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Advergaming and Consumer Brand Engagement: Experiential Satisfaction as a Mediator of Gamified Advertising Effects

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ABSTRACT

Gamified advertising formats are increasingly used to facilitate consumer interactions with a brand. Advergaming in particular are believed to be an effective type of gamified advertising. This study examined the effects of advergaming on consumer brand engagement, in terms of cognitive processing, affection, and activation, and to what extent consumers' experiential satisfaction can explain these effects. To test our hypotheses, we conducted an online experiment ($N=200$) with a single-factor (Type of ad: Advergame vs. Static ad) between-subjects design. Experiential satisfaction was measured as a mediator. We used structural equation modeling (SEM) to test the hypotheses. The results show that, overall, advergaming leads to higher levels of engagement on all three consumer brand engagement dimensions (i.e., cognitive processing, affection, activation). Also, experiential satisfaction was found to mediate these effects.

KEYWORDS



Advergaming; gamified advertising; consumer brand engagement; experiential satisfaction; structural equation modeling (SEM)

Imagine scrolling through your social media feed and stumbling upon a post from the fast food brand Kentucky Fried Chicken (KFC). The message is inviting you to play a game, KFC's Shrimp Attack (2022), to unlock a discount voucher for a new product by interacting with the brand's promotional content. The game is engaging and rewarding, and seamlessly integrates promotional content within the gameplay—blurring the lines between entertainment and advertising. This is a typical example of gamified advertising and is more commonly known as an *advergame*.

In line with Terlutter and Capella (2013), advergaming are conceptualized as gamified advertising and are defined as: “[a] marketing practice [that] leverages game thinking and game mechanics to drive engagement with a brand—to ultimately reach a commercial goal” (Van Berlo, Van Reijmersdal, Smit, et al. 2021, p. 1). With gamification allowing for new marketing formats, the global gamified and in-game advertising market is expected to grow from about 137 billion dollars in 2020 to almost 220 billion dollars in 2027

(Knowledge Source Intelligence 2022). In recent years, gamified advertising has also received increased attention among academic researchers (Cañete Sanz and De La Hera 2023; Cicchirillo 2019; Yoon 2019). Research frameworks proposed by Terlutter and Capella (2013) and Van Berlo, Van Reijmersdal, and Waiguny (2023) indicate that ad characteristics, such as perceived interactivity and the consumer experience, can influence the effectiveness of advergaming. Previous research has shown the promising value of gamified advertising in increasing persuasiveness (Van Berlo, Van Reijmersdal, and Eisend 2021; Waiguny, Nelson, and Marko 2013), positive brand attitude (Tina and Buckner 2006; Wise et al. 2008), and purchase intention (Hsiao, Lin, and Wu 2022).

Despite the overall positive effects of advergaming, little is known about how this type of gamified advertising affects consumer brand engagement and what could explain these effects. Consumer brand engagement is conceptualized as consumers' cognitive, emotional, and behavioral activity during or related to

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consumer-brand interactions (Hollebeek, Glynn, and Brodie 2014) and is considered a significant predictor of subsequent consumer responses. Empirical work on this topic is scarce. In non-advertising contexts, Xi and Hamari (2020) and Gatautis et al. (2016) applied survey methodology to investigate the relationship between gamification and brand engagement. However, survey methodology only offers correlational evidence, and does not allow for determining the causal relationship (Vargas, Duff, and Faber 2017). The only experimental evidence for the effects of gamification on consumer brand engagement is given by Berger et al. (2018) who showed positive effects of gamified interactions on cognitive and emotional brand engagement. To our knowledge, no studies have examined the relationship between advergaming and all three dimensions of consumer brand engagement.

To address this research gap, we ran an experimental study to examine how playing advergaming affects consumer brand engagement and to what extent consumers' experience with the ad can explain this effect. The current study contributes in several ways to the literature on gamified advertising and consumer brand engagement. First, we show that advergaming affects various engagement dimensions differently, highlighting the multi-dimensional perspective of consumer brand engagement. Second, it confirms a causal relationship between advergaming and increased engagement, expanding on prior correlational findings (Gatautis et al. 2016; Xi and Hamari 2020). Third, we identify experiential satisfaction as an important mediator in this relationship. These findings are particularly relevant for marketers, indicating that the use of advergaming can notably enhance consumer brand engagement.

Theoretical Background

Advergaming as Gamified Advertising

The effectiveness of advergaming, as gamified advertising, can be explained within the model of effects of gamified advertising framework (MEGA model; Van Berlo, Van Reijmersdal, and Waiguny 2023). This model suggests that the effectiveness of gamified advertising is determined by three types of characteristics: ad characteristics, player characteristics, and game characteristics. These characteristics, subsequently, can lead to psychological, physiological, and behavioral responses. The MEGA model is based on previous work by Terlutter and Capella (2013). In the current study, we focus on interactivity, as an important ad characteristic

and driver of advergaming persuasiveness (Herrewijn and Poels 2018; Vashisht 2021), and experiential satisfaction and consumer brand engagement, as psychological and behavioral outcomes.

The Effect of Advergaming on Consumer Brand Engagement

Consumer brand engagement is an important consumer response to advertising and is conceptualized as consumers' cognitive, emotional, and behavioral activity during or related to consumer-brand interactions (Hollebeek, Glynn, and Brodie 2014). Although there has been an ongoing debate on the dimensionality of consumer brand engagement (Hollebeek, Glynn, and Brodie 2014; Mollen and Wilson 2010), it is often conceptualized as a multidimensional construct. In their seminal paper, for example, Hollebeek, Glynn, and Brodie (2014) identified three main dimensions of consumer brand engagement: cognitive processing, affection, and activation. Cognitive processing involves the depth of a consumer's thought and elaboration related to a brand, affection captures the positive emotional response a consumer has towards a brand, and activation encompasses the consumer's effort and time devoted to a brand, representing the behavioral dimension of consumer brand engagement.

We expect that advergaming, when compared to static ads, have a positive effect on all three dimensions of consumer brand engagement. Being gamified advertising, advergaming is designed to offer entertaining interactive experiences between the consumer and the product (Van Berlo, Van Reijmersdal, and Waiguny 2023; Vashisht, Royne, and Sreejesh 2019). Interactivity is an antecedent of consumer brand engagement (Mollen and Wilson 2010) and is thus believed to be an important driver of engagement with the embedded brands in advergaming.

Theoretically, this relationship can be explained using flow theory (Csikszentmihalyi 1990). Flow is a multidimensional construct (Nel et al. 1999) and can be defined as a psychological state in which people are highly immersed in one task, which provides them with a pleasant experience that may cause positive learning and exploration (Van Berlo and Stikos 2023). Three dimensions of flow (i.e., attention focus, intrinsic interest, and curiosity) in particular, are relevant for explaining the effects of advergaming on consumer brand engagement.

Attention focus supports the effect on the cognitive processing dimension. People who experience flow are expected to show heightened levels of concentration

and absorption into a specific activity (Csikszentmihalyi 1990). In the case of advergames, we would expect heightened cognitive processing of the branded interactive content and higher cognitive processing compared to non-interactive content of a static ad. Intrinsic interest explains the effect of advergames on affection and is directly related to feelings of satisfaction and pleasure (Csikszentmihalyi 1990). When people are in a flow state, they are more likely to embrace advergames as a form of amusement than to resist them as a marketing tool (Vermeir et al. 2014). Curiosity explains the effect of advergames on activation, meaning that it is an important intrinsic motivator and can lead consumers to interact with various elements of the game to satisfy their need for knowledge or experience (Van Berlo and Stikos 2023).

All in all, in line with flow theory (Csikszentmihalyi 1990), we expect that due to their interactive and gamified nature, advergames have a positive effect on the three dimensions of consumer brand engagement (i.e., cognitive processing, affection, and activation).

H1: Advergames (vs. static ad) has a positive effect on consumer brand engagement, in terms of (a) cognitive processing, (b) affection, and (c) activation.

Experiential Satisfaction as Mediator of the Effect of Advergames on Consumer Brand Engagement

Gamified ad experiences are generally believed to be more entertaining and thus satisfying, than non-gamified ad experiences (Hernandez et al. 2004; Van Berlo, Van Reijmersdal, and Eisend 2021). Experiential satisfaction can be defined as consumers' evaluation of the experience with an ad and has been identified to elicit positive consumer behavior and responses (Bag, Ray, and Banerjee 2021; Wu and Cheng 2018). Based on media engagement literature (Calder, Malthouse, and Schaedel 2009), we expect that experiential satisfaction mediates the effect of advergames on all three dimensions of consumer brand engagement. According to this framework, media offer engagement through media experiences—with media experiences best described as consumers' beliefs concerning the value a medium offers them while using it (Calder, Malthouse, and Schaedel 2009).

In terms of cognitive processing, we expect experiential satisfaction to positively mediate the effect of advergames. Meaning that the more satisfied someone is with the experience, the more motivated someone is expected to be to process this information. This is in line with dual processing models, such as the heuristic-systematic model of information processing

(Chaiken 1980), which suggests that motivation leads to more systematic processing.

In terms of the effects on affection and activation, the mediated effect can be explained by meaning transfer (Cauberghe and De Pelsmacker 2010). In short, the meaning transfer model (McCracken 1989) suggests that when consumers are exposed to an advertisement, the meanings they ascribe to the advertisement transfers to any embedded brands or products. Concretely, this would suggest that the experiential satisfaction would be transferred to the brand embedded in the advergame, resulting in an increased preference for the brand (affection) and ultimately protective behaviors (activation). In sum, the following hypothesis is formulated.

H2: Experiential satisfaction mediates the effect of advergames (vs. static ad) on consumer brand engagement, in terms of (a) cognitive processing, (b) affection, and (c) activation.

Method

Participants and Procedure

To test our hypotheses, we conducted an online experiment ($N = 200$) with a single-factor (Type of ad: Advergame vs. Static ad) between-subjects design.¹ Experiential satisfaction was measured as a mediator. Participants were, predominantly, Chinese young adults (83.5% female) with an average age of 22.48 ($SD = 2.67$) years. The research has been conducted in compliance with the ethical regulations of the Department of Communication, University of Amsterdam.

After acquiring informed consent and demographic information from the participants, they were randomly assigned to either an advergame (experimental condition) or a static ad (control condition) and were asked to play/view an advergame/static ad. Afterward, participants were asked to fill out the scale items measuring experiential satisfaction and three dimensions of consumer brand engagement and, subsequently, indicate the degree of interactivity of the ad that they had been exposed to. Finally, participants were thanked for their participation. An overview of the scale information, measurement items, and descriptive statistics can be found in Table 1.

Stimulus Material

The stimulus material consisted of two ads: an advergame and a static ad. The advergame was used by the American fast-food chain Wendy's (2019). The goal of

Table 1. Overview measurement items and covariate matrix with mean structure and covariance estimates.

Items ^c	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13
Advergaming															
1. <i>Experimental condition</i>			–												
Experiential satisfaction ^a															
2. <i>This ad made me feel elated</i>	3.28	0.81	.25	–											
3. <i>I enjoyed watching this advertisement</i>	3.34	0.85	.29	.68	–										
4. <i>I had a positive experience with this advertisement</i>	3.44	0.91	.25	.58	.67	–									
Cognitive processing ^b															
5. <i>Dealing with Wendy's gets me to think about Wendy's</i>	3.34	0.89	.14	.19	.23	.19	–								
6. <i>I think about Wendy's a lot when I was dealing with it</i>	3.08	0.99	.17	.23	.27	.23	.44	–							
7. <i>Dealing with Wendy's stimulated my interest to learn more about it</i>	3.38	0.99	.20	.28	.33	.28	.53	.45	–						
Affection ^b															
8. <i>I felt very positive when I was dealing with Wendy's</i>	3.27	0.86	.30	.36	.42	.35	.25	.30	.36	–					
9. <i>Dealing with Wendy's makes me happy</i>	3.31	0.93	.35	.42	.49	.41	.29	.35	.42	.67	–				
10. <i>I felt good when I was dealing with Wendy's</i>	3.45	0.92	.39	.46	.54	.46	.32	.38	.47	.49	.57	–			
11. <i>I was proud to deal with Wendy's</i>	3.04	0.91	.35	.42	.48	.41	.29	.34	.42	.44	.51	.57	–		
Activation ^b															
12. <i>If I hear someone criticize Wendy's, I will try to defend it</i>	2.79	0.95	.18	.32	.38	.32	.31	.37	.45	.33	.39	.42	.38	–	
13. <i>I like talking to others about Wendy's</i>	2.88	0.99	.19	.33	.38	.33	.32	.38	.46	.34	.39	.44	.39	.66	–

Note. Raw correlations are shown to the left of the diagonal. Items are adapted from: ^aBag, Ray, and Banerjee. (2021), ^bHollebeek, Glynn, and Brodie (2014). ^cAll constructs were measured on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

the game was to beat three levels from branded arcade classics (e.g., Brick Breaker, Astro Fighter) while playing as “Wendy” (i.e., the girl in the logo of the fast-food chain). In total, the game could be completed within two minutes and the brand was continuously visible in the background while playing. The static ad (e.g., banner ad) was designed to have the same look and feel as the advergence and was based on the content of the advergence. This way the brand, product, tone, and key message remained comparable between the two advertisements, meaning that the ads only differed in their degree of interactivity.

Measurement Model

To determine the fit of the proposed model, we followed a two-step procedure common in advertising research (e.g., Hair, Babin, and Krey 2017; Van Berlo, Van Reijmersdal, and Van Noort 2023). First, we specified the measurement model and, second, the structural equation model (see Results). Both models were estimated with maximum likelihood (ML) estimation, and with a Satorra-Bentler scaled test statistic to account for non-normality in the data (Nevitt and Hancock 2004). The R statistical package Lavaan (version 0.6-15; Rosseel 2012) was used for all analyses.

Suggestions by Hu and Bentler (1999) were followed for evaluating the fit of the model. We considered the fit indices comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Hu and Bentler suggest that CFI should be at least .90 (preferably > .95) and SRMR and RMSEA smaller than .08.

We estimated an unconstrained model, which rendered an insufficient fit, $\chi^2(48) = 100.71$, $p < .001$; CFI = .94; RMSEA > .08, 95% CI [.06, .11], p -close = .009, SRMR = .07. A step-by-step approach for adding the residual correlations was used to improve the fit of the model. We added two residual correlations (see Figure 1). The final measurement model had a sufficient fit, $\chi^2(46) = 76.91$, $p = .003$; CFI = .96; RMSEA = .07, 95% CI [.04, .09], p -close = .090, SRMR = .06.

Convergent and Discriminant Validity

To determine the convergent validity of the model, we used the Fornell-Larcker criterion (Fornell and Larcker 1981). This suggests that the average variance extracted from latent variables should be above .50 and, in addition, the composite reliability should be greater than .70. To establish discriminant validity, we followed suggestions by Henseler, Ringle, and Sarstedt (2015) regarding the heterotrait-monotrait ratio of correlations (HTMT). They suggest that all HTMT values should be below .90. As shown in Table 2, all requirements are met, supporting the convergent and discriminant validity of our model.

Results

Hypothesis Testing

Structural Equation Model

We estimated a structural equation model (see Figure 1) to test our hypotheses, which rendered a sufficient fit, $\chi^2(54) = 86.71$, $p = .003$; CFI = .96; RMSEA = .06, 95% CI [.04, .08], p -close = .221, SRMR = .06. The structural equation model was estimated with the same specification (including error correlations) as the

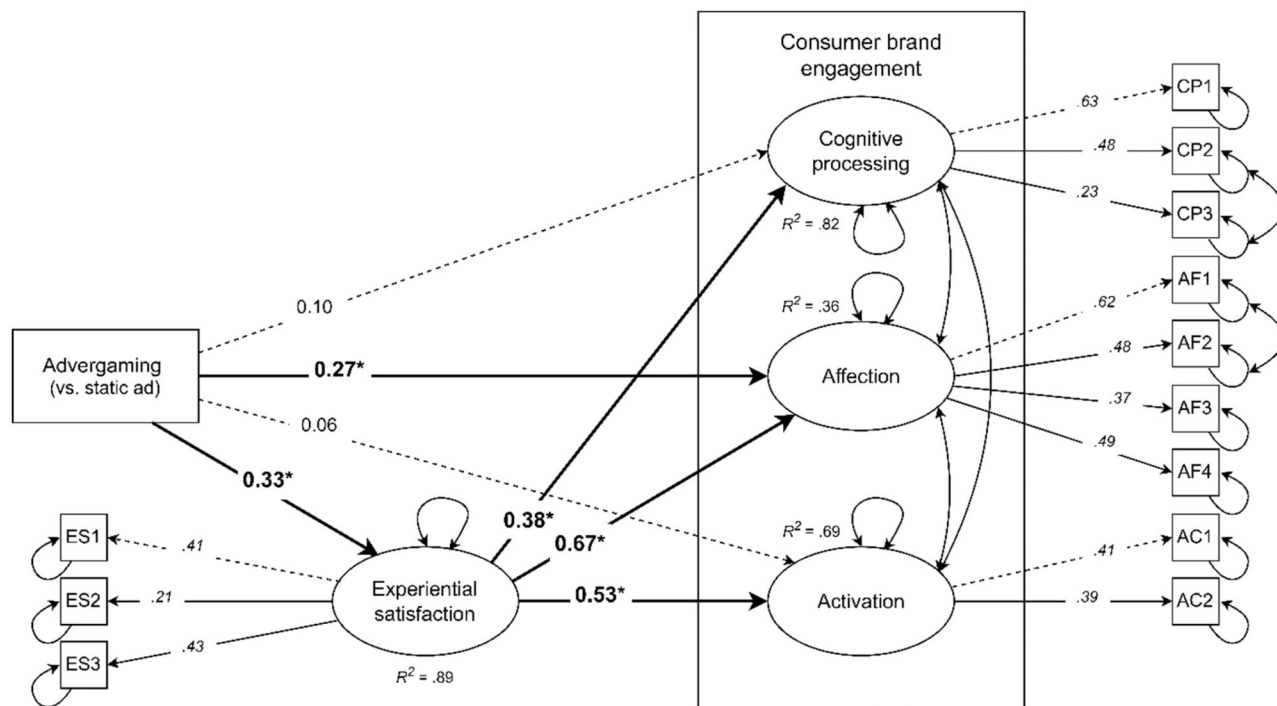


Figure 1. Structural equation model with standardized regression coefficients. Paths in bold indicate significant positive effects; dotted paths indicate non-significant effects. Unstandardized regression coefficients can be found in Table 4. Error variances (in italics) are standardized. * $p < .001$.

Table 2. Descriptive statistics, reliability and validity criteria, and covariances of latent variables.

Constructs	M	SD	ω	AVE	ES	CP	AF	AC
Experiential satisfaction (ES)	3.36	0.75	.85	.65	-	.37	.78	.56
Consumer brand engagement								
Cognitive processing (CP)	3.27	0.77	.84	.57	.14	-	.61	.72
Affection (AF)	3.27	0.73	.77	.51	.24	.19	-	.63
Activation (AC)	2.84	0.86	.75	.60	.25	.27	.27	-

Note. ω = Composite reliability; AVE = Average variance extracted. Covariances are shown to the left of the diagonal, and the heterotrait-monotrait ratios of correlations (HTMT) are shown to the right of the diagonal. Covariances presented in bold are significant at the .001 level.

measurement model. To facilitate the interpretation of the results, an overview of the means and standard deviations of, and covariates between, the constructs are included in Table 2 and mean comparisons between conditions are included in Table 3.

Main Effects of Advergaming on Consumer Brand Engagement

The results, as shown in Table 4, show significant total effects of advergaming on the three dimensions of consumer brand engagement. This means that, overall, people who played the adverage (vs. those who were exposed to the static ad) showed higher consumer brand engagement in terms of cognitive processing ($b^* = 0.23, p = 004$), affection ($b^* = 0.49, p = 001$), and activation ($b^* = 0.24, p = 001$). These findings support H1.

Indirect Effects of Advergaming on Consumer Brand Engagement via Experiential Satisfaction

As shown in Table 4, the results show significant indirect effects of advergaming, via experiential satisfaction, on cognitive processing ($b^* = 0.13, p = 004$), affection ($b^* = 0.22, p = 001$), and activation ($b^* = 0.18, p = 001$). Furthermore, we find that, when controlled for experiential satisfaction, advergaming has positive direct effects on experiential satisfaction ($p < .001$) and affection ($p < .001$), but not on cognitive processing ($p = .169$) and activation ($p = .419$). This suggests that experiential satisfaction completely mediates the effects of advergaming on cognitive processing and activation, and partially mediates the effect of advergaming on affection. These results support H2.

Discussion

This study aimed to examine how playing adverages affects consumer brand engagement and to what extent experiential satisfaction can explain this effect. The results show that, overall, advergaming leads to higher levels of engagement in all three consumer brand engagement dimensions: cognitive processing, affection, and activation. Experiential satisfaction was found to fully mediate the effects on cognitive processing and activation, and partially mediate the effect

Table 3. Descriptive statistics mediator and dependent variables per condition.

Variables	Advergaming		Static Ad		<i>t</i>	95% CI	Hedge's <i>g</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Experiential satisfaction	3.58	0.76	3.13	0.67	4.39	[0.24, 0.64]	0.62
Consumer brand engagement							
Cognitive processing	3.42	0.81	3.11	0.71	2.95	[0.11, 0.53]	0.42
Affection	3.59	0.64	2.95	0.68	6.94	[0.46, 0.83]	0.98
Activation	3.02	0.86	2.66	0.84	2.96	[0.12, 0.59]	0.42

Note. *t*-values presented in bold are significant at least at the .004 level. *df* = 198.

Table 4. Unstandardized regression coefficients for direct and indirect effects on consumer brand engagement.

Constructs	Cognitive Processing		Affection		Activation	
	<i>b</i> (SE)	95% CI	<i>b</i> (SE)	95% CI	<i>b</i> (SE)	95% CI
<i>Direct effects</i>						
Advergaming	0.11 (0.08)	[-0.05, 0.27]	0.28 (0.07)	[0.14, 0.42]	0.09 (0.11)	[-0.13, 0.31]
Experiential satisfaction	0.33 (0.09)	[0.16, 0.51]	0.57 (0.09)	[0.39, 0.76]	0.62 (0.10)	[0.42, 0.82]
<i>Indirect effects</i>						
Advergaming > Experiential satisfaction	0.14 (0.05)	[0.04, 0.23]	0.23 (0.07)	[0.10, 0.37]	0.25 (0.08)	[0.11, 0.40]
<i>Total effects</i>						
Advergaming	0.25 (0.09)	[0.08, 0.42]	0.52 (0.10)	[0.33, 0.71]	0.35 (0.12)	[0.11, 0.58]

Note. Regression coefficients presented in bold are significant at least at the .004 level. Standardized coefficients can be found within the article and Figure 1.

on affection. Based on these results, two main conclusions can be drawn.

The Effects of Advergaming on Consumer Brand Engagement

First, the results show that gamification can positively stimulate all three dimensions of brand engagement. These findings corroborate the correlational findings of Xi and Hamari (2020) and Gatautis et al. (2016). Specifically, the results show that people had more positive consumer brand engagement after playing an advergame than after seeing the static ad. This could be explained by the flow theory (Csikszentmihalyi 1990), which posits that people enter a flow state due to the interactive challenges provided by gamified advertising. Notably, in the current study flow was merely used as a theoretical explanation for the effects of advergaming; meaning that none of the dimensions of flow were measured. Future research should consider testing whether attention focus, intrinsic interest, and curiosity (as dimensions of flow) explain the effects of advergaming on the dimensions of consumer brand engagement.

The Role of Experiential Satisfaction in Explaining the Effects of Advergaming on Consumer Brand Engagement

Second, the research indicates that the effect of advergaming on consumer brand engagement is mediated by people's experiential satisfaction with the advergame. This means that the more people are satisfied with what they experienced in the advergame, the more they are

likely to show higher levels of consumer brand engagement on all three dimensions (i.e., cognitive processing, affection, and activation). The effect on cognitive processing and activation is fully mediated, and the effect on affection is partially mediated.

The effects on cognitive processing are in line with dual processing models (e.g., Chaiken 1980), which suggest that motivation leads to more systematic processing and increased cognitive processing. Furthermore, the effects of experiential satisfaction on affection and activation support the meaning transfer model (McCracken 1989). These findings directly extend the work by Berger et al. (2018), who previously found support for the effect of gamified interactions on cognitive and emotional consumer brand engagement, by showing that gamified interaction also affects behavioral consumer brand engagement (i.e., activation).

The fact that the effect of advergaming on affection is only partially mediated by experiential satisfaction suggests that alternative mediators could explain this effect. A potential mediator could be exposure time, since exposure to a brand is generally longer when playing an advergame than when examining a static ad. This would be in line with the mere exposure effect (Zajonc 1968), which suggests that people develop a preference for something-in this case, a brand-simply because they are exposed to it longer. Moving forward, future research could focus on examining alternative mediators.

Limitations and Suggestions for Future Research

In the current study, we did not control or record the time participants were exposed to the stimulus

material. Where we currently attribute our findings to the interactivity of the ad type, we cannot rule our exposure time as a potential alternative explanation—with people in the advergame condition being exposed to a brand longer than in the static ad condition. Future research should try to incorporate a mechanism for controlling or monitoring exposure time more precisely; for example by keeping exposure time constant between conditions or by running the study in a (more controlled) laboratory setting.

Implications for Theory and Practice

The current study has several implications for theory and practice. For theory, our study has three main contributions. First, we contribute to the consumer brand engagement literature by showing all three types of consumer brand engagement are influenced, in varying degrees, by the gamification of advertising. We find that advergaming primarily seems to influence the affective dimension of consumer brand engagement (affection) and only to a lesser extent the behavioral (activation) and cognitive (cognitive processing) dimensions. Moving forward, researchers are therefore advised to differentiate between different types of engagement, rather than regarding consumer brand engagement as a single-dimensional construct, when studying the effects of gamified advertising. Second, by adopting an experimental design, we demonstrate the causal relationships between advergaming and consumer brand engagement. This extends the work by Xi and Hamari (2020), who found correlational evidence of gamification on consumer brand engagement. Third, by considering the role of experiential satisfaction, we have identified a novel mediator of the effects of advergaming on consumer brand engagement.

This study also provides insights for marketing and advertising practitioners. The results demonstrate that gamifying advertising can lead to a more satisfying ad experience, and the positive evaluation of the experience can then be transferred to more positive consumer brand engagement. Whether or not to adopt advergames as part of the marketing mix, will in the end depend on the strategic goals of a brand's marketing activities. Our findings show that particularly when the goal is to entertain its consumers and evoke positive affect toward the brand, advergames can be especially effective. But also when practitioners want consumers to be more likely to defend the brand or think about the brand more regularly, advergames seem a suitable advertising format to consider. All in all, considering the positive influence carried by

advergames on brand engagement, marketers are recommended to integrate interactive game mechanics into their advertisements. Gamified advertising offers consumers a positive experience and ultimately stimulates them to more actively engage with the brand.

Note

1. The data, R code of the analysis, and stimulus materials can be found here: <https://osf.io/by7cv/>.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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