DOI: 10.1177/0022242921997359

JOURNAL of Marketing

Gimmicky or Effective? The Effects of Imaginative Displays on Customers' Purchase Behavior

Journal:	*Journal of Marketing*
Manuscript ID	JM.18.0304.R3
Manuscript Type:	Revised Submission
Research Topics:	Retailing, Consumer Behavior/Cognition
Methods:	Behavioral Experiments, Field Experiments

Gimmicky or Effective? The Effects of Imaginative Displays on Customers' Purchase Behavior

Abstract

Prior research indicates the strategic importance of the store environment in enhancing customers' shopping experience and their purchase decisions. This article examines the effects of imaginative displays on customers' purchase behavior. An imaginative display is constructed using multiple units of the same product in a novel or innovative yet aesthetically appealing form, which could be themed (i.e., has a particular shape mimicking an object) or unthemed. Six studies in both lab and field settings show that, relative to standard displays (i.e., non-novel and neutral aesthetics), imaginative displays can increase customers' purchase behavior and intentions. Importantly, for themed imaginative displays, these effects work through the dual mechanisms of affect-based arousal and cognition-based inferred benefits, which are contingent on congruence between display form and perceived product benefit. Findings from this research not only contribute to the literature on in-store display and store atmospherics, but also have significant practical implications for retailers. Specifically, while imaginative displays may appear gimmicky, they can favorably influence customers' purchase behavior and increase product sales at relatively low costs.

Keywords: In-store display; novelty; aesthetics; arousal; inferred product benefits

Retail atmosphere, whether established in-store or through various retail touch-points, can influence customers' perceptions of the retailer and product choices (Roggeveen, Grewal, and Schweiger 2020). For instance, strategically altering the store environment can enhance customers' shopping experience and their purchase behavior (Baker, Levy, and Grewal 1992; Kaltcheva and Weitz 2006). In particular, judicious use of in-store displays can influence customers' behavior and increase retailers' sales (e.g., Chandon et al. 2009; Roggeveen, Nordfält, and Grewal 2016). Companies such as Coca-Cola often create novel and aesthetically appealing displays in stores, which have been shown to increase store sales (Web Appendix).

A survey of 2,400 supermarket shoppers indicates that half of them recalled seeing at least one display during their shopping trips, with endcap and free-standing displays being the most prominent; importantly, one in six purchases were made when a display was present in store (POPAI 2012). Moreover, displays are particularly useful in generating unplanned purchases of regularly purchased product categories, with an increase of almost 40% from the baseline level (Inman, Winer, and Ferraro 2009), and are even more effective than temporary price reductions (Neff 2008).

In this vein, prior research has examined two important facets of in-store display—display form (Castro, Morales, and Nowlis 2013) and display context (Zhu and Meyers-Levy 2009). Display form refers to how the products are displayed (e.g., Deng et al. 2016; Nordfält et al. 2014), while display context refers to contextual cues surrounding the display (e.g., Fiore, Yah, and Yoh 2000; Zhu and Meyers-Levy 2009). In extending the literature on display form and display context, the present research examines the effects of imaginative displays that are both novel or innovative and aesthetically appealing on customers' purchase behavior. We consider design novelty and aesthetics to be two critical elements of imaginative displays, as customers tend to be attracted to new things and their response to the new display form is

influenced by visual impression of the display (Radford and Bloch 2011). The visual design of a novel stimulus enables a retailer to gain customers' attention and stand out from its competitors (Bloch 1995; Raghubir and Greenleaf 2006).

Specifically, we investigate how imaginative displays that are novel and aesthetically appealing increase customers' purchase behavior compared to standard displays (i.e., non-novel and neutral aesthetics) by tapping into the literatures on in-store display (e.g., Baker, Levy, and Grewal 1992), innovativeness (e.g., Radford and Bloch 2011), and aesthetic design (e.g., Hoegg, Alba, and Dahl 2010). Furthermore, we reveal two mechanisms underlying the effects of imaginative displays—affective response of arousal and cognitive response of inferred product benefits. Finally, we identify (in)congruence between inferred benefit from the display form and perceived product benefit as a contextual cue to moderate these core effects.

We conducted six empirical studies. Studies 1 and 2 were field experiments showing the effects of imaginative displays on actual purchases. We then tested the underlying mechanism of arousal using two complementary designs, by measuring arousal (Study 3a) and by manipulating arousal (Study 3b). Study 4 tested the dual mediating effects of arousal and inferred product benefits from themed imaginative displays (i.e., with particular shapes mimicking actual objects). Finally, Study 5 tested the moderating role of congruence between display form and perceived product benefit on the core effects. The conceptual model is shown in Figure 1.

[Insert Figure 1 about here]

In the following sections, we first reviewed the relevant literature and developed the hypotheses shown in the framework. Following that, we reported empirical results from six studies designed to test the hypotheses. Finally, we discussed the theoretical and practical contributions, as well as the limitations and future research directions.

Theoretical Background and Hypotheses Development

In-Store Display Form and Display Context

There is considerable research examining the effects of in-store displays on customer behavior (Castro, Morales, and Nowlis 2013; Chandon et al. 2009; Inman, Winer, and Ferraro 2009). A key stream of research examines the effects of *display form* on customer responses. Display form includes display direction (Deng et al. 2016), display formation (Nordfält et al. 2014), space-to-product ratio of the display (Sevilla and Townsend 2016), display organization (Castro, Morales, and Nowlis 2013), shelf scarcity (Parker and Lehmann 2011), digital display (Roggeveen, Nordfält, and Grewal 2016), display completeness (Razzouk, Seitz, and Kumar 2002), and online virtual display (Breugelmans and Campo 2011).

Another stream suggests that customers' evaluations of the product on display are also influenced by the *display context*, such as scent in the shopping environment (Fiore, Yah, and Yoh 2000), coordination of product grouping (Lam and Mukherjee 2005), surface material of the tablecloth (Zhu and Meyers-Levy 2009), spatial layout of the display stand (Cavazza and Gabrielli 2015), and assortment organization (Sarantopoulos et al. 2019). The present research extends these two streams by examining the dual effects of novelty and aesthetics of imaginative displays on customers' purchase behavior. Table 1 summarizes the positioning of the present research vis-à-vis prior research on in-store displays.

[Insert Table 1 about here]

Imaginative Display

A product display form represents a number of elements chosen and blended into a whole by retailers to achieve a particular sensory effect (Bloch 1995; Hollins and Pugh 1990). Prior research suggests that an effective product display design should be perceived as innovative and

visually appealing (Radford and Bloch 2011). We conceptualize an imaginative display in terms of the degree of deviation from the prototypical category exemplar of physical appearance and visual attractiveness of the design. Specifically, we define an imaginative display as a product display constructed using multiple units of the same product in a novel yet aesthetically appealing form. Thus, an imaginative display combines the two critical elements of novelty and aesthetics to achieve optimal visual effectiveness. The novel element is operationalized via the innovative and unusual appearance of the display compared to the prototype (Mugge and Schoormans 2012), while the aesthetic element reflects its ability to please our visual senses (Bloch 2011). Notably, our definition of an imaginative display excludes other forms of product displays not constructed using multiple units of the same product (e.g., inflatable displays).

In marketing, novelty usually refers to a stimulus that is unfamiliar to the consumer (Hirschman 1980) and reflects a comparison of the object with previous versions in the same or proximal categories (Radford and Bloch 2011). According to categorization theory, consumers' repeated exposure to seeing different products in the same category would lead them to develop a prototype consisting of the average value of the design features of that category ('central tendency,' Barsalou 1985), which becomes representative of the product category (Veryzer and Hutchinson 1998). Product appearances that significantly deviate from (vs. resemble) the prototype are more novel or innovative (Mugge and Schoormans 2012). Moreover, perceived novelty of a stimulus is not only due to its inherent characteristics but could also be contextual, such as when contrasted against other nearby elements (Kim and Lakshmanan 2015).

Prior research has examined consumers' responses to various forms of aesthetics, such as product aesthetics (Bloch, Brunel, and Arnold 2003; Buechel and Townsend 2018), graphic aesthetics (Meyers-Levy and Zhu 2010), web aesthetics (i.e., aesthetic formality and aesthetic appeal; Wang, Minor, and Wei 2011), and solicitation aesthetics (Townsend 2017). In extending

the literature, we contrast a novel and aesthetically appealing imaginative display against a non-novel and neutral aesthetic standard display. As retailers' use of imaginative displays aims to attract and generate positive customer responses, we exclude aesthetically unappealing product displays, as merely imagining the unattractive display could negatively affect customers' self-perception and lower their willingness to pay for the product (Grewal et al. 2019).

Imaginative Display and Purchase Behavior

Our conceptualization of an imaginative display as being novel and aesthetically appealing highlights the combined effects of novelty and aesthetics. In this vein, novelty in the retail context can provide customers with a memorable consumption experience (Rego et al. 2014). A novel product appearance makes the product visually prominent compared to other products, which in turn affects customers' purchase decision (Creusen and Schoormans 2005). For instance, Roggeveen, Nordfält, and Grewal (2016) found that the novelty of new digital displays in hypermarkets led to a sales lift of 17%, and even when the novelty wore off after five months, the sales lift remained at 3%.

Meanwhile, high aesthetic appeal can be pleasurable and has positive effects on customer responses to products and brands (Hoegg, Alba, and Dahl 2010; Sevilla and Townsend 2016). For example, the aesthetic appeal of web design can increase online purchases through increased satisfaction (Wang, Minor, and Wei 2011). Similarly, aesthetically appealing packaged goods generate higher purchase intentions and lead to greater market share compared to aesthetically unappealing competitors (Raghubir and Greenleaf 2006). Thus, an imaginative display would heighten visual salience and attractiveness of the product (Creusen and Schoormans 2005; Krishna, Cian, and Aydınoğlu 2017), which increases purchase behavior. More formally:

H1: An imaginative display compared to a standard display increases customers' purchases and

purchase intentions.

Mediating Effects of Arousal and Inferred Product Benefits

Early research in psychobiology has established that the collative properties of a stimulus (e.g., novelty, complexity, and incongruity) can influence pleasure through the mediating effect of arousal (Berlyne 1950). For example, a work of art that is novel can influence arousal level, and subsequently pleasure and interest (Berlyne 1974). A recent study on the arrangement of a salad dish on a plate (arranged to look like a painting by Kandinsky vs. a regular dish vs. another organized in a neat but non-artistic way) revealed that the aesthetically pleasing dish enhanced diners' rating of the dish (Michel et al. 2014).

Similarly, environmental stimuli can influence individuals' emotional states (i.e., arousal and pleasure dimensions), which in turn influence their behavior (Mehrabian and Russell 1974). The arousal dimension reflects customers' feelings related to excitement and stimulation, while the pleasure dimension reflects their positive emotions such as happiness and satisfaction. Donovan and Rossiter (1982) show that novelty as a measure of information rate is positively related to customer arousal. Other stimuli such as music, scent, and color can also influence arousal (Hagtvedt and Brasel 2017; Morrison et al. 2011). For example, familiar music that is played at a novel pitch increases stimulation (Simonton 2010). Furthermore, aesthetic formality has a negative influence on arousal while aesthetic appeal has a positive influence on arousal (Wang, Minor, and Wei 2011).

Increased arousal in turn positively influences customers' willingness to buy (Baker, Levy, and Grewal 1992) and product preferences (Di Muro and Murray 2012) due to arousal misattribution (Schachter and Singer 1962). That is, customers often misattribute the positive feelings from one stimulus to the target product they are evaluating (Di Muro and Murray 2012).

Accordingly, we propose that imaginative displays would lead to arousal misattribution, which in turn positively influences customers' purchase of the product. More formally:

H2: An imaginative display compared to a standard display increases arousal, which in turn increases customers' purchases and purchase intentions.

Besides the affective response of arousal, an imaginative display may also influence customers' cognitive responses simultaneously (Bloch 1995). For instance, an irregular sliced graphic design (i.e., novel and aesthetic) in the background of an ad can elicit greater arousal and also impart a more favorable embodied meaning than an intact curved design (i.e., less novel and less aesthetic; Meyers-Levy and Zhu 2010). That is, consumers infer meaning and make judgment about the target object when exposed to visual aesthetics (Bloch, Brunel, and Arnold 2003). In this vein, in-store display as a form of product design can communicate values, beliefs, and benefits to customers (Bloch 2011). For example, a novel (i.e., metallic fabric vs. burlap) tablecloth can have a contextual effect on consumers' inferred evaluation of the product placed on it (i.e., trendy vs. natural) (Zhu and Meyers-Levy 2009).

Moreover, customer perception of an aesthetically appealing ensemble of products can transfer to the evaluation of the individual products (Lam and Mukherjee 2005). In particular, in-store displays designed with concept themes can potentially increase perceived value and brand equity of the display products (Manavis et al. 2019). For example, a themed in-store display in the form of birds' wings can be used to promote products such as superfoods due to their symbolic meanings of lightness and spirituality (Manavis et al. 2019). Accordingly, we further propose that a themed imaginative display can communicate embodied meanings that will transfer to the product constituting the display (i.e., inferred product benefits). A favorable inference will lead to greater cognitive elaboration about the product attributes (Lundh 1995), which enhances customers' purchase decision. Prior research shows that generating more

product attribute-related thoughts will in turn enhance product evaluation and purchase decision (Lam, Fu, and Li 2017). More formally:

H3: A themed imaginative display compared to a standard display increases the inference of product benefits, which in turn increases customers' purchases and purchase intentions.

Moderating Effect of Congruence between Display Form and Product Benefit

The assumptions underlying H2 and H3 are that arousal elicited by an imaginative display would be misattributed and meaning inferred from the imaginative display would transfer to the product itself, which increase customers' purchases. However, the arousal-based and inference-based effects are context-dependent and can have either positive or negative outcome depending on the context (Buechel and Townsend 2018; Townsend 2017; Wang, Minor, and Wei 2011). Thus, we further propose that (in)congruence between display form and perceived product benefit will moderate the effects of the dual processes on purchase intention.

Specifically, we draw on research showing that products are evaluated more favorably when they are congruent with similar cues in the environment (Berger and Fitzsimons 2008). For instance, Fiore, Yah, and Yoh (2000) show that congruence between a garment (sleepwear) on display and the appropriate environmental fragrance enhances customers' approach responses, and this effect is mediated by their pleasurable experience. Moreover, conceptual congruence between the thematic display context and the product can improve product evaluation by generating positive feelings and more product attribute-related thoughts (Lam, Fu, and Li 2017). Thus, congruence between inferred benefits from the display form and perceived product benefit would facilitate arousal misattribution and meaning transfer to increase purchase intention.

By contrast, incongruence between inferred benefits from the display form and perceived product benefit would prevent arousal misattribution and dampen meaning transfer to the

product, thus lowering purchase intention. For instance, aesthetic enhancement of donation solicitation that is incongruent with cost implications (e.g., using gold ink) can backfire and lower donations (Townsend 2017). Moreover, the affective experience of arousal could be positive or negative (Di Muro and Murray 2012; Noseworthy, Di Muro, and Murray 2014). Incongruity could evoke additional arousal, and extremely high arousal is aversive and leads to negative feelings such as irritation and anxiety, which lower preference for the product (Buechel and Townsend 2018; Noseworthy, Di Muro, and Murray 2014). To illustrate, an imaginative display in the form of a battle tank could lead customers to feel positive arousal (i.e., pleasant feeling) and infer "strength and power" for a product positioned on a congruent benefit (e.g., energy drink), which increases purchase intention. In contrast, although the same battle tank display for a product with an incongruent benefit (e.g., relaxation drink) may also lead customers to feel aroused and infer energy from the display form, they are unrelated to the product itself, which disrupt arousal misattribution and meaning transfer, and subsequently lower purchase intention. Taken together, congruence between display form and perceived product benefit moderates the effects of an imaginative display on purchase behavior. More formally:

H4: The effects of an imaginative display (H1) and the underlying processes (H2 and H3) on customers' purchases and purchase intentions are moderated by congruence between display form and perceived product benefit, such that the effects hold when they are congruent, but are mitigated when they are incongruent.

Study 1: Field Experiment in a Grocery Store

Study 1 tested the main effect of an imaginative display on sales revenue in a grocery store in a major Australian city.

Design and Procedure

Study 1 used a one factor two-level (product display: imaginative vs. standard) between-subjects design. The imaginative display was designed in the form of a 17-story quasi-circular cone on a cuboid base constructed using boxes of facial tissues (retail price $1.99), while the standard display consisted of only the cuboid base (Appendix A). A pretest (between-subjects design, N = 115) on the display showed that the imaginative display was perceived to be more novel ($M_{imaginative}$ = 5.70, SD = .98 vs. $M_{standard}$ = 2.30, SD = 1.57, F(1, 133) = 195.18, $p < .001$, $\eta_p^2 = .63$), and aesthetically appealing than the standard display ($M_{imaginative}$ = 5.95, SD = .83 vs. $M_{standard}$ = 3.72, SD = 1.18, F(1, 133) = 136.53, $p < .001$, $\eta_p^2 = .547$).[1]

The display was located near the checkout counter. Store employees restocked the facial tissues after each purchase. Customers were not aware of the research being conducted. The store manager provided information on the daily facial tissue unit sales, the store's daily revenue, and the relevant cost information. We conducted this study over a two-week period (Week 1 = standard display, Week 2 = imaginative display).

Results and Discussion

Sales revenue. We first calculated the daily facial tissue sales revenue (M = 24.31, SD = 12.52) by multiplying the daily quantity sold (M = 12.21, SD = 6.29) with the unit price ($1.99). A simple regression revealed a significant effect of product display (1 = imaginative, 0 = standard) on daily facial tissue sales revenue ($\beta = .58$, t(12) = 2.45, $p = .031$), supporting H1.

In addition, we conducted a stepwise regression analysis on daily facial tissue sales

[1] In all studies, novelty and aesthetics were highly correlated: .82 (Study 1), .73 (Study 2), .67 (Study 3a), .69 (Study 3b), .63 (Study 4), and .52 (Study 5). In addition, factor analysis showed that the two constructs loaded onto the same factor. Manipulation checks on the composite index of the two constructs did not significantly differ from using them separately. We reported the reliabilities of each construct in Appendix B.

revenue to capture the unique variance explained by the imaginative display by considering the potential covarying effect of daily store revenue. We first entered daily store revenue in the baseline model, and the overall model was nonsignificant (R^2 = .15, F(1, 12) = 2.11, p = .17). Thus, daily facial tissue sales revenue did not covary with daily store revenue (β = .38, t(12) = 1.45, p = .17). Next, we added product display into the model, and the overall model became significant (R^2 = .56, F(2, 11) = 6.91, p = .011). There was a significant effect of the imaginative display on daily facial tissue sales revenue (β = .64, t(11) = 3.18, p = .009), in addition to a significant effect of daily store revenue (β = .48, t(11) = 2.35, p = .038). Thus, the explanatory power of the model was improved due to the effect of the imaginative display (ΔR^2 = .41, F-change (1, 11) = 10.09, p = .009).

Return on investment (ROI). We also calculated ROI of the imaginative display using cost and sales information from the retailer. The unit sales lift, or difference in aggregate daily facial tissue unit sales between Week 2 (imaginative display) and Week 1 (standard display), was 49 units. The net profit per box of tissue was $0.89 (i.e., total net profit = $43.61), while the extra labor cost to set up and maintain the imaginative display relative to the standard display was 1.5 hours, equivalent to $28.50. Thus, ROI for the imaginative versus standard display was (43.61 - 28.50) / 28.50 = 53.02%.

Discussion. Study 1 provided field evidence supporting the positive effect of an imaginative display on sales revenue and ROI (H1). Nonetheless, the imaginative display in this study was taller than the standard display, thus it was plausible that the effect could be due to the height difference. To eliminate this potential confounding effect, we conducted Study 2.

Study 2: Field Experiment in a Confectionery Store

Study 2 aimed to replicate the main effect of an imaginative display on sales in a

confectionery store in a large Australian city. To minimize biases from customers' preexisting brand preferences, we chose a little-known chocolate brand, Duc d'O, as the product stimulus.

Design and Procedure

Different from Study 1, Study 2 used a one factor three-level (product display: imaginative vs. standard–high vs. standard–low) between-subjects design. All displays were constructed using boxes of Duc d'O chocolates (Appendix A). The imaginative display was designed in the form of a quasi-cylindrical form on a cuboid base of chocolates. The standard–high display was a cuboid-shaped display on the same base, while the standard–low display had only an elevated cuboid base. The imaginative display had the same height as the standard–high display. We placed the product display near the entrance/exit of the store. This study took place over four days. We used a different display on each of the first three days, and rotated the order of the three displays on the last day. Next to the display were two signs showing the price ($5) and inviting customers to take part in the survey in exchange for a $10 store voucher.

A research assistant stood near the entrance, and invited each approaching customer to participate in the survey. Customers who agreed to take part received a paper questionnaire on a clipboard. Participants were first asked some questions about their store perceptions. Then they were asked to look at the product display and evaluate it in terms of novelty ($M = 4.19$, $SD = 1.78$, $r = .91$) and aesthetics ($M = 4.99$, $SD = 1.33$, $\alpha = .96$). Participants also rated the extent to which they liked eating chocolates ($M = 6.16$, $SD = 1.02$, $\alpha = .93$) and familiarity with the Duc d'O brand ($M = 2.05$, $SD = 1.57$, $\alpha = .95$). All measures were rated on 7-point scales and shown in Appendix B. Finally, participants indicated their gender and age.

After completing the questionnaire, participants were thanked and given a $10 store

voucher that was valid only on that day and could be used toward any purchase, with no minimum spending. When they finished shopping, they redeemed the voucher at the counter. The cashier retained the voucher, stapled a duplicate receipt to it, and recorded the number of boxes of Duc d'O chocolates purchased using the voucher at the end of each session.

Results and Discussion

Participation rate. Across the four-day experiment, 1,416 customers purchased products in the store (386, 356, 302, and 372 for each day, respectively), among whom 250 customers (66.80% female, M_{age} = 39.79 years; N = 84, 83, and 83 for the imaginative, standard–high, and standard–low displays, respectively) participated in the study (17.66% participation rate).

Manipulation checks. ANOVA results showed that the three product displays differed significantly in novelty ($F(2, 247) = 35.06$, $p < .001$, $\eta_p^2 = .22$). The imaginative display was perceived to be more novel (M = 5.35, SD = 1.30) than the standard–high (M = 3.77, SD = 1.73, $t(247) = 7.84$, $p < .001$) and standard–low displays (M = 3.43, SD = 1.68, $t(247) = 6.46$, $p < .001$), with no significant difference between the standard displays ($p = .171$). Similarly, ANOVA results showed that the three product displays differed significantly in aesthetics ($F(2, 247) = 26.85$, $p < .001$, $\eta_p^2 = .18$). The imaginative display was perceived to be more aesthetically appealing (M = 5.76, SD = .89) than the standard–high (M = 4.72, SD = 1.28, $t(247) = 6.91$, $p < .001$) and standard–low displays (M = 4.47, SD = 1.39, $t(247) = 5.55$, $p < .001$), with no significant difference between the standard displays ($t(247) = 1.36$, $p = .175$). Thus, the three product displays were manipulated successfully. Moreover, participants across the three display conditions did not differ in their liking for chocolates ($F(2, 247) = .61$, $p = .55$, $\eta_p^2 = .005$) or brand familiarity ($F(2, 247) = .95$, $p = .39$, $\eta_p^2 = .008$).

Actual purchase. We first coded purchases of Duc d'O chocolates using the voucher (1 =

purchase, 0 = no purchase). A binary logistic regression revealed that customers in the imaginative display condition (48.81%) purchased significantly more chocolates than those in the standard–high (16.87%; B = -1.55, $\chi^2(1) = 17.93$, $p < .001$) and standard–low display conditions (19.28%; B = -1.38, $\chi^2(1) = 15.33$, $p < .001$), with no significant difference between the standard displays (B = .16, $\chi^2(1) = .16$, $p = .69$). Including liking for chocolates and brand familiarity as covariates did not change the conclusion. Liking for chocolates and brand familiarity had no significant effects on actual purchase (*p*s > .11). These results supported H1.

Discussion. Study 2 further supported the positive effect of the imaginative display on actual purchase relative to the standard displays, regardless of height. While Studies 1 and 2 provided external validity for the effect of the imaginative display (H1), the field settings precluded a controlled environment to test the proposed underlying mechanisms, for which we turned to laboratory experiments.

Study 3a: Mediating Role of Arousal (Measured)

Studies 3a and 3b tested the mediating role of arousal underlying the effect of an imaginative display (H2) using two complementary designs. Study 3a used a measured-mediation design while Study 3b used an experimental causal-chain design (Spencer, Zanna, and Fong 2005). Moreover, as visual salience of a novel display could draw customer attention, which would increase their purchase intention (Krishna, Cian, and Aydınoğlu 2017), and visual complexity and perceived difficulty in constructing the novel display could also heighten visual salience (Elazary and Itti 2008), we measured attention drawing, visual complexity, and perceived difficulty to elicit the unique effect of arousal in Study 3a.

Design, Procedure, and Measures

While Study 2 eliminated display height as an alternative explanation, potentially the quantity of items in the product display could influence customer perceptions and their purchase decision. Thus, Study 3a used a one factor three-level (product display: imaginative vs. standard–large quantity vs. standard–small quantity) between-subjects design. We recruited 261 participants on Amazon's Mechanical Turk (MTurk) who received financial compensation. Six participants were excluded as they failed the attention check questions, leaving 255 responses for the analyses (47.84% female; M_{age} = 37.11 years, SD = 12.28).

The imaginative display was in the form of a quasi-spiral-staircase structure above a cuboid base constructed using boxed tubes of toothpaste. The standard–small quantity display had only the cuboid base, while the standard–large quantity display was a larger cuboid base (Appendix A). The imaginative and standard–large displays had the same number of items.

Participants were randomly assigned to one of the three product display conditions. They read a scenario about a trip to the grocery store to buy toothpaste, and encountering a product display of a new, unspecified brand of toothpaste. They saw an image of the product display and indicated their purchase intention for the toothpaste (M = 4.13, SD = 1.61, α = .94) and level of arousal (M = 4.62, SD = 1.41, α = .92). They also rated the product display in terms of attention drawing (M = 5.86, SD = 1.21, α = .90), visual complexity (M = 3.52, SD = 1.99, r = .98), power (1 = not at all powerful, 7 = extremely powerful, M = 3.97, SD = 1.44), and perceived difficulty in construction (M = 4.70, SD = 1.76, α = .94). Furthermore, they evaluated novelty (M = 4.05, SD = 2.05, r = .92), aesthetics (M = 4.87, SD = 1.43, α = .97), and perceived quantity (1 = very scarce, 7 = very abundant, M = 6.47, SD = .87) of the product display. Unless otherwise specified, we used the same measurement items across all studies (Appendix B).

Results and Discussion

Manipulation checks. ANOVA results showed that the three product displays differed significantly in novelty ($F(2, 252) = 97.12$. $p < .001$, $\eta_p^2 = .44$). The imaginative display was perceived to be more novel ($M = 5.96$, $SD = 1.09$) than the standard–large quantity ($M = 3.27$, $SD = 1.79$, $t(252) = 11.34$, $p < .001$) and standard–small quantity displays ($M = 2.95$, $SD = 1.65$, $t(252) = 12.71$, $p < .001$), with no significant difference between the standard displays ($t(252) = 1.34$, $p = .18$). Similarly, ANOVA results showed that the three product displays differed significantly in aesthetics ($F(2, 252) = 30.36$, $p < .001$, $\eta_p^2 = .19$). The imaginative display was perceived to be more aesthetically appealing ($M = 5.76$, $SD = 1.17$) than the standard–large quantity ($M = 4.40$, $SD = 1.23$, $t(252) = 6.86$, $p < .001$) and standard–small quantity displays ($M = 4.45$, $SD = 1.45$, $t(252) = 6.65$, $p < .001$), with no significant difference between the standard displays ($t(252) = .23$, $p = .82$). Thus, the three product displays were manipulated successfully.

ANOVA results revealed that product display manipulation did not significantly affect perceived quantity ($F(2, 252) = 1.71$, $p = .18$, $\eta_p^2 = .013$). In addition, there was a significant main effect of product display on power ($F(2, 252) = 11.84$, $p < .001$, $\eta_p^2 = .086$). Participants perceived the imaginative display ($M = 4.56$, $SD = 1.32$) to embody more power than the standard–large ($M = 3.80$, $SD = 1.34$, $t(252) = 3.57$, $p < .001$) and standard–small displays ($M = 3.57$, $SD = 1.49$, $t(252) = 4.66$, $p < .001$), with no significant difference between the standard displays ($t(252) = 1.09$, $p = .278$). Thus, we controlled for power in the subsequent analyses.

Purchase intention. ANCOVA results revealed a significant main effect of product display on purchase intention ($F(2, 251) = 3.97$, $p = .02$, $\eta_p^2 = .031$). Planned contrasts showed that the imaginative display led to higher purchase intention ($M = 4.79$, $SD = 1.53$) compared to the standard–large quantity ($M = 3.93$, $SD = 1.46$; $t(252) = 3.61$, $p < .001$) and standard–small quantity displays ($M = 3.69$, $SD = 1.66$; $t(252) = 4.59$, $p < .001$), with no significant difference between the standard displays ($t(252) = .98$, $p = .33$). These results further supported H1.

ANOVA results without power as a covariate did not change the significant effect of product display ($F(2, 252) = 11.64$, $p < .001$, $\eta_p^2 = .084$).

Arousal. ANCOVA results revealed a significant main effect of product display on arousal ($F(2, 251) = 18.00$, $p < .001$, $\eta_p^2 = .125$). Specifically, the imaginative display ($M = 5.43$, $SD = 1.17$) led to greater feeling of arousal than the standard–large quantity ($M = 4.07$, $SD = 1.20$, $t(252) = 6.88$, $p < .001$) and standard–small quantity displays ($M = 4.36$, $SD = 1.47$, $t(252) = 5.46$, $p < .001$), with no significant difference between the standard displays ($t(252) = -1.39$, $p = .15$). ANOVA results without power as the covariate did not change the significant effect of display on arousal ($F(2, 252) = 26.33$, $p < .001$, $\eta_p^2 = .173$).

Similarly, ANCOVA results showed significant main effects of product display on attention drawing ($F(2, 251) = 7.71$, $p < .01$, $\eta_p^2 = .058$), visual complexity ($F(2, 251) = 66.76$, $p < .001$, $\eta_p^2 = .347$), and perceived difficulty ($F(2, 251) = 51.98$, $p < .001$, $\eta_p^2 = .293$). Controlling for these variables and power, ANCOVA results did not change the significant main effects of product display on purchase intention ($F(2, 248) = 3.88$, $p = .022$, $\eta_p^2 = .03$) and arousal ($F(2, 248) = 7.02$, $p < .001$, $\eta_p^2 = .054$).

Mediation analyses. We conducted multi-categorical mediation analyses using Hayes' (2018) PROCESS macro (Model 4). The bootstrapping was constructed at 95% CI with 10,000 samples with the imaginative display as the reference group. Thus, there were two dummy variables: D1 and D2. D1 compared the imaginative display with the standard–small display (imaginative display = 0, standard–small display = 1, standard–large display = 0), while D2 compared the imaginative display with the standard–large display (imaginative display = 0, standard–small display = 0, standard–large display = 1). The model included display as the independent variable, the focal mediator of arousal, and with attention drawing, visual complexity, and perceived difficulty in parallel. In so doing, we sought to elicit the unique effect

of arousal above and beyond these other potential effects.

Results showed only the mediation effects of arousal for the imaginative display compared with the standard–small display (D1: b = -.18, SE = .08, 95% CI = [-.355, -.050]), and for the comparison between the imaginative display and the standard–large display (D2: b = -.26, SE = .09, 95% CI = [-.468, -.085]). There were no direct mediation effects of attention drawing (D1: b = -.005, SE = .05, 95% CI = [-.114, .101]; D2: b = -.004, SE = .04, 95% CI = [-.194, .081]), visual complexity (D1: b = -.006, SE = .18, 95% CI = [-.391, .353]; D2: b = -.006, SE = .17, 95% CI = [-.357, .323]), and perceived difficulty (D1: b = .28, SE = .16, 95% CI = [-.052, .589]; D2: b = .21, SE = .13, 95% CI = [-.042, .450]).

Moreover, we tested attention drawing and arousal as serial mediators between display and purchase intention using Hayes' (2018) PROCESS macro (Model 6; constructed at 95% CI with 10,000 bootstrapped samples). Results showed the significant single mediation of arousal (path 1) for the imaginative display versus standard–small display comparison (D1: b = -.31, SE = .11, 95% CI = [-.552, -.125]), and for the imaginative display versus standard–large display comparison (D2: b = -.42, SE = .12, 95% CI = [-.678, -.201]). Moreover, there were significant serial mediation effects (path 2) for D1 (b = -.06, SE = .03, 95% CI = [-.127, -.018]), and D2 (b = -.05, SE = .02, 95% CI = [-.097, -.014]). However, further analyses contrasting the two indirect effects (path 1 minus path 2) revealed that the single mediation effects of arousal were significantly stronger than the serial mediation effects in both comparisons (contrast for D1: b = -.25, SE = .11, 95% CI = [-.480, -.061]; contrast for D2: b = -.37, SE = .12, 95% CI = [-.633, -.163]). These results suggested that attention drawing could influence arousal, consistent with the literature (Berlyne 1974). However, the effect of attention drawing on purchase behavior was fully mediated by arousal. That is, arousal alone was sufficient to explain the proposed effect after accounting for the effect of attention drawing.

Discussion. Study 3a supported the mediation effect of arousal underlying the effect of the imaginative display on purchase intention, above and beyond the effects of visual complexity and perceived difficulty in constructing the display.

Study 3b: Mediating Role of Arousal (Manipulated)

Study 3b aimed to replicate the mediating effect of measured arousal found in Study 3a using a causal-chain design (Spencer, Zanna, and Fong 2005). If arousal was indeed the underlying mechanism, it should generate an effect similar to that of the imaginative display on purchase intention. Thus, if arousal were induced prior to showing participants the product displays, the relative advantage of the imaginative display on purchase intention against the standard display would diminish. Furthermore, we conjectured that for the imaginative display to be effective, it should be perceived to be both novel and aesthetically appealing. Thus, if one element (e.g., aesthetic appeal) was missing, then the efficacy of the imaginative display would be diminished. To test this assumption, Study 3b incorporated a new display condition that was more novel but not different in aesthetics compared to the standard display. We expected that the effect of this novel but non-aesthetic display would not differ from that of the standard display.

Design, Procedure, and Measures

Study 3b used a 3 (product display: imaginative vs. novel–non-aesthetic vs. standard) × 2 (arousal: high vs. low) between-subjects design. We recruited 279 participants (43.37% female; M_{age} = 36.87, SD = 10.73) on MTurk who received financial compensation.

We first primed arousal following the procedure by Noseworthy, Di Muro, and Murray (2014; Study 1). Participants were randomly assigned to one of two groups of images, all drawn from the International Affective Picture System (Lang, Bradley, and Cuthbert 2008). Each group

contained 18 images and each image was displayed for six seconds. Images in the two groups were similar in pleasantness but varied in arousal. Participants indicated progressive change in their arousal level on an adjustable semantic differential scale (-50 = very relaxed, +50 = very excited). When they felt no further change in their arousal level, they clicked on the "No change" button and transitioned to a shopping scenario for toothpaste. Participants saw one of the three displays. The imaginative display had a quasi-spiral-staircase form as in Study 3a while the novel–non-aesthetic display had a pillar form with the same height as the imaginative display. The standard display was the standard-large quantity display used in Study 3a. All three displays had the same number of items in them (Appendix A). In addition, we removed the background of all images for a cleaner test. Following that, participants indicated their purchase intention for the toothpaste (M = 4.19, SD = 1.38, α = .93).

Results and Discussion

Pretest of display stimuli. We conducted a pretest to verify the manipulations of the three displays (between-subjects design, N = 96). ANOVA results showed that the three displays differed significantly in novelty ($F(2, 93) = 15.85$, $p < .001$, $\eta_p^2 = .254$). The imaginative display was perceived to be more novel (M = 5.97, SD = .80) than the novel–non-aesthetic (M = 4.65, SD = 1.62, $t(93) = 3.40$, $p = .001$) and standard displays (M = 3.84, SD = 1.91, $t(93) = 5.96$, $p < .001$), and the novel–non-aesthetic display was more novel than the standard display ($t(93) = 2.12$, $p = .037$). Similarly, ANOVA results showed that the three displays differed significantly in aesthetics ($F(2, 93) = 5.61$, $p = .005$, $\eta_p^2 = .108$). The imaginative display was perceived to be more aesthetically appealing (M = 5.78, SD = .94) than the novel–non-aesthetic (M = 5.01, SD = 1.40, $t(93) = 2.32$, $p = .022$) and standard displays (M = 4.72, SD = 1.51, $t(93) = 3.26$, $p = .002$), with no significant difference between the novel–non-aesthetic and standard displays (t(93)

= .89, p = .38). Thus, the three product displays were manipulated successfully.

Manipulation check. ANOVA results showed that participants reported being more excited in the arousal condition (M = 18.80, SD = 23.42) and more relaxed in the non-arousal condition (M = -15.93, SD = 21.56; F(1, 277) = 165.97, $p < .001$, $\eta_p^2 = .375$). Thus, our manipulation of arousal was successful.

Purchase intention. A 3 (display) × 2 (arousal) ANOVA on purchase intention revealed the significant main effects of product display (F(2, 273) = 4.48, $p = .012$, $\eta_p^2 = .032$) and arousal (F(1, 273) = 8.38, $p = .004$, $\eta_p^2 = .030$). Importantly, there was a significant interaction effect of product display × arousal (F(2, 273) = 3.09, $p = .047$, $\eta_p^2 = .022$). Decomposing the interaction, the simple effect of display was significant in the low-arousal condition (F(2, 273) = 7.45, $p = .001$, $\eta_p^2 = .052$), but not in the high-arousal condition (F(2, 273) = .08, $p = .924$, $\eta_p^2 = .001$). Specifically, in the low-arousal condition, the imaginative display led to significantly higher purchase intention (M = 4.57, SD = 1.21) compared to the novel–non-aesthetic (M = 3.63, SD = 1.20, t(136) = 3.69, $p < .001$) and standard displays (M = 3.66, SD = 1.31, t(136) = 3.49, $p = .001$), with no difference between the novel–non-aesthetic and standard displays (t(136) = -.10, $p = .92$). However, in the high-arousal condition, purchase intention did not significantly differ across the three displays ($M_{imaginative}$ = 4.48, SD = 1.33 vs. $M_{novel–non\text{-}aesthetic}$ = 4.41, SD = 1.38 vs. $M_{standard}$ = 4.38, SD = 1.53, all ps = .71). These results supported H2.

Viewed another way, priming high arousal increased purchase intention for the novel–non-aesthetic ($M_{low\text{-}arousal}$ = 3.63 vs. $M_{high\text{-}arousal}$ = 4.41, F(1, 273) = 7.87, $p = .005$, $\eta_p^2 = .028$) and standard displays ($M_{low\text{-}arousal}$ = 3.66 vs. $M_{high\text{-}arousal}$ = 4.38, F(1, 273) = 6.55, $p = .011$, $\eta_p^2 = .023$), but not for the imaginative display (F(1, 273) = .124, $p = .725$, $\eta_p^2 = .00$).

Discussion. Studies 3a and 3b affirmed the positive effect of the imaginative displays on customers' purchase intentions (H1), as mediated by arousal (H2). While Study 3a measured

arousal to establish causality between display form and arousal, Study 3b manipulated arousal to establish causality between arousal and purchase intention. Importantly, Study 3b supported our conjecture about the two critical elements of novelty and aesthetic appeal embedded in the imaginative display driving arousal. Specifically, the imaginative display led to higher purchase intention compared to the novel–non-aesthetic and standard displays, with no difference between the latter two displays. Moreover, inducing arousal enhanced purchase intentions for the novel–non-aesthetic and standard displays, similar to the effect of the imaginative display.

Study 4: The Dual Mediation of Arousal and Inferred Product Benefits

Having shown the affect-based arousal process underlying the effects of imaginative displays in Studies 3a and 3b (H2), we next turned to examining the cognition-based inference process (i.e., inferred product benefits, H3). We proposed that customers would infer certain meanings from themed imaginative displays, which would transfer to the product constituting the display, thus influencing customers' purchase decision. We tested the dual mechanisms of arousal (H2) and inferred product benefits (H3) simultaneously in Study 4.

While Studies 3a and 3b used unbranded products, to increase generalizability and practical implications of the hypothesized effects (H1–H3), Study 4 used two actual brands, Charmin and Sorbent. A pretest (within-subject design, N = 102) showed that U.S. participants were significantly more familiar with the Charmin brand (M = 6.36, SD = 1.17) than with the Sorbent brand (M = 1.49, SD = 1.13, t(101) = 27.17, $p < .001$). We expected that the effect of the imaginative display on purchase intention would apply to both familiar and less familiar brands.

Design, Procedure, and Measures

Study 4 used a 2 (product display: imaginative vs. standard) × 2 (brand: Charmin vs.

Sorbent) between-subjects design. We recruited 256 participants on MTurk (44.92% female, M_{age} = 37.30, SD = 9.99) who received financial compensation.

The imaginative display was in the form of a bear stacked above a cuboid base constructed using individually wrapped rolls of bathroom tissue, while the standard display consisted of the elevated cuboid base of the display. Both displays had the same number of items in them (Appendix A). Participants read a scenario about a recent trip to the grocery store to buy bathroom tissue, and were randomly assigned to see one of the two product displays with either Charmin or Sorbent brand. Following that, participants indicated their purchase intention (M = 4.41, SD = 1.66, α = .95), feeling of arousal (M = 4.04, SD =1.69, α = .93), and inferred strength of the bathroom tissue (1 = not at all strong, 7 = very strong, M = 4.93, SD = 1.47).

Results and Discussion

Pretest of display stimuli. We conducted a pretest to verify the manipulations of the two product displays (between-subjects design, N = 101). ANOVA results showed that the imaginative display was perceived to be more novel (M = 6.35, SD = .73) than the standard display (M = 2.81, SD = 1.94, F(1, 99) = 145.31, $p < .001$, $\eta_p^2 = .595$). Similarly, the imaginative display was perceived to be more aesthetically appealing (M = 5.88, SD = 1.05) than the standard display (M = 4.39, SD = 1.30, F(1, 99) = 39.66, $p < .001$, $\eta_p^2 = .286$). Thus, the two product displays were manipulated successfully.

Purchase intention. A 2 (display) × 2 (brand) ANOVA showed a significant main effect of display (F(1, 252) = 10.24, $p = .002$, $\eta_p^2 = .039$) such that the imaginative display led to higher purchase intention (M = 4.73, SD = 1.58) compared to the standard display (vs. M = 4.09, SD = 1.68). There was also a significant main effect of brand (F(1, 252) = 20.08, $p < .001$, $\eta_p^2 = .074$), such that participants had higher purchase intention for the more familiar Charmin brand (M =

4.87, SD = 1.59) than for the less familiar Sorbent brand (M = 3.98, SD = 1.62). However, the interaction effect of display × brand was nonsignificant ($F(1, 252) = .08$, $p = .778$, $\eta_p^2 = .00$).

Planned contrasts showed that the imaginative display increased purchase intention compared to the standard display for both Charmin ($M_{imaginative} = 4.33$, SD = 1.60 vs. $M_{standard} = 3.64$, SD = 1.57; $F(1, 252) = 4.13$, $p = .043$, $\eta_p^2 = .016$) and Sorbent brands ($M_{imaginative} = 5.16$, SD = 1.45 vs. $M_{standard} = 4.58$, SD = 1.67; $F(1, 252) = 6.26$, $p = .013$, $\eta_p^2 = .024$). Thus, the imaginative display increased purchase intention, regardless of brand familiarity.

Arousal. Similarly, a 2 × 2 ANOVA revealed a significant main effect of product display ($F(1, 252) = 83.56$, $p < .001$, $\eta_p^2 = .249$), such that the imaginative display led to greater arousal (M = 4.89, SD = 1.56) compared to the standard display (M = 3.21, SD = 1.38). However, the interaction effect of display × brand was nonsignificant ($F(1, 252) = .83$, $p = .364$, $\eta_p^2 = .003$). Planned contrasts showed that the imaginative display led to higher arousal compared to the standard display for both Charmin ($M_{imaginative} = 5.00$, SD = 1.51 vs. $M_{standard} = 3.49$, SD = 1.49; $F(1, 252) = 32.86$, $p < .001$, $\eta_p^2 = .115$) and Sorbent ($M_{imaginative} = 4.78$, SD = 1.63 vs. $M_{standard} = 2.95$, SD = 1.22; $F(1, 252) = 52.12$, $p < .001$, $\eta_p^2 = .171$). Thus, the imaginative display led to greater arousal, regardless of brand familiarity.

Inferred product benefit. A 2 × 2 ANOVA on inferred strength of the bathroom tissue showed a significant main effect of display ($F(1, 252) = 35.12$, $p < .001$, $\eta_p^2 = .122$), such that the bathroom tissue was perceived to be stronger for the imaginative display (M = 5.44, SD = 1.36) than for the standard display (M = 4.42, SD = 1.41). There was a marginally significant interaction effect of display × brand ($F(1, 252) = 3.75$, $p = .053$, $\eta_p^2 = .015$). Planned contrasts showed that participants inferred greater strength for the bathroom tissue for the imaginative display than for the standard display for both Charmin ($M_{imaginative} = 5.50$, SD = 1.38 vs. $M_{standard} = 4.79$, SD = 1.47; $F(1, 252) = 8.41$, $p = .004$, $\eta_p^2 = .032$) and Sorbent brands ($M_{imaginative} = 5.38$,

SD = 1.34 vs. $M_{standard}$ = 4.07, SD = 1.26; F(1, 252) = 30.50, $p < .001$, $\eta_p^2 = .108$). Thus, the imaginative display led to a meaning transfer of inferred product benefit (i.e., strength) from the imaginative display to the displayed product, regardless of brand familiarity.

Mediation analysis. We tested for dual mediation using PROCESS Model 4 with arousal and inferred product benefit as parallel mediators. Results showed significant dual mediation effects of arousal (b = .73, SE = .13, 95% CI = [.456, 1.028]) and inferred product benefit (b = .36, SE = .09, 95% CI = [.185, .565]) between product display and purchase intention. Including the brand as a covariate did not change the dual mediation effects of arousal (b = .70, SE = .14, 95% CI = [.453, .985]) and inferred product benefit (b = .34, SE = .09, 95% CI = [.173, .531]). These results supported H2 and H3.

Discussion. Study 4 supported the dual mediation effects of arousal and inferred product benefits underlying the effects of the imaginative display for two actual brands, one familiar and the other less familiar. That is, affectively, consumers felt greater arousal; while cognitively, consumers inferred greater product strength from the themed imaginative display in the form of a bear, and both mechanisms increased their purchase intention.

Study 5: Moderating Role of Congruence between Display Form and Product Benefit

Study 5 aimed to examine the moderating effect of congruence between display form and perceived product benefit on the core effects (H4). We hypothesized that the core effects are moderated by congruence between display form and perceived product benefit, such that congruence would enhance the effects of the imaginative display on customers' purchase intention, while incongruence would attenuate or even reverse the effects.

Design and Procedure

Study 5 used a 2 (product display: imaginative vs. standard) × 3 (product benefit: energized vs. relaxed vs. control) between-subjects design. We recruited 480 participants on Prolific (65.00% female, M_{age} = 33.65, SD = 8.06) in exchange for financial compensation.

Participants read a scenario about having a very busy period at work, and going to the grocery store to buy either energy drinks to boost attention span and energy levels (energized condition) or relaxation drinks to reduce stress and calm down (relaxed condition) or natural mineral water (control condition). In the store, they came across either an imaginative display or standard display of a new beverage. The imaginative display was in the form of a battle tank stacked above a cuboid base constructed using cans of a beverage, while the standard display consisted of the elevated cuboid base. Both displays had the same number of items in them (Appendix A). Following that, participants indicated their purchase intention for the beverage (M = 3.32, SD = 1.64, α = .94), feeling of arousal from the display (M = 3.89, SD = 1.46, α = .90), inference of energy (M = 3.86, SD = 1.37, α = .91) and inference of relaxation (M = 2.93, SD = 1.40, α = .96) from the display (Appendix B).

Results and Discussion

Pretest of stimuli display. We conducted a pretest to verify the manipulations of the two display stimuli (between-subjects design, N = 99). ANOVA results showed that the imaginative display was perceived to be more novel (M = 6.12, SD = 1.24) compared to the standard display (M = 3.16, SD = 1.93; F(1, 97) = 82.30; $p < .001$, $\eta_p^2 = .46$). Similarly, the imaginative display was perceived to be more aesthetically appealing (M = 5.45, SD = 1.50) compared to the standard display (M = 4.74, SD = 1.17; F(1, 97) = 6.74, $p = .011$; $\eta_p^2 = .065$).

Moreover, participants inferred the imaginative display to have greater energy benefit ($M_{imaginative}$ = 5.61, SD = 1.35 vs. $M_{standard}$ = 4.01, SD = 1.74; F(1, 97) = 26.01, $p < .001$, η_p^2

= .212), but lower relaxation benefit compared to the standard display ($M_{imaginative}$ = 2.39, SD = 1.63 vs. $M_{standard}$ = 3.23, SD = 1.62; F(1, 97) = 6.52, p = .012, η_p^2 = .063). Thus, the product displays and inferred benefits were manipulated successfully.

Pretest of perceived product benefits. We also conducted a pretest to verify the perceived product benefits (between-subjects design, N = 111). Participants were asked to think about an energy drink (vs. relaxation drink) and indicate the extent to which the drink would make them energized (1 = not at all energized, 7 = extremely energized, M = 4.24, SD = 1.67) and relaxed (1 = not at all relaxed, 7 = extremely relaxed, M = 4.52, SD = 1.99) after consuming the beverage.

ANOVA results showed that the energy drink led participants to perceive feeling more energized (M = 4.98, SD = 1.16) compared to the relaxation drink (M = 3.43, SD = 1.78; F(1, 109) = 29.92, p < .001, η_p^2 = .215). Conversely, the relaxation drink led participants to perceive feeling more relaxed (M = 5.81, SD = 1.27) compared to the energy drink (M = 3.34, SD = 1.80; F(1, 109) = 68.21, p < .001, η_p^2 = .385). Thus, product benefits were manipulated successfully.

Purchase intention. A 2 × 3 ANOVA on purchase intention revealed a significant interaction effect of display × product benefit (F(2, 474) = 16.44, p < .001, η_p^2 = .065). There was a main effect of product benefit (F(2, 474) = 19.44, p < .001, η_p^2 = .076). The effect of product display was nonsignificant (F(1, 474) = .53, p = .47, η_p^2 = .001). Decomposing the interaction (Figure 2), planned contrasts showed that the imaginative display increased purchase intention for the energy drink compared to the standard display ($M_{imaginative}$ = 4.33, SD = 1.75 vs. $M_{standard}$ = 3.39, SD = 1.58; F(1, 474) = 14.38, p < .001, η_p^2 = .029). In contrast, the imaginative display lowered purchase intention for the relaxation drink compared to the standard display ($M_{imaginative}$ = 2.26, SD = 1.29 vs. $M_{standard}$ = 3.31, SD = 1.60; F(1, 474) = 18.48, p < .001, η_p^2 = .038). The effect of display was nonsignificant for the natural mineral water (p = .43).

[Insert Figure 2 about here]

Viewed another way, relative to the control condition (i.e., mineral water), the imaginative display ($F(2, 474) = 35.80$, $p < .001$, $\eta_p^2 = .131$) increased purchase intention for the energy drink ($M_{energy} = 4.33$ vs. $M_{mineral} = 3.26$, $t(237) = 4.22$, $p < .001$) but lowered purchase intention for the relaxation drink ($M_{relaxation} = 2.26$ vs. $M_{mineral} = 3.26$, $t(237) = -4.44$, $p < .001$). For the standard display, participants' purchase intentions did not significantly differ across the three product conditions (all *p*s > .56). Thus, compared to the standard display, the imaginative display in the form of a battle tank increased purchase intention when it was congruent with the product benefit (i.e., energy), but decreased purchase intention when it was incongruent with the product benefit (i.e., relaxation), supporting H4.

Arousal. A 2 × 3 ANOVA on arousal revealed a significant effect of product display ($F(1, 474) = 107.99$, $p < .001$, $\eta_p^2 = .186$), such that the imaginative display evoked greater arousal ($M = 4.51$, $SD = 1.32$) compared to the standard display ($M = 3.26$, $SD = 1.30$). There was a significant effect of product benefit ($F(2, 474) = 4.44$, $p = .012$, $\eta_p^2 = .018$), but a nonsignificant interaction of display × product benefit ($F(2, 474) = .68$, $p = .51$, $\eta_p^2 = .003$).

Inferred benefit of energy. A 2 × 3 ANOVA on inferred energy revealed a significant effect of product display ($F(1, 474) = 18.71$, $p < .001$, $\eta_p^2 = .038$), such participants inferred greater energy benefit from the imaginative display ($M = 4.12$, $SD = 1.34$) than from the standard display ($M = 3.59$, $SD = 1.35$). There was a significant effect of product benefit ($F(2, 474) = 11.04$, $p < .001$, $\eta_p^2 = .045$), but a nonsignificant interaction effect of display × product benefit ($F(2, 474) = .33$, $p = .72$, $\eta_p^2 = .001$).

Moderated mediation analysis. To test the moderating effects of congruence between the dual mechanisms and purchase intention (H4), we conducted a moderated mediation analysis using PROCESS Model 15 (Hayes 2018). We specified product benefit (i.e., the moderator) as a multi-categorical moderator with the mineral water as the reference group, which resulted in two

dummy variables. D1 compared the relaxation drink with the control condition (mineral water = 0, relaxation drink = 1, energy drink = 0), while D2 compared the energy drink with the control condition (mineral water = 0, relaxation drink = 0, energy drink = 1). Moreover, we included inferred relaxation benefit as an alternative explanation for the reversed effect of the display on the lower purchase intention for the relaxation drink.

As expected, the moderating effects of perceived product benefit on purchase intention were qualified by the three significant interaction effects of display × product benefit ($F(2, 465) = 4.79$, $p = .009$), arousal × product benefit ($F(2, 465) = 3.44$, $p = .033$), and inferred energy × product benefit ($F(2, 465) = 3.08$, $p = .046$), but a nonsignificant interaction of inferred relaxation × product benefit ($F(2, 465) = .87$, $p = .419$). Specifically, there was a significant interaction of display × D2 ($b = .69$, $SE = .31$, $t = 2.18$, $p = .03$), but a nonsignificant interaction of display × D1 ($b = -.28$, $SE = .32$, $t = -.87$, $p = .38$) on purchase intention, suggesting that product benefit moderated the effect of display form on purchase intention. Moreover, there was a significant interaction of inferred energy × D2 ($b = .33$, $SE = .13$, $t = 2.46$, $p = .014$), but a nonsignificant interaction of inferred energy × D1 ($b = .19$, $SE = .11$, $t = 1.62$, $p = .11$) on purchase intention, suggesting that product benefit moderated the effect of inferred energy from the display on purchase intention. Conversely, there was a significant interaction of arousal × D1 ($b = -.29$, $SE = .11$, $t = -2.47$, $p = .014$) but a nonsignificant interaction of arousal × D2 ($b = -.08$, $SE = .12$, $t = -.63$, $p = .52$) on purchase intention, suggesting that product benefit moderated the effect of arousal from the display on purchase intention.

Importantly, bootstrapping results showed a significant moderated mediation effect via inference of energy for the energy drink (D2: index = .17, SE = .09, 95% CI = [.018, .366]), but not for the relaxation drink (D1: index = .10, SE = .08, 95% CI = [-.038, .271]). Conversely, there was a significant moderated mediation effect via arousal for the relaxation drink (D1: index

= -.36, SE = .17, 95% CI = [-.701, -.050]), but not for the energy drink (D2: index = -.10, SE = .18, 95% CI = [-.465, .260])[2], suggesting an aversive effect of arousal for the incongruent product. There was no significant moderated mediation effect through inference of relaxation for both D1 (95% CI = [-.197, .113]) and D2 (95% CI = [-.116, .253]). These results supported the second-stage moderated mediation effect as proposed (H4).

Discussion. Study 5 supported the moderating effects of congruence between display form and perceived product benefit on the main effect of the imaginative display on purchase intention, and on the effects of arousal and inferred product benefits on purchase intention (H4). Compared to a standard display, the themed imaginative display (i.e., battle tank) increased purchase intention for a congruent product (i.e., energy drink) due to the positive effect of arousal and inferred product benefit. Conversely, the same imaginative display lowered purchase intention for an incongruent product (i.e., relaxation drink) due to the aversive effect of arousal.

General Discussion

The present research extends the literature on in-store display form and context by revealing the favorable effects of imaginative displays on customers' purchase behavior (field experiments Studies 1 and 2). Importantly, we show that this effect can be explained by the dual mechanisms of affect-based arousal (Studies 3a-5) and cognition-based inferred benefits from imaginative displays (Studies 4-5). Moreover, we identify congruence between display form and perceived product benefit as a moderator on the main and mediating (i.e., arousal and inferred benefits) effects (Study 5). These findings were obtained using varying forms of imaginative display modelled after actual imaginative displays (Appendix A). The product categories

[2] The conditional effect of arousal on purchase intention was significant for the energy drink (b = .19, p = .024).

encompassed both utilitarian (i.e., facial tissue, toothpaste, bathroom tissue, and beverage) and hedonic (i.e., chocolates) products for familiar, less familiar, and unspecified brands. In addition, the samples included both actual shoppers (Studies 1 and 2) and online participants (Studies 3a, 3b, 4, and 5) from Australia, the U.S., and the U.K., which attested to the robustness of our findings. Taken together, these findings contribute to the in-store display and store atmospherics literature, as well as have important managerial implications.

Theoretical Contributions

In extending the in-store display and store atmospherics literature, the present research examines the effects of imaginative displays on customers' purchase behavior. Specifically, such imaginative displays pertain to the domain of display form, while inferred benefits embodied by imaginative displays pertain to the domain of display context. In particular, we reveal that imaginative displays need to be both novel and aesthetically appealing. While the use of imaginative displays may appear gimmicky, they can positively influence customers' purchase behavior, product sales, and ROI at relatively low costs.

Our findings also extend research on the ensemble effect, which suggests that customers' attitudes toward an ensemble of complementary products can influence their evaluation of the individual product (Lam and Mukherjee 2005). We reveal that an imaginative display consisting of multiple units of one product can also increase customers' purchase behavior. By examining the joint effects of novelty and aesthetics, we extend the literature that tends to focus on novelty alone, contributing new insights to the product display literature.

Prior research on store atmospherics has examined the effects of environmental factors such as music, scent, and color on customer arousal, which in turn enhances their purchase decision (Fiore, Yah, and Yoh 2000; Hagtvedt and Brasel 2017; Morrison et al. 2011). We show

that customer arousal can also stem from viewing novel and aesthetically appealing imaginative displays. Besides arousal, we reveal a cognition-based process, whereby themed imaginative displays (i.e., with particular shapes mimicking actual objects such as a bear and a battle tank) convey embodied meanings (e.g., strength and energy) that transfer to the products constituting the display, which increase customers' purchase intention. The dual mechanisms of arousal and inferred product benefits underlying imaginative displays empirically support Bloch's (1995) conceptual model of product form. Moreover, we identify the moderating factor of congruence between display form and perceived product benefit, such that congruence will increase customers' purchase intention, while incongruence will lower their purchase intention. We show that arousal has a positive (negative) effect on purchase intention when display form and product benefit are congruent (incongruent), yielding new insights on the polarizing effects of arousal.

Practical Implications

In general, retailers benefit from having in-store displays, which can generate unplanned purchases for frequently purchased product categories (Inman, Winer, and Ferraro 2009). Whilst there are increasing instances of retailers using imaginative displays in their stores (Web Appendix), to our knowledge prior research has not systematically examined their effects on customers' purchase behavior and store sales. To this end, our two field experiments show that imaginative displays increase product sales, whilst also providing positive ROI for the display. This is borne out by industry practice; for instance, Coke Zero's novel inverted pyramid display increased sales by 13% at select supermarkets implementing the display (Web Appendix).

Importantly, we reveal that efficacy of the imaginative display is determined jointly by its novelty and aesthetic elements, rather than by its height (Study 2) or the quantity of products in the display (Study 3a). Managerially, an imaginative display offers a cost-effective way to

increase sales and ROI compared to a standard display (Study 1). Our conversations with several retailers revealed that some ideas for their imaginative displays came from employees. Thus, it would be beneficial to solicit ideas for imaginative display from employees who would feel pride when their creations are on display. Obviously, this does not preclude retailers from engaging the services of design professionals. For example, the nonprofit organization Canstruction (canstruction.org) regularly holds exhibitions and competitions of canned food imaginative displays, whereby teams of volunteers, youth groups and/or Canstruction contractors compete and construct some rather amazing structures, at the end of which all food is donated to local food banks (Hammer 2016).

We find two mechanisms underlying the effect of the imaginative display—arousal and inferred product benefits. Potentially, the effect of the imaginative display on arousal can be complemented by other contextual stimuli such as congruent music, color, and scent in the store (Fiore, Yah, and Yoh 2000; Hagtvedt and Brasel 2017; Morrison et al. 2011). Moreover, retailers have to ensure congruence between inferred benefits from the imaginative display form and perceived product benefit. For example, our imaginative display of a battle tank that embodies strength leads to greater purchase intention for an energy drink that has a congruent benefit, but lowers purchase intention for a relaxation drink that has an incongruent benefit.

Limitations and Future Research

Notwithstanding the new insights from the current research findings, there are several limitations that provide opportunities for future research. First, we note that the product stimuli used in all six studies represent low-involvement packaged goods (e.g., chocolates, bathroom tissue, and toothpaste). It is possible that product involvement could moderate the effect of the imaginative display. For example, would an expensive wine or perfume gain more sales if an

imaginative display was utilized? Presumably, a customer seeking to buy a specific fine wine may be less influenced by the imaginative display, but another customer who is uncertain of which wine to purchase may well be persuaded by the display. Second, Study 3b used an incidental technique to manipulate arousal (i.e., external stimulation) rather than task-related arousal (i.e., due to the imaginative display). Prior research suggests that incidental affect and task-related affect could have differential effects (Garg, Inman, and Mittal 2005). Thus, future research can probe if there are nuanced differences between task-related arousal and incidental arousal for imaginative displays.

Moreover, it is not clear if our findings would apply to fresh or perishable items such as seafood and vegetables. The product contamination literature (Morales and Fitzsimons 2007) suggests that some customers may not take well to fresh food items that have been handled by others, particularly if the imaginative display is intricate and takes considerable time to construct. Perceptions of contamination and concerns about product hygiene may lead to undesirable effects (Castro, Morales, and Nowlis 2013). This conjecture awaits further research.

Finally, while we examined imaginative displays that are novel and aesthetically appealing, we recognize that a novel stimulus may also be aesthetically unappealing (Meyers-Levy and Zhu 2010; Veryzer and Hutchinson 1998). While Grewal et al. (2019) suggest that consumers tend to avoid unattractive produce due to altered self-perceptions, ironically some consumers are embracing "ugly" Crocs footwear (Wu 2019). This effect may be moderated by customers' need for uniqueness (Simonson and Nowlis 2000). This possibility merits further examination.

References

Baker, Julie, Michael Levy, and Dhruv Grewal (1992), "An Experimental Approach to Making Retail Store Environmental Decisions," *Journal of Retailing*, 68 (4), 445-60.

Barsalou, Lawrence W. (1985), "Ideals, Central Tendency, and Frequency of Instantiation as Determinants of Graded Structure in Categories," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11 (4), 629-54.

Batra, Rajeev, Venkatram Ramaswamy, Dana L. Alden, Jan-Benedict E.M. Steenkamp, and S. Ramachander (2000), "Effects of Brand Local and Nonlocal Origin on Consumer Attitudes in Developing Countries," *Journal of Consumer Psychology*, 9 (2), 83-95.

Berger, Jonah and Gráinne Fitzsimons (2008), "Dogs on the Street, Pumas on Your Feet: How Cues in the Environment Influence Product Evaluation and Choice," *Journal of Marketing Research*, 45 (1), 1-14.

Berlyne, Daniel E. (1950), "Novelty and Curiosity as Determinants of Exploratory Behavior," *British Journal of Psychology*, 41 (1-2), 68-80.

Berlyne, Daniel E. (1974), *Studies in the New Experimental Aesthetics*, Washington, DC: Hemisphere Publishing.

Bloch, Peter H. (1995), "Seeking the Ideal Form: Product Design and Consumer Response," *Journal of Marketing*, 59 (3), 16-29.

Bloch, Peter H. (2011), "Product Design and Marketing: Reflections after Fifteen Years," *Journal of Product Innovation Management*, 28 (3), 378-80.

Bloch, Peter H., Frederic F. Brunel, and Todd J. Arnold (2003), "Individual Differences in the Centrality of Visual Product Aesthetics: Concept and Measurement," *Journal of Consumer Research*, 29 (4), 551-65.

Breugelmans, Els and Katia Campo (2011), "Effectiveness of In-Store Displays in a Virtual Store Environment," *Journal of Retailing*, 87 (1), 75-89.

Buechel, Eva C. and Claudia Townsend (2018), "Buying Beauty for the Long Run: (Mis)predicting Liking of Product Aesthetics," *Journal of Consumer Research*, 45 (2), 275-

97.

Castro, Iana A., Andrea C. Morales, and Stephen M. Nowlis (2013), "The Influence of Disorganized Shelf Displays and Limited Product Quantity on Consumer Purchase," *Journal of Marketing*, 77 (4), 118-33.

Cavazza, Nicoletta and Veronica Gabrielli (2015), "Affordant Shapes of Product Holder Influence Product Evaluation and Purchase Intention," *Current Psychology*, 34 (2), 447-65.

Chandon, Pierre, J. Wesley Hutchinson, Eric T. Bradlow, and Scott H. Young (2009), "Does In-Store Marketing Work? Effects of the Number and Position of Shelf Facings on Brand Attention and Evaluation at the Point of Purchase," *Journal of Marketing*, 73 (6), 1-17.

Creusen, Mariëlle E.H. and Jan P.L. Schoormans (2005), "The Different Roles of Product Appearance in Consumer Choice," *Journal of Product Innovation Management*, 22 (1), 63-81.

Dahl, Darren W. and Page Moreau (2002), "The Influence and Value of Analogical Thinking During New Product Ideation," *Journal of Marketing Research*, 39 (1), 47-60.

Deng, Xiaoyan, Barbara E. Kahn, H. Rao Unnava, and Hyojin Lee (2016), "A "Wide" Variety: Effects of Horizontal Versus Vertical Display on Assortment Processing, Perceived Variety, and Choice," *Journal of Marketing Research*, 53 (5), 682-98.

Di Muro, Fabrizio, and Kyle B. Murray (2012), "An Arousal Regulation Explanation of Mood Effects on Consumer Choice," *Journal of Consumer Research*, 39 (3), 574-84.

Diehl, Kristin, Erica van Herpen, and Cait Lamberton (2015), "Organizing Products with Complements versus Substitutes: Effects on Store Preferences as a Function of Effort and Assortment Perceptions," *Journal of Retailing*, 91 (1), 1-18.

Donovan, Robert J. and John R. Rossiter (1982), "Store Atmosphere: An Environmental Psychology Approach," *Journal of Retailing*, 58 (1), 34-57.

Elazary, Lior and Laurent Itti (2008), "Interesting Objects are Visually Salient," *Journal of Vision*, 8 (3), 1-15.

Fiore, Ann Marie, Xinlu Yah, and Eunah Yoh (2000), "Effects of a Product Display and

Environmental Fragrancing on Approach Responses and Pleasurable Experiences," *Psychology & Marketing*, 17 (1), 27-54.

Garg, Nitika, J. Jeffrey Inman, and Vikas Mittal (2005), "Incidental and Task-Related Affect: A Re-Inquiry and Extension of the Influence of Affect on Choice," *Journal of Consumer Research*, 32 (1), 154-59.

Grewal, Lauren, Jillian Hmurovic, Cait Lamberton, and Rebecca Walker Reczek (2019), "The Self-Perception Connection: Why Consumers Devalue Unattractive Produce," *Journal of Marketing*, 83 (1), 89-107.

Hagtvedt, Henrik and S. Adam Brasel (2017), "Color Saturation Increases Perceived Product Size," *Journal of Consumer Research*, 44 (2), 396-413.

Hammer, Monika (2016), "'Canstruction' on Display at Oakdale Mall," (accessed May 9, 2017), [available at http://www.wbng.com/news/local/Canstruction-on-display-at-Oakdale-Mall-374534331.html].

Havlena, William J. and Morris B. Holbrook (1986), "The Varieties of Consumption Experience: Comparing Two Typologies of Emotion in Consumer Behavior," *Journal of Consumer Research*, 13 (3), 394-404.

Hayes, Andrew F. (2018), *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-based Approach (2nd edition)*, New York: The Guilford Press.

Hirschman, Elizabeth C. (1980), "Innovativeness, Novelty Seeking, and Consumer Creativity," *Journal of Consumer Research*, 7 (3), 283-95.

Hoegg, JoAndrea, Joseph W. Alba, and Darren W. Dahl (2010), "The Good, the Bad, and the Ugly: Influence of Aesthetics on Product Feature Judgments," *Journal of Consumer Psychology*, 20 (4), 419-30.

Hollins, Bill and Stuart Pugh (1990), *Successful Product Design: What to Do and When*. London, UK: Butterworth-Heinemann.

Inman, J. Jeffrey, Russell S. Winer, and Rosellina Ferraro (2009), "The Interplay Among Category Characteristics, Customer Characteristics, and Customer Activities on In-Store

Decision Making," *Journal of Marketing*, 73 (5), 19-29.

Kaltcheva, Velitchka D. and Barton A. Weitz (2006), "When Should a Retailer Create an Exciting Store Environment?" *Journal of Marketing*, 70 (1), 107-18.

Kim, Junghan and Arun Lakshmanan (2015), "How Kinetic Property Shapes Novelty Perceptions," *Journal of Marketing*, 79 (6), 94-111.

Krishna, Aradhna, Luca Cian, and Nilüfer Z. Aydınoğlu (2017), "Sensory Aspects of Package Design," *Journal of Retailing*, 93 (1), 43-54.

Lam, Shun Yin, Jeanne Ho-ying Fu, and Dongmei Li (2017), "The Influence of Thematic Product Displays on Consumers: An Elaboration-Based Account," *Psychology & Marketing*, 34 (9), 868-83.

Lam, Shun Yin and Avinandan Mukherjee (2005), "The Effects of Merchandise Coordination and Juxtaposition on Consumers' Product Evaluation and Purchase Intention in Store-Based Retailing," *Journal of Retailing*, 81 (3), 231-50.

Lang, Peter J., Margaret M. Bradley, and Bruce N. Cuthbert (2008), "International Affective Picture System (IAPS): Affective Ratings of Pictures and Instruction Manual," *Technical Report* A-8. Gainesville, FL: University of Florida.

Lee, Angela Y., Punam Anand Keller, and Brian Sternthal (2010), "Value from Regulatory Construal Fit: The Persuasive Impact of Fit between Consumer Goals and Message Concreteness," *Journal of Consumer Research*, 36 (5), 735-47.

Lundh, Lars-Gunnar (1995), "Meaning Structures and Mental Representations," *Scandinavian Journal of Psychology*, 36 (4), 363-85.

MacKenzie, Scott B., Richard J. Lutz, and George E. Belch (1986), "The Role of Attitude toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations," *Journal of Marketing Research*, 23 (2), 130-43.

Manavis, Athanasios, Theocharis Sourris, Eva Dimou, Nikolaos Efkolidis, and Panagiotis Kyratsis (2019), "An Inspiration from Nature Design Methodology for In-Store Displays," *Journal of Packaging Technology and Research*, 3 (2), 141-48.

Mehrabian, Albert and James A. Russell (1974), *An Approach to Environmental Psychology*, Cambridge, MA: MIT Press.

Meyers-Levy, Joan and Rui (Juliet) Zhu (2010), "Gender Differences in the Meanings Consumers Infer from Music and Other Aesthetic Stimuli," *Journal of Consumer Psychology*, 20 (4), 495-507.

Michel, Charles, Carlos Velasco, Elia Gatti, and Charles Spence (2014), "A Taste of Kandinsky: Assessing the Influence of the Artistic Visual Presentation of Food on the Dining Experience," *Flavour*, 3 (1), 7-17.

Morales, Andrea C. and Gavan J. Fitzsimons (2007), "Product Contagion: Changing Consumer Evaluations Through Physical Contact with "Disgusting" Products," *Journal of Marketing Research*, 44 (2), 272-83.

Morrison, Michael, Sarah Gan, Chris Dubelaar, and Harmen Oppewal (2011), "In-Store Music and Aroma Influences on Shopper Behavior and Satisfaction," *Journal of Business Research*, 64 (6), 558-64.

Mugge, Ruth and Jan P.L. Schoormans (2012), "Product Design and Apparent Usability: The Influence of Novelty in Product Appearance," *Applied Ergonomics*, 43 (6), 1081-88.

Neff, Jack (2008), "In-store Displays are More Effective than Price Cuts," (accessed August 20, 2015), [available at http://adage.com/article/news/store-displays-effective-price-cuts/132767/].

Nordfält, Jens, Dhruv Grewal, Anne L. Roggeveen, and Krista M. Hill (2014), "Insights from In-Store Marketing Experiments," in *Review of Marketing Research: Shopper Marketing and the Role of In-Store Marketing*, Vol. 11, Dhruv Grewal, Anne L. Roggeveen, and Jens Nordfält, eds. Bingley, UK: Emerald, 127-46.

Noseworthy, Theodore J., Fabrizio Di Muro, and Kyle B. Murray (2014), "The Role of Arousal in Congruity-Based Product Evaluation," *Journal of Consumer Research*, 41 (4), 1108-26.

Parker, Jeffrey R. and Donald R. Lehmann (2011), "When Shelf-Based Scarcity Impacts Consumer Preferences," *Journal of Retailing*, 87 (2), 142-55.

Pieters, Rik, Michel Wedel, and Rajeev Batra (2010), "The Stopping Power of Advertising: Measures and Effects of Visual Complexity," *Journal of Marketing*, 74 (5), 48-60.

POPAI (2012), "2012 Shopper Engagement Study," (accessed May 2, 2014), [available at http://www.advancingretail.org/sites/default/files/resources/POPAI%202012%20Shopper%20Engagement%20Study.pdf].

Radford, Scott K. and Peter H. Bloch (2011), "Linking Innovation to Design: Consumer Responses to Visual Product Newness," *Journal of Product Innovation Management*, 28 (s1), 208-20.

Raghubir, Priya and Eric A. Greenleaf (2006), "Ratios in Proportion: What Should the Shape of the Package Be?" *Journal of Marketing*, 70 (2), 95-107.

Razzouk, Nabil Y., Victoria Seitz, and Vijay Kumar (2002), "The Impact of Perceived Display Completeness/Incompleteness on Shoppers' In-Store Selection of Merchandise: An Empirical Study," *Journal of Retailing and Consumer Services*, 9 (1), 31-35.

Rego, Arménio, Dálcio Reis Júnior, Miguel Pina e Cunha, Gabriel Stallbaum, and Pedro Neves (2014), "Store Creativity Mediating the Relationship between Affective Tone and Performance," *Managing Service Quality*, 24 (1), 63-85.

Roggeveen, Anne L., Dhruv Grewal, and Elisa B. Schweiger (2020), "The DAST Framework for Retail Atmospherics: The Impact of In- and Out-of-Store Retail Journey Touchpoints on the Customer Experience," *Journal of Retailing*, 96 (1), 128-37.

Roggeveen, Anne L., Jens Nordfält, and Dhruv Grewal (2016), "Do Digital Displays Enhance Sales? Role of Retail Format and Message Content," *Journal of Retailing*, 92 (1), 122-31.

Sarantopoulos, Panagiotis, Aristeidis Theotokis, Katerina Pramatari, and Anne L. Roggeveen (2019), "The Impact of a Complement-Based Assortment Organization on Purchases," *Journal of Marketing Research*, 56 (3), 459-78.

Schachter, Stanley, and Jerome Singer (1962), "Cognitive, Social, and Physiological Determinants of Emotional State," *Psychological Review*, 69 (5), 379-99.

Sevilla, Julio and Claudia Townsend (2016), "The Space-to-Product Ratio Effect: How

Interstitial Space Influences Product Aesthetic Appeal, Store Perceptions and Product Preference," *Journal of Marketing Research*, 53 (5), 665-81.

Simonson, Itamar and Stephen M. Nowlis (2000), "The Role of Explanations and Need for Uniqueness in Consumer Decision Making: Unconventional Choices based on Reasons," *Journal of Consumer Research*, 27 (1), 49-68.

Simonton, Dean Keith (2010), "Emotion and Composition in Classical Music: Historiometric Perspectives," in *Handbook of Music and Emotion: Theory, Research, Applications*, Patrik N. Juslin and John A. Sloboda, eds. Oxford: Oxford University Press, 205-22.

Spencer, Steven J., Mark P. Zanna, and Geoffrey T. Fong (2005), "Establishing a Causal Chain: Why Experiments are Often More Effective Than Mediational Analyses in Examining Psychological Processes," *Journal of Personality and Social Psychology*, 89 (6), 845-51.

Sundar, Aparna and Theodore J. Noseworthy (2014), "Place the Logo High or Low? Using Conceptual Metaphors of Power in Packaging Design," *Journal of Marketing*, 78 (5), 138-51.

Townsend, Claudia (2017), "The Price of Beauty: Differential Effects of Design Elements with and without Cost Implications in Nonprofit Donor Solicitations," *Journal of Consumer Research*, 44 (4), 794-815.

Veryzer, Robert W. Jr. and J. Wesley Hutchinson (1998), "The Influence of Unity and Prototypicality on Aesthetic Responses to New Product Designs," *Journal of Consumer Research*, 24 (4), 374-85.

Wang, Yong Jian, Michael S. Minor, and Jie Wei (2011), "Aesthetics and the Online Shopping Environment: Understanding Consumer Responses," *Journal of Retailing*, 87 (1), 46-58.

Wu, Jasmine (2019), "Ugly is In: How Crocs have Taken over Teen Footwear, and Sent the Stock Soaring," (accessed January 8, 2021), [available at https://www.cnbc.com/2019/07/15/ugly-is-in-crocs-have-taken-over-teen-footwear-and-boosted-its-stock.html].

Zhu, Rui and Joan Meyers-Levy (2009), "The Influence of Self-View on Context Effects: How Display Fixtures Can Affect Product Evaluations," *Journal of Marketing Research*, 46 (1), 37-45.

Table 1. Positioning of Present Research in the In-Store Product Display Literature

Streams	Study	Display variables	Relevant findings
Display Context	Fiore, Yah, and Yoh (2000)	Display vs. no display fragrance vs. no fragrance	Appropriate fragrance enhances the effect of display on product evaluation and purchase intention.
	Lam and Mukherjee (2005)	Coordination and juxtaposition of display	Coordination has an impact on consumers' evaluation and purchase intention toward the target item only when the item is juxtaposed with a complementary item.
	Zhu and Meyers-Levy (2009)	Material of display table (modern vs. natural)	Surface material of display fixture has an assimilation effect for interdependent self-viewer and a contrast effect for independent self-viewer on consumer evaluation toward a neutral product.
	Cavazza and Gabrielli (2015)	Shelf vs. display stand with different shapes	Display stands have a positive impact on purchase intention only for little-known brands.
	Sarantopoulos et al. (2019)	Assortment organization (complement-based vs. substitute-based)	Complement-based (vs. substitute-based) assortment organization leads to increased purchases and expenditures.
Display Form	Razzouk, Seitz, and Kumar (2002)	Completeness vs. incompleteness of a stack	Products displayed in an incomplete stack are preferred to those in a visually complete stack.
	Parker and Lehmann (2011)	Shelf-based scarcity (scarce vs. full stock)	Scarce products are preferred due to popularity inference than those in full stock.
	Castro, Morales, and Nowlis (2013)	Display organization vs. disorganization; product quantity	Disorganized and partially stocked shelves result in lower purchase intention of ingestible product but higher purchase intention for the non-ingestible product.
	Nordfält et al. (2014)	Display formation (waterfall only vs. waterfall + bin)	Customers were more likely to stop and examine products from the waterfall display if it emptied into a bin.
	Deng et al. (2016)	Direction of display (horizontal vs vertical)	Horizontal display increases perceived assortment variety and leads to more variety being chosen than vertical display.
	Sevilla and Townsend (2016)	Space-to-product ratio (high vs. low)	More interstitial space improves perceptions of both product aesthetics and store prestige, which increases product valuation and purchase intention.
	Roggeveen, Nordfält, and Grewal (2016)	Digital display (with vs. without)	Digital display increases sales in hypermarket, not in supermarket or convenience stores.
	The present research	*Product display (imaginative display vs. standard display)*	*Imaginative display (i.e., novel and aesthetically appealing display) increases customers' actual purchase and purchase intentions. Themed imaginative display increases affective response of arousal and cognitive response of inferred product benefits from the concept theme.*

Figure 1. Conceptual Framework

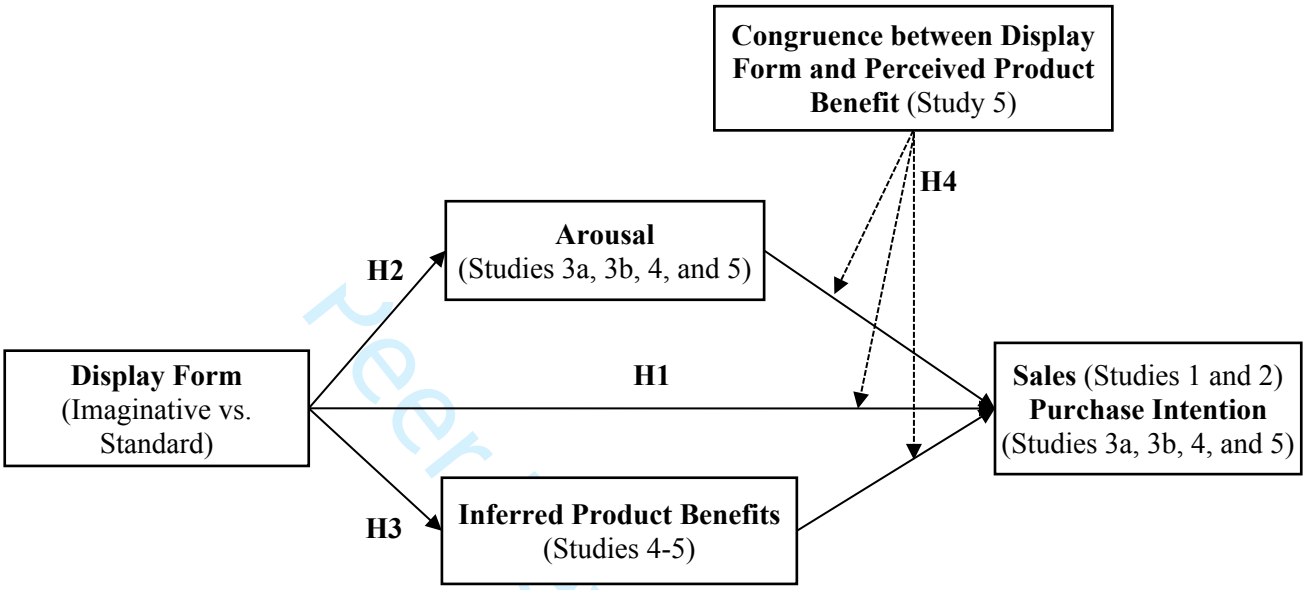
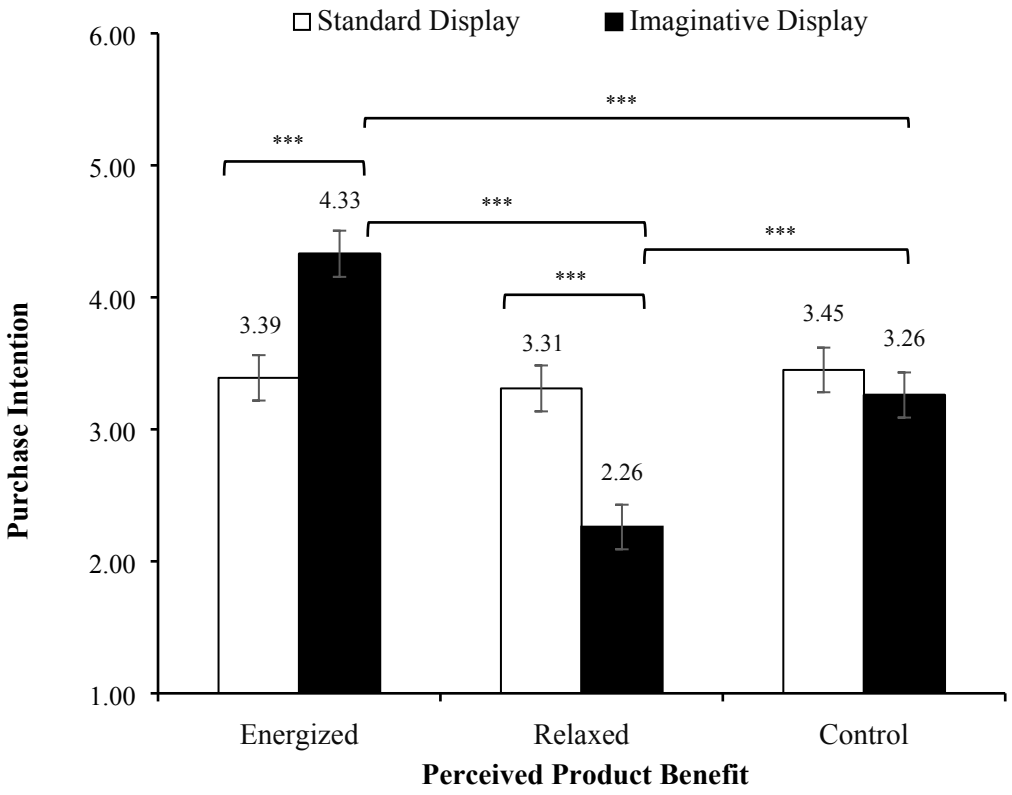


Figure 2. Interaction Effects of Display Form and Perceived Product Benefit (Study 5)



Notes: Error bars = +1 SEs. $^{***}p < .001$.

Appendix A. Product Display Stimuli Used in the Studies

Images for Studies 1 and 2 were untouched photographs of stimuli used in the field experiments. Images for Studies 3a-5 were rendered using Autodesk 3ds MAX®, a computer graphics program. All novel product displays were modelled after actual displays used by retailers.

Study 1:

Imaginative Display (Quasi-circular cone)

Standard Display

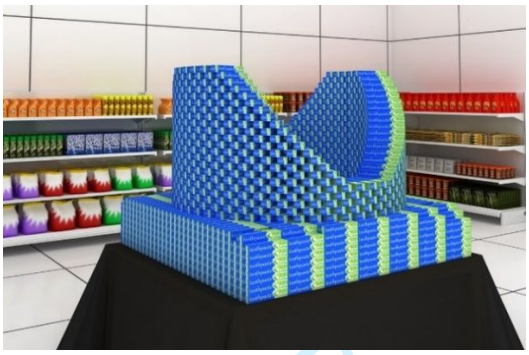
Study 2:

Imaginative Display

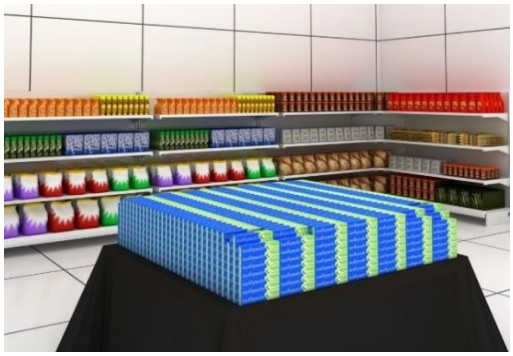
Standard–High Display

Standard–Low Display

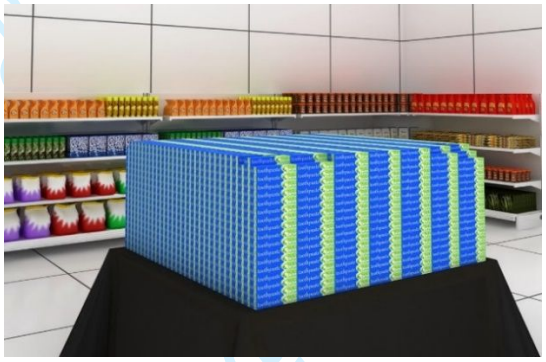
Study 3a:



Imaginative Display

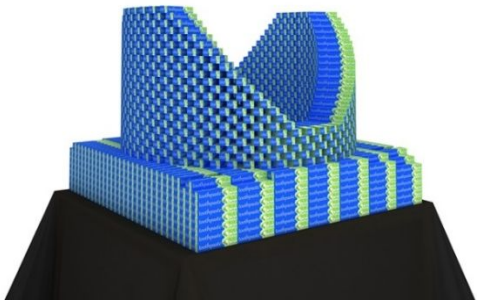


Standard–Small Quantity Display

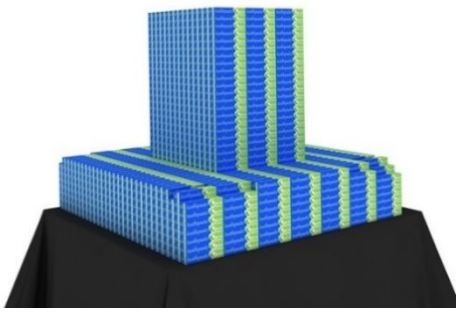


Standard–Large Quantity Display

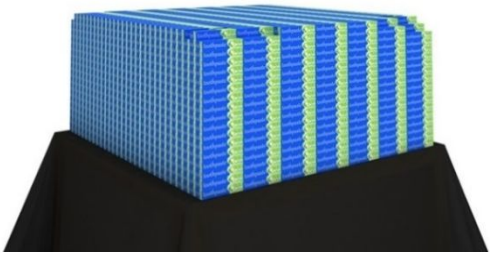
Study 3b:



Imaginative Display



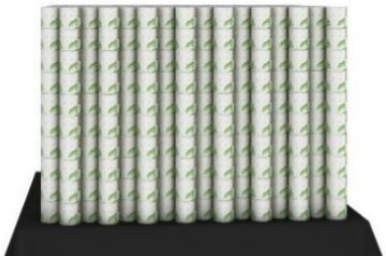
Novel–Non-Aesthetic Display



Standard Display

Study 4:

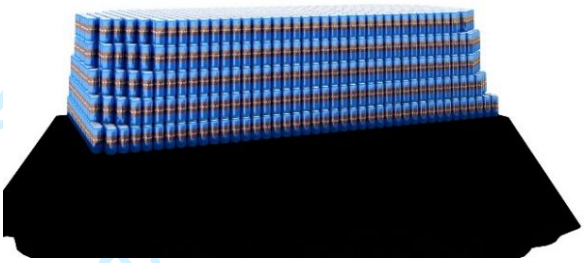
Imaginative Display



Standard Display

Study 5:

Imaginative Display



Standard Display

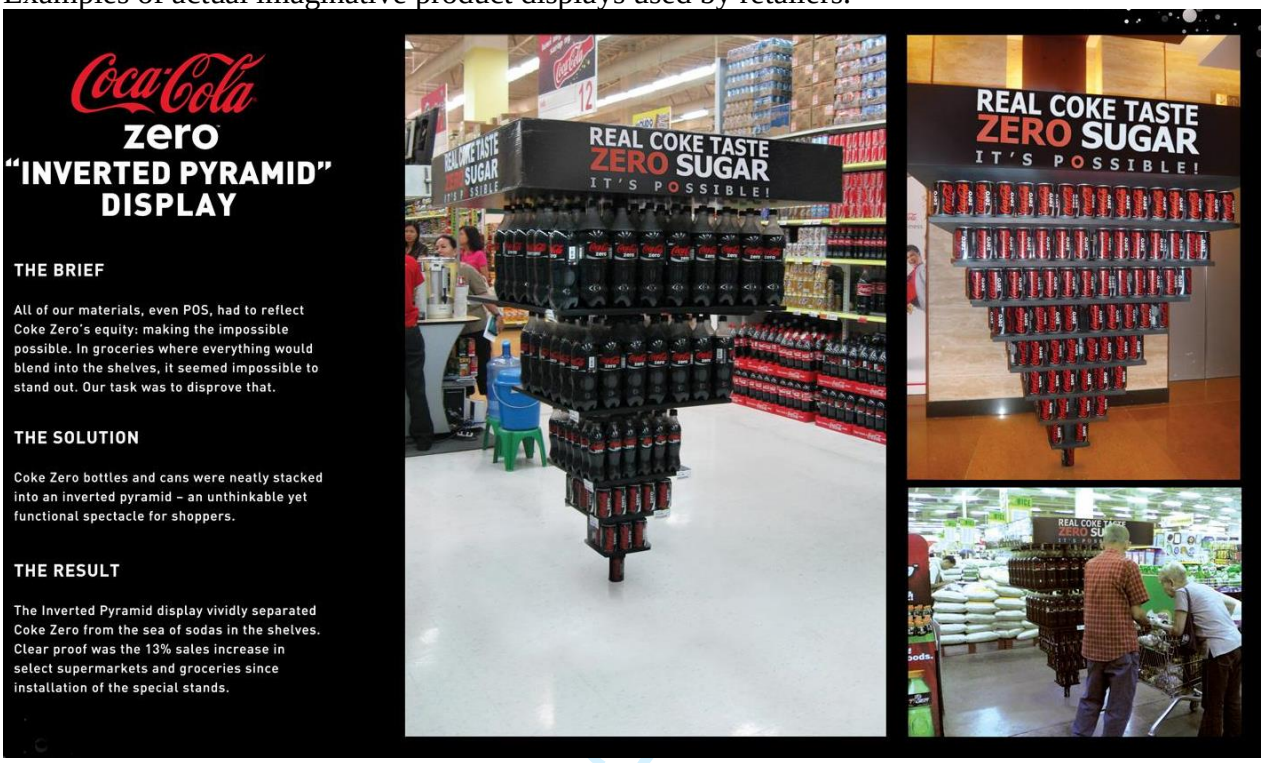
Appendix B. Summary of Measurement Items

Construct	Measurement Items (7-point scales)	Reliability (α or *r*)	Study
Purchase intention (MacKenzie, Lutz, and Belch 1986)	***How likely are you to buy the product on display?*** Not at all likely/very likely Not at all probable/very probable Not at all possible/very possible	.94 / .93 / .95 / .94	S3a-S5
Arousal (Baker, Levy, and Grewal 1992)*	***How did you feel when looking at the display?*** Alive, inactive, drowsy, idle, lazy, slow	.92	S3a
Arousal (Kim and Lakshmanan 2015)	***How did you feel when looking at the display?*** Mellow/fired up Low energy/high energy Passive/active	.93 / .90	S4, S5
Novelty (Dahl and Moreau 2002)	***How would you evaluate the display you saw?*** Not at all innovative/extremely innovative Not at all original/extremely original	.88 / .91/ .92 /.81 / .87 /.88	S1-S5
Aesthetics (Lam and Mukherjee 2005)	***How would you evaluate the display you saw?*** Very offensive/very enjoyable Very poor looking/very nice looking Very displeasing/very pleasing Very unattractive/very attractive Very bad appearance/very good appearance Very ugly/very beautiful	.97 / .96 / .97 / .96 / .96 / .98	S1-S5
Brand familiarity (Batra et al. 2000)	***How familiar are you with the brand?*** Not at all familiar/extremely familiar Never heard of it before/hear about it very often Never bought it before/buy it very often Never used it before/use it very often	.95	S2
Liking of chocolates (Lee, Keller, Sternthal 2010)	***How much do you like eating chocolates?*** Do not like at all/like very much Not at all enjoyable/extremely enjoyable Not at all pleasurable/extremely pleasurable	.93	S2
Attention drawing (Lam and Mukherjee 2005)	***How would you evaluate the display you saw?*** Very inconspicuous/very conspicuous Not at all eye catching/extremely eye catching Not at all noticeable/extremely noticeable Not at all attention drawing/extremely attention drawing	.90	S3a
Visual complexity (Pieters, Wedel, and Batra 2010)	***How would you evaluate the display you saw?*** Not at all complex/extremely complex Not at all complicated/extremely complicated	.98	S3a
Perceived difficulty (Diehl, van Herpen, and Lamberton 2015)	***How would you evaluate setting up the display you saw?*** Not at all difficult/extremely difficult Very little time/a lot of time Very little effort/a lot of effort Very little planning/a lot of planning	.94	S3a
Inference of Energy (adapted from Sundar and Noseworthy 2010)*	***To what extent do you think the drink on display can help you:*** Improve power; increase endurance; stay active	.91	S5
Inference of Relaxation (adapted from Havlena and Holbrook 1986)*	***To what extent do you think the drink on display can help you:*** Relax; de-stress; calm down	.96	S5

Notes: *1 = not at all, 7 = very much.

Web Appendix

Examples of actual imaginative product displays used by retailers.



Source: Leo Burnett (2010), "Coca-Cola Zero Inverted Pyramid," (accessed May 4, 2020), [available at https://www.adsoftheworld.com/media/ambient/cocacola_zero_inverted_pyramid]. Notably, this particular imaginative display led to a 13% sales increase at some supermarkets.

Source: Jarvis, Adam (2015), "Bud Light Product Display – Battle Stations," (accessed March 3, 2019), [available at http://pop-online.com/bud-light-product-display-battle-stations/]

Source: Ravenshoe Group (2019), "CPG Innovation: Why Your Point-of-Purchase Displays Are Your Secret Weapon," (accessed May 21, 2020), [available at https://www.ravenshoegroup.com/blog/why-point-of-purchase-displays-are-your-secret-weapon/].

Source: Greenlee, Steve (2012), "Big local beer tasting at Kappy's," (accessed May 21, 2020), [available at http://archive.boston.com/lifestyle/food/blogs/99bottles/2012/03/big_local_beer_tasting_at_kapp.html]

Source: Riven, Ehud (2013), "The Art of Book Stacking in Japan," (accessed June 21, 2015), [available at https://walyou.com/book-stacking-in-japan/].

Source: Global Times (2013), "Aisles of Style: 25 Winning Supermarket Displays in China," (accessed June 18, 2015), [available at http://www.globaltimes.cn/content/828390.shtml].