TV advertising engagement as a state of immersion and presence

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Despite widespread theoretical and practical interest in advertising engagement, scholars and practitioners share little consensus as to what it is and how it can be measured. Guided by the theories of immersion and presence, this research investigates the experiential nature of advertising engagement in the television advertising context. Using survey data (N = 1,115 cases) on thirteen TV advertisements aired during two Super Bowl broadcasts, a definition of the construct is developed and a parsimonious, reliable and valid four-item scale for measuring experiential TV advertising engagement is produced. As conceptualized, TV advertising engagement is an experience independent of its antecedents and consequences, in which the viewer is psychologically immersed in and present with a TV advertisement. These conceptual dimensions are reflected in the four items of the produced scale.

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1. Introduction

Engagement is one of the most widely used concepts in modern advertising. ComScore ARS, for example, conducted a decade-long study of audience diagnostics and reports that persuasiveness is highest in high advertising engagement conditions and that early and sustained advertising engagement is the best predictor of video advertisement effectiveness (Ziliak, 2011). The company concludes that advertising engagement is the best predictor of video advertisement effectiveness. The Advertising Research Foundation (2006) defined advertising engagement as a state of immersion and presence (Ziliak, 2011). The company concludes that advertising engagement is necessary for the determination of advertising effectiveness as other metrics (e.g., brand relevance, linkage, and differentiation). Yet, despite its popularity and documented link to effectiveness, the concept remains ambiguous and unclear (Calder, Malthouse, & Schaedel, 2009) and “perhaps the least understood while simultaneously one of the most overused” constructs of advertising research (Gluck, 2012, p. 2). This conceptual underdevelopment results in a lack of clarity regarding the construct and its effectiveness, leading practitioners and theorists to often misinterpret the consequences of engagement as advertising engagement itself (Calder et al., 2009) or to conflate it with similar concepts, such as involvement or interactivity (Mollen & Wilson, 2010).

The Advertising Research Foundation (2006) defines advertising engagement as “turning on a prospect to a brand message enhanced by the surrounding context” (Wang, 2006, p. 355). This definition is widely cited and embraced, at least in terms of conceptual direction, because it covers a wide range of internal (i.e., psychological engagement) and external (i.e., behavioral engagement such as clicking) reactions to advertisements, and reflects the essence of what ad engagement is thought to be - the consumer experience of being turned on. However, as noted above, though broadly inclusive and directionally sound, the ARF definition is criticized as being too broad for practical applications in the measurement of advertising engagement (Calder et al., 2009). According to Calder and Malthouse (2008), the industry needs “not only to pin it down but also to determine how to measure it” (p. 2).

Guided by the theories of immersion and presence, which are germane to the state of being turned on by mediated experiences, the current study builds on conceptual thinking and research to help fill theoretical and methodological gaps in the literature. Using the context of TV advertising, the study seeks to first, add theoretical clarity to the conceptual boundary of advertising engagement and second, advance research on the construct by producing a validated scale for measuring TV ad engagement.

Past research on advertising engagement has been mostly conceptual (Brodie, Hollebeek, Jurić, & Ilić, 2011), rather than empirical. In the few empirical studies, measures of advertising engagement are largely ad hoc (e.g., How engaging was it for you to process the advertisement? [Wang, 2006]) or comprised of proxy surrogates (e.g., click and viewing time for interactive ads) (Calder et al., 2009). The fuzziness of the construct’s conceptualization results from the blanket use of the term engagement to indicate any committed reaction to marketing communications, such as advertising. However, because consumers exhibit many types of engagement-like or engagement-related reactions
Among the diverse views, Calder and Malthouse (2008) offer an especially interesting perspective on the character of advertising engagement. They argue that the antecedents (e.g., contextual relevance) and consequences (e.g., time spent on viewing) are separate and distinct from being engaged with an advertisement, and as such, should not be confused with the construct itself. They base their argument on the belief that if an advertisement is relevant and interesting (i.e., antecedents of engagement), the viewer is expected to feel engaged with that advertisement in the viewing environment (Calder & Malthouse, 2008).

In psychology, engagement is considered an approach (vs. avoidance) response to a stimulus, comprised of two experiences—hedonic and motivational (Higgins, 2006). The first is called liking (i.e., like → approach vs. dislike → avoid) and the latter engagement (i.e., engaging → approach vs. unengaging → avoid). Using this framework, Calder and Malthouse (2008) conceptualized media engagement as “the sum of motivational experiences consumers have with the media product” (p. 6) and suggest that it consists of intrinsic (i.e., the goal is media experience itself) and extrinsic (i.e., media experience as the means to achieve external goals) motivations. Though viewers might have both motivations, it is known that they do not actively seek out ads to satisfy extrinsic goals. Instead, if engagement with a TV ad occurs, it is more likely associated with intrinsic goals (i.e., experiencing mediated content). Studies of narrative elements in message processing describe this type of intrinsic experience as a convergent psychological process focusing on events occurring in the narrative story (Green & Brock, 2000).

Dictionary definitions of the word engage include descriptions such as “entangle,” “entrap,” “attract,” “interlock,” “bind,” “involve,” and “give/hold attention” (Webster’s Ninth New Collegiate Dictionary, 1991). Even and Dickhaut (2020) defined and measured engagement as the subjective feeling of being engaged; the word implies a two-way interaction wherein the TV viewer and the TV advertisement become locked together. Moreover, a key distinction between involve and interlock warrants attention: involvement is a trait condition (i.e., you are not involved if you lack prior topic interest) whereas interlock is a state condition (i.e., you can be engaged even if you lack prior topic interest). Though involvement is often viewed to represent some motivational factor, such as an a priori state or cognitive structure, interlock clearly and sufficiently describes advertising engagement— it powerfully conveys the organic integration of the TV viewer and the advertisement. From the perspective of communication theory, the interlocking experience between viewer and advertisement is reflected by two concepts, immersion and presence. Immersion is defined as the physical state of being enveloped by sensory information created by media (Slater & Wilbur, 1997). Metaphorically, immersion is described as the experience of being completely surrounded by another reality, similar to the feeling of being submerged in water (Murray, 1997). Highly immersive media environments are thought to lead to perceptions of presence, defined as the subjective feeling of being there (Biocca, 1997).

Research indicates that the concepts of immersion and presence operate across multiple mediated platforms, including print (Green & Brock, 2000), television (Reeves & Nass, 1996), video games, and virtual environments (Lee, 2004; Ahn et al., 2016). As such, these concepts are especially relevant to advertising engagement because they involve a depth continuum rather than a dichotomous state of existence or absence. Accordingly, the present study posits that immersion and presence are two necessary conditions for being engaged, wherein the TV viewer feels mentally there within an advertisement. Transportation is a similar construct involving narrative-based experiences that result in heightened enjoyment of entertainment (Green, Brock, & Kaufman, 2004), attitude change (Escalas, 2004), and favorable ad responses (Wang & Calder, 2009).

When developing a construct, consideration must also be given to whether the underlying dimensions are reflective or formative indicators of the latent construct (Diamantopoulos & Winklhofer, 2001). A
construct is reflective if the causal direction flows from the construct to its indicators (Bollen & Lennox, 1991); that is, when items share a common theme (Rossiter, 2002), and are highly correlated with one another (Diamantopoulos & Siguaw, 2006). In the present study, advertising engagement is considered to be reflective, as the feelings of immersion and presence in a TV ad are conceived as working together, not separately from one another.

Given the preceding discussion, this study views TV advertising engagement as a mental event separate from its antecedents and consequences (both psychological and behavioral), and defines it as the phenomenologically-based interlocking mental experience of being immersed and present in a TV advertisement. Thus, amid the various mixed psychological and behavioral interactional views of engagement, this study first asks a question about the psychological dimension of TV advertising engagement:

RQ: Can TV advertising engagement be defined as the experience of being immersed and present in an advertisement?

### 2.2. Antecedents and consequences of advertising engagement

As noted, earlier conceptualizations confound antecedents and consequences of engagement with the psychological state of advertising engagement itself. As a result, this study views the construct of engagement as distinct from its antecedents (i.e., when or why people’s minds switch on) and consequences (i.e., what happens after they are engaged). Following Zaichkowsky’s (1986) conceptualization of involvement, which presents personal relevance as a critical element of the involvement construct and a primary antecedent of involvement in advertising context (Krugman, 1965), this study posits that the perception of personal relevance of a TV advertisement serves as an important motivator for ensuing engagement (Wang, 2006).

Therefore, contextual relevance is a primary antecedent of, rather than a part of, TV advertising engagement. Literature (e.g., Meyers-Levy & Malaviya, 1995) suggests there are three anteceding factors for processing an advertisement, comprised of recipient (e.g., personal relevance), message (e.g., complexity), and situational (e.g., constraints in time) factors. Among these, personal relevance (i.e., recipient factor) is closely related to the study of psychological advertising engagement because researchers have demonstrated that it is an essential driver of involvement (Pettty & Cacioppo, 1981) and can impact the way people perceive stimuli (Claypool, Mackie, Garcia-Marques, McIntosh, & Uddall, 2004), especially advertising (Campbell & Wright, 2008). As relevance is defined as the extent to which consumers perceive an object to be self-related or instrumental for achieving personal values and goals (Celsi & Olson, 1988), advertisements relevant to the viewer’s interest are more likely to be processed (Calder & Malthouse, 2008; Batra & Ray, 1986) than less relevant ads (Rieh, 2002). In neuroscience, personal relevance is viewed as an important endogenous control factor along with the exogenous (stimulus-driven) saliency factor for stimulating visuospatial attention. Likewise, increased attention and processing of visual stimuli can lead the viewers to feel enveloped by the sensory information and perception of presence (Slater & Wilbur, 1997).

H1. Contextual relevance positively influences TV advertising engagement.

The traditional Aad → Ab → PI relationship (Aad = attitude toward advertisement; Ab = attitude toward brand; PI = purchase intention; see MacKenzie & Lutz, 1989) suggests that increased advertising engagement results in strong brand engagement and other behavioral outcomes. In addition, literature suggests engagement drives message involvement (Greenwald & Leavitt, 1984; Wang, 2006), though some researchers often use engagement and message involvement interchangeably (Spielmann & Richard, 2013). However, the two concepts are not identical, but sequentially related (e.g., Greenwald & Leavitt, 1984). Therefore, the next hypotheses are posed to test the serial (i.e., direct and indirect) effects of TV advertising engagement on downstream response outcomes. The attitudinal effects examined are: attitude toward advertisement (Aad: “a predisposition to respond in a
favorable or unfavorable manner,” MacKenzie & Lutz, 1989, p. 49) and attitude toward brand (Ab: “internal brand evaluation,” Mitchell & Olson, 1981, p. 318). The behavioral effects examined are: curiosity (website visit and information seeking), word of mouth (ad and brand WOM), and purchase intention. The selection of the behavioral effects is based on literature suggesting advertisements that trigger consumer curiosity and generate favorable word of mouth should be considered effective (e.g., Rubinson, 2009; Thorbjørnsen, Ketelaar, Van’t Riet, & Dahlén, 2015).

**H2.** Advertising engagement positively influences advertising involvement.

**H3.** Advertising engagement positively influences attitude toward advertisement (H3a), attitude toward brand (H3b) and behavioral responses (H3c).

Advertising engagement (as conceptualized herein) can additionally explain consumer behaviors beyond the extant construct of advertising involvement. As discussed previously, the present study follows the stream of research that distinguishes psychological engagement from message involvement (e.g., Wang, 2006), and views the two constructs as sequentially related (Greenwald & Leavitt, 1984). Given that the two are different (based on prior discussion for H2) but influence consumer behaviors (e.g., Spielmann & Richard, 2013), advertising engagement should exert its unique effect on consumer behaviors in addition to the effect of involvement. Thus, H4 is posited to test the contribution of advertising engagement independent of involvement.

**H4.** Advertising engagement explains behavioral responses in addition to the variance explained by advertising involvement.

The overarching model examined is presented in Fig. 1.

### 3. Methods

Churchill’s (1979) scale development paradigm was generally followed. First, the literature and a free-association task were used to generate verbal descriptive items. The free-association task was completed by 39 students. Next, a group of experts evaluated the content validity of the generated items, and those content-validated items were then analyzed via Exploratory Factor Analysis (EFA) using a split-half of the sample. The EFA-purified items were then checked via Confirmatory Factor Analysis (CFA) using another split-half of the sample. Finally, the final scale was checked for reliability, validity, and generalizability.

#### 3.1. Stimuli selection

Thirteen TV advertisements from the advertisement pools of the 2103 and 2014 Super Bowl broadcasts were selected for analyses (see Table 2). Six advertisements (i.e., Audi, Hyundai, M&M’s, Budweiser, Best Buy, and Tide) were from the 2013 broadcast; seven (i.e., Hyundai, Audi, Jaguar, Budweiser, Chobani, AXE, and Cheerios) were from the 2014 broadcast. The selected advertisements were all of high production quality, similar in familiarity levels (in terms of ad recall), presented a range of appeals and themes, communicated brand-based stories, featured both high and low involvement products, and advertised hedonic and utilitarian product-types. Thus, the sample pool of ads was large enough to perform the necessary analytic techniques and diverse enough to enhance generalizability.

#### 3.2. Generation of items

The literature on related constructs, such as absorption (e.g., “experience the story as if it were real”: Jamieson, 2005, p. 137), identification (e.g., “While viewing program X, I felt as I was part of the action”: Cohen, 2001, p. 256), as well as presence and immersion (e.g., “I felt caught up in the content of the ad”: Wang & Calder, 2005, p. 554), was reviewed to generate items matching the definitional property of the study’s construct. In some cases, some items of those scales were considered invalid for inclusion because they were either irrelevant (e.g., “I like to watch cloud shapes change in the sky” (in the absorption scale: Jamieson, 2005, p. 137), unrealistic (e.g., “I wander off into my own thoughts while doing a routine task and actually forget that I am doing the task, and then find a few minutes later that I have completed it,” absorption scale, Jamieson, 2005, p. 138), or not broadly applicable (e.g., “I could feel the emotions character X portrayed,” identification scale, Cohen, 2001, p. 265). Furthermore, although Wang and Calder’s (2009) scale is specifically designed to measure ad-related feeling of transportation and reflects this study’s conceptual definition, some of its items were not used because they represent engagement consequences, not the state of being engaged itself (e.g., “The ad improved my mood, made me feel happier.”) or were narrowly applicable (“I thought the ad was

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![Fig. 1. Advertising engagement construct in a nomological network (N = 573).](image-url)
3.4. Data collection procedure

Two sets of data were collected by self-administered online surveys. The first set was collected from a convenience sample of students studying at a major southeastern state university (n = 271). The second set was collected from a convenience sample of adults using Amazon’s Mechanical Turk (MTurk, www.mturk.com) (n = 287). The student data were collected in February 2013; the adult data were collected in February 2014. Though not representative of the U.S. population, the samples reflect audience diversity (61.9% female; 77.1% 18–34 years old and 22% 35–64 years old; 82.3% Caucasian, 5.6% African American, and 12.2% other ethnicity). As reported later, the structural properties of the final scale were compared to confirm the structural invariance across different participant characteristics.

Participants were asked to indicate their agreement with 7-point Likert measures of purchase-decision involvement (PDI), hedonic/utilitarian product nature, attitude toward brand, and familiarity with the brands featured in the advertisements. Following completion of the product-related tasks, the participants were shown two advertisements and asked to rate ad-familiarity, attitude toward ad, brand and product relevance, as well as the extent to which each of the 8 items represented their opinions. Information about additional variables was collected from the adult participants: attitude toward the advertised brands and the behavioral outcomes. Other information regarding previous ad exposure and fan-ship was also collected.

The items were randomly rotated for each TV advertisement, which resulted in 1116 cases (271 students × 2 ads; 287 adults × 2 ads). However, one participant completed half of the survey. Thus, 1115 cases (542 student cases and 573 adult cases) were used for data analyses.

4. Results

4.1. Exploratory factor analysis (EFA)

A principal component analysis with an oblique rotation method (i.e., Oblimin) was performed. The factor analysis, using one half (n = 557) of the pooled sample (n = 1115), determined that all eight items loaded to one factor and accounted for 58.43% of the total variance (See Table 3).

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Table 2

TV advertisements and advertising engagement scores.

<table>
<thead>
<tr>
<th>Ad stimuli</th>
<th>PDIa</th>
<th>Product natureb</th>
<th>Advertising engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super Bowl 2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budweiser “Horse and Trainer Reunited”</td>
<td>4.70 (1.15)</td>
<td>5.86 (1.34)</td>
<td>4.82 (1.20)</td>
</tr>
<tr>
<td>Audi “Prom”</td>
<td>5.97 (0.08)</td>
<td>3.16 (1.67)</td>
<td>4.69 (1.13)</td>
</tr>
<tr>
<td>Tide “Miracle Stain”</td>
<td>4.40 (1.33)</td>
<td>2.42 (1.59)</td>
<td>4.40 (1.32)</td>
</tr>
<tr>
<td>Best Buy “Asking Amy Poehler”</td>
<td>4.90 (1.13)</td>
<td>4.33 (1.70)</td>
<td>4.29 (1.20)</td>
</tr>
<tr>
<td>Hyundai “Kid Assembles Team”</td>
<td>6.00 (0.97)</td>
<td>2.92 (1.57)</td>
<td>3.85 (1.22)</td>
</tr>
<tr>
<td>M&amp;M “Love Ballad”</td>
<td>4.67 (1.05)</td>
<td>6.01 (1.18)</td>
<td>3.90 (1.15)</td>
</tr>
<tr>
<td>Super Bowl 2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budweiser “Puppy Love”</td>
<td>4.73 (1.35)</td>
<td>6.21 (1.06)</td>
<td>4.49 (1.44)</td>
</tr>
<tr>
<td>Hyundai “Sixth Sense”</td>
<td>6.13 (0.70)</td>
<td>2.38 (1.51)</td>
<td>4.80 (1.32)</td>
</tr>
<tr>
<td>AXE “Kiss for Peace”</td>
<td>4.47 (1.40)</td>
<td>1.87 (1.02)</td>
<td>4.09 (1.48)</td>
</tr>
<tr>
<td>Audi “Doberhuahua”</td>
<td>6.01 (0.79)</td>
<td>2.54 (1.41)</td>
<td>3.93 (1.46)</td>
</tr>
<tr>
<td>Cheerios “Gracie”</td>
<td>4.89 (1.11)</td>
<td>3.59 (1.80)</td>
<td>4.09 (1.33)</td>
</tr>
<tr>
<td>Jaguar “British Villains”</td>
<td>6.13 (0.61)</td>
<td>2.61 (1.72)</td>
<td>3.71 (1.48)</td>
</tr>
<tr>
<td>Chobani “How Matters”</td>
<td>4.21 (1.09)</td>
<td>3.78 (1.69)</td>
<td>3.64 (1.41)</td>
</tr>
</tbody>
</table>

Notes:

The ads are listed by the advertising engagement scores.

a Purchase-decision involvement (PDI) was measured on a 7-point scale (1 = Strongly disagree; 7 = Strongly agree).
b Product nature was measured on a 7-point scale (1 = Utilitarian; 7 = Hedonic).

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Table 3

Item purification procedure from expert interview, EFA and CFA.

<table>
<thead>
<tr>
<th>Relevant Sources</th>
<th>Items</th>
<th>Expert interview</th>
<th>EFA</th>
<th>CFA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(N = 14)</td>
<td>(N = 557)</td>
<td>(N = 558)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CVR* values</td>
<td>EFA loadings</td>
<td>CFA loadings</td>
</tr>
<tr>
<td>Identification, immersion</td>
<td>1. While experiencing the ad, I felt as if I was part of the action.</td>
<td>0.86</td>
<td>0.84</td>
<td>0.79</td>
</tr>
<tr>
<td>Free-assoc.</td>
<td>2. It made me feel connected to the product.</td>
<td>0.57</td>
<td>0.79</td>
<td>0.74</td>
</tr>
<tr>
<td>Absorption, presence</td>
<td>3. I experienced the ad as if it were real.</td>
<td>0.43</td>
<td>0.80</td>
<td>0.73</td>
</tr>
<tr>
<td>Absorption, absence</td>
<td>4. After I experienced the ad, I still felt as if I was experiencing the ad.</td>
<td>0.30</td>
<td>0.80</td>
<td>0.79</td>
</tr>
<tr>
<td>Absorption, presence</td>
<td>5. The ad was so vivid that it held my attention as a good movie or story does.</td>
<td>0.71</td>
<td>0.69</td>
<td>0.65</td>
</tr>
<tr>
<td>Absorption, presence</td>
<td>6. The ad helped me recall certain past experiences in my life with such clarity and vividness that it was like living them again or almost so.</td>
<td>0.43</td>
<td>0.74</td>
<td>0.73</td>
</tr>
<tr>
<td>Absorption, presence</td>
<td>7. Some of my most vivid memories were called up by the ad.</td>
<td>0.57</td>
<td>0.73</td>
<td>0.71</td>
</tr>
<tr>
<td>Absorption, absence</td>
<td>8. While experiencing the ad without the slightest effort on my part.</td>
<td>0.71</td>
<td>0.71</td>
<td>0.56</td>
</tr>
<tr>
<td>Absorption, immersion, absorption</td>
<td>9. While experiencing the ad, I felt as if my whole state of consciousness had somehow been temporarily altered.</td>
<td>0.14 (removed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorption,immerion</td>
<td>10. When experiencing the ad, I “stepped outside” my usual self and experienced an entirely different state of being.</td>
<td>0.14 (removed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorption</td>
<td>11. While experiencing the ad, I felt as if we were being lifted into the air.</td>
<td>0.57 (removed)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

* CVR (content validity ratio) = (nr − n)/(nr−2), where nr = number of judges who agreed that the item was “representative,” n = total number of judges.

* One factor (8 items; α = 0.91; 58.43% of variance explained).

* Final items retained after CFA. The four items, (1) While experiencing the ad, I felt as if I was part of the action, (2) It made me feel connected to the product, (3) I experienced the ad as if it were real, and (4) After I experienced the ad, I still felt as if I was experiencing the ad, form the produced TV Ad Engagement Scale.

* Absorption (Jameson, 2003); Identification (Cohen, 2001); Immersion (Witmer & Singer, 1998); Presence (Witmer & Singer, 1998); Free-assoc.; Free-association pre-test.
4.3.1. Discriminant validity with related measures

Discriminant validity of the factors generated in EFA was conducted on the other split-half sample (n = 558). Because the initial model fit was mediocre (χ² = 169.56, df = 20, χ²/df = 8.48, TLI = 0.91, CFI = 0.93, RMSEA = 0.12, SRMR = 0.05), factor loadings (>0.50), as well as modification indices (MI >4.0), were examined to locate sources of improvement. All loadings were in the acceptable range (0.56–0.79); however, four items had multiple MI values with other items, and therefore were dropped. For example, item #8 (see Table 3) had high MI values with the other four items (e.g., MI = 16.7 with item #6; MI = 8.870 with item #7).

The final four-item advertising engagement measurement model had a nearly perfect fit for the split-half sample (n = 558; χ² = 0.03, df = 2, TLI = 1.00, CFI = 1.00, RMSEA = 0.00, SRMR = 0.00) and the pooled sample (n = 1115; χ² = 1.70, df = 2, TLI = 1.00, CFI = 1.00, RMSEA = 0.00, SRMR = 0.00). The convergent validity (loadings ranged from 0.74 to 0.84) of the construct was good, as was its reliability (Cronbach’s alpha = 0.87).

4.3.2. Criterion validity: concurrent and predictive

Correlation between the study’s four-item scale and the single-item ad-hoc engagement measure by Wang (2006) was examined to test concurrent validity. A significant correlation was found between the one item, “The ad was engaging,” and the study’s four-item scale (r = 0.61, p < 0.001; r = 0.61; p < 0.001). Additionally, criterion validity was tested to determine whether message relevance (MR, i.e., contextual relevance) (H1) predicted the ad engagement scale. The model indicated a significant influence of message relevance on the TV advertising engagement scale (AE, hereafter) (F = 0.36, p < 0.001; β = 0.29; p < 0.001; there was no significant difference between two samples, Δχ² = 0.4 [df = 1]). Thus, H1 was supported.

Separate models were estimated to test the scale’s predictive validity on ad involvement (AI; Wang, 2006) (H2), attitude toward ad (Aad) (H3a), and attitude toward brand (Ab) (H3b), respectively. The tests found that AE significantly predicted Aad (F = 0.59; p < 0.001; β = 0.66; p < 0.001), Al (F = 0.80; p < 0.001; β = 0.81; p < 0.001) and Ab (F = 0.88, p = 0.09 [marginal]; β = 0.15; p < 0.001). No significant differences were found between two samples (Δχ² = 0–2.4 [df = 1]). Therefore, H2, H3a and b were supported.

4.3.3. Incremental validity

A hierarchical regression was conducted to test H4 and to determine whether AE significantly added explanatory power beyond similar variables. The adult data were used because behavioral responses were not measured among the student participants. In the first block, each of the five response variables was regressed on the single-item measures of advertising involvement (“The ad was involving”) and advertising engagement (“The ad was engaging”). Then, AE was entered in the second block as an additional independent variable. AE was found to explain significantly more variances (all R-square changes were significant and ranged 0.09–0.16) than when it was not included in the model for all five dependent variables.

Hierarchical regression was also used to determine how the study’s AE scale performed relative to advertising message involvement (Lee, 2000; Peracchio & Meyers-Levy, 1997; Polyzot, Alden, & Kim, 2007) and affective advertising involvement (Celuch & Slama, 1998). Significant R-square changes were found (ranged 0.04–0.09), which support the incremental validity of the AE scale. Additionally, AE overpowered and nullified all involvement measures except one (ad involvement → ad WOM [β = 0.24, p < 0.05]). Overall, the results (shown in Table 4) support H4 and demonstrate the stronger predictive power of AE on consumer behaviors relative to advertising involvement measures.

4.3.4. Nomological validity

A model was created using the tested variables of H2, H3a, H3b and other variables (i.e., behavioral responses to examine H3c) to test nomological validity, using the adult data. Except for AE, composite scores (Aad and Ab) and single-item measures (MR, AI, and all consumer response variables) were used. The initial model was a saturated model (i.e., all theoretically meaningful paths were estimated); however, the model’s fit was poor (χ² = 1066.19, df = 52, TLI = 0.71, CFI = 0.81, RMSEA = 0.19, SRMR = 0.09) due to potential multicollinearity among variables. Re-specifications were made based on modification indices (note: none of the study’s scale items was re-specified): five
correlations were specified between MR and the error terms of Ab and
four behavior variables (tell a friend about brand, purchase product, go
on the website, and seek out information); and all five behavior variables
were specified to be correlated. In all, a total of fifteen correlations were
additionally specified in the model. As a result, the model was stable and
fit the data well ($\chi^2 = 176.82$, $df = 37$, TLI = 0.94, CFI = 0.97, RMSEA =
0.08, SRMR = 0.05). The initial model (M1) was compared with two alternative models
(M2 and M3) to find the best valid nomological network of variables.
The alternatives were made more parsimonious than M1 by dropping
five paths from Aad to the behavior variables (M2) and by excluding
additional five paths from AE to the behavior variables (M3). Chi-square
difference test showed M1 ($\chi^2 = 176.82$, $df = 37$) was better than the
alternative models: M2 ($\chi^2 = 248.48$, $df = 42$) [$\chi^2 = 71.66$]; M3:
$\chi^2 = 553.30$, $df = 47$ [$\chi^2 = 376.48$]). Therefore, M1 was selected to exa-
nomine the nomological validity of the AE scale.
As shown in Fig. 1, AE scale played significant roles in the M1 model.1
Notably, AE fully mediated the MR’s effect on AI (indirect effect = 0.26,
$p < 0.05$; direct effect = $-0.001$, $p > 0.05$). AE also exerted indirect
influence on Aad through AI (indirect effect = 0.15, $p < 0.05$) as well as
direct influence on Aad (direct effect = 0.45, $p < 0.05$; partial mediation)
(number of bootstrap samples = 2000). The direct effects of AE on the
five behavior variables were also significant (i.e., another evidence to
support H3c), and as shown in Fig. 1, the total effects of AE on all of
the behavior-related variables were strong and significant.
Notably, Aad had slightly negative direct effects on three variables
(ad WOM, website visit, and seek information; all $p < 0.05$). Though
the effect sizes are small, these results indicate that Aad without Ab is
more weakly predictive of behavior.

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1 Per an anonymous reviewer, the same model was tested using a new sample (N = 248 cases; from 124 university students from different majors). The results demonstrated the AE construct was invariant between the two samples (configural: $\chi^2/df = 0.60$, CFI = 1.00, TLI = 1.00, and RMSEA = 0.00; metric: $\Delta \chi^2 = 0.5$, $\Delta df = 4$) and showed the same pattern of factor loadings and other parameters between the samples (configural invariance: $\chi^2/df = 2.33$, CFI = 0.99, TLI = 0.96, and RMSEA = 0.05). Results of the data are available upon request.

4.3.5. Additional verification: fsQCA
Fuzzy-set qualitative comparative analysis (fsQCA), a tool to test for
asymmetric relationships between causal conditions and outcomes
(Woodsie, 2013), was used to test the combinatory effects of the inde-
pendent variables on the behaviors to complement the outcomes tested
in the nomological validity model. The algorithm uses the logical mini-
mization process to determine the different combinations of causal condi-
tions leading to an outcome (Ragin, 2014).
A set of causal conditions (i.e., independent variables: MR, AE, AI,
Aad, and Ab) and outcomes (i.e., dependent variables: ad WOM, brand
WOM, website visit, seek information, and purchase intent – one out-
come per analysis) were entered into the Fuzzy Truth Table Algorithm.
A calibration was done to rescale the study’s 7-point Likert data to the
0–1 range for table entry. By setting the cross-over point at 4, the full
membership threshold at 6, and the non-membership threshold at 2,
the fsQCA software recoded the original responses as follows: 1 → 0.01, 2 → 0.05, 3 → 0.18, 4 → 0.5, 5 → 0.82, 6 → 0.95, 7 → 0.99.
The Standard Analyses determined that the solutions (i.e., combina-
tions of causal conditions) including AE for the five behaviors were the
best-balanced with the highest consistency and coverage values. Of the three
solution types (i.e., complex, intermediate, and parsimonious),
parsimonious solutions were either comparable or better than the other
solutions; all parsimonious solutions included AE (best solutions:
AE only for ad WOM [raw/unique coverage = 0.75/0.75, consistency =
0.81]; MR × AE × Ab for brand WOM [raw/unique coverage = 0.69/0.69,
consistency = 0.81]; MR × AE for website visit [raw/unique coverage =
0.69/0.69, consistency = 0.76]; MR × AE for seek info [raw/unique
coverage = 0.71/0.71, consistency = 0.80]; MR × AE × Ab for purchase in-
tent [raw/unique coverage = 0.67/0.52, consistency = 0.85]).

5. Conclusions and discussion

5.1. Conclusions
The proposed conceptualization of the construct is affirmed: TV ad-
vertising engagement as an event in which the viewer is psychologically
and concurrently immersed in and present with a TV advertisement.
The construct, as conceived and measured, is independent of its antecedents and consequences, and fully and strongly mediates the effect of message relevance on advertising involvement. The produced four-item scale (shown in Table 5) is structurally invariant across different people, product types, and viewing conditions, thereby demonstrating (1) scale stability; (2) a high level of reliability based on Cronbach’s alpha and composite reliability; and (3) strong validity in terms of its unique relations to other traditional advertising response variables. The take away is that the scale provides researchers a theoretically sound instrument for studying TV advertising engagement, and practitioners with a useful tool to gauge the stopping and holding power of TV advertisements.

5.2. Discussion

Given the theoretical and practical interest in advertising engagement, the general objectives of this research are to first, conceptualize and define the construct within the context of TV advertising and second, to develop a reliable and valid scale to measure TV advertising engagement. Grounded in the theories of immersion and presence, the effort produced a distinct and useful definition of the construct and a parsimonious, reliable, and valid four-item scale, with sufficient discriminant, criterion, incremental and nomological validity.

As noted earlier, past research on how and to what extent an advertisement engages people is largely a fragmented affair. These findings regarding the construct and the related four-item scale reflect earlier research discourse, but more systematically encompass the immersed and present experiential nature of engagement within the specific context of TV advertising. Studies demonstrate that psychologically simulating the self to assume a character role in a presented story leads individuals of TV advertising. Studies demonstrate that psychologically simulating the self to assume a character role in a presented story leads individuals

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The findings also speak to the important relationship between communication and the consumer. Advertising success relies on the connection between the advertised object and the consumer because advertisements, by nature, are created with specific target audiences in mind, and if these audiences feel little or no connection with the advertised object, high levels of advertising engagement are difficult to achieve. Accordingly, the item, “It made me feel connected to the product,” reflects the degree to which individuals feel connected to the advertised object during contact. Research on resonance (Gerbner, Gross, Morgan, & Signorielli, 1980) indicates that the connection intensity between personal and mediated experiences amplifies TV effects. Similarly, the perceived connection between self and object is an important part of ad engagement.

Despite theoretical and practical value, the findings should be interpreted as suggestive rather than conclusive due to limitations such as sample representativeness, advertising context, and laboratory setting. Therefore, additional research is required to more fully understand TV advertising engagement specifically and advertising engagement generally.

Building on this research, future studies should reexamine the scale among more representative samples of consumers. Additionally, studies should be conducted in natural settings to determine the ecological validity of the current findings, and behavioral advertising engagement should be investigated simultaneously in conjunction with other forms of psychological engagement. For example, relationships between these engagement-types could be simultaneously studied using interactive video ads featuring clickable measurement overlays. Of special importance, the produced scale should be examined across various media such as social and mobile platforms to determine its applicability beyond TV. Earlier studies report that electronic media advertising generates emotional involvement while print advertising generates cognitive activities (Chaudhuri & Buck, 1995). Such response variation suggests that investigating similarities and differences in the produced scale across media may be meaningful.

At this juncture, advertising engagement and its role is an important, yet understudied, subject. This study, despite its limitations, advances extant knowledge and provides an empirical foundation upon which future research should build.

Funding

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Acknowledgement

None.

Table 5

<table>
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<th>TV advertising engagement scale items</th>
<th>CPA Loadings</th>
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Notes:
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Table 5: TV advertising engagement scale items

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Acknowledgement

None.

Appendix A. Model invariance tests across different conditions.
(continued)

Model 1: configural
Model 2: metric invariance (factor loading)
Fan vs. non-fan (n_{base} = 116; n_{config} = 233)∗
Model 1: configural
Model 2: metric invariance (factor loading)
Education (n_{config} = 272; n_{base} = 301)∗
Model 1: configural
Model 2: metric invariance (factor loading)
Income (n_{config} = 264; n_{base} = 309)∗

Model 1: configural
Model 2: metric invariance (factor loading)
Data collection method (n_{config} = 542; n_{base} = 573)
Model 1: configural
Model 2: metric invariance (factor loading)

Notes:
All Δχ² tests were not significant.
Questions were asked only to MTurk research participants.

References


Jooyoung Kim (Ph.D., University of Florida) is an associate professor of advertising at the University of Georgia. His research interests are advertising engagement, native advertising, and consumer emotion. He has published in various leading academic journals, including the Journal of Advertising, International Journal of Advertising, Psychology & Marketing, and Journal of Interactive Marketing. He is an active member of American Academy of Advertising and serves on the Editorial Review Board of Journal of Advertising, International Journal of Advertising, and Journal of Interactive Advertising.

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Eun Sook Kwon (Ph.D., University of Georgia) is an assistant professor in the School of Communication at Rochester Institute of Technology. Her research examines how virtual experiences shape the way people think, feel, and behave in the physical world. Her recent projects have focused on the effect of virtual interactions in video games and highly immersive virtual environments (popularly known as “virtual reality”) on risk perceptions and behavior change in the realms of health and environmental issues. Ahn’s research has received multiple awards and has been published in leading journals, including the Journal of Computer-Mediated Communication, Journal of Advertising, Communication Research, Human-Computer Interaction, and the Journal of Health Communication.