Visual Abstraction in AI-Generated Pet Ads: Effects on Purchase Intention via Positive Emotions

Abstract

This study investigates how visual abstraction in AI-generated advertisements affects consumer purchase intention, mediated by positive emotions, grounded in Construal Level Theory (CLT). While advertising research has advanced, direct tests of visual styles (realistic vs. stylized) in brand contexts—especially with animal imagery and affective mediation—remain limited. We address this through a survey experiment using AI-generated stimuli for dog and cat food ads, varying abstraction levels. Structural equation modelling indicates that lower abstraction positively impacts emotions, which in turn positively influence purchase intention. The indirect effect supports partial mediation, with controls like interest and gender showing relevance. Theoretically, findings extend CLT by connecting realism to low-level construal and enhanced emotional intensity in pet branding. Managerially, they suggest favouring realistic AI imagery for affect-driven persuasion, potentially improving authenticity perceptions. Overall, realism provides emotional benefits in AI-supported advertising design.

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Introduction

Decades of advertising research show that emotions evoked by visual elements are not merely by-products: they influence how advertising shapes attitudes and subsequent intentions. Fundamental studies have shown that emotions evoked by advertising can convey persuasiveness beyond purely cognitive responses, with positive feelings often increasing purchase intention (Batra & Ray, 1986; Holbrook & Batra, 1987; Edell & Burke, 1987).

A key open question for today's creative practice concerns visual style: Are more realistic representations superior to stylized or illustrative ones in evoking positive emotions that boost persuasiveness? Construal Level Theory (CLT) offers insights by linking mental representations to psychological distance. In simple terms, close things (e.g., in time or relevance) trigger low-level construal—concrete, detail-focused thinking—that intensifies emotions. Distant things prompt high-level construal—abstract, big-picture thinking—that makes emotions less vivid but more enduring. For example, planning a party tomorrow focuses on details like snacks (low construal, sparking immediate excitement), while a party next year emphasizes the overall vibe (high construal, with calmer feelings). In advertising, realistic images (e.g., a photorealistic dog in pet food ads) promote low construal and stronger positive emotions like joy, enhancing purchase intention. Stylized images (e.g., cartoons) foster high construal, leading to more detached responses that may reduce persuasiveness (Trope & Liberman, 2010). Through the use of AI, it is now possible to generate photorealistic and stylized advertising images quickly and cost-effectively on a large scale. This makes the choice between realism and abstraction increasingly relevant in the context of advertising creation (Grewal, Satornino, Davenport & Guha, 2025; Hartmann, Exner & Domdey, 2025). This raises the question:

To what extent does the degree of abstraction in images influence purchase intention, mediated by positive emotions?

Despite advances in CLT-based advertising research, there are still few direct tests of visual abstraction (realistic vs. cartoonish) in brand advertising that examine positive emotions as a mediator of purchase intention. The recent CLT review catalogs many distance/appeal manipulations but notes few studies that isolate visual medium/style as a construal cue in brand settings (Saeed et al., 2024); when media were tested, the work often focused on public commercials or on mechanisms other than positive emotions (To, 2023).

We close this gap with a survey experiment using exclusively AI-generated stimuli for dog and cat food advertising: For each category, we create one realistic-looking and two increasingly abstract (comic-like) versions and test whether positive emotions mediate the effect of abstraction on purchase intention (Saeed et al., 2024; To, 2024). Using a structural equation model (SEM), we find that as the degree of abstraction decreases, positive emotional perception increases, which overall increases purchase intention. These results speak for the emotional advantages of realism over abstractions and serve as a guide for the design of future advertisements.

Theoretical Background and Theory

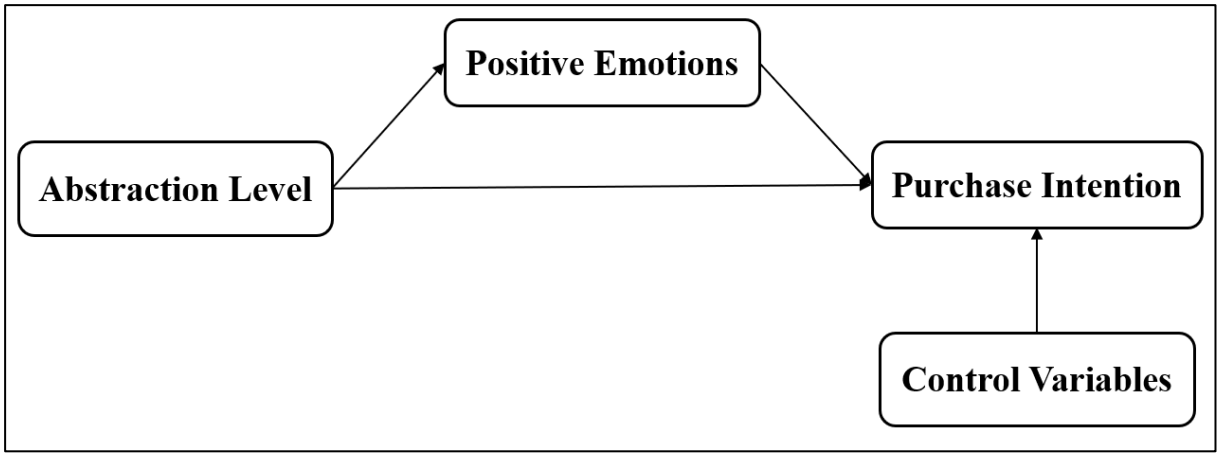
Visual style in advertising spans from photographic realism to stylized or cartoon-like depictions. Theories on visual persuasion and picture rhetoric suggest that iconic, detail-rich

images enhance vividness, empathy, and ease of inferences. In contrast, stylization promotes schematic interpretations and can weaken affective responses (Messaris, 1997; Scott & Vargas, 2007).

Construal Level Theory (CLT) offers a framework for understanding these effects. It predicts that concrete, proximal cues trigger low-level (concrete) construals, leading to stronger immediate emotions. Abstract, distant cues, however, elicit high-level (abstract) construals and result in weaker affect (Trope & Liberman, 2010; Saeed et al., 2024). Empirical evidence supports this in advertising: Image proximity shifts construal and evaluations, linking visual concreteness to psychological closeness (Kim et al., 2019). Emotions act as a primary pathway for persuasion. Ad-evoked feelings mediate effects on attitudes and purchase intentions, going beyond purely cognitive responses (Batra & Ray, 1986; Holbrook & Batra, 1987; Edell & Burke, 1987). Thus, if realism boosts proximity and emotional intensity, it should elevate purchase intentions via positive emotions.

Pet-food advertising serves as a fitting context for this study. Animal imagery often heightens ad responses, as species cues convey motivational meanings (Keller & Gierl, 2020; Jia et al., 2022). On a mechanistic level, lifelike depictions can increase empathy toward the portrayed animals (Small & Verrochi, 2009). They also amplify cuteness responses, which narrow attention and promote approach behaviors (Nittono et al., 2012). Additionally, concrete visuals facilitate embodied simulations of consumption (Elder & Krishna, 2012). Collectively, these processes predict stronger positive emotions from realistic depictions compared to stylized ones. We hypothesize that higher visual abstraction reduces positive emotions and—through this mediation—lowers purchase intention in pet-food ads (Batra & Ray, 1986; Holbrook & Batra, 1987; Trope & Liberman, 2010). As shown in Figure 1, this conceptual model visualizes our assumptions.

Figure 1. Conceptual Model.



Empirical Strategy

A survey experiment was designed to test the influence of the degree of abstraction on purchase intention. In the experiment, the test subjects were shown a dog food advertisement and a cat food advertisement for the same (fictitious) brand. The advertisements were then evaluated in terms of perceived degree of abstraction, purchase intention, and perceived emotions. The degree of abstraction was varied by using three different advertisements for each brand.

Design

A total of three different dog food and cat food advertisements were created using AI. One image in each case looked realistic, while the other two images were abstracted to varying degrees (moderately and very strongly). The test subjects were randomly shown a variation of dog food advertisements and a variation of cat food advertisements. Whether the dog or cat image was shown first varied randomly. After asking the test subject whether they owned dogs or cats, the first stimulus was shown and the corresponding questions were asked. This was followed by the second stimulus image with the same questions about purchase intention, degree of abstraction, and perceived emotions and interest. Finally, descriptive questions were asked.

Data

A total of 157 subjects participated in the survey. After cleaning up the data set, we used the data from 131 respondents for the evaluation. We excluded 24 respondents who gave incomplete or unrealistic information (e.g., age over 200 years). In addition, two people who rated brand awareness as "very good" (5 points) were removed, as this is a fictitious brand in the experiment. The 131 remaining responses from the test subjects generated 262 data points due to the within-subjects design of the experiment. Of the test subjects, 55 (42%) were male and 76 (58%) were female. The average age was 28.24 years.

Measurements

Purchase Intention. We measure the dependent variable, purchase intention, using three items on a 5-point Likert scale (1 = very unlikely, 5 = very likely): "How likely would you be to buy the pet food shown in the advertisement?", "How likely would you be to recommend the pet food shown to others?", and "How likely would you be to buy the pet food shown for your family or friends (their pets)?" Cronbach's alpha for these items is 0.919, indicating high internal consistency. We create the purchase intention variable as the mean of these three items.

Abstraction Level. The independent variable in this study is the abstraction level, which captures participants' perceived cartoon-like quality of the advertisement. It was assessed with the item: "How cartoon-like, i.e., comic-like, does the advertisement appear to you?" rated on a 5-point Likert scale (1 = not cartoon-like at all, 5 = very cartoon-like). We manipulated this variable across three AI-generated stimuli for both dog and cat food advertisements: a realistic version, a mildly comic-like version, and a highly comic-like version. A one-way ANOVA confirmed successful manipulation, $F(2, 259) = 74.09$, $p < .001$, with post-hoc Tukey HSD tests revealing significant differences between the realistic stimulus ($M = 2.21$, $SD = 1.03$) and the abstract variants (mildly comic: $M = 3.90$, $SD = 1.04$; highly comic: $M = 3.73$, $SD = 0.94$; both $p < .001$ vs. realistic). Although the difference between mildly and highly comic was not significant ($p = .50$), this aligns with the study's focus on the overall contrast between realistic and abstract styles, where the variation is most pronounced and theoretically relevant.

Positive Emotions. We measure the mediating variable, positive emotions, with the item: "How strongly do you feel positive emotions when looking at the image? (e.g., you feel amused, carefree, cheerful/delighted, enthusiastic, happy, inspired, interested, and/or satisfied)." Responses are on a 5-point Likert scale (1 = not at all, 5 = very strongly). For completeness, we also assessed negative perceived emotions: "How strongly do you feel negative emotions when looking at the picture? (e.g., you feel sad, offended, bored, suspicious, lonely, uninterested, regretful, and/or disgusted)." However, only positive emotions were used in the analysis, as the stimuli evoked minimal negative responses ($M = 1.92$, $SD = 1.13$).

Control Variables. We included the following control variables: gender (0 = male, 1 = female), pet ownership (0 = no pet, 1 = owns a pet, with separate indicators for dog and cat owners) and interest ("How interested are you in advertising?"; 1 = not interested, 5 = very interested). The descriptive values and the correlation values of the variables are shown in Table 1.

Table 1. Descriptives and Correlations.

	Variable	Mean	SD	Min	Max	1	2	3	4	5	6
1	Abstraction Level	3.29	1.24	1	5	1					
2	Positive Emotions	3.05	1.14	1	5	-.4	1				
3	Purchase Intention	2.62	0.97	1	5	-.34	.63	1			
4	Gender	.58	.49	0	1	.04	.03	-.12	1		
5	Pet Ownership	.31	.46	0	1	.05	.07	.04	.09	1	
6	Interest	2.39	1.16	1	5	-.2	.55	.72	-.02	.16	1

Results

The structural equation model (SEM) was estimated using maximum likelihood estimation with bootstrapped standard errors (1,000 resamples), based on n = 262 observations (see Table 2). As depicted in Figure 2, the standardized path from abstraction level to positive emotions was significant and negative ($\beta = -.40$, $p < .001$), indicating that higher abstraction reduces positive emotional responses. The standardized path from positive emotions to purchase intention was significant and positive ($\beta = .32$, $p < .001$), suggesting that positive emotions enhance purchase intent. The model explained 16% of the variance in positive emotions and 56% of the variance in purchase intention. The total effect of abstraction level on purchase intention was significant and negative ($\beta = -.24$, $p < .001$), which attenuated to the direct effect after including the mediator ($\beta = -.11$, $p = .024$), supporting partial mediation. The indirect effect accounted for 53% of the total effect, highlighting the substantial mediating role of positive emotions.

Standard errors, p-values, and confidence intervals for all parameters, including the indirect effect, were obtained via non-parametric bootstrapping with 1,000 resamples (Hayes, 2022). The standardized indirect effect was -.13 (95% CI for unstandardized estimate [-.13, -.05]), confirming a significant mediating role of positive emotions ($p < .001$).

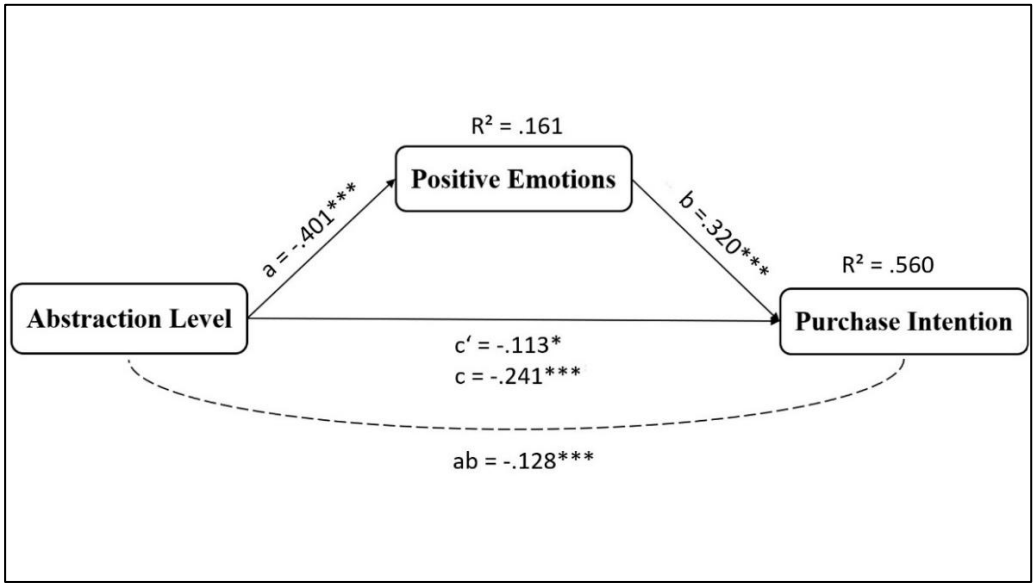
Model fit indices indicated a moderate to poor fit ($\chi^2(3) = 83.77$, $p < .001$; RMSEA = .32, 90% CI [.26, .38]; CFI = .79) (Hu & Bentler, 1999), suggesting the need for specification refinements (e.g., adding covariances or paths), though path coefficients were robust under bootstrapping. Overall, the results provide evidence for a partial mediation model, with abstraction level indirectly undermining purchase intention via diminished positive emotions.

Table 2. Results of the Structural Equation Model.

Description	Unstandardized Coefficient (SE)	95%-CI (unstd.)	Std. Coefficient (β)	p-Value
Structural Coefficients				
Abstraction Level → Positive Emotions (a)	-0.365 (0.052)	[-0.463, -0.263]	-0.401	< .001***
Positive Emotions → Purchase Intention (b)	0.252 (0.043)	[0.162, 0.332]	0.320	< .001***
Abstraction Level → Purchase Intention (c', direct)	-0.081 (0.036)	[-0.151, -0.009]	-0.113	.024*
Indirect Effect				
Abstraction Level → Positive Emotions → Purchase Intention (ab)	-0.092 (0.021)	[-0.134, -0.054]	-0.128	< .001***
Total Effect				
Abstraction Level → Purchase Intention (c, total)	-0.173 (0.039)	[-0.246, -0.092]	-0.241	< .001***
Control Variables				
Interest → Purchase Intention	-0.211 (0.077)	[-0.370, -0.061]	-0.116	.006**
Gender → Purchase Intention	-0.113 (0.078)	[-0.260, 0.047]	-0.058	.147
Pet Ownership → Purchase Intention	0.456 (0.045)	[0.371, 0.548]	0.588	< .001***
Model Fit Indices	$\chi^2(13) = 83.77$, $p < .001$; RMSEA = .32; CFI = .79; R^2 Positive Emotions = .161; R^2 Purchase Intention = .560; N = 262			

Note: *** p < .001, ** p < .01, * p < .05.

Figure 2. Path Diagram of Mediation Effects with Standardized Coefficients.



Discussion

This study demonstrates that, in pet-food advertising, the abstraction level of AI-generated animal imagery systematically affects purchase intention through positive emotions. Across dog and cat categories, lower abstraction levels (i.e., more realistic depictions) elicited stronger positive emotions, which in turn boosted purchase intention, with a significant indirect effect consistent with partial mediation. These findings extend foundational work on ad-evoked emotions as mediators of persuasive outcomes by highlighting visual style as a key driver, independent of message content or cognitive appeals (Batra & Ray, 1986; Holbrook & Batra, 1987; Edell & Burke, 1987).

Theoretically, the results advance Construal Level Theory (CLT) by empirically linking visual abstraction to construal processes in brand advertising contexts. Perceived realism acts as a concreteness cue, promoting low-level construal and heightened psychological proximity, which amplifies positive emotions, whereas higher abstraction fosters high-level construal and attenuates affective intensity (Trope & Liberman, 2010). This aligns with prior evidence that image proximity influences evaluations via construal shifts (Kim et al., 2019) and extends CLT applications to AI-generated visuals, where few direct tests of affective mediation exist in pet-focused branding (Saeed et al., 2024). In the pet domain, the effects likely stem from enhanced empathy, cuteness responses, and embodied simulations triggered by lifelike depictions, reinforcing the motivational role of animal imagery (Keller & Gierl, 2020; Small & Verrochi, 2009; Nittono et al., 2012; Elder & Krishna, 2012).

Managerially, these insights provide guidance for leveraging generative AI in advertising creation, where cost-effective image generation heightens the relevance of style choices (Grewal et al., 2025). To optimize affect-driven persuasion in pet-food campaigns, practitioners should prioritize realistic-looking AI imagery over stylized abstractions, as it enhances emotional engagement and purchase intention. This approach may also bolster perceived authenticity in AI-generated content, aligning with consumer expectations (Chen et al., 2024). However, stylized visuals could suit alternative goals, such as brand differentiation or abstract messaging, provided they fit the strategic context.

Several limitations temper these conclusions and point to future research directions. First, the moderate model fit suggests potential for refinement; incorporating multi-item measures for positive emotions and explicit assessments of psychological distance could strengthen mediation tests. Second, the manipulation yielded a primary contrast between realistic and abstract styles, with minimal differentiation between mild and strong abstraction—future studies should explore finer gradations or non-linear effects. Third, using exclusively AI-generated stimuli precludes comparisons with traditional photography; varying disclosure of AI authorship could reveal interactions with perceived realism (Kirk & Givi, 2025). Finally, boundary conditions may include species-specific effects or regulatory focus; crossing abstraction levels with dog/cat cues or prosocial appeals could uncover contingencies (Jia et al., 2022). Collectively, these findings underscore the persuasive edge of realism in AI-enabled pet-food advertising, emphasizing emotional pathways for effective visual design.

References

Batra, R., & Ray, M. L. (1986). Affective responses mediating acceptance of advertising. *Journal of Consumer Research, 13*(2), 234–249.

Chen, Y., Wang, H., Rao Hill, S., & Li, B. (2024). Consumer attitudes toward AI-generated ads: Appeal types, self-efficacy and AI's social role. *Journal of Business Research, 185*, Article 114867.

Edell, J. A., & Burke, M. C. (1987). The power of feelings in understanding advertising effects. *Journal of Consumer Research, 14*(3), 421–433

Elder, R. S., & Krishna, A. (2012). The "visual depiction effect" in advertising: Facilitating embodied mental simulation through product orientation. *Journal of Consumer Research, 38*(6), 988–1003.

Grewal, D., Satornino, C. B., Davenport, T. H., & Guha, A. (2025). How generative AI is shaping the future of marketing. *Journal of the Academy of Marketing Science, 53*(3), 702–722.

Hartmann, J., Exner, Y., & Domdey, S. (2025). The power of generative marketing: Can generative AI create superhuman visual marketing content? *International Journal of Research in Marketing, 42*(1), 13–31.

Hayes, A. F. (2022). Introduction to mediation, moderation, and conditional process analysis (3rd ed.). The Guilford Press.

Holbrook, M. B., & Batra, R. (1987). Assessing the role of emotions as mediators of consumer responses to advertising. *Journal of Consumer Research, 14*(3), 404–420.

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55.

Jia, L., Yang, X., & Jiang, Y. (2022). The pet exposure effect: Dogs versus cats influence consumer mindsets. *Journal of Marketing, 86*(5), 42–57.

Keller, B., & Gierl, H. (2020). Effectiveness of animal images in advertising. *Marketing ZFP – Journal of Research and Management, 42*(1), 3–32.

Kim, K., Lee, S., & Choi, Y. K. (2019). Image proximity in advertising appeals: Spatial distance and product types. *Journal of Business Research, 99*, 490–497.

Kirk, C. P., & Givi, J. (2025). The AI-authorship effect: Understanding authenticity, moral disgust, and consumer responses to AI-generated marketing communications. *Journal of Business Research, 186,* Article 114984.

Messaris, P. (1997). *Visual persuasion: The role of images in advertising*. SAGE Publications.

Nittono, H., Fukushima, M., Yano, A., & Moriya, H. (2012). The power of kawaii: Viewing cute images promotes careful behavior and narrows attentional focus. *PLOS ONE, 7*(9), e46362.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879–891.

Saeed, M. R., Khan, H., Lee, R., Lockshin, L., Bellman, S., Cohen, J., & Yang, S. (2024). Construal level theory in advertising research: A systematic review and directions for future research. *Journal of Business Research, 183,* Article 114870.

Scott, L. M., & Vargas, P. (2007). Writing with pictures: Toward a unifying theory of consumer response to images. *Journal of Consumer Research, 34*(3), 341–356.

Small, D. A., & Verrochi, N. M. (2009). The face of need: Facial emotion expression on charity advertisements. *Journal of Marketing Research, 46*(6), 777–787.

To, R. N. (2024). When are photographs or illustrations more effective in public service ads? The role of visual medium in consumer response toward public service advertisements. *Journal of Advertising Research, 64*(1), 80–102.

Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review, 117*(2), 440–463.