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Do social advergames affect brand attitudes and advocacy?

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Advergames have been used for some time as a form of branded entertainment designed to engage prospective customers in a branded activity for an extended period of time. Increasingly, advergames are imbued with social qualities related to the rise in popularity of social media, especially social networking. Despite the popularity of social advergames, little is known about the brand benefits of incorporating social features into games. Moreover, while creativity has been studied in the context of more traditional advertising, less is known about its effects on brand development in the context of advergames. Although advertising creativity, as characterized by novelty and relevance, has been shown to impact advertised brands, it is not clear how creativity interacts with advergame socialness to affect brand development. To address these gaps in the literature, this paper reports on three experimental studies that compare the brand effects of advergames that enable social interactions to advergames that are not social. The results indicate that relative to non-social advergames, social advergames result in more positive game attitudes, attitudes toward the brand sponsor, and brand advocacy, particularly when advergames are novel. Finally, this article discusses implications for managers and directions for future research.

Keywords: advergames; brand attitudes; brand advocacy; advertising creativity

Introduction

Branded entertainment is a rapidly growing area of advertising. Some agencies have even developed into specialty boutiques focused on this niche area (e.g., Lucky Branded Entertainment). Marketers increasingly use games as channels for sharing branded messages with target consumers (1) by including product placements within a game and/or (2) by developing advergames. Both approaches offer potential brand benefits including enhanced brand recall (Lee and Faber 2007) and more positive brand attitudes (Glass 2007). In addition to the attitudinal benefits, branding with games enables brands to reach target audiences during all parts of the day, including working hours when customers are typically hard to reach and reach gamers, who tend to resist traditional advertising efforts (Anfuso 2007).

The second approach, advergames, differs from game branding via product placement within a game. Advergames are games that include entertainment content that mimics traditional games, but are designed to function as interactive advertisements to promote a brand's position (Caugherge and De Pelsmacker 2010; Tuten and Solomon 2013). Relative to in-game product placements, advergames provide many benefits to brands in terms of control of the promotional message, message stickiness, repetition, and transference effects, among other things (Caugherge and De Pelsmacker 2010). Moreover, advergames increase the amount of time a player is exposed to brand messaging and allow for ongoing communication between the brand and the player (Anfuso 2007).

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Several different outcomes and personal factors that influence the effects of advergames have been studied in the last decade (see [Terlutter and Capella 2013](#) for a review). The advergame outcomes of interest in this study are brand attitudes and, a related construct, brand advocacy, or positive communications on behalf of the brand. Consumer attitudes have been studied previously in the context of advergames ([Waiguny, Nelson, and Marko 2013](#); [Steffen, Mau, and Schramm-Klein 2013](#); [Okazaki and Yague 2012](#)). For example, [Waiguny, Nelson, and Marko \(2013\)](#) aimed to extend the work that positive affect transferred from well-liked advergames and resulted in more positive brand attitudes ([Redondo 2012](#)) and negative feelings (from wear out) could result in more negative brand attitudes ([Cauberghe and De Pelsmacker 2010](#)). [Waiguny, Nelson, and Marko \(2013\)](#) found evidence that in contrast to the potentially positive effects of violent games due to increased attention or arousal, violence in advergames could also result in negative associations that would transfer to brand attitudes (which was mediated by attitude toward the game). Similarly, [Steffen, Mau, and Schramm-Klein \(2013\)](#) showed that the positive branding effects of advergames were present when the participant wins the advergame. In the context of a mobile advergame that was downloaded from a social networking site, [Okazaki and Yague \(2012\)](#) found that advergames could have positive effects on brand advocacy intentions and perceived brand value.

While the existing literature shows evidence that affect can transfer from an advergame to the advertised brand, the authors are not aware of any research that examines the effect of advergame socialness on attitudes toward the game or subsequent brand attitudes and brand advocacy. The role of socialness is important because media have become more social (e.g., leveraging social networks and enabling audience interactivity), games too have incorporated social features. Social games are ‘multi-player, goal-oriented activities with defined rules of engagement and online connectivity among a community of players’ ([Tuten and Solomon 2013, 148](#)). Social advergames are branded games designed with social features.

Social advergames deserve attention because the popularity of social games is driving rapid growth in the industry. The social gaming industry took in \$1 billion in revenues in the USA and the UK in 2010, roughly double from just two years ago ([PopCap Games 2010](#)), and 4 in 10 Internet users in the USA play social games ([Emarketer 2011](#)). This segment of the Internet users spends more than half the time they spend on social networking sites playing games ([PopCap Games 2010](#)).

For instance, consider *Words with Friends*, a popular social game which incorporates Facebook for social connectivity and includes mobile applications. According to [Howard \(2012\)](#), *Words with Friends* has 14.9 million monthly active users and 6.7 million daily active users. Zynga, the company which owns *Words with Friends*, earns revenue in part by selling in-game advertising to brand marketers ([Howard 2012](#)). Games are social games when they allow interactivity, participation, and sharing with and from a gamer’s network. This community participation can come in the form of publicly available leaderboards, achievement badges that can be shared with a social network, and/or the ability to network with friends while playing the game ([Tuten and Solomon 2013](#)). The creator of *Words with Friends*, Paul Bettner, attributed the success of social games to the influence of social connections in that game play may feel more obligatory when one’s friends are awaiting the next game move. He also speculated that games were more enjoyable when the spirit of game play and competition is shared among friends ([Howard 2012](#)).

Similarly, the authors are not aware of any studies that examine the role of creativity and its impact on brand outcomes in the context of advergames. Existing work suggests advertising creativity can result in favorable brand outcomes ([Sheinin, Varki, and Ashley](#)

2011; Ang, Lee, and Leong 2007). However, games may be processed differently than traditional advertisements due to expectations of fun and a different level of engagement with the message. Therefore, creativity deserves additional investigation in the context of advergaming.

Given the popularity and growth of social games and the importance of management decision-making regarding whether or not to invest in social features and/or enhanced creativity during the development of advergaming, it is important to understand the effects of advergaming socialness and creativity on important brand outcomes such as brand attitudes and advocacy. Therefore, the article attempts to extend the existing work on affect transfer and advertising creativity to the context of social advergaming. It also examines how one dimension of creativity, novelty, interacts with advergaming socialness to affect the branding outcomes of advergaming.

Hypotheses development: advergaming design and consumer attitudes

The literature exploring the effectiveness of advergaming and in-game advertising suggests that the features of the game affect its ability to generate favorable outcomes for the brand. For example, in-game advertising research that focuses on brand placements in non-branded games has indicated that the treatment of brands can have important effects for brand outcomes (Nelson, Yaros, and Keum 2006; Yang et al. 2006; Lewis and Porter 2010; Lee and Faber 2007; Nelson 2002; Glass 2007). Nelson's (2002) study gave some indicators as to the potential value of advergaming in that brand recall was higher in her study when the brand was a major part of game play, something that occurs in advergaming. Glass (2007) found that brand attitudes were higher for brands which had been featured in a game than brands that had not been. Presumably the positive effects of in-game branding should be similar (and possibly better) for advergaming than for non-branded games.

The research published about the effectiveness of branding with advergaming supports this proposition (Wise et al. 2008; Redondo 2012; Waiguny, Nelson, and Marko 2013; Steffen, Mau, and Schramm-Klein 2013; Okazaki and Yague 2012). For example, Wise et al. (2008) examined how the thematic congruence interacts with the game player's attitude toward the game to affect brand attitudes. The existing literature supports the idea that one of the ways participants are persuaded by advergaming is via affect transfer.

This is consistent with the extant advertising literature, where attitude toward the ad (A_{ad}) is frequently studied and influences attitude toward the brand (A_{brand}). Liked ads are thought to be more effective than ads that are not liked (Biehal, Stephens, and Curlo 1992). Attitude toward the brand is a predictor of purchase intent and purchase behavior as well as other brand outcomes (Ajzen and Fishbein 1980). Advergaming are, at their core, ads. Wise et al. (2008) proposed 'if advergaming represent a more direct form of brand advertising than other forms of branded entertainment, it makes sense to conceptualize attitude toward the game as a type of attitude toward the ad, a concept that has been studied extensively' (28). Following their recommendation, this research program presumes that attitude toward the (adver)game (A_{game}) will influence attitude toward the brand sponsor and attitude toward the brand will influence behavioral intentions. This approach is consistent with other research on advergaming (Waiguny, Nelson, and Marko 2013; Lewis and Porter 2010). It is also consistent with the literature that uses classical conditioning as a theoretical base to explain the affect transfer between the advertisement and the brand (Brown and Stayman 1992; Biehal, Stephens, and Curlo 1992; Wise et al. 2008).

One area that has not been examined is the role of the advergaming's socialness on A_{game} and, in turn, on A_{brand} and brand advocacy. Advergaming socialness is an important factor

because consumer behavior increasingly provides evidence of a desire to engage in social interactions online. For example, an article in the *Wall Street Journal* claimed that the popularity and the steady growth of Facebook's membership base is fueled by the desire to be social in the everyday activities of life (Griffith, Terri L. 2011. 'Tapping Into Social Media Smarts.' *Wall Street Journal* (Online), April 24). Academic research also provides evidence of consumer preferences for social features. For example, Rice (1993) compared office communication platforms that varied in the level of social interaction and found that users preferred the more social media relative to the less social media. Wang et al. (2007) suggested perceptions of a website's socialness or social features available – in this case from social cues provided by avatars – contribute to arousal, flow, pleasure and, in turn, value and patronage intentions. A more recent study indicates that the addition of social features on websites has a positive relationship with shopping enjoyment (Wakefield et al. 2011).

Li (2011) noted that sociability can motivate people because human beings have a fundamental need to feel connected and maintain and develop social relationships via engagement in social activities. Web communities, social networks, and instant messages are among the ways consumers satisfy these needs. Furthermore, Guerrin (2003) argues that all human actions involve social relationship contingencies, and that highlighting the strategic nature of social contingencies can help inform one's understanding of consumer behavior.

Given the support for consumer preferences for social features in online channels, we propose that more positive benefits will accrue to advergames which incorporate social features than will accrue to advergames without social features. Using consumer sociability and classical conditioning as a conceptual bases, we anticipate that the affect associated with a game's social features will transfer to the brand (Smith, Feinberg, and Burns 1998). Treating attitude toward the game (A_{game}) similarly to attitude toward the ad (A_{ad}), we propose the following hypothesis.

H1: The availability of advergame social features positively affects attitude toward the game (A_{game}).

Consistent with the existing research on affect transfer, we predict that attitude toward the game will influence attitude toward the brand, a predictor of purchase intent and purchase behavior. Classical conditioning has been used as a broad framework to explain the relationship between A_{ad} and A_{brand} because it suggests that repeatedly pairing an unconditioned stimulus that elicits favorable emotions with a conditioned stimulus that does not yield any emotions on its own will ultimately result in the transfer of favorable emotions to the conditioned stimulus (Olson and Fazio 2001; Smith, Feinberg, and Burns 1998). In the same way, Petty and Cacioppo's (1986) elaboration likelihood model (ELM) is often used as a theoretical base to explain the relationship between A_{ad} and A_{brand} . It suggests that A_{ad} has the ability to influence A_{brand} because A_{ad} is processed via the peripheral route of the ELM (Miniard, Bhatla, and Rose 1990). Therefore, given the anticipated positive effects of advergame socialness on A_{game} , we postulate that social features in an advergame will result in more positive brand attitudes that would accrue to an advergame without social features.

H2: The availability of advergame social features positively affects attitude toward the brand (A_{brand}).

We also propose that social features can influence behavior. Because games are not generally considered direct response devices but rather branding tools which can promote less direct consumer behaviors such as information search and word of mouth (WOM), we

propose positive WOM intent as an outcome. Okazaki and Yague (2012) found that advergames could have positive effects on WOM intentions and, in turn, on perceived brand value. Positive WOM about the brand is important because it has been linked to sales and brand performance, and is increasingly important in today's environment, where consumers control many of the communication touch points that offer information about the brand (Hollis 2006; Brown et al. 2005). Furthermore, positive WOM can offer 'social proof' that the brand is worth considering (e.g., if everyone else has favorable attitudes toward this brand, I should, too) (Rieck 1998). WOM also aligns with the conversational nature of social media.

H3: The availability of advergame social features positively affects brand WOM.

Advertising creativity has also been linked to favorable attitudes toward advertising and the advertised brands (Sheinin, Varki, and Ashley 2011; Ang, Lee, and Leong 2007). However, less is known about how consumers respond to creativity in advergames. Efforts to relate an ad's creativity to the ad's effectiveness characterize the creative execution as an irrelevant attribute that helps differentiate the advertised brand in the minds of consumers (Till and Baack 2005). El-Murad and West (2004) described creativity as an '...art of establishing new and meaningful relationships between previously unrelated things in a manner that is relevant, believable, and in good taste, but which somehow presents the product in a fresh new light' (190).

Ad creativity is typically described as being determined by two main factors: novelty and relevance (Smith et al. 2007). The novelty of the ad describes its divergence from expectations or its originality. The relevance of the ad describes the extent which it is meaningful and useful to the audience. For example, Kover, Goldberg, and James (1995) noted that the most successful ads were congruent with customers' needs in addition to being divergent from consumer expectations. According to Ang and Low (2000), the novelty dimension carries positive emotional consequences, which leads to high levels of attitudes toward the ad. Similarly, ads that are relevant and useful to the consumer are likely to influence the way they process and respond to the ad (Ang and Low 2000; Ang, Lee, and Leong 2007).

Though creativity and its influence on attitudes have not previously been investigated in the context of advergames, the in-game advertising literature suggests novelty and relevance may also play a role in advergame effectiveness. Nelson (2002) found that game novelty influences recall of brand placements in the game. Glass (2007) studied the memory benefits to brands involved in a game's interactivity which could be thought of as a novel component in comparison to traditional advertising. Schlosser (2003) wrote that user interactivity when exposed to brand messages resulted in more positive attitudes.

There has been some conflicting evidence regarding ad novelty's role in advertising effectiveness which may be relevant in applying creativity to advergame effectiveness. Lee and Schumann (2004) found evidence that messages that matched expectations were easier to process and remember than messages that were incongruent with expectations. However, they found that mild incongruity was beneficial for more careful processing of the ad's message. In the same way, Smith and Yang (2004) acknowledge that creativity may distract the ad's receiver from the story. If so, the advertising message might be wasted. On the other hand, Ambler and Ann Hollier (2004) argue that even the waste can help attitudes toward the brand if customers perceive the waste to be a symbol of the brand's fitness. Furthermore, Dahlen, Rosengren, and Torn (2008) found evidence that creativity signals effort, which can improve interest in the brand and perceptions of brand quality, whether the advertising is effective or not. Sheinin, Varki, and Ashley (2011)

found support for the idea that novelty and usefulness improve attitudes toward the ad and the brand.

Consistent with previous studies, we anticipate that both novelty and relevance will have positive relationships with the receiver's attitude toward the advergame (A_{game}). The execution's novelty yields hedonic benefits, which can influence brand attitude by enhancing brand affect. Relevance can lead to rational benefits, which can influence attitude toward the ad because the ad is perceived to be useful or meaningful. Because advergame creativity has not been expressly investigated in prior research, we pose the following hypothesis.

H4: Advergame creativity, in the form of novelty and relevance, positively affects attitude toward the game (A_{game}).

In addition to examining the direct effects of advergame novelty and relevance on attitude toward the advergame, we also examine how advergame novelty interacts with the availability of social features in advergames. The effect of advergame socialness is expected to be amplified when the advergame is novel because attitudes toward the advergame are more favorable due to the social interaction (Guerrin 2003) and the hedonic benefits associated with the surprising elements of the game (Sheinin, Varki, and Ashley 2011). Therefore, a consumer's attitude is expected to be further shaped by the fact that the consumer can engage with other users around something novel and relevant. Thus, we predict a positive interaction between the advergame's novelty and the availability of social features in the advergame:

H5: There is a positive interaction between advergame novelty and advergame socialness, such that the availability of social features in advergames strengthens the relationship between advergame novelty and attitude toward the game.

To summarize, the research project seeks to build on existing work on affect transfer to examine the effects of social features on attitudes toward the advergame (A_{game}), attitudes toward the brand (A_{brand}), and intentions to engage in positive WOM about the brand. It also attempts to extend the existing literature on advertising creativity to the context of social advergames by examining the direct effects of creativity on brand outcomes and the interaction between advergame novelty and advergame socialness.

Covariates

Previous research indicates that involvement can affect consumer responses to advergames (Caugherghe and De Pelsmacker 2010), and that brand familiarity affects the impact of associations developed via classical conditioning (Smith, Feinberg, and Burns 1998). Therefore, in addition to randomly assigning respondents to give each respondent an equal chance of being in a condition, which should minimize the potential for confounds (Christensen 2012), we measure involvement and brand familiarity and control for each as a covariate.

In summary, while the academic literature supports the relationships between in-game advertising, advergaming, and consumer attitudes and intentions, we do not know how the presence of social factors in a game influences this relationship. Furthermore, the influence of advergame creativity on the development of consumer attitudes and the possible interaction of socialness in this relationship should be explored. To address these gaps in the literature, we designed three studies to examine whether the social features of advergames can enhance the effectiveness of the game in achieving the objectives of

branded entertainment in the form of A_{game} , A_{brand} , and positive WOM. Then, we look at how social features may interact with advergame creativity, conceptualized as its novelty and relevance, another proposed antecedent to A_{game} . Finally, in the post hoc analyses, we model the effects of A_{game} on A_{brand} , positive WOM about the brand, and positive WOM about the game.

Method

To approach the research project, three studies were devised using a 2 (social/non-social) \times 1 between-subjects experimental design. We utilized three studies to replicate and extend the results of the studies across different product categories to increase the generalizability of the results. Although some research reports a single experimental study (Kinard and Hartman 2013), the multiple study approach is consistent with advertising and advergame research using experiments (Cauberghe and De Pelsmacker 2010).

The presence of social features was manipulated by showing respondents a description of the advergame that included the ability to play with friends or a description of the advergame that did not include the ability to play with friends. Because there is no precedence for testing advergame socialness, the manipulation was done in a way that was consistent with other experimental manipulations (Steffen, Mau, and Schramm-Klein 2013) in the sense that all other aspects of the images, descriptions, and/or videos were held constant; only the availability of social features was different between the two groups. The experiments utilized video or screen shots of real advergames and changed the social features.

The first study provided the basis for testing the first three hypotheses (the influence of social features on A_{game} , A_{brand} , and positive WOM) and utilized a student sample and stimuli in the form of static images. The second study enabled a second opportunity to test Hypotheses 1–3 as well as tests of test Hypotheses 4 and 5. It utilized a student sample and stimuli in video form.

Student samples were appropriate for both product categories, as students are part of the target audience for movies and automobiles. Student samples have been used in other research in the context of games because they are often the target audience of the advergames or in-game product placements (Yoon and Vargas 2013; Kinard and Hartman 2013). According to IBISWorld (2013), consumers aged 18–24 accounted for 17% of the \$14.5 billion spent on movie tickets in 2012. Mini USA, the brand in the second study, sponsored the 2013 Collegiate Effie Awards competition (Effie 2013). They asked for advertising strategies that concentrated on the target market of 18–24 years old and emphasized its College Grad Program. Calder, Phillips, and Tybout (1983) identified students as an appropriate sample for understanding a process. Furthermore, the use of student samples gave the researchers increased control, which is important when researchers are trying to isolate the effects of the experimental manipulations (Janssens and De Pelsmacker 2005). The third study was used to examine all five hypotheses with a non-student sample. More details about the experimental manipulation and the measures used are provided later.

Stimuli

In all three studies, the stimuli used included variations on actual advergames with the manipulation of the presence or absence of social features. The Transformers 3 Web Wars advergame was used as the first study's context; the Mini France advergame was used as

the second study's context; and Friskies' Wonderland Quest advergame was used as third study's context. Study 2 used videos rather than static images. The video showed a description of the game and a user customizing the car, selecting a venue, playing the game, and examining the leader board in both groups. In the social condition, the video showed the ability to invite friends and race against other users. In the non-social condition, the video showed the ability to race against the clock and did not show that the respondent could race against other users. In Study 3, screen shots of a Friskies cat food advergame were manipulated to show whether the respondent could play with friends.

Procedure and samples

In Study 1, a convenience sample of undergraduate students was invited to participate in the study online in exchange for extra credit in a marketing course. In the second study, a convenience sample of undergraduate students was invited to participate in the study in a computer lab in small groups (10–15 students) in exchange for extra credit in a marketing course. In both studies, students were given a link to the study and were randomly assigned to one of two conditions by the data collection software. The lab environment provided greater control since the study used a video instead of a static image. In Study 3, an online sample of respondents was randomly assigned to one of two conditions.

After viewing the stimulus, respondents filled out measures on the computer. In all three studies, the questions included a three-item manipulation check of whether the game was social, eight items for attitude toward the advergame, eight items for attitude toward the brand, two items for willingness to share the game, and three items for positive WOM about the brand. All three studies also included an open-ended question about the game to ensure the respondents viewed the stimulus, three items for brand familiarity, and four items for consumer involvement, as well as measures of how often the respondent plays online games, the respondent's gender, whether English was his/her first language, and interest in advertising. In the second and third studies, there were also three items to measure advergame novelty and three items to measure advergame relevance. All three questionnaires ended with an open-ended question about the reason for the study to identify hypothesis guessing.

Results

Study 1

The first three hypotheses, which proposed a direct relationship between the presence of social features and attitude toward the game, attitude toward the brand, and positive WOM brand communication, were examined using data collected from Study 1. The study involved 93 student participants. Eighty respondents were included in the analysis after respondents were removed because they admitted they did not pay attention to the stimulus in the first open-ended response or because their response about the reason for the study in the second open-ended response question indicated a close guess. The sample included more female respondents (57.5%) than male respondents (42.5%).

Prior to testing the hypotheses, the measures were examined to ensure they were normally distributed, unidimensional, and reliable. The tests of skewness and kurtosis indicated that the data were normally distributed. The eight measures of A_{game} ($\alpha = 0.91$), eight measures of A_{brand} ($\alpha = 0.91$), three measures of positive WOM ($\alpha = 0.87$), three measures of familiarity ($\alpha = 0.82$), four measures of involvement ($\alpha = 0.91$), and three measures of the social nature of the advergame (manipulation check, $\alpha = 0.83$) showed

appropriate levels of reliability (above 0.70; Hair et al. 2006) and loaded on the correct factor when they were all included in a single principal components factor analysis (factor loadings >0.69 , all cross-loadings <0.35). Therefore, the measures were averaged to create an index for each construct.

The social factor index was used to check whether the social/non-social manipulation was effective. The social condition ($M = 6.02$) received significantly higher ratings than the non-social condition ($M = 4.33$, $F(1,78) = 39.127$, $p < 0.001$), indicating the manipulation was successful. The effect of the social/non-social nature of the game was tested in a MANCOVA with A_{game} , A_{brand} and positive WOM as the dependent variables. MANCOVA allows researchers to simultaneously check the relationships between a common set of independent variables and multiple dependent variables (Iversen 2004). The covariates were brand familiarity and product category involvement. The overall model was significant ($p < 0.001$) and the effect of the social factor was significant (Wilks' $\lambda = 0.89$, $p = 0.03$) (Hair et al. 2006).

Individual ANCOVAs were used to test Hypotheses 1–3. The results show support for Hypothesis 1, which states that advergame socialness is positively related to attitudes toward the game (A_{game}). Respondents in the social treatment ($M = 5.13$) had significantly higher ratings of A_{game} than respondents who were in the non-social treatment ($M = 4.54$; $F(1, 76) = 7.886$, $p = 0.006$) of the advergame. Familiarity and involvement were not significant covariates. Hypothesis 2, which states that advergame socialness is positively related to attitudes toward the advertised brand (A_{brand}), was also supported. Respondents in the social treatment ($M = 5.46$) had significantly higher ratings of A_{brand} than respondents in the non-social treatment ($M = 5.12$; $F(1, 76) = 5.21$, $p = 0.025$) of the advergame. Brand familiarity was a significant covariate ($p = 0.005$) but involvement was not. Hypothesis 3, which suggests advergame socialness, is positively related to positive WOM about the brand, was not supported. The difference between the social ($M = 5.01$) and non-social ($M = 4.69$) groups was not significant for positive WOM about the brand ($F(1, 76) = 2.40$, $p = 0.125$). Involvement ($p = 0.008$) and familiarity ($p = 0.019$) were significant covariates.

Study 2 aims to replicate the tests of Hypotheses 1–3 in a higher involvement category: the automobile category. We also used video of the advergame instead of a description and static images of the advergame. Study 2 also measures respondent perceptions of advergame novelty and relevance, which allows us to test Hypotheses 4 and 5.

Study 2

The second study used a computer lab setting for greater control. One hundred and five respondents participated in groups of 10–15. The sample included more male respondents (61%) than female respondents (39%). Once again, the measures were examined to ensure they were normally distributed, unidimensional, and reliable. Tests for skewness and kurtosis indicated that the data were normally distributed. The measures were similarly robust to Study 1. The new constructs, novelty ($\alpha = 0.79$) and relevance ($\alpha = 0.87$) were also unidimensional and reliable (Hair et al. 2006). Therefore, the measures were averaged to create an index for each construct.

The social factor index was used to check whether the social/non-social manipulation was effective. The social condition ($M = 5.75$) received significantly higher ratings than the non-social condition ($M = 4.26$, $F(1,103) = 55.35$, $p < 0.001$), indicating the manipulation was successful. The effect of the social/non-social nature of the game was tested in a MANCOVA with A_{game} , A_{brand} , and positive WOM as the dependent variables and

familiarity and involvement as covariates. The overall model was significant ($p < 0.001$) and the effect of the social factor was significant (Wilks' $\lambda = 0.92$, $p = 0.034$).

Individual ANCOVAs were used to test Hypotheses 1–3. Hypotheses 1 and 2 were supported. Respondents in the social treatment group ($M = 4.08$) had significantly higher ratings of A_{game} than respondents in the non-social group ($M = 3.71$; $F(1,101) = 4.070$, $p = 0.046$). Familiarity was a significant covariate ($p = 0.011$) but involvement was not. Respondents who viewed the social description ($M = 5.08$) had significantly higher ratings of A_{brand} than respondents who viewed the non-social description ($M = 4.73$; $F(1,101) = 5.79$, $p = 0.025$) of the advergaming. Involvement ($p < 0.001$) was a significant covariate but familiarity was not. Again, Hypothesis 3 was not supported. The difference between the social ($M = 4.07$) and non-social ($M = 3.67$) groups was not significant for positive WOM about the brand ($F(1,101) = 3.01$, $p = 0.086$). Involvement ($p = 0.007$) was a significant covariate but familiarity was not (Table 1).

To test Hypotheses 4 and 5, A_{game} was regressed on advergaming novelty, advergaming relevance, involvement, brand familiarity, whether the advergaming was social, and the interaction between novelty and socialness. Both constructs in the interaction were mean centered before they were used in the interaction. The overall model was significant ($F(6,98) = 16.347$, $p < 0.001$) and the variance explained in A_{game} is 54.1%. Hypothesis 4, which suggests advergaming novelty and relevance are positively related to A_{game} , was supported. Advergaming novelty ($\beta = 0.214$, $p = 0.002$) and advergaming relevance ($\beta = 0.231$, $p = 0.003$) had significant, positive relationships with A_{game} . Furthermore, the interaction between novelty and social ($\beta = 0.095$, $p = 0.049$) was also positive and significant. Therefore, we found support for Hypotheses 4 and 5.

Post hoc analysis

The MANCOVA results indicate direct effects of advergaming socialness on advergaming attitudes, attitudes toward the brand, and positive WOM about the brand. The regression results indicate advergaming novelty and relevance have positive relationships with attitude toward the advergaming, as does the interaction between novelty and socialness. However, it is important to understand how attitudes toward the advergaming relate to attitudes toward the brand and positive WOM about the brand.

To further examine the relationships between the constructs, a post hoc analysis was conducted using a partial least squares (PLS) structural model. A PLS model uses

Table 1. Regression results of Studies 2 and 3 (dependent variable is A_{game}).

	Study 2		Study 3		
	<i>B</i>	<i>t</i> -Statistic	<i>B</i>	<i>t</i> -Statistic	
Hypotheses					
H1: Social $\rightarrow A_{\text{game}}$ (+)	0.231	3.098**	0.112	2.601**	Supported
H4: Advergaming novelty $\rightarrow A_{\text{game}}$ (+)	0.214	3.262**	0.251	4.371***	Supported
H4: Advergaming relevance $\rightarrow A_{\text{game}}$ (+)	0.233	2.622**	0.279	4.487***	Supported
H5: Novelty \times social $\rightarrow A_{\text{game}}$ (+)	0.095	1.998*	0.049	1.828	Mixed
				($p = 0.069$)	
Covariates					
Involvement $\rightarrow A_{\text{game}}$ (+)	0.116	1.563	0.097	2.039*	Mixed
Familiarity $\rightarrow A_{\text{game}}$ (+)	-0.255	-3.074**	-0.023	-0.482	Mixed
R^2	0.541		0.486		

reflective measurement and considers the relationships among all of the constructs in the analysis. Therefore, it allows us to model relationships among the constructs without assuming that the constructs are directly observed even though the number of indicators associated with the latent variables is large. PLS uses a variance-based structural model that weights the relationships between the constructs, so it is possible to model relationships between related constructs and include multiple items for each construct (Haenlin and Kaplan 2004). PLS also accommodates the interaction between the latent variables. It estimates relationships between indicators and their unobservable variables, calculates case values for the unobservable variables using weight relations as an input, and then uses the case values in a set of regression equations to determine parameters for the structural relations (Haenlin and Kaplan 2004).

In addition to the dependent variables included in the first two studies, the model includes the likelihood the respondent would share the game with others as an additional dependent variable. A recent research paper on Social Gamers indicates that the recommendations from a friend or colleague are the single most important factor in whether they decide to try a game or not (Social Gamer Research Study 2011).

First, the outer model was used to assess the measurement model (Haenlin and Kaplan 2004). The items that were used as reflective measures met the standards for reflective item reliability (> 0.70) and convergent reliability (composite reliabilities > 0.80 , see Table 2). The path coefficients from the inner model and the t values from a bootstrapping procedure of 100 samples are reported in Table 3.

In addition to duplicating the results reported from the regression, the model tests for relationships between A_{game} and A_{brand} , A_{game} and positive WOM about the brand, A_{game} and share with friends, and A_{brand} and positive WOM about the brand. The relationships among the constructs are significant and positive (Table 3). Using the R^2 values, the variance explained in A_{game} is 53.4%. The variance explained in A_{brand} is 41.5%, and the variance explained in whether the respondent would share the game with friends was 42.9%. This indicates that A_{game} has very strong relationships with these constructs. Finally, the strong significant relationships from A_{game} and A_{brand} to WOM explain 56.4% of its variance. All of these are large effect sizes (Cohen 1988).

The results support the idea that advergaming socialness has a positive effect on consumer attitudes toward the advergaming and the brand featured in the advergaming. Socialness had marginally significant positive relationships with positive WOM about the brand in both studies. The post hoc analysis in Study 2 indicates that positive WOM may be affected indirectly through A_{game} and A_{brand} .

Study 3 was designed to replicate the results of the hypothesis tests and the post hoc model using a non-student sample and a lower involvement product category. A larger sample was used to ensure that the non-significant results associated with Hypothesis 3 were not a function of a smaller effect size.

Study 3

Study 3 sought to test the hypotheses using data from a non-student sample. Two hundred and nine respondents were recruited through an online web panel. Respondents were instructed to give their honest opinions toward an advergaming and the sponsoring brand. As in the previous two studies, respondents were randomly assigned to social or non-social treatment groups. The sample included more female respondents (55%) than male respondents (45%). Once again, the measures were examined to ensure they were normally distributed, unidimensional, and reliable. Tests of skewness and kurtosis

Table 2. Post hoc analysis, measurement model (Studies 2 and 3).

Construct	Items	Study 2			Study 3		
		Outer loading	Composite reliability	Average	Outer loading	Composite reliability	Average
Socialness	The video I watched depicted a game which I could play with friends	0.785	0.81	0.59	0.934	0.86	0.67
	The game I observed included the opportunity to play against others	0.753			0.736		
Novelty	The game depicted in the video was social	0.759			0.776		
	The game was original	0.882	0.88	0.70	0.887	0.89	0.74
	The game was unique	0.913			0.902		
	I have seen this type of game so many times, I am tired of it (reverse coded)	0.706			0.784		
Relevance	The message in the game was appropriate for me	0.881	0.87	0.77	0.799	0.84	0.72
	The game's message was very meaningful to me	0.874			0.896		
Involvement	The product category is important to me	0.854	0.89	0.68	0.991	0.95	0.81
	The product category is involving to me	0.824			0.899		
	The product category is boring to me (reverse coded)	0.847			0.824		
	The product category is relevant to me	0.759			0.883		
	I am familiar with the featured brand	0.828	0.89	0.73	0.836	0.89	0.68
Familiarity	I have heard of the featured brand	0.867			0.835		
	I can recognize the featured brand among other brands	0.872			0.814		
A _{game}	The game was good	0.799	0.95	0.72	0.845	0.95	0.75
	The game was not lovable (reverse coded)	0.857			0.856		
	The game was desirable	0.869			0.792		
	My feelings toward the game are negative (reverse coded)	0.811			0.861		
	The game was entertaining	0.860			0.829		
	The game was not fun (reverse coded)	0.892			0.929		
	The game was likable	0.872			0.925		
The game was interesting	0.840			0.843			

(Continued)

Table 2 – continued

Construct	Items	Study 2			Study 3		
		Outer loading	Composite reliability	Average	Outer loading	Composite reliability	Average
A_{brand}	The featured brand is bad (reverse coded)	0.784	0.94	0.65	0.745	0.93	0.65
	The featured brand is lovable	0.807			0.844		
	The featured brand is not desirable (reverse coded)	0.827			0.825		
	My feelings toward the brand are positive	0.782			0.873		
	The featured brand is not entertaining (reverse coded)	0.716			0.651		
	The featured brand is fun	0.785			0.788		
	The featured brand is likable	0.858			0.890		
	The featured brand is not interesting (reverse coded)	0.872			0.795		
Share game	How likely would you be to: Share the game with others? Invite a friend to play along with you?	0.946 0.936	0.94	0.89	0.947 0.943	0.94	0.89
Positive WOM	How likely would you be to: Say positive things about the brand? Recommend the brand featured in the game to others? Recommend the brand in the game to someone who seeks your advice	0.891 0.931 0.873	0.93	0.81	0.935 0.933 0.909	0.95	0.86

Table 3. Post hoc analysis, PLS model (Studies 2 and 3).

	Study 2		Study 3		
	Coefficient	<i>t</i> -Statistic	Coefficient	<i>t</i> -Statistic	
Hypotheses					
H1: Social → A_{game} (+)	0.24	3.10**	0.15	2.44**	Supported
H2: Social → A_{brand} (+)	0.13	2.53**	0.21	4.52***	Supported
H3: Social → WOM	0.05	0.95	0.06	1.24	Not supported
				($p = 0.11$)	
H4: Advergame novelty → A_{game} (+)	0.30	3.38***	0.21	2.71**	Supported
H4: Advergame relevance → A_{game} (+)	0.26	2.37**	0.20	2.56**	Supported
H5: Novelty × social → A_{game} (+)	0.16	1.69*	0.14	1.34	Mixed
				($p = 0.09$)	
A_{game} → A_{brand} (+)	0.27	3.06**	0.38	4.54***	Significant
A_{game} → WOM (+)	0.16	2.33*	0.25	3.60***	Significant
A_{game} → Share game (+)	0.65	12.24***	0.46	8.36***	Significant
A_{brand} → WOM (+)	0.58	8.26***	0.40	7.12***	Significant
Covariates					
Involvement → A_{game} (+)	0.17	2.12*	0.22	3.04**	Significant
Familiarity → A_{game} (+)	-0.22	2.97**	-0.06	1.00	Mixed
Involvement → A_{brand} (+)	0.46	5.66***	-0.05	0.49	Mixed
Familiarity → A_{brand} (+)	0.16	2.01*	0.30	4.08***	Significant
Involvement → WOM	-0.01	1.69*	0.11	1.76*	Significant
Familiarity → WOM	0.14	0.11	-0.02	0.41	Not significant

Note: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

indicated that the data were normally distributed, and all of the measures were similarly robust to Studies 1 and 2.

The social factor index was used to check whether the social/non-social manipulation was effective. The social condition ($M = 4.68$) received significantly higher ratings than the non-social condition ($M = 3.57$, $F(1,207) = 40.31$, $p < 0.001$). The effect of the social/non-social nature of the game was tested in a MANCOVA with A_{game} , A_{brand} , and positive WOM as the dependent variables and familiarity and involvement as covariates. The overall model was significant ($p < 0.001$) and the effect of the social factor was significant (Wilks' $\lambda = 0.896$, $p < 0.001$).

Individual ANCOVAs were used to test Hypotheses 1–3. All three hypotheses were supported. Respondents in the social treatment group ($M = 4.43$) had significantly higher ratings of A_{game} than respondents in the non-social treatment group ($M = 3.73$; $F(3,186) = 23.145$, $p < 0.001$). Involvement was a significant covariate ($p = 0.011$) but familiarity was not. Respondents in the social treatment group ($M = 4.92$) had significantly higher ratings of A_{brand} than respondents in the non-social version ($M = 4.55$; $F(3,186) = 21.394$, $p < 0.001$). Involvement ($p < 0.001$) and familiarity ($p < 0.001$) were significant covariates. In Study 3, support was found for Hypothesis 3. Respondents in the social treatment group ($M = 4.06$) indicated that they were significantly more likely to engage in positive WOM about the brand than respondents in the non-social version ($M = 3.40$, $F(3,186) = 22.55$, $p < 0.001$). Involvement ($p < 0.001$) was a significant covariate but familiarity was not.

To test Hypotheses 4 and 5, A_{game} was regressed on advergame novelty, advergame relevance, involvement, brand familiarity, whether the advergame was social, and the

interaction between novelty and socialness. Both the socialness and the novelty constructs were mean centered before including the interaction. The overall model was significant ($F(6,202) = 31.82, p < 0.001$) and the variance explained in A_{game} is 48.6%. Hypothesis 4, which suggests advergence novelty and relevance are positively related to A_{game} , was supported. Advergence novelty ($\beta = 0.251, p < 0.001$) and advergence relevance ($\beta = 0.279, p < 0.001$) had significant, positive relationships with A_{game} . However, the interaction between novelty and social ($\beta = 0.049, p = 0.069$) was marginally significant. Therefore, we found additional support for Hypothesis 4. Hypothesis 5 was not supported, but the relationship was in the correct direction and the significance level was < 0.10 ; see [Table 1](#) for results.

Post hoc analysis

The regression results indicate direct effects of advergence socialness on advergence attitudes, attitudes toward the brand, and positive WOM about the brand. They also indicate advergence novelty and relevance have positive relationships with attitude toward the advergence. To once again relate attitudes toward the advergence to attitudes toward the brand and positive WOM about the brand, the overall model was tested in a PLS structural model. As in Study 2, the model includes the likelihood that the respondent would share the game with others as an additional dependent variable.

First, the outer model was used to assess the measurement model. The items that were used as reflective measures met the standards for reflective item reliability (> 0.70) and convergent reliability (composite reliabilities > 0.80 , see [Table 2](#)). The path coefficients from the inner model and the t -values from a bootstrapping procedure of 100 samples are reported in [Table 3](#).

In addition to duplicating the results reported from the regression, the model tests for relationships between A_{game} and A_{brand} , A_{game} and positive WOM about the brand, A_{game} and share with friends, and A_{brand} and positive WOM about the brand. The relationships among the constructs are significant and positive ([Table 3](#)). Using the R^2 values, the variance explained in A_{game} is 53.6%. The variance explained in A_{brand} is 40.1%, and the variance explained in whether the respondent would share the game with friends was 61.9%. This indicates A_{game} has very strong relationships with these constructs. Finally, the strong relationships from A_{game} and A_{brand} to WOM explain 59.8% of its variance. All of these are large effect sizes (Cohen 1988).

Discussion

The results demonstrate that the social nature of advergaming has positive relationships with attitudes toward the advergence. Attitude toward the advergence is positively related to brand attitudes and positive WOM about the featured brand. The results suggest that including social features can help the effectiveness of advergaming, which is consistent with past research that suggests socialness helps motivate people ([Li 2011](#)) and increases pleasure ([Wang et al. 2007](#)) and attitudes ([Guerrin 2003](#)). The results also suggest that embedding social components in advergaming may help maximize positive attitudes toward the game and attitudes toward the brand. From a more general branding perspective, the results suggest that including the availability of social interactions as part of other forms of advertising may be an effective way of improving attitudes toward the ad, which may lead to other favorable brand outcomes.

Along with the social nature of advergames, advergame novelty and relevance have positive relationships with attitudes toward the advergame. The results replicate the relationships between the big two dimensions of advertising creativity that have been demonstrated in the literature on A_{ad} (Ang and Low 2000; Ang, Lee, and Leong 2007) in the context of advergames. The authors are not aware of other studies that test the effects of creativity in the context of advergames.

Novelty also interacts with the social nature of advergames, such that novel advergames that are also social have a stronger positive relationship with attitudes toward the advergame. Since attitude toward the advergame has a positive relationship with attitude toward the featured brand and positive WOM about the brand, the interaction is important. It suggests that there are advantages to having a creative and social advergame. Other forms of advertising may also benefit from the combination of novelty and socialness.

Given the existing research supporting the value of in-game advertising via product placement and advergames and the popularity of social games (Nelson 2002), the results of this research are encouraging. Social features in advergames appear to influence player attitudes toward the game and the sponsoring brand, and may also encourage positive WOM communication about the brand. Thus, for brand marketers, social advergames may offer advantages for branding over advergames without social features. Future research can examine whether social advergames outperform product placement in social (non-branded) games.

While social aspects of the advergame did not directly result in increased intent to share positive WOM about the brand, social aspects resulted in more positive attitude toward the game and attitude toward the brand sponsor, which are associated with higher positive WOM for the brand. Brand advocacy is important because consumers control the conversation about brands across many social media platforms (Hollis 2006; Brown et al. 2005). Not only can social features enhance the branding effectiveness per player, it also has the potential to increase the diffusion and reach of the game to others in the target audience through game referrals.

To summarize, the empirical results contribute to the research on advergames by showing that socialness can improve attitudes toward the advergame, which ultimately relates to brand attitudes and brand advocacy. The results also contribute conceptually to the theory of sociability and classical conditioning. The socialness results provide support for the idea that consumers have a fundamental need for social interaction that affects how they respond to advertisements. The socialness dimension should be included in future research in other advertising contexts. The results are in line with existing research on classical conditioning because the positive effect generated through the addition of social interaction to an advergame had a positive effect on consumer's attitudes. The results contribute to management practice because they suggest additional investments into social features of advergames, and advergame novelty should be considered as they may help improve the overall impacts on the featured brand.

Limitations and future research

The results should be assessed with the studies' limitations in mind. First, we used student samples viewing ideas in a controlled setting for two of the three studies. To address this limitation, we conducted a third study with a non-student sample. Additional replications with non-student samples would also be desirable. Furthermore, typically classical conditioning-based experiments utilize multiple exposures to reinforce the relationship

between the unconditioned stimulus and the conditioned stimulus. In this case, we used a single exposure. We also did not examine the longevity of the resulting effects. Future research should examine the effects of multiple exposures and should test the endurance of A_{game} , A_{brand} , and positive WOM. A field study would add external validity to the current results. A diary study might also help shed light on how consumers process information after the experiment ends (Bolger, Davis, and Rafaeli 2003). Furthermore, a qualitative inquiry could add richness to the theory development about the role of advertising socialness in persuasion.

In order to provide greater control over the stimuli, respondents were exposed to screen shots (Studies 1 and 3) or a video (Study 2), so they could not interact with the advergaming. Interaction with the advergaming may have increased situational involvement, which may have had an impact on other results. Interactivity has been shown to influence consumer attitudes (Schlosser 2003) and may itself be a relevant construct in understanding the effectiveness of advergaming. Future research should try to employ similar controls but still provide participants the opportunity to play the game.

Future research may also manipulate novelty and relevance instead of measuring the respondents' perceptions of them. Nelson (2002) suggested that the potential for in-game product placements to influence consumer attitudes could be contingent upon game genre. The influence of social features may likewise vary depending upon the genre of advergaming being socialized. Other advertising research around game brand placements has used brand recall and recognition as a measure and this may be of value in the next stage of social advergaming research. Furthermore, there are many potential creativity tactics such as picture/word inconsistency, vividness, imagery, and element omission. It would be interesting to examine how these elements interact with the social aspect of advergaming to affect the relationship between novelty and attitudes toward advergaming. Such empirical work could potentially help managers find the means to manage advergaming creativity and brand equity by understanding interrelationships between specific advergaming executions.

In addition to contributing to the understanding of how socialness contributes to the effectiveness of advergaming, the findings may have implications for other advertising formats. Advertisers are increasingly linking advertisements across traditional and social media, for example deploying Facebook pages and microsites where consumers can interact with a specific campaign delivered via television. Future research can examine how the socialness of these and other 'social' campaigns affect their effectiveness. The effectiveness can also be extended to include implicit brand attitudes, which have received less attention than explicit brand attitudes in past research (Terlutter and Capella 2013).

Future research can also test for differences when consumers are accessing games via mobile devices, which is a growing way to access advergaming and social networking tools. The modality may be tested in conjunction with other factors that could influence consumer response to social advergaming, including peer influence susceptibility, which has been tested among children (Rozenaal et al. 2013), and negative affect (Steffen, Mau, and Schramm-Klein 2013).

Managerial implications

In spite of the limitations, the results have important implications for advertisers. Advergaming are potentially valuable vehicles for the delivery of branded messages to appropriate target audiences. Interest in gaming is on the rise, even among audiences historically less likely to take part in gaming, including older consumers and female consumers. This has in part been explained with the popularity of social networking and

the prevalence and accessibility of social games offered within social networks. Brands have the ability to sponsor messages in games, but advergaming provides a degree of control and exclusivity for the brand sponsor not otherwise available in a game context. Thus, brands have utilized advergaming.

Despite the interest in games among a broad audience of the Internet users, the extent to which advergaming could maximize effectiveness in meeting marketing objectives by incorporating social aspects such as player interactions and the shared publishing of activities and accomplishments was largely unknown. Furthermore, advergaming has been thought to offer less interesting and attractive forms of game play compared to other casual social games, suggesting that advergaming creativity could be manipulated to improve positive effects accruing to the brand. The studies reported herein suggest that brands should seek to develop novel games that are relevant to the consumer and embed social components in order to maximize positive attitudes toward the game and attitudes toward the brand. The results further suggest that advergamingers are likely to recommend the game to others when the game is novel and social, resulting in an expansion of reach for the brand message.

Note

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