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The More Excluded, the Brighter: How Social Exclusion Experience Shapes Consumers' Preference for Brightness

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Abstract: Brightness is a core sensory cue in consumption settings, yet little is known about why consumers come to prefer bright environments under particular social-psychological states. Taking a social-interaction perspective, this research proposes that the experience of social exclusion strengthens consumers' preference for brightness: consumers who have been excluded favor brighter environments and are more likely to choose high-brightness products. The mechanism lies in perceived control. Social exclusion threatens consumers' sense of control over the environment; they then interpret brightness cues as a route to environmental mastery and rebuild control by choosing bright settings. A high sense of power further amplifies this effect. Four experiments, combining subjective evaluations with behavioral choices, support these propositions. By connecting the experience of social exclusion with consumers' preference for sensory environments, this research adds to sensory marketing theory and offers actionable guidance for practice.

Keywords: Social Exclusion; Brightness Preference; Perceived Control; Sense of Power; Sensory Marketing.

1. Introduction

Sensory marketing has become routine in retailing, yet where consumers' sensory preferences come from is still insufficiently understood. Practice involves two connected steps: understanding what sensory experience customers want in a given context, and delivering that experience through spatial design and product attributes. Research has advanced on both fronts but largely in parallel. One stream examines how ambient stimuli shape emotion, cognition, and behavior [1,2]; the other studies how sensory cues are deployed in product and space design [3,4]. Few studies ask how the two halves meet in a single consumer; connecting them requires starting from the psychological state of the target consumer. This paper asks: which consumers prefer bright consumption environments, and what mechanism sustains that preference?

We focus on social exclusion, an interpersonal experience nearly every contemporary consumer has been through. Digital technology and social media have broadened communication, yet being left out has become more visible: posts that draw no likes, applications that receive no reply, and the persistent feeling among migrant workers and older adults of standing outside mainstream society all testify to how common such episodes are [5]. Social exclusion has accordingly remained a central topic in consumer behavior research [6,7].

Prior work on the consumption consequences of exclusion offers several leads: excluded consumers spend strategically to regain affiliation [8,9], use conspicuous or unique products to assert distinctiveness [10,11,12], or switch brands to rebuild control [13], with nostalgia and social connection further shaping these choices [14]. These findings mostly concern product choices; little is known about how exclusion reshapes the preference for the sensory environment itself, whose most noticeable attribute is brightness. Preliminary evidence points to a metaphorical link between exclusion and darkness perception: people who feel excluded judge their surroundings as darker and crave brightness more intensely [15], giving a direct foothold for studying exclusion through brightness preference.

We therefore ask how social exclusion experience shapes brightness preference and what role sense of power plays. Following the temporal need-threat model, exclusion undermines perceived control and activates the motive to restore it [16]; consumers then treat bright environments as effective cues for rebuilding environmental mastery, and their preference for brightness rises [5]. A high sense of power should push the preference further by equipping consumers to carry out this compensation. Tracing the perceived-control pathway, the research connects the two stages of sensory marketing in the psychological state of a specific consumer group and offers an evidence-based reference for responding to consumers' needs through environmental design [4].

2. Theoretical Background and Hypotheses

2.1. Brightness Preference

Brightness is among the most salient sensory attributes of consumption environments. Earlier research treated lighting mainly as a physical variable; recent work shows that ambient brightness also reaches psychological feelings, cognitive processing, and behavioral decisions [1]. In retail settings, Briand Decré and Pras [17] used the stimulus-organism-response framework to show that bright, cool lighting raises consumers' arousal toward the store, which increases purchase intention and willingness to stay, with perceived arousal mediating the effect; lighting thus works through internal states as well as through the visual channel. Supplementary lighting also increases product touches and time spent in the store [18], and bright ambient light nudges consumers toward healthier food choices [2]. Reactions to brightness are therefore not dictated by visual needs alone; associations with safety, clarity, and environmental evaluation

are involved. A second line of work links lightness perception to psychological states through metaphor: recalling a moral rather than an immoral deed shifts brightness judgments [19], hopeless individuals prefer brighter illumination [20], and exclusion colors preferences for other visual attributes [21]. Preference for brightness is thus context-dependent and psychologically grounded. Yet most of this literature asks what objective lighting does to behavior; how the preference itself takes shape remains largely unexamined, and we approach this gap from the side of social experience.

2.2. Social Exclusion and Brightness Preference

Social exclusion refers to being shut out by individuals or groups one values, a common negative interpersonal experience accompanied by anxiety and emptiness [22,23]. It signals relational failure and triggers broad compensatory responses [24,25]: reconnecting to restore belonging [8], conspicuous or unique consumption to assert distinctiveness [11], or brand switching to rebuild control [13]. The routes differ, but the destination is similar: offsetting the aversive feelings that exclusion creates. Later research distinguished social ostracism, in which a person is deliberately left out, from social rejection, in which a person is explicitly turned away. Being ignored and being rejected evoke different construal levels and responses to compensation [26], suggesting distinct psychological processes, yet both amount to exclusion by the social world. Whether an excluded person re-engages or withdraws also depends on the perceived odds of successful re-connection [11], and exclusion shapes decisions in social games [27] and haptic preferences for products [28].

We situate the question in the consumption environment. Brightness is direct, immediate, and easy to evaluate: a consumer can judge whether a space or product is bright almost without effort. Excluded consumers, whose desire for environmental mastery is elevated, should respond strongly to cues promising clarity and certainty and will more often pick the bright option, as the experiments of Pfundmair et al. [15] show directly: excluded individuals judged their environment as darker and desired brightness more. Three considerations converge on this prediction. First, brightness serves as a basic cue for restoring environmental mastery: people need to keep some control over their surroundings [16], and bright environments are more readily construed as controllable and predictable. Second, the need-threat model holds that exclusion damages perceived control, and individuals may reclaim mastery by selecting and adjusting external environments [13]; brightness can be identified and chosen directly. Third, exclusion produces negative feelings that consumers are motivated to relieve [29,30], and bright settings, with their connotations of clarity and safety, help restore balance. Hence:

H1: Consumers with social exclusion experience show a stronger preference for brightness than consumers without such experience.

2.3. The Mediating Role of Perceived Control

Exclusion weakens a person's sense of control and efficacy, because being excluded itself signals a lack of social approval and acceptance, and it also erodes belonging and meaning. The need-threat model identifies four fundamental needs threatened by exclusion: belonging, control, self-esteem, and meaningful existence [16]. Among them, the threatened-control pathway most directly explains how exclusion turns into a specific environmental preference. When exclusion arouses a strong motive to restore control, brightness preference becomes an important outlet. Higher brightness makes environmental information more visible, so surroundings and consumption objects are perceived more clearly; bright, cool lighting evokes arousal-based environmental evaluations that can grow into a sense of mastery [17], and bright settings are also associated with the safety, clarity, and certainty that help individuals recover control [15]. Behaviorally, choosing a bright environment is itself a form of environmental control that consumers can execute directly, and such active selection feeds efficacy-based control needs. The sense of power is closely tied to control needs, and meeting them drives many compensatory consumption behaviors [31,32]. Hence:

H2: Social exclusion experience reduces consumers' perceived control, which in turn raises their brightness preference.

2.4. The Moderating Role of Sense of Power

Sense of power is a person's subjective perception of his or her ability to influence others, control resources, and shape the environment [33]. High-power individuals adopt an agentic orientation with stronger autonomy and demands for environmental control, whereas low-power individuals lean toward a communal orientation [34,35]. If bright environments attract excluded consumers because they cue rebuilding environmental mastery, a high sense of power should amplify the effect, because power equips people to put control-restoration strategies into practice [11]. Once exclusion threatens their control, high-power individuals are more willing to act by changing or selecting the external environment; since brightness can be identified and chosen directly, they can translate choosing brightness into a concrete act of control restoration. Low-power individuals, with weaker environmental-control tendencies, rarely reshape their surroundings after exclusion. Indirect support exists: low-power consumers rely more on price cues when judging quality [36]; power shapes donors' allocation of time and money [37]; and power-induced control needs shape preferences for clear boundaries [32] as well as self-focus under exclusion [38]. These findings point to systematic differences across power in information use, cue reliance, and resource allocation. Excluded consumers already have elevated control needs; with high power they hold both the ability and the motivation to restore control by choosing bright environments. Therefore:

H3: Sense of power moderates the effect of social exclusion experience on brightness preference; the increase in brightness preference after exclusion is more pronounced for high-power than for low-power consumers.

The four experiments test these hypotheses in turn (Fig. 1): Study 1 the main effect (H1) and the comparison between rejection and ostracism; Study 2 the mediation of perceived control (H2) in a commercial setting; Study 3 a direct manipulation of control restoration re-testing the mediation (H2); Study 4 the moderation of sense of power (H3).

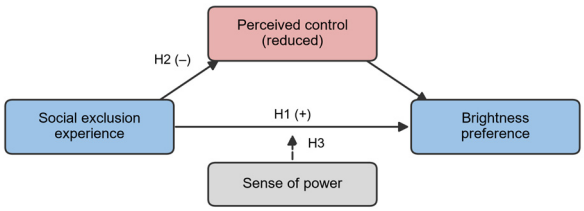

Fig 1. Research model.

3. Study 1: The Main Effect of Social Exclusion Experience

Study 1 tested whether a stable main effect of social exclusion experience on brightness preference exists and compared social rejection with social ostracism, whose consequences prior work suggests are not always identical [26].

3.1. Method

Undergraduates were tested in a laboratory. The a priori power analysis (G*Power; significance level 0.05, f = 0.30, power = 0.95) required at least 175 participants. Of 210 recruited, 9 failed the attention check, leaving 201 valid responses (58.2% female; mean age = 21.28, SD = 2.08), randomly assigned to three conditions (67 each). The manipulation followed the recall paradigm of Su et al. [39]: rejection participants wrote about a vivid episode of being clearly rejected, with others visibly disliking or refusing to accept them; ostracism participants wrote about being deliberately ignored, without explicit expressions of dislike; control participants wrote in parallel about a memorable shopping trip, covering where and when it took place and what they bought or wanted but did not buy. All participants then rated the extent to which they had felt ignored, rejected, and excluded (three items, Cronbach's alpha = 0.90). Brightness preference was measured in two complementary ways [17]: four subjective items (e.g., "I like bright environments" and "I am willing to pay more for bright environments"; seven-point scales, Cronbach's alpha = 0.87), and a behavioral task of five choices between higher- and lower-brightness versions of products or settings (lamps, monitors, packaged goods) in a simulated shopping context, the number of high-brightness choices forming the behavioral score.

3.2. Results

Rejection participants reported a stronger sense of being rejected (M = 6.41, SD = 0.98) than ostracism participants (M = 4.87, SD = 1.16; t(132) = 8.30, p < 0.001) and controls (M = 2.86, SD = 1.88; t(132) = 13.71, p < 0.001), F(2, 198) = 109.06, p < 0.001; ostracism participants reported a stronger sense of being ignored (M = 5.78, SD = 1.18) than rejection participants (M = 4.87, SD = 1.16; t(132) = 4.50, p < 0.001) and controls (M = 3.18, SD = 2.05; t(132) = 9.00, p < 0.001), F(2, 198) = 50.41, p < 0.001. Both manipulations succeeded. On subjective preference, conditions differed, F(2, 198) = 4.70, p = 0.010: the rejection group (M = 5.32, SD = 0.95) and the ostracism group (M = 5.28, SD = 1.01) both exceeded controls (M = 4.85, SD = 0.99; t(132) = 2.80, p = 0.006 and t(132) = 2.49, p = 0.014), with no difference between the excluded groups (t(132) = 0.24, p = 0.814). The behavioral measure showed the same pattern, F(2, 198) = 6.43, p = 0.002: the rejection group (M = 3.76, SD = 0.95) and the ostracism group (M = 3.58, SD = 1.00) chose high-brightness options more often than controls (M = 3.16, SD = 1.01; t(132) = 3.52, p = 0.001 and t(132) = 2.41, p = 0.018), again with no difference between them (t(132) = 1.06, p = 0.292). Across both measures, social exclusion experience strengthened brightness preference, supporting H1 (Fig. 2), with both forms working to a similar degree.

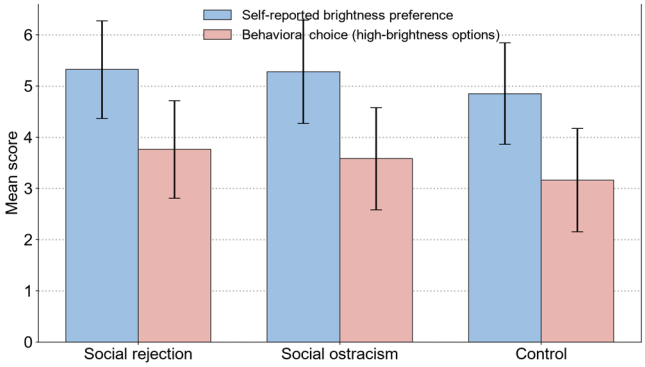

Fig 2. Brightness preference by condition in Study 1.

4. Study 2: The Mediating Role of Perceived Control

Study 2 examined whether perceived control mediates the effect, moving brightness preference closer to a commercial setting and repeating the comparison between the two forms of exclusion.

4.1. Method

Data were collected online through the WJX panel. The power analysis (significance level 0.05, f = 0.20, power = 0.90) required at least 320 participants; 350 were recruited and 324 passed the attention check (65.4% female; 81% aged 18-25), randomly assigned to rejection (n = 108), ostracism (n = 110), or control (n = 106), with the manipulation replicating Study 1. Perceived control was measured with the scale of Rothbaum et al. [40], adapted to the consumption context and trimmed to ten items (e.g., "I feel able to take charge of my current environment," "I can influence what happens around me"; Cronbach's alpha = 0.95), with higher scores indicating stronger control. Brightness preference followed Biswas et al. [2]: a product choice task in a simulated online store in which every product came in high- and low-brightness versions (desk lamps, monitors, packaged goods), followed by the subjective measure of Study 1 (alpha = 0.86).

4.2. Results

The manipulation check replicated Study 1: felt rejection was stronger in the rejection condition (M = 6.18, SD = 1.10) than in the ostracism condition (M = 5.10, SD = 1.66; t(216) = 6.20, p < 0.001) and the control condition (M = 2.52, SD = 1.64; t(212) = 17.85, p < 0.001), F(2, 321) = 170.28, p < 0.001, and felt ostracism showed the parallel pattern (ostracism M = 6.02, SD = 1.22 vs. rejection M = 5.24, SD = 1.44, t(216) = 4.45, p < 0.001; vs. control M = 2.44, SD = 1.55, t(214) = 18.12, p < 0.001), F(2, 321) = 138.62, p < 0.001. Brightness preference differed across conditions, F(2, 321) = 4.78, p = 0.009: the rejection group (M = 3.49, SD = 1.06) and the ostracism group (M = 3.51, SD = 1.10) both exceeded controls (M = 3.10, SD = 1.12; t(212) = 2.62, p = 0.010 and t(214) = 2.71, p = 0.007), with no difference between the excluded groups (t(216) = 0.14, p = 0.891), replicating H1 (Fig. 3). Perceived control also differed, F(2, 321) = 52.69, p

< 0.001, being lower under rejection (M = 3.38, SD = 0.90; t(212) = 8.88, p < 0.01) and ostracism (M = 3.36, SD = 0.91; t(214) = 9.03, p < 0.01) than among controls (M = 4.46, SD = 0.88), with no difference between the excluded groups (t(216) = 0.16, p = 0.871). Because rejection and ostracism operated similarly, they were merged into a single exclusion condition for the mediation analysis. PROCESS Model 4 with bootstrapping showed that exclusion significantly reduced perceived control (beta = -1.0901, SE = 0.106, p < 0.001), which in turn reduced brightness preference (beta = -0.4058, SE = 0.064, p < 0.001); the direct effect of exclusion was not significant (beta = -0.0422, p > 0.1), whereas the indirect effect was (beta = 0.4424, 95% CI = [0.2861, 0.6058]). Exclusion thus raised brightness preference by lowering perceived control, supporting H2.

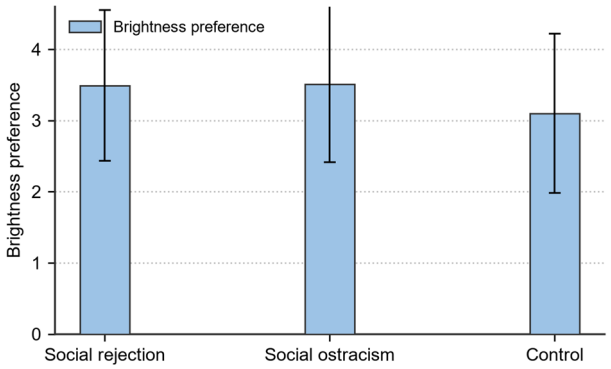

Fig 3. Brightness preference by condition in Study 2.

5. Study 3: A Moderated-Mediation Test

Study 3 approached the mediator from the other end by directly manipulating whether participants could restore perceived control: if excluded consumers prefer bright environments because their perceived control has been undermined, giving them another channel to recover control should weaken this preference and attenuate the effect of exclusion [5].

5.1. Method

A 2 (social exclusion vs. social inclusion) x 2 (perceived control restored vs. not restored) between-subjects design was used. The power analysis (significance level 0.05, f = 0.22, power = 0.90) required at least 220 participants; 280 were recruited through the WJX panel, and 264 valid responses remained after attention-check exclusions (64.2% female; 78% aged 18-25). The exclusion and inclusion manipulations adopted the scenario method of Wan et al. [11]: exclusion participants read that three friend requests they had sent on a social platform were all declined, with the three users making clear they did not wish to be friends, whereas inclusion participants read that all three had accepted and confirmed the friendships (three-item check on felt exclusion, felt ignorance, and emotional state, alpha = 0.90). The restoration manipulation, also adapted from Wan et al. [11], used recall: restored participants wrote about an episode in which they had successfully taken charge of a situation or turned a result around, whereas not-restored participants wrote in detail about yesterday's weather. Perceived control was then measured with the state scale of Napper et al. [41] (four items, e.g., "I found that my actions could change the outcome"; Cronbach's alpha = 0.90). Brightness preference was measured as in Study 2, with an added observer measure: two raters blind to the purpose of the experiment rated the brightness of each chosen product, and their average served as the observer-based indicator.

5.2. Results

Exclusion participants reported a stronger sense of being excluded (M = 5.18, SD = 1.48) than inclusion participants (M = 2.38, SD = 1.43), F (1, 260) = 120.51, p < 0.001. The restoration manipulation, examined through the exclusion x restoration interaction on perceived control, was significant, F(1, 260) = 22.65, p < 0.001: under exclusion, recalling a control episode raised perceived control (M = 5.92, SD = 0.94 vs. M = 4.58, SD = 1.38), and under inclusion it did so slightly as well (M = 6.12, SD = 0.76 vs. M = 5.88, SD = 0.40). For self-rated preference, the interaction was significant, F(1, 260) = 4.50, p = 0.035: under exclusion, restoring control lowered brightness preference (M = 2.72, SD = 1.18 vs. M = 3.42, SD = 1.24; t = 3.32, p = 0.001), while under inclusion preference did not differ (M = 2.78, SD = 1.20 vs. M = 2.84, SD = 1.28; t = 0.28, p > 0.1). For observer-rated preference, the interaction was also significant, F(1, 260) = 5.16, p = 0.024: restoration lowered observer-rated preference under exclusion (M = 2.30, SD = 1.10 vs. M = 2.98, SD = 1.16; t = 3.46, p = 0.001), while under inclusion the difference was not significant (M = 2.20, SD = 0.96 vs. M = 2.28, SD = 1.06; t = 0.45, p > 0.1). Regression analyses confirmed a significantly negative exclusion x restoration interaction for both self-rated (beta = -0.6400, p < 0.001) and observer-rated preference (beta = -0.6000, p < 0.001). Together, these results support the mediating role of perceived control (Fig. 4), consistent with H2.

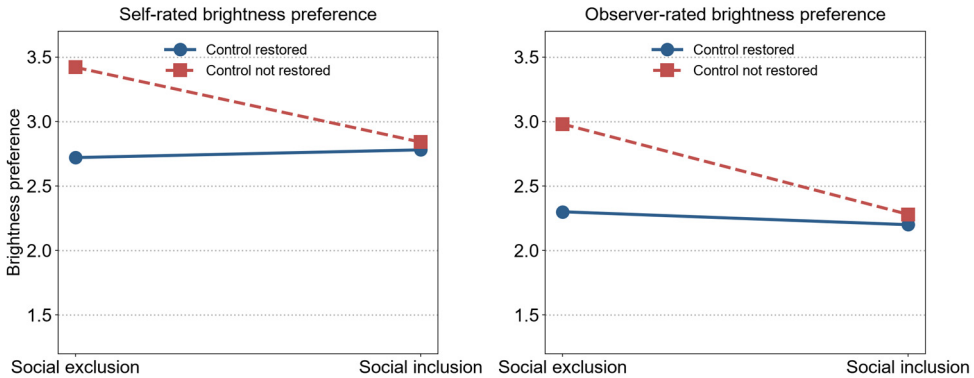

Fig 4. Interaction of social exclusion and control restoration on brightness preference in Study 3

6. Study 4: The Moderating Role of Sense of Power

Studies 1 to 3 showed consistently that exclusion raises brightness preference; Study 4 examined the boundary role of sense of power. Consumers with higher power tend to take charge of their surroundings and should more readily rebuild environmental control by choosing brightness, whereas the push of exclusion should be smaller under low power.

6.1. Method

A 2 (social exclusion vs. social inclusion) x 2 (high vs. low sense of power) between-subjects design was adopted. The power analysis (significance level 0.05, f = 0.20, power = 0.95) required at least 327 participants; 372 responses were collected through the Credamo panel, and 352 valid responses remained (33.1% male; 3.8% under 20, 55.1% aged 20-30, 32.2% aged 31-40, 8.9% over 40; monthly income: below 1,000 CNY, 4.5%; 1,000-2,000 CNY, 13.8%; 2,001-5,000 CNY, 22.6%; 5,001-10,000 CNY, 33.0%; above 10,000 CNY, 26.1%). The exclusion manipulation followed the recall paradigm used earlier, with the check replicating Study 1. Sense of power was manipulated with the recall-writing task of Keltner et al. [33]: high-power participants described an episode in which they held substantial power and could influence others or control resources; low-power participants described an episode of obeying others or lacking decision authority. Brightness preference followed Biswas et al. [2]: participants imagined shopping at an online store that offered products at different brightness levels and chose across five product sets (desk lamps, monitors, packaged goods, and others), each offering high- and low-brightness versions. Three subjective items adapted from Briand Decré and Pras [17] measured liking of bright environments, willingness to choose bright products, and likelihood of choosing bright settings (Cronbach's alpha = 0.91). Perceived control was measured as in Study 2 (Cronbach's alpha = 0.87). Self-control was measured with the items of Su et al. [13] (e.g., "I feel helpless in dealing with difficulties in life or work"), and visual comfort with the scale of Veitch and Newsham [42] (e.g., "I feel comfortable with the lighting in this environment"; Cronbach's alpha = 0.67), since brightness preference may reflect visual comfort.

6.2. Results

Both manipulations succeeded: exclusion participants reported a stronger sense of being excluded (M = 5.92, SD = 0.84) than inclusion participants (M = 1.98, SD = 1.10; t(350) = 37.87, p < 0.001), and the high-power group reported stronger power (M = 5.28, SD = 0.96) than the low-power group (M = 3.22, SD = 1.00; t(350) = 19.77, p < 0.001). The theorized interaction was significant, F(1, 348) = 20.65, p < 0.001: among exclusion participants, high power strengthened brightness preference (M = 3.30, SD = 1.08 vs. M = 2.28, SD = 0.88; t(174) = 6.87, p < 0.001), whereas among inclusion participants the effect of power was not significant (M = 2.70, SD = 1.18 vs. M = 2.76, SD = 1.28; t(174) = 0.32, p = 0.747). Exclusion pushed brightness preference up much more strongly under high than under low power (Fig. 5), supporting H3. Perceived control dropped under exclusion (M = 2.98, SD = 1.24 vs. M = 3.38, SD = 1.40; t(350) = 2.85, p = 0.005), while visual comfort was unaffected (M = 5.66, SD = 0.82 vs. M = 5.55, SD = 0.92; t(350) = 1.19, p = 0.236), ruling out visual comfort as an alternative explanation. A moderated mediation analysis (PROCESS Model 14), with exclusion as predictor, perceived control as mediator, and power as moderator, showed that exclusion significantly predicted perceived control (beta = -0.4000, SE = 0.141, t = 2.85, p = 0.005, 95% CI = [-0.6765, -0.1235]) and that the control x power interaction on brightness preference was significant (beta = -0.3926, SE = 0.086, t = 4.56, p < 0.001, 95% CI = [-0.5620, -0.2231]). Conditional effects showed that when power was high, perceived control negatively predicted brightness preference (beta = -0.4295), with a significant conditional indirect effect (95% CI = [0.0459, 0.3167]); when power was low, the relationship was not significant (beta = -0.0369, 95% CI = [-0.0370, 0.0656]). The moderated mediation index was significant (95% CI = [0.0360, 0.3139]), supporting H3. Because exclusion also lowered perceived control, the model was re-estimated with perceived control as a covariate: the interaction remained significant (beta = -0.3900, SE = 0.087, t = 4.48, p < 0.001, 95% CI = [-0.5600, -0.2200]), the main effect of perceived control was not (beta = -0.0370, SE = 0.061, t = 0.60, p > 0.1, 95% CI = [-0.1570, 0.0830]), and the moderated mediation index stayed significant (95% CI = [0.0380, 0.3160]).

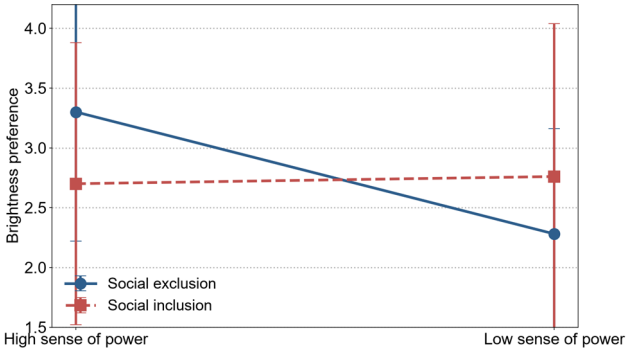

Fig 5. Interaction of social exclusion and sense of power on brightness preference in Study 4.

7. Conclusion

7.1. Summary of Findings

This research asked whether social exclusion experience changes preference for bright environments and whether power moderates that preference. Grounded in the need-threat model, the argument runs: exclusion places the individual in social distance and, in the extreme, social death; control suffers and the motive to restore it is activated. Bright environments offer the outlet through which individuals restore control by choosing their surroundings, answering the control need that exclusion creates [5]. Consumers with exclusion experience therefore read brightness cues from the angle of environmental mastery and prefer brighter settings; when they also hold high power, they read themselves as capable of carrying out control-restoration strategies, which satisfies their efficacy-based control need and positively moderates the preference.

7.2. Theoretical Contributions

The research adds to the sensory marketing literature. Existing studies examine either how environmental stimuli affect consumers' emotions and behavior [2,20] or how consumers differ in their preferences for sensory cues [3]; this

research focuses on consumers with social exclusion experience and connects the environmental-stimulus stage with the consumer-preference stage, clarifying both from the angle of control need [5]: bright environments cue rebuilding environmental mastery and answer the need to restore control, while power is the precondition for putting control-restoration strategies into practice and answers the efficacy-based need. The study also advances research on social exclusion itself: previous work has mostly approached its marketing meaning through product choice [11,43,44,45], whereas this research extends the consequences of exclusion from the product level to the sensory-environment level and identifies perceived control as the mechanism and power as the boundary condition, deepening the understanding of compensatory consumption under exclusion [25,46].

7.3. Managerial Implications

Sensory marketing is an important trend, yet its results are often uneven, as consumers respond differently to the same environment. Improving its effectiveness raises three questions: which consumers are more receptive to bright environments, how environmental design should respond to their psychological needs, and how that receptiveness can be raised. From a social-interaction angle, this research identifies a group worth watching: consumers with social exclusion experience prefer bright environments and are more receptive to bright design, because brightness carries a healing meaning for them. Firms can locate the group through demographic labels, such as migrant workers who feel they hardly belong to the city or older adults disconnected from society, or through online posts betraying feelings of exclusion. Firms should recognize this group's elevated need for control, convey recognition and respect through lighting intensity and spatial layout, and ensure that the design reads as a genuine response to their needs rather than a sales device. Excluded consumers also actively pick high-brightness products and settings, so firms should respond to their desire for environmental mastery in lighting design and consumption space management. Since excluded consumers with high power display an especially strong preference, firms can combine cues to consumer power, such as workplace position and decision-making role, sharpening the precision of sensory marketing.

7.4. Limitations and Future Research

Several issues remain open. Rejection and ostracism showed no visible difference in the sensory domain, but other ways of slicing exclusion, such as exclusion from friends versus strangers, await study. Under what conditions exclusion works against sensory marketing also deserves attention: excluded individuals are sensitive to social interaction, and insincere environmental design may backfire. Finally, this research relied mainly on laboratory and online scenario experiments; future work should move into real retail settings and add field experiments or objective measures such as eye tracking and physiological indicators [5].

Note

This manuscript is a teaching template. All experimental data are simulated (synthetic) for instructional demonstration only and do not represent real research findings.

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References

[1] Turley, L. W., & Milliman, R. E. (2000). Atmospheric effects on shopping behavior: A review of the experimental evidence. Journal of Business Research, 49(2), 193–211. https://doi.org/10.1016/S0148-2963(99)00010-7.

[2] Biswas, D., Szocs, C., Chacko, R., & Wansink, B. (2017). Shining light on atmospherics: How ambient light influences food choices. Journal of Marketing Research, 54(1), 111–123. https://doi.org/10.1509/jmr.14.0115.

[3] Krishna, A. (2012). An integrative review of sensory marketing: Engaging the senses to affect perception, judgment and behavior. Journal of Consumer Psychology, 22(3), 332–351. https://doi.org/10.1016/j.jcps.2011.08.003.

[4] Zhong, K., Wang, H. Z., & Yang, C. (2016). Sensory marketing research: Review and prospect. Foreign Economics & Management, 38(5), 69–85. (in Chinese)

[5] Zeng, F. E., Chen, M., Zhu, H. W., et al. (2026). The more excluded, the more open: The effect of social exclusion experience on consumers' self-disclosure intention. Journal of Marketing Science, 6(4), 122–138. (in Chinese)

[6] Gong, X. S., & Ding, Y. (2016). A review and prospect of social exclusion research from a marketing perspective. Journal of Marketing Science, 12(4), 109–123. (in Chinese)

[7] Ward, M. K., & Dahl, D. W. (2014). Should the devil sell Prada? Retail rejection increases aspiring consumers' desire for the brand. Journal of Consumer Research, 41(3), 590–609.

[8] Mead, N. L., Baumeister, R. F., Stillman, T. F., et al. (2011). Social exclusion causes people to spend and consume strategically in the service of affiliation. Journal of Consumer Research, 37(5), 902–919.

[9] Wang, J., Zhu, R., & Shiv, B. (2012). The lonely consumer: Loner or conformer? Journal of Consumer Research, 38(6), 1116–1122.

[10] Lee, J., & Shrum, L. J. (2012). Conspicuous consumption versus charitable behavior in response to social exclusion: A differential needs explanation. Journal of Consumer Research, 39(5), 530–544.

[11] Wan, E. W., Xu, J., & Ding, Y. (2014). To be or not to be unique? The effect of social exclusion on consumer choice. Journal of Consumer Research, 40(6), 1109–1122.

[12] Jin, X. T., Zhao, T. Y., Cui, H. J., et al. (2017). The effect of changes in status perception on consumers' status consumption behavior. Acta Psychologica Sinica, 49(2), 273–284. (in Chinese)

[13] Su, L., Jiang, Y., Chen, Z., et al. (2017). Social exclusion and consumer switching behavior: A control restoration mechanism. Journal of Consumer Research, 44(1), 99–117.

[14] Li, B., Zhang, S. Y., & Feng, K. (2022). The effect of social exclusion on consumption choice bias: The moderating role of nostalgia and the mediating role of social connection. Journal of Psychological Science, 45(5), 1174–1181. (in Chinese)

[15] Pfundmair, M., Danbock, S. K., & Agthe, M. (2019). Out of the dark, into the light: The impact of social exclusion on judgments of darkness and brightness. Acta Psychologica, 199, 102901.

[16] Williams, K. D. (2009). Ostracism: A temporal need-threat model. In M. P. Zanna (Ed.), Advances in Experimental Social Psychology: Vol. 41 (pp. 275–314). Academic Press. https://doi.org/10.1016/S0065-2601(08)00406-1.

[17] Briand Decré, G., & Pras, B. (2013). Simulating in-store lighting and temperature with visual aids: Methodological propositions and S-O-R effects. The International Review of Retail, Distribution and Consumer Research, 23(4), 363–393.

[18] Summers, T. A., & Hebert, P. R. (2001). Shedding some light on store atmospherics: Influence of illumination on consumer behavior. Journal of Business Research, 54(2), 145–150.

[19] Banerjee, P., Chatterjee, P., & Sinha, J. (2012). Is it light or dark? Recalling moral behavior changes perception of brightness. Psychological Science, 23(4), 407–409.

[20] Dong, P., Huang, X., & Zhong, C. B. (2015). Ray of hope: Hopelessness increases preferences for brighter lighting. Social Psychological and Personality Science, 6(1), 84–91.

[21] Zong, L., Wu, S., & Duan, S. (2022). How social exclusion affects consumers' color preference. Frontiers in Psychology, 13, 850086. https://doi.org/10.3389/fpsyg.2022.850086.

[22] Dommer, S. L., Swaminathan, V., & Ahluwalia, R. (2013). Using differentiated brands to deflect exclusion and protect inclusion: The moderating role of self-esteem on attachment to differentiated brands. Journal of Consumer Research, 40(4), 657–675.

[23] Du, J. Z., & Xia, B. L. (2008). Social exclusion from the perspective of psychology. Advances in Psychological Science, 16(6), 981–986. (in Chinese)

[24] Cheng, S., Liu, L., & Zheng, Y. (2011). Research paradigms and theoretical models of social exclusion. Advances in Psychological Science, 19(6), 905–915. (in Chinese)

[25] Zheng, X. Y., & Peng, S. Q. (2014). Compensatory consumption: Concept, types, and psychological mechanisms. Advances in Psychological Science, 22(9), 1513–1520. (in Chinese)

[26] Sinha, J., & Lu, F. C. (2019). Ignored or rejected: Retail exclusion effects on construal levels and consumer responses to compensation. Journal of Consumer Research, 46(4), 791–807.

[27] Tan, L., Xia, T. S., & Liu, Y. (2015). The effect of social exclusion on social decision-making in different game situations. Journal of Psychological Science, 38(4), 946–953. (in Chinese)

[28] Ding, Y., & Gong, X. S. (2016). The effect of social exclusion on preference for product haptic information and its underlying mechanism. Acta Psychologica Sinica, 48(10), 1302–1313. (in Chinese)

[29] Rawat, G., Dewani, P. P., & Kulashri, A. (2022). Social exclusion and consumer responses: A comprehensive review and theoretical framework. International Journal of Consumer Studies, 46(5), 1537–1563.

[30] Huang, J., Xu, X. Y., Xiao, H. W., et al. (2023). The effect of a deprived sense of control on willingness to engage in creative experiential consumption. Nankai Business Review, 26(1), 239–250. (in Chinese)

[31] Rucker, D. D., & Galinsky, A. D. (2008). Desire to acquire: Powerlessness and compensatory consumption. Journal of Consumer Research, 35(2), 257–267.

[32] Tong, L. Q. (2015). The effect of power state on consumers' preference for clear boundaries. Acta Psychologica Sinica, 47(11), 1371–1378. (in Chinese)

[33] Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. Psychological Review, 110(2), 265–284.

[34] Rucker, D. D., Galinsky, A. D., & Dubois, D. (2012). Power and consumer behavior: How power shapes who and what consumers value. Journal of Consumer Psychology, 22(3), 352–368.

[35] Jin, F., & Zhu, H. W. (2016). Consumers' sense of power and impulsive buying. Acta Psychologica Sinica, 48(7), 880–890. (in Chinese)

[36] Yao, Q., Wu, Z. J., & Fu, G. Q. (2020). One cent, one quality: The effect of sense of power on consumers' price-quality judgments. Nankai Business Review, 23(5), 135–146. (in Chinese)

[37] Liu, W. M. (2019). Does higher power lead to more time donation? The effect of donors' power on their willingness to donate time in charity marketing and its mechanism. Nankai Business Review, 22(2), 23–32. (in Chinese)

[38] Zhang, Y., Zhang, S. S., & Cui, L. (2015). The effect of sense of power on self-focus under social exclusion. Journal of Psychological Science, 38(4), 960–965. (in Chinese)

[39] Su, L., Wan, E. W., & Jiang, Y. (2019). Filling an empty self: The impact of social exclusion on consumer preference for visual density. Journal of Consumer Research, 46(4), 808–824.

[40] Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. Journal of Personality and Social Psychology, 42(1), 5–37.

[41] Napper, L., Harris, P., & Epton, T. (2009). Developing and validating a self-affirmation manipulation. Self and Identity, 8(1), 45–62.

[42] Veitch, J. A., & Newsham, G. R. (1998). Determinants of lighting quality I: State of the science. Journal of the Illuminating Engineering Society, 27(1), 92–106.

[43] Chen, R. P., Wan, E. W., & Levy, E. (2017). The effect of social exclusion on consumer preference for anthropomorphized brands. Journal of Consumer Psychology, 27(1), 23–34.

[44] Cui, H. J., Xu, W., Zhao, T. Y., et al. (2018). Self-identity threat and consumers' choice of status products: The moderating effect of power distance belief and the mediating effect of status need. Nankai Business Review, 21(6), 210–220. (in Chinese)

[45] Jin, X. T., Yao, F., Xu, W., et al. (2020). Status consumption under self-threat: The moderating role of implicit personality theory. Nankai Business Review, 23(6), 111–123. (in Chinese)

[46] Sun, J., & Liu, Y. X. (2023). Can anthropomorphized robots perfectly replace human labor? A moderated mediation model. Nankai Business Review, 26(6), 169–180. (in Chinese)