good 2007; Joy et al. 2014). Also the use of hardwood helps to convey an image of inimitability, exclusivity and craftsmanship (Kerfoot, Davies, and Ward 2003). Consistent with these ideas, Cartier in Paris uses small antique wooden pedestals to exhibit its finest jewelry and watches.

*Organization/Density* refers to the configuration of the display. In the museological tradition the mantra is “quality over quantity”, so exhibits are displayed independently with lots of empty space around them (Joy et al. 2014). Some exhibits are presented in single dedicated display cases, while others are shown alongside equally valued items (Hollenbeck, Peters, and Zinkhan 2008; Dion and Arnould 2011). For instance, in 2012, Hermes created an iconic retail display at the Royal Academy of Arts (London), with twenty of its seasonal bags encased within a large floor-standing glass handbag. Although this involved showcasing multiple products together, the display was highly organized, with each handbag off-set by copious amounts of space, facilitating viewing from all “vantage points”.

*Presentation technique* includes keeping a staged distance between customers and exhibits, use of thematic displays and

educational signage. Leading art exhibitions often create barriers, be it in the form of a physical distance or glass, between exhibits and visitors to minimize touching, contamination, and damage (Goulding 1999; Borghini et al. 2009), and retailers echo these practices. Creative directors may also often adopt a thematic presentation format to reinforce the artist’s distinctive style. In a retail context, museological displays may use signage to educate customers about the brand’s biography (Hollenbeck, Peters, and Zinkhan 2008) or showcase critical aspects of the product’s manufacturing process (Vukadin, Lemoine, and Badot 2016), in much the same way as museums or galleries might educate visitors about the artist and their creative style.

*Lighting* is frequently mentioned as salient to a well appointed museological display. Lower pitch lighting accentuates the backdrop of the display, giving the impression that the exhibits are preserved, protected and precious (Dion and Arnould 2011), while more focused spotlights fall directly onto the product giving the impression of singularity and independence (Joy et al. 2014). This contrasts with more conventional retail displays whereby lighting is more diffuse, does not accentuate any specific product, but primarily aids store navigation.

Having identified the key museological displays cues which will form the basis of our experimental materials in Studies 1–3, next we discuss how our *extended* art-infusion effect builds on Hagtvedt and Patrick’s (2008) influential work.

### Empirical Model: Hypothesis Development

#### *The Extended Art Infusion Effect*

Research has shown that consumers exhibit markedly different attitudes towards products merely because they are in close

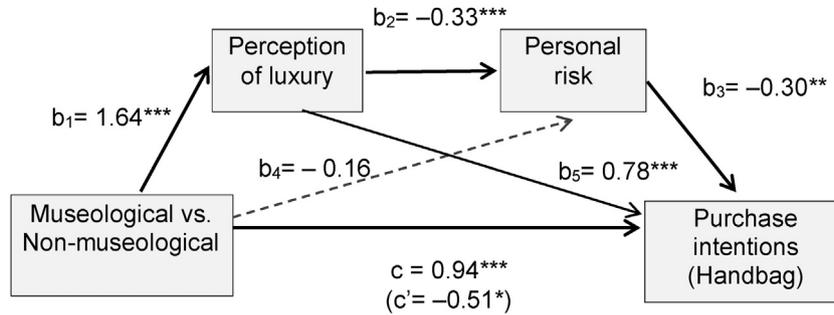


Fig. 1. Sequential mediation model of merchandise display format on purchase intentions through perceptions of luxury and personal risk (Study 1).

Note: main sample (n = 126).

A sequentially mediated model with 5,000 bootstrap samples (Hayes 2013). Unstandardized coefficients significantly different from zero are indicated by asterisks (\*p < .05; \*\*p < .01; \*\*\*p < .001). Light dashed lines indicate tested paths that were not significant.

The total indirect effect was significant ( $\beta = 1.46$ ; 95% CI: .96–1.99).

The indirect effect via perceptions of luxury was significant ( $\beta = 1.26$ ; 95% CI: 0.84–1.77).

The indirect effect via personal risk was not significant ( $\beta = 0.04$ ; 95% CI from -0.04 to 0.17).

The indirect effect via luxury and risk was significant ( $\beta = 0.16$ ; 95% CI from 0.06 to 0.36).

proximity to other people or objects. For instance, items are more favored after they have been touched by, or are near to, people perceived as beautiful (Argo, Dahl, and Morales 2008) or famous (Newman, Diesendruck, and Bloom 2011). Similarly, products passing through an original manufacturing plant are believed to embody more brand essence (Newman and Dhar 2014), just as lower numbers on limited edition prints or records are viewed as being temporally closer to the artist or musician who made it (Smith, Newman, and Dhar 2016). In the retailing context, Dion and Arnould (2011, p. 512) speculated that products which have been strategically placed alongside formal artworks (paintings, sculptures) in a wider store environment experience a similar form of spillover from art onto merchandise:

“... [through] the intermediary of works of art on display at the point of sale, luxury products bathe in an artistic ambiance so that artistic properties will infuse and contaminate them, but more importantly will continue to emanate from them after sale”.

The effect Dion and Arnould (2011) describe but do not formally acknowledge pertains to a psychological phenomenon called the art infusion effect (Hagtvedt and Patrick 2008), in which the physical pairing of objects, often a piece of merchandise with an artwork, produces a perceptual spillover from the latter to the former. Regardless of whether the artwork is liked or disliked (content independent), artistic essence is transferred to the merchandise bestowing upon it an image of luxury and exclusivity relative to when no artwork is present. For instance, in Hagtvedt and Patrick’s (2008) Study 3, pictures of Claude Monet’s *Palazzo da Mula* (positive valence), a similar non-artist photograph depicting Venetian buildings overlooking a canal, and J.M.W. Turner’s *The Burning of the House of Lords and Commons* (negative valence) were printed onto a soap dispenser. Respondents perceived both products which included artworks to be more luxurious and more positively evaluated as compared to the one with only a photograph.

Across all three studies, Hagtvedt and Patrick (2008) found that the presence of formal visual art had a favorable influence

on consumers’ attitude towards the focal product. We take this a step further by removing the physical artwork, leaving behind only the presentation display (e.g., the picture frames) in situ with the product and refer to this scenario as the *extended art infusion effect*. We extend Hagtvedt and Patrick’s demonstration of art infusion which was tested only when formal artwork was present, arguing that art infusion can happen so long as the museological display cues resemble what are prototypically associated as displays used in the world of museums and galleries where artworks usually reside. We elaborate upon this shortly.

Spillover effects have frequently been explained in terms of the associative network model of memory (Collins and Loftus 1975; Wickelgren 1981). Packets of information about concepts (e.g., objects, people, brands, or *places*) are organized in memory in the form of a network consisting of inter-connected nodes and pathways. It is thought that consumers retrieve information by initiating a spreading activation process (Collins and Loftus 1975). Once a specific node is activated, it spreads to other nodes or associative concepts. While the activation of more strongly connected concepts requires lower cognitive effort and time, weakly associated concepts will require more cognitive effort and time or, may not be triggered and recalled at all.

In this context, concepts linked to museological display cues, such as pedestals and glass cubes, are likely to activate and spread to concepts relating to art. Consistent with *exemplar theory* (Rosch 1999), these pathways should be developed with relative ease given that museums and art galleries typically present prized artworks using such cues. Via the spreading activation process, our reasoning follows that, in isolation, museological displays are sufficiently charged with artistic properties that they become perceptibly and intrinsically *artistic*, albeit in a subtler manner than visual artwork itself (Hagtvedt and Patrick 2008). Therefore, we envisage that merchandise when placed on, or in, a museological display will benefit from a phenomenon in keeping with traditional art infusion, whereby artistic essence spills over from the display, transforming the products into perceptual artworks even though art was never in close proximity.

Taken together, this process represents a form of second-order spillover (see Roehm and Tybout 2006; Carrillat, d' Astous, and Christianis 2014), beginning with connotations of museums and art galleries spilling over to museological displays (first-order activation), and from display to product when presented together (second-order activation). Recent research has placed the spotlight on second-order spillover effects in marketing; for instance, Carrillat, d' Astous, and Christianis (2014) showed that if a celebrity endorser is caught in a scandal, the negative connotations not only transfer to the immediate brand sponsor but also the wider product category.

To validate our proposition we build upon the model tested by Hagtvedt and Patrick (2008); see Fig. 1. We contend that a high-end product presented using a *single* museological display will experience an artistic infusion that renders it more “art-like”, heightening consumers’ perception of its luxury, (Hagtvedt and Patrick 2008; Huettl and Gierl 2012; Pino, Guido, and Natarajan 2017). We also propose that the connotation of “specialness” and “uniqueness” conferred by *art* works to lessen the social, psychological and financial risk (i.e., personal risk, see Tsiros and Heilman 2005) associated with its purchase (Dunn, Murphy, and Skelly 1986; Chaudhuri 1998). While it is well known that shoppers search for environmental cues to help reduce or resolve decision-making uncertainty (Mitchell and Harris 2005), this issue is highly germane for purchases where social signaling concerns are paramount. To test this serial mediation process linking the merchandise display format (museological versus non-museological) to purchase intentions, and the central roles played by consumers’ perceptions of luxury and personal risk as consecutive process variables mediating this relationship, we hypothesize that:

- H1.** Products presented using a museological compared to a non-museological display format will experience an extended art infusion effect increasing consumers’ luxury perceptions of the product on display.
- H2.** Higher purchase intentions for products presented in a museological display format will be mediated by enhanced perceptions of luxury and in turn, lower personal risk.

### Summary and Experimental Overview

In Study 1 we test the research model outlined above. In Study 2, we replicate the results, and sharpen our understanding of the extended art infusion effect for enhancing perceptions of product luxury by simultaneously testing three alternative explanations. Specifically, we establish if museological display formats heighten perceptions of product luxury because (i) they are more visually appealing, (ii) evoke higher expectations of in-store service quality, or (iii) offer less product contamination from other shoppers. Although both (i) and (ii) are identified to be significant drivers, we still find strong support for our extended art infusion effect and so, in Study 3 we focus on generalizing the results from women to men, and from handbags to shoes. Considering the combination of cues tested, we also establish whether or not retailers should prioritize specific muse-

ological display cues over others (i.e. the presence or absence of a glass cube) to maximize the benefit of an extended art infusion effect.

### Study 1: Testing the Extended Art Infusion Effect

#### Pretest

A convenience sample of 30 UK adults who had visited a museum or gallery within the last 12 months and regularly shopped in-store was recruited by street-level intercepts. Participants were presented with brief descriptions of all 26 display cues highlighted in Table 1 and asked to indicate, “the likelihood of each being part of an exhibit at a museum or art gallery” (1 = not at all, 7 = very likely). T-tests revealed that each cue differed from the scale midpoint (4) in the anticipated direction, offering initial support for the proposed typology. Cues most likely to feature in a museum display included, “reflective surfaces” ( $M=6.53$ ), “glass display cubes” ( $M=6.40$ ), “product focused lighting” ( $M=6.27$ ), “pedestals” ( $M=6.23$ ), “artistically staged goods” ( $M=6.13$ ) and “neat and tidy organization” ( $M=6.13$ ; all  $p$ 's < .01).

#### Stimuli Development (Pilot Study)

Guided by this pretest, images of two product displays featuring the same *neutrally* valenced handbag were created. The museological display featured a pedestal with glass cube and product focused spotlights, while the non-museological display featured a long shelf fixed to a neutral colored wall. To enhance ecological validity, displays were photographed courtesy of an independent clothing store in Athens, Greece. But, to avoid referencing specific artists or artworks, evidence of “artist credentials” or “educational signage”, although found to be powerful museological cues, were not applied in the stimuli development; see Appendix A Fig. A1.

In a computer lab setting, 54 female university students were randomly assigned to view one of the two displays. Following Hagtvedt and Patrick (2008), participants gauged the extent to which the photograph depicted a “museum-like display” (1 = not at all, 7 = definitely). As expected, the display featuring glass cube (sitting on a pedestal) was considered more museum-like ( $M=6.00$  vs. 1.52;  $F(1, 53)=188.63$ ,  $p < .01$ ) than the display featuring the long shelf.

#### Participants, Method and Procedure

In total, 126 female students participated in the main study in exchange for a £5 coffee shop gift card. They were randomly assigned to the museological or non-museological condition. By way of cover story, participants learned that an established leather-goods brand was about to enter the UK market, and shown a photograph of the handbag (Appendix A Fig. A1), with all obvious signs of brand identification hidden. Handbags were considered a suitable product because they are the engine that drives luxury brands today and their purchases typically satisfy a mixture of functional, experiential and symbolic

Table 2  
Descriptive statistics and inter-construct correlations (Study 1).

Construct	Mediator 1 Perceptions of luxury	Mediator 2 Personal risk	Dependent Purchase intentions
1. Perceptions of luxury	0.91, (0.96)		
2. Personal risk	-0.55	0.75, (0.90)	
3. Purchase intentions	0.75	-0.56	0.86, (0.96)
Mean	4.18	3.32	3.53
Standard deviation	1.53	1.07	1.62

Note: Sub-diagonal entries are latent construct correlations. On the diagonal is the AVE, with composite reliability in parenthesis. Correlations above 0.25 are significant ( $p < .01$ ).

needs (Hung et al. 2011). Pricing information was also omitted as customers may use it to infer product quality or risk linked to product purchase (Olson 1977), thereby detracting from the focal display.

The dependent variable was purchase intentions, measured using a four-item Likert scale adapted from Bian and Forsythe (2012; 1 = strongly disagree, 7 = strongly agree). Sample items included, “if I were shopping for a handbag, the likelihood I would purchase this product is high”, and “the probability I would consider buying this handbag is high”. The scale exhibited good internal reliability; Cronbach’s alpha ( $\alpha$ ) was .94. Next, participants rated their impression of the handbag as being “luxurious”, “prestigious”, “high class”, and “attractive” (1 = not at all, 7 = extremely) using Hagtvedt and Patrick’s (2008) perceptions of luxury scale ( $\alpha = .90$ ). Finally, personal risk was measured via an adapted nine-item Likert scale, capturing the three-dimensions proposed by Tsiros and Heilman (2005). Following the stem, “I think that by purchasing the handbag on display”, participants expressed agreement with statements such as, “it might be a waste of money” (financial risk), “others will not see me the way I want them to” (social risk), and “it will fit poorly with what I think of myself” (psychological risk). Cronbach’s  $\alpha$  ranged from .70 to .92. Items measuring each dimension were averaged to create three composite scores and index of overall personal risk.

Confirmatory factor analysis, using maximum likelihood estimation, was conducted to assess the relationships between the latent constructs and evaluate their convergent and discriminant validity using Fornell and Larcker’s (1981) guidelines. Results revealed a reasonably good fit to the data:  $\chi^2(41) = 90.57, p < .01$ ; comparative fit index (CFI) = .95, Tucker-Lewis index (TLI) = .93, standardised root mean square residual (SRMR) = .07, consistent with the proposed measurement model. Scholars suggest an adequate fit is achieved when the CFI and TLI are above .90, and SRMR is below .08 (Williams, Vandenberg, and Edwards 2009), which this model satisfied. In support of convergent validity, all factor loadings were significant ( $p < .01$ ), and the average variance extracted (AVE) exceeded .50, indicating that each factor explained at least 50% of the variance in the corresponding set of items. In support of discriminant validity, each factor’s AVE exceeded the squared correlations between all pairs of constructs; see Table 2.

## Results

Checks confirmed the display format was perceived to be more museum-like (1 = not at all, 7 = definitely) in the museological compared to non-museological condition ( $M = 5.36$  vs.  $2.46$ ;  $F(1, 124) = 121.95, p < .01$ ). Participants’ intentions to purchase the handbag were greater in the higher compared to lower museological display ( $M = 4.00$  vs.  $3.06$ ;  $F(1, 124) = 11.64, p < .01$ ), with a medium effect size ( $d = .63$ ) as per Cohen’s (1992) guidelines. Likewise, consistent with the extended art infusion effect (H1), participants’ perceived the handbag as more luxurious ( $M = 5.00$  vs.  $3.36$ ;  $F(1, 124) = 50.61, p < .01$ ;  $d = 1.25$ ) and carrying lower overall personal risk ( $M = 3.01$  vs.  $3.67$ ;  $F(1, 124) = 14.62, p < .01$ ;  $d = .68$ ). Repeating the analysis for financial, social and psychological risk in turn, yielded similar results (not shown; all  $p$ ’s  $< .01$ ).

We estimated the serial mediation model with two mediators (perceptions of luxury and personal risk) using PROCESS model 6 (Hayes 2013). Unstandardized path estimates are presented in Table 3 and Fig. 1. Consistent with H2, the handbag was perceived as 1.64 units more luxurious when displayed in the museological compared to non-museological condition ( $\beta = 1.64, t = 7.11, p < .01$ ). This infusion of luxury, in turn, reduced customers’ overall personal risk associated with product purchase ( $\beta = -.33, t = -5.37, p < .01$ ), and lower risk increased purchase intentions ( $\beta = -.30, t = -2.79, p < .01$ ). Given each “link in the chain” was significant, there is *prima facie* evidence for the serial indirect effect. This was confirmed by jointly testing the three paths together with the bootstrapped confidence interval excluding zero ( $\beta = .16$ ; 95% CI: .06–.36). In addition, the positive relationship between display format and purchase intent was also mediated by luxury perceptions (indirect effect:  $\beta = 1.26, 95\% \text{ CI: } .84\text{--}1.77$ ). Finally, following Bellezza, Paharia, and Keinan (2016), we determined the improvement in  $R^2$  above and beyond the simplified model that only included the first mediator. In support of our more complex two mediator model, there was a modest gain in variance explained ( $R^2_{\text{change}} = .03, F_{\text{change}}(1, 122) = 7.79, p < .01$ ).

## Discussion

The results provide initial support for the extended art infusion effect with the museological display format infusing the merchandise with enhanced perceptions of luxury, thereby replicating and extending Hagtvedt and Patrick’s (2008) theory in a new context. Higher luxury perceptions in turn reduced customers’ product risk and increased merchandise purchase intentions, thereby expanding the process explanation behind Hagtvedt and Patrick’s (2008) theory. Although prior studies have expressed concern for museological store designs for attracting consumers instore without buying (Dion and Arnould 2012; Joy et al. 2014; Vukadin, Lemoine, and Badot 2016), we make headway addressing this issue by reporting higher purchase intentions towards the exhibited product.

We also repeated this analysis using identical materials and a new sample of female students, but this time including a measure for cultural capital (see Web Appendix A for details). Cultural

Table 3  
Empirical model and indirect effect coefficients (Studies 1–3).

Paths	Study 1	Study 2	Study 3		
	Handbag	Handbag	Men's shoes		
	n = 63 per condition	n = 85 per condition	n = 95 per condition		
	Shelf/cube	Shelf/cube	Shelf/cube	Shelf/pedestal	Pedestal/cube
<b>Baseline model</b>					
Display (X) → luxury (M1)	1.64***	0.93***	0.81***	0.69***	0.12 <sup>NS</sup>
Display (X) → risk (M2)	-0.16 <sup>NS</sup>	0.17 <sup>NS</sup>	-0.07 <sup>NS</sup>	-0.34 <sup>NS</sup>	0.33 <sup>NS</sup>
Luxury (M1) → risk (M2)	-0.33***	-0.26***	-0.27***	-0.34***	-0.41***
Luxury (M1) → PI (Y)	0.78***	0.64***	0.44***	0.50***	0.41***
Risk (M2) → PI (Y)	-0.30**	-0.39***	-0.50***	-0.46***	-0.46***
Display (X) → PI (Y)	-0.51*	0.12 <sup>NS</sup>	-0.24 <sup>NS</sup>	-0.01 <sup>NS</sup>	-0.26 <sup>NS</sup>
<b>Indirect effects (CI<sub>95%</sub>)</b>					
Display → luxury → PI	1.26 (0.84, 1.77)	0.60 (0.32, 0.90)	0.35 (0.17, 0.57)	0.35 (0.16, 0.56)	0.05 (-0.08, 0.20)
Display → risk → PI	0.04 (-0.04, 0.17)	-0.07 (-0.24, 0.07)	0.04 (-0.15, 0.23)	0.15 (-0.01, 0.33)	-0.15 (-0.33, 0.01)
Display → luxury → risk → PI	0.16 (0.06, 0.36)	0.10 (0.04, 0.18)	0.11 (0.03, 0.23)	0.11 (0.04, 0.21)	0.02 (-0.04, 0.09)

Note: Display is dummy coded; condition on left coded (0), condition on right coded (1).  
\*\*Sig < .001, \*Sig < .01, \*Sig < .05, <sup>NS</sup> > .05. Bootstrapped indirect effects based on 5000 resamples, with 95% upper and lower confidence intervals in parenthesis.

capital is a social asset that captures an individual’s cultural competency (e.g., appreciation of cultural activities, aesthetic objects, etc.). In line with the Associated Network Model of Memory (Collins and Loftus 1975; Roehm and Tybout 2006), we expected cultural capital to moderate the first path in the model, namely the effect of display format on luxury perceptions, since the connection between museological cues and the world of art and museums should be stronger (less effortful) for respondents with greater art experience, and naturally self-rate higher in cultural capital. Not only was the serial mediation model replicated, but also it was stronger for those higher and weaker for those lower in cultural capital. Whilst these initial results are encouraging because our materials were high in ecological validity, there are a number of competing explanations and potential confounds that warrant further attention, which form the basis of Study 2.

### Study 2: Exploring Alternative Explanations Under Controlled Conditions

#### Rationale

The results of Study 1 examining differences in perceptions of product luxury attributable to the use of museological versus non-museological displays provide support for the extended art infusion effect. However, there are several plausible alternative explanations needing to be addressed that might explain why a product presented in such a way is perceived as more luxurious relating to: (i) visual appeal, (ii) contamination, and (iii) service expectations.

First, rather than its association with *art*, consumers might simply find museological displays to be more visually appealing and interesting compared to a more regular display lacking such novel cues. Reynolds-McInay, Morrin, and Nordfält (2017) found that consumers are more likely to select merchandise from displays that are neat and tidy because they are more pleasant to

look at. In our context, presenting a product within a glass cube also makes it look neat, tidy and visually pleasant. Thus, higher perceptions of product luxury might prevail from a museological display format even in the absence of the extended art infusion effect.

Another possible explanation could be the contamination effect. Argo, Dahl, and Morales (2006) found that product perceptions and preferences are negatively influenced by customer concerns that others might have touched and thereby contaminated the products on display. In our context, simply placing a product within a glass cube might alleviate the risk of perceived contamination, thereby driving more favorable product attitudes such as luxury perceptions, irrespective of the display’s artistic connotations.

Finally, presenting a product within a glass cube instead of, for instance, on a regular shelf might increase service quality expectations towards the retailer. Research has confirmed that design and ambience factors – particularly prestige enhancing features – can increase service quality perceptions, which in turn lead to a more positive attitude towards the product (e.g., Baker, Grewal, and Parasuraman 1994). In our context, it could be reasonably assumed that displaying a product within a glass cube (sat on a pedestal) works as a prestige-enhancing feature, signaling the likelihood of higher levels of service, and more luxurious merchandise.

The main aim of Study 2 is to clarify the role of the extended art infusion effect in explaining why museological displays imbue products with higher perceived luxury. Additionally, we take the opportunity to employ new stimuli, and strengthen the internal validity of our results by controlling for potential confounding factors present in Study 1. In particular, we control for color by using grey-scale images, and removing other cues (e.g., spotlights, polished surfaces, gilt trims) which our typology suggests as typical features of museological displays (see Table 1). To enable comparison of results with those of Study

1, we retain the same handbag product but employ a sample of non-student female respondents from the wider UK population.

### Participants, Method and Procedure

A one-way between-subjects experimental design with display format (museological: higher vs. lower) as the experimental factor was chosen, although for purposes of exposition we refer to them as the museological and non-museological conditions. Participants were 170 UK female adults ( $M_{age} = 46.78$ ,  $SD = 15.20$ ) recruited via a Qualtrics managed panel, who completed the ten-minute questionnaire comprising three sections in exchange for a small fee.

First, participants imagined that they were shopping for a new handbag and visiting an independent clothing store they had never been to before. Upon entering the store, depending on condition, they were shown a picture of the handbag displayed upon (i) a white shelf or (ii) a white pedestal within a glass cube; see Appendix A Fig. A2. Measures pertaining to the dependent variables were then collected, in reverse order to the model sequence; namely, four purchase intention items ( $\alpha = .97$ ), followed by six risk (two per facet, reduced from nine;  $\alpha = .84$ ), and four luxury perceptions items ( $\alpha = .93$ ) as used in Study 1.

Next, participants were presented with measures pertaining to each of three alternative explanations, which served as possible mediators between the display format and luxury perceptions link. The extended art infusion effect contends that via a second-order spillover in which artistic essence is transferred to the displayed product, the latter will acquire artistic properties itself. To capture this effect we adapted a manipulation check from Hagtvedt and Patrick (2008), replacing whether the *image* attached to the product was considered art/non-art, with “To what extent does the *handbag* look like a work of art” (1 = not at all, 7 = definitely).

To determine the visual appeal of the display, we adapted six items from Matilla and Wirz’s (2002) seven-point semantic differential scale designed to capture consumers’ emotional response to the wider store environment. Items measured whether the display was: unattractive-attractive, uninteresting-interesting, depressing-cheerful, bad-good, dull-bright, and unpleasant-pleasant ( $\alpha = .94$ ). Product contamination (Argo, Dahl, and Morales 2006) was measured using Reynolds-McIlroy, Morrin, and Nordfält’s (2017) three-item scale which included generalized beliefs about the merchandise being: uncontaminated-contaminated, untouched-touched, and dirty-clean ( $\alpha = .84$ ). Relatedly, customers might be more likely to require service assistance to inspect the handbag presented inside the glass cube, while the open shelf enables self-service. Service expectations were measured with Baker, Grewal, and Parasuraman’s (1994) seven-point, five-item Likert scale ( $\alpha = .93$ ). Sample items included: “Customers could expect to be treated well in this store”, “Employees of this store could be expected to give customers personal attention”, “This store would

offer high-quality service”. Finally, participants completed manipulation checks and supplied demographic information.

### Results

Manipulation checks confirmed that the retail display looked *more* like something seen in a museum ( $M = 4.52$  vs. 3.19;  $t(1,168) = -5.53$ ,  $p < .01$ ) or art gallery ( $M = 4.71$  vs. 3.12;  $t(1, 168) = -6.69$ ,  $p < .01$ ) in the museological versus non-museological condition. We were also able to replicate the serial mediation process of display format on purchase intention via luxury perceptions and personal risk; path coefficients are shown in Table 3. Specifically, the handbag’s luxury perceptions were .93 units higher when presented in the museological display ( $t = 4.40$ ,  $p < .01$ ). This infusion of luxury reduced personal risk ( $\beta = -.26$ ,  $t = -4.01$ ,  $p < .01$ ), which in turn increased purchase intentions ( $\beta = -.39$ ,  $t = -5.06$ ,  $p < .01$ ). A bootstrapped confidence interval confirmed that the serial indirect effect was significant [ $\beta = .10$ ;  $CI_{95\%}$ : from .04 to .18]. In addition, as before, the positive indirect effect of display format on purchase intentions via luxury perceptions was also significant [ $\beta = .60$ ;  $CI_{95\%}$ : from .32 to .90]. Thus, this replication under more controlled (internally valid) conditions and with a non-student sample lends support and complements the findings of Study 1.

Next, we tested whether the relationship between display format and luxury perceptions, the first “link” in the baseline model, was mediated (explained) by “work of art” perceptions (using Hayes’ Model 4). This would validate our theory. We also tested whether visual appeal, contamination, and service expectations worked as alternative explanations causing heightened product luxury perceptions for the museological format. As expected, and in support of our theory, we found a significant indirect effect through “work of art” [ $\beta = .15$ ;  $CI_{95\%}$ : from .01 to .33]. As such, the handbag was more likely to be seen as an artwork when displayed within the glass cube, which increased consumers’ perceptions of its luxury. Replacing the mediating variable, the indirect effect measuring how visually appealing and interesting the display was [ $\beta = .28$ ;  $CI_{95\%}$ : from .08 to .54], and retailer service expectations [ $\beta = .19$ ;  $CI_{95\%}$ : from .02 to .37] were also both significant. In contrast, the cube did reduce the likely incidence of product touching, but these contamination beliefs were not related to luxury perceptions; the indirect effect was non-significant [ $\beta = .06$ ;  $CI_{95\%}$ : from  $-.04$  to .18]. The four potential mediators were only modestly correlated (mean  $r = .20$ ); see Table 4 for path coefficients).

Finally, we re-estimated the serial mediation model replacing luxury perceptions with each of the alternative explanations (work-of-art perceptions, visual appeal, service expectations, contamination) to examine the influence of these issues on purchase intentions. Specifically, we focused on the total indirect effect which is the sum of the all indirect effects (two simple cases plus the serial effect) to quantify how differences between the two display formats relate to differences in purchase intent. In decreasing order of magnitude, the total indirect effect was .62, .38, .38, and .25 when luxury perceptions, work-of-art, visual

Table 4  
Alternative explanations for the effect of display on luxury perceptions (Studies 2 and 3).

Model paths	Study 2 Handbag n = 85 per condition	Study 3 Men's shoes n = 95 per condition		
	Shelf/cube	Shelf/cube	Shelf/pedestal	Pedestal/cube
<i>(a<sub>1-4</sub>): X → M</i>				
Display → work-of-art	1.10***	0.89***	0.81***	0.08 <sup>NS</sup>
Display → visual appeal	0.65***	0.82***	0.92***	-0.10 <sup>NS</sup>
Display → service expectation	0.83***	0.28*	0.26 <sup>NS</sup>	0.03 <sup>NS</sup>
Display → contamination	-0.62***	-0.42***	-0.26 <sup>NS</sup>	-0.16 <sup>NS</sup>
<i>(b<sub>1-4</sub>): M → Y</i>				
Work-of-art → luxury	0.13*	0.15***	0.16***	0.15***
Visual appeal → luxury	0.43***	0.38***	0.47***	0.28***
Service expectation → luxury	0.23*	0.35***	0.33***	0.41***
Contamination → luxury	-0.10 <sup>NS</sup>	-0.06 <sup>NS</sup>	-0.04 <sup>NS</sup>	-0.07 <sup>NS</sup>
<i>(c'): X → Y</i>				
Display → luxury	0.25 <sup>NS</sup>	0.24 <sup>NS</sup>	0.03 <sup>NS</sup>	0.11 <sup>NS</sup>
Indirect effects (CI <sub>95%</sub> )				
Display → work of art → luxury	0.15 (0.01, 0.33)	0.14 (0.04, 0.27)	0.13 (0.04, 0.26)	0.01 (-0.06, 0.09)
Display → visual appeal → luxury	0.28 (0.08, 0.54)	0.31 (0.14, 0.54)	0.43 (0.24, 0.64)	-0.03 (-0.13, 0.09)
Display → service expectation → luxury	0.19 (0.02, 0.37)	0.10 (0.01, 0.22)	0.08 (-0.01, 0.21)	0.01 (-0.11, 0.12)
Display → contamination → luxury	0.06 (-0.04, 0.18)	0.02 (-0.04, 0.10)	0.01 (-0.03, 0.06)	0.01 (-0.02, 0.06)
Total indirect	0.68 (0.37, 1.00)	0.57 (0.31, 0.86)	0.66 (0.37, 0.96)	0.00 (-0.21, 0.22)

Note: Display dummy variable; condition on left coded (0), condition on right coded (1).  
\*\*\*Sig < .001, \*\*Sig < .01, \*Sig < .05, <sup>NS</sup> > .05. Bootstrapped indirect effects based on 5000 resamples, with 95% upper and lower confidence intervals in parenthesis.

appeal and service expectations respectively were treated as the first (M1) of the two serial mediators (all confidence intervals were above zero). When contamination was entered, the confidence interval was no longer significant. Thus, perceptions of product luxury appear to be the primary, but not the only, influence on customers' purchase intentions and inferences.

Discussion

Study 2 sharpens our understanding of the extended art infusion effect under more controlled, internally valid conditions. Again, improved luxury perceptions and lower personal risk together make up the sequential process through which museological display cues influence purchase intentions for the presented merchandise. We also gain insight into the reasons for the products' enhanced perceived luxury. Consistent with the extended art infusion effect, we find evidence of artistic essence spilling over from the display format to the merchandise, with products presented in a museological display being perceived more as "works of art". Museological displays were also more visually appealing, and associated with stores expected to offer higher quality service. Together, these three explanations fully mediated the positive relationship between display format and luxury perceptions, meaning that no single explanation is wholly responsible for why museological display formats perform better. Given they are modestly inter-related, we acknowledge that all three variables are *in line* with the broader museum concept experience and thus (each one of them) partially capable of explaining the effect tested.

Nevertheless, while our "stylized" materials removed the confounding influence of color and materials (e.g., linked to

use of gold, gilt or chrome) and certain display cues (e.g., spotlights, mirrored surfaces) found in Study 1, the cube condition may still be considered confounded. To that end, in the next study we determine the unique contribution of the glass cube over and above the pedestal alone. This holds practical merit for retailers looking to capitalize on this effect, particularly for product purchases where touch is important (Peck and Shu 2009). Moreover, we test the generalizability of the findings with a new product targeted exclusively at men.

Study 3: Generalizing the Research

Participants, Method and Procedure

Study 3 consisted of a one-way between-subjects design with display format (shelf, pedestal, cube) as the experimental factor. The shelf and cube conditions were identical to Study 2, but now we included a pedestal-alone condition (without glass cube). In total, 285 UK male adults, 95 per condition, (*M*<sub>age</sub> = 43.62, *SD* = 13.46), were recruited via a Qualtrics managed panel. Participants completed the same questionnaire as before, except the handbag was replaced by a pair of men's formal leather shoes; see Appendix A Fig. A3.

Items measuring to what extent the display format resembled something you might see in (i) a museum or (ii) art gallery were combined into a composite score ( $\alpha = .78$ ). Analysis of this manipulation check via one-way ANOVA revealed a significant effect of condition ( $F(2, 282) = 10.69, p < .01$ ). As expected, the shelf display ( $M = 4.28$ ) was rated less museum-like than the pedestal ( $M = 4.81; F(1, 189) = 6.36, p < .01$ ) or cube ( $M = 5.19; F(1, 189) = 21.68, p < .01$ ) displays, while

Table 5  
 Descriptive statistics—means, standard deviations and one-way ANOVAs (Study 3).

Predictor	Shelf	Pedestal	Cube	One-way ANOVA (F)
Alternative explanations				
Work-of-art	3.33 <sup>ab</sup> (1.57)	4.14 <sup>a</sup> (1.62)	4.22 <sup>b</sup> (1.65)	8.90***
Visual appeal	3.82 <sup>ab</sup> (1.33)	4.75 <sup>a</sup> (1.23)	4.64 <sup>b</sup> (1.47)	13.45***
Service expectations	4.96 <sup>b</sup> (0.92)	5.22 (1.02)	5.25 <sup>b</sup> (0.93)	2.54 <sup>NS</sup>
Product contamination	2.33 <sup>b</sup> (1.15)	2.07 (1.22)	1.91 <sup>b</sup> (1.08)	3.19*
Sequential mediation model				
Luxury perceptions	4.09 <sup>ab</sup> (1.44)	4.78 <sup>a</sup> (1.18)	4.90 <sup>b</sup> (1.07)	11.69***
Perceived risk	3.43 <sup>a</sup> (1.31)	2.86 <sup>a</sup> (1.22)	3.14 (1.30)	4.76**
Purchase intentions	4.21 <sup>ab</sup> (1.52)	4.81 <sup>a</sup> (1.35)	4.46 <sup>b</sup> (1.55)	3.88*
Manipulation check				
Looks like something seen in a museum/gallery	4.28 <sup>ab</sup> (1.45)	4.81 <sup>ac</sup> (1.39)	5.19 <sup>bc</sup> (1.23)	10.69***

Note: N = 95 per condition; means with standard deviations in parentheses.

Cells with same letter superscripts differ at  $p < 0.05$ . For instance, for work-of-art, the “ab” superscript denotes that the shelf versus pedestal means (3.33 vs. 4.14) were significantly different as both have the “a” superscript, and likewise the shelf versus cube means (3.33 vs. 4.22) as both have the “b” superscript, but there is no “c” superscript for pedestal versus cube.

\*\*\*Sig < .001, \*\*Sig < .01, \*Sig < .05, <sup>NS</sup> > .05.

the difference between the pedestal and cube conditions was more “marginal” ( $F(1, 189) = 4.19, p = .042$ ). Indeed, when we repeated the analysis for each focal variable (luxury perceptions, personal risk, purchase intentions) and alternative explanation of luxury (work-of-art perceptions, service expectations, contamination, visual appeal), the differences between both museum-like conditions were never significant (all  $F$ 's < 2.62,  $p$ 's > .10). Descriptive statistics and one-way ANOVA's are reported in Table 5.

### Results

We conducted parallel mediation analyses to examine the alternative explanations for perceptions of product luxury for each pair of display formats in turn (shelf vs. cube, shelf vs. pedestal, pedestal vs. cube) using PROCESS Model 4. Results are reported in Table 4. Beginning with the shelf vs. cube comparison, and consistent with Study 2, the indirect effect for work-of-art [ $\beta = .14; CI_{95\%}: .04-.27$ ], visual appeal [ $\beta = .31; CI_{95\%}: .14-.54$ ], and service expectations [ $\beta = .10; CI_{95\%}: .01-.22$ ] all had a significant influence on luxury perceptions, but contamination did not [ $\beta = .02; CI_{95\%}: -.04$  to  $.10$ ]. Thus, relative to the shelf condition, participants who viewed the cube considered (i) the shoes to look more like a work-of-art, (ii) the display to be more visually interesting, and (iii) expected better service from the retailer, which in turn enhanced luxury perceptions of the merchandise.

Next, we compared the shelf vs. pedestal displays. Again, work-of-art [ $\beta = .13; CI_{95\%}: .04-.26$ ] and visual appeal [ $\beta = .43; CI_{95\%}: .24-.64$ ] had indirect effects, enhancing the product's luxury perceptions, but service expectations and contamination were not significant as their confidence intervals straddled zero. Finally, no differences were found for the pedestal, with or without glass cube; both museum-like displays were perceived as equally highly luxurious, and associated with similar service expectations, visual appeal, and product contamination (see Table 4).

Then, we tested whether museological displays, compared to more conventional shelf format, enhanced customers' perceptions of product luxury and reduced overall risk, and together these consecutive process variables mediated the relationship between display format and purchase intent. Once again, the bootstrapped confidence interval confirmed that the serial indirect effect of the cube relative to the shelf [ $\beta = .11; CI_{95\%}: .03-.19$ ], and the pedestal relative to the shelf [ $\beta = .11; CI_{95\%}: .03-.18$ ] comparisons were significant. But, the cube display provided no extra art infusion over and above the pedestal alone; (see Table 3 for path coefficients).

For completeness, we reran the analysis using Hayes and Preacher's (2014) guidelines for multi-categorical mediation, examining the three conditions simultaneously. This entailed creating two contrast-coded dummy variables. The first contrast compared the contribution of the combined pedestal and cube display formats to the shelf condition, while the second contrast compared the contribution of the two museum-like displays with one another. Results mirrored those reported above, confirming the equal superiority of the pedestal and cube displays for inducing an extended art infusion effect.

### Discussion

In summary, we have shown that the findings of Study 2 generalize across both men and women, students and adults, and different product domains (handbags and shoes). Evidence supports the extended art-infusion effect with museological display formats enhancing luxury perceptions, which in turn, reduces the personal risk associated with product purchase. Interestingly, the product was evaluated as equally luxurious when presented on the pedestal, with or without glass cube, and so worries about product contamination from other customers handling the merchandise appear to be unfounded. Given, the importance of touch in many purchase decisions (Peck and Childers 2003), and evidence suggesting that merely touching a product can increase perceptions of ownership (Peck and Shu 2009), open displays

might be advantageous. (We return to these issues in the discussion).

### General Discussion

In markets where it is increasingly difficult to engage with consumers, luxury retailers are understandably keen to adopt product-staging strategies that enhance the way merchandise is perceived and evaluated in-store. Despite positive initial insights of a qualitative nature involving broader store environment design (Dion and Arnould 2011, Joy et al. 2014), empirical evidence to justify retailers' adoption of museological product displays has been surprisingly scarce. We address this gap in the literature, introducing the *Extended Art Infusion Effect* as an underpinning framework, arguing its effect to manifest via a second-order spillover. Over three studies we find that merchandise displayed using a museological format is perceived as more luxurious, less risky, and more purchasable when compared to an identical product displayed in a conventional (non-museological) manner. After verifying our sequentially mediated research model in Study 1, in Study 2 we validate these findings with a non-student population whilst taking care to control for confounding variables and alternative explanations for our results. In study 3 we generalize the findings to a new sample (men), using a different product domain (shoes). The extended art infusion effect remains a powerful explanation for why products displayed using museological formats are perceived as more luxurious. Interestingly we also establish that having a glass cube on top of a pedestal – a design we use in both Study 1 and 2 – offers no discernible benefit to retailers over and above a pedestal alone, in terms of receiving an extended art infusion effect.

### Theoretical and Managerial Contributions

The theory we derive and test is an extension of Hagtvedt and Patrick's (2008) *art infusion effect*. We make a contribution to the broader area of *art infusion* by demonstrating this theory can be extended beyond its original conceptualization. As such, we find that visual artwork needn't actually be in situ with the product for it to experience an artistic spillover, with the product display acting as a "surrogate" for artwork. Our findings therefore reinforce Hagtvedt and Patrick's (2008) claim that art infusion is a special form of spillover. Moreover, through our extension of this work we provide evidence that art infusion is a robust theory for explaining attitudinal shifts towards products when they are in proximity to other "artistic" properties.

This work also contributes to the emerging literature on retail *staging* of merchandise to enhance consumers' product evaluations. Studies have shown how products that are unveiled rather than shown to consumers appear to be more valuable and pristine (Patrick, Atefi, and Hagtvedt 2017), whilst merchandise presented on a vertical orientation (Nordfält et al. 2014), and in a neat and tidy (rather than messy) manner, seems less contaminated and more attractive to consumers (Reynolds-McInay, Morrin, and Nordfält 2017). Certainly, museological product displays offer a further way for retailers to enhance the value

of merchandise for just a modest outlay, with our empirically derived typology of museological display cues serving as a useful design checklist. However, caution needs to be exercised when selecting between, and prioritizing, display cues, since it was beyond the scope of this exercise to establish the relative importance of each cue to the overall museological display concept. It is also worth flagging that the typology reflects the display environment of *traditional* museums and art galleries, such as The Guggenheim in Bilbao, Uffizi Gallery in Florence, or Metropolitan Museum of Art, in New York. But, museum design is a progressive discipline. Curators have invested substantial resources in recent years evolving both visual and experiential attributes to reflect 21st century design practices and attract more visitors (see Anderson 2004). Consequently, museum and art gallery aesthetics can differ widely. Indeed, visiting the Victoria and Albert (V&A) museum in London is a very different experience to that of the Louisiana Museum of Modern Art or the U.S. Olympic Museum in Colorado. Thus, retailers' museological display practices will also likely evolve to maintain contemporary relevance and avoid becoming an outmoded pastiche. We speculate that this may eventually offer retailers *more* flexibility in their selection of museological cues that benefit from the extended art infusion effect.

Retailers weighing up the cost-benefit of *art infusion* methods in-store, may consider the display techniques associated with *the extended art infusion effect* to be more feasible and appropriate for their needs. For instance, using visual artworks (e.g., hanging paintings on the wall or pedestalled sculptures on the shop floor) may be challenging in terms of sourcing affordable pieces that *fit* with the intended image of the brand, store, season or even collection (Meyers-Levy and Zhu 2007). Achieving comparable results through subtle changes to the display format, such as replacing wooden with gilt or chrome-plated picture frames, should offer a more viable and versatile alternative.

Whilst we find strong support for the extended art infusion effect in all three studies, we also acknowledge that museological displays signal higher product luxury to consumers via two other distinct mechanisms. Firstly, consumers found the cube to be more aesthetically pleasing, enabling a more fluent processing experience of the product (Kahn 2017). Second, the cube was associated with higher service expectations typical of up-market stores. But, the issue of product contamination caused by other consumers handling the merchandise was not found to be problematic, presumably because customers realize that upon purchase, a freshly packaged item will be collected from the store cupboard with the product on display remaining just so.

Retailers that sell luxury products by employing museological display formats have several reasons to be buoyed by these results. Of course, there may be products that the display works harder for than others. In our experiments we alternated a women's handbag and pair of men's formal shoes as stimuli. Hagtvedt and Patrick (2008) mused that pairing figurative artwork with functional but rugged outdoor products, such as survival gear, may lack the necessary fit with art to experience an infusion. Likewise, highly styled products tend not to be evaluated as positively in utilitarian contexts as they are in hedonic

situations (Hagtvedt and Patrick 2014). Thus, it seems reasonable to speculate that the degree of artistic spillover from the display to merchandise will depend on the product being presented. Recall from Studies 2 and 3 that a museological display shines a perceptual halo over the merchandise, making it appear more like a work-of-art in its own right; but certain products likely make for better exhibits than others. A pair of socks will be unlikely to generate comparable outcomes to a pair of shoes, wallet or watch, notwithstanding all having some functional characteristics.

### Directions for Further Research

We echo Hagtvedt and Patrick's (2008) assertion that the topic of art often generates more questions than answers. In the same token, this research offers further avenues for investigation.

As part of our conceptualizing of the extended art infusion effect, we suggest that artistic essence contained in the display exists because of a spreading activation process (Collins and Loftus 1975) owing to its connotation with museums, galleries, and the world of art, in general. This raises two interesting questions about the magnitude of extended art infusion effect. Will the spillover a product experiences depend upon: (i) the degree to which the *product display* is associated with the world of art (how "museum-like" is the display) and (ii) the extent to which consumers' are *able* to make this connection? In a replication of Study 1 (see Web Appendix A) we provided preliminary evidence that cultural capital plays a moderating role in the model, with the product experiencing a greater artistic infusion, enhancing perceptions of luxury, when the respondents reported themselves as higher on the cultural capital construct. We also designed our materials for all three studies using what we considered to be archetypal museum display cues, namely pedestals and cubes rather than plain shelves. Consequently, in future studies it would be desirable to broaden the range of museological design cues investigated, perhaps including gilt frames, wooden cases, or even floating shelves (devoid of brackets). Only by benchmarking these cues, will retailers develop a comprehensive understanding of their available choices. Perhaps the pedestal and cube are not the gold standard – only time will tell.

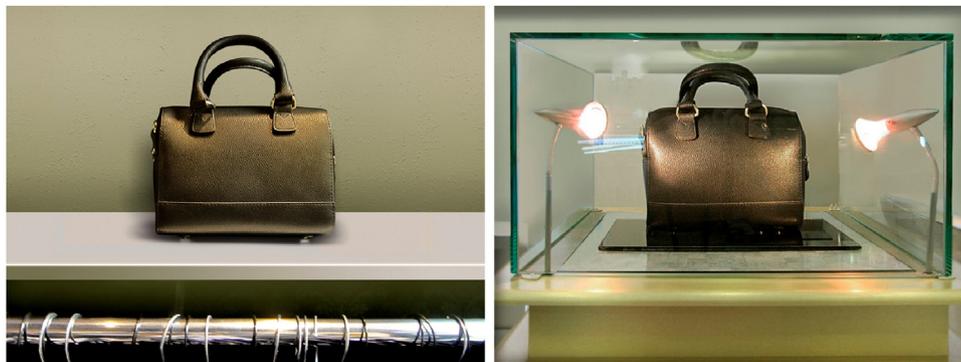
To minimize the number of confounding variables introduced into the experimental stimuli, in Studies 2 and 3, we omitted spotlights from the museological display, despite the importance we identified them as having in our typology. Although this created a more conservative test of the extended art infusion effect, future research might redress this omission, especially given the salience of lighting for making well-presented products "pop" in-store (Reynolds-McInay, Morrin, and Nordfalt 2017). In addition, and revisiting an earlier point, we speculated that hedonic, luxury products make for more successful exhibits (shoes, watches, bags) than others (socks). It would be interesting to explore this idea further, so that retailers can be confident about the *types* of product that should and should not be used in museological displays. Indeed, it is conceivable that an inappropriate product (socks) may be seen as ill-fitting, causing confusion, and potentially brand and attitude dilution (see, Gurhan-Canli and Maheswaran's (1999) work on brand extension feedback effects).

It is worth noting that the view of museological design we have presented here is offline, though the stimuli used (pictorial materials) allow us to assume transferability to online settings. With retailers finding ever-increasing volume of consumer spending occurring online, it is important not to overlook the importance of product staging in this channel (Wang, Minor, and Wei 2011). It would be interesting to discover though if *art* translates online in an analogous way to offline.

Finally, whilst we are confident that our study is internally valid, testing these findings in a field setting with greater external validity would be a useful endeavor. It would be interesting to see whether the extended art infusion effect also transfers to other important retail performance outcomes – such as time spent in store, attention, and monetary spend (Bitner 1992).

In conclusion, 2006 Nobel Prize winning literati, Orhan Pamuk once said "a museum should not just be a place for fancy paintings but should be a place where we can communicate our lives through our everyday objects". Perhaps, this will become the reciprocated value of a 21st century retail store.

### Appendix A.



Shelf (non-museological)

Cube (museological)

Fig. A1. Study 1 stimuli.



Fig. A2. Study 2 stimuli.



Fig. A3. Study 3 stimuli.

## References

### Appendix B. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.jretai.2018.11.001>.

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