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An application of brand personality to advergames: The effect of company attributes on advergame personality



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ABSTRACT

The purpose of this study is to explore the advergame personality (AP) dimensions and to explicate the underlying relationships of the AP dimensions with company attributes, product categories, and consumers' behavioral intentions. A series of surveys with convenience samples indicates that consumers ascribe personality characteristics to advergames and that the perceived AP is five-dimensional, specifically: *vibrancy*, *competence*, *intelligence*, *activeness*, and *excitement*. A path model shows that company attributes (i.e., size, reputation, relevance) influenced each AP dimension in various ways, depending on product category (i.e., hedonic vs. utilitarian), which in turn affected consumers' intentions to play an advergame and to purchase a product. This study produces valuable insights into the effectiveness of advergames and into ways to strategically lead to behavioral intentions to play an advergame and purchase a product.

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1. Introduction

In today's advertising industry one advertising practice attracting growing interest is advertising in entertainment programming, and the emerging content area that is particularly receiving notice is digital games (Chambers, 2005; Waiguny, Nelson, & Terlutter, 2012). As a new and captivating mass medium, digital games have evolved into an audio-visually impressive marketing communication tool for advertisers. Although digital games are typically targeting younger players, a substantial number of gamers are found at all ages (Terlutter & Capella, 2013). According to the Entertainment Software Association (ESA, 2015), the average game player in the U.S. is 35 years old and 42 percent of Americans play games regularly, with a dedicated gaming console present in 51 percent of all U.S. households. Also, playing digital games is no longer a male-dominated phenomenon as 44% of all game players are women (ESA, 2015). Based upon a representative survey by The NPD Group/Retail Tracking Services, the total sales of digital game related markets in the U.S. reached over 15.4 billion in 2014.

In recent years, a branding strategy known as “advergames” is

by no means novel to the field of marketing communication. Advergame, a cross between digital games and advertising, is a hybrid form of branded entertainment with insertions of a brand within an entertainment property (Adis & Kim, 2013a; Cauberghe & De Pelsmacker, 2010; Okazaki & Yagüe, 2012; Vashisht & Royné, 2016). The rapid growth of interest in advergames indicates that marketers acknowledge the potential benefits of advergames as a covert marketing tactic. In general, most advergames try to promote their characteristics such as ‘interesting,’ ‘adventurous,’ and/or ‘exciting.’ However, emphasizing such attributes no longer helps differentiate any advergame from its competitors. Although developing advergames based on such ordinary attributes may increase awareness of an advergame, it does not ensure that desired advertising outcomes can be achieved. The present study suggests instead that consumers' personality perceptions of advergames, which is termed *advergame personality* (AP) can be used to build a unique identity to which to target game advertising, implying that understanding users' perceptions of the advergames may potentially lead to improving the effectiveness of advergames.

Despite a growing number of studies on advergames, there has been no attempt, to our knowledge, to conduct research based on the perspective that the image or personality of an advergame can be linked with and transferred to the advertised brand embedded in the game. Admittedly, little is known about the dimensions underlying the personality of advergames or whether, indeed,

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advergaming have their own personality dimensions that reflect human personality dimensions. This postulates that advergaming might have their own personalities as brands and individual personality traits also can be attributed to games and/or advergaming. Based on this postulation, the current study is designed to explore advergaming's own personality dimensions and to develop a valid and generalizable personality measurement scale in the context of advergaming.

More specifically, in this study, first, the perceived AP and its underlying dimensions are investigated by adopting the concept of brand personality. Second, this study examines the effects of the advergaming personalities on game players' future behavioral intentions such as willingness to play the game and intention to purchase.

2. Conceptual background

2.1. Advergame as branded entertainment

The use of branded entertainment in digital games is becoming more prevalent (Hudson & Hudson, 2006). From the advertisers' view point, branded entertainment refers to efforts to imbue brand messages in entertainment-oriented media content in order to increase consumers' willingness to process commercial contents. In the context of advergaming, the digital game is a specially designed entertainment property to promote the brand, product, service or idea (Adis & Kim, 2013a; Cauberghe & De Pelsmacker, 2010; Okazaki & Yagüe, 2012; Terlutter & Capella, 2013). Since the main purpose of advergaming is to convey a brand message clearly, advergaming are rather simple in their design (e.g., no complex rules, short playing time, etc.), generally free of charge, downloadable (Adis & Kim, 2013a; Bellman, Kemp, Haddad, & Varan, 2014; Terlutter & Capella, 2013), and easily distributed on various platforms such as on companies' Web sites, via e-mail, on mobile devices and on interactive digital television (Cauberghe & De Pelsmacker, 2010).

The general consensus of the studies in the advergaming area is that advergaming may affect an individual's brand related information processing through positive arousal associated with game play, in turn, increase brand awareness, brand knowledge, and positive brand attitudes (Hernandez & Chapa, 2010). However, although many academic approaches have been taken to theoretically describe advergaming's significant potential as a new form of advertising, research on advergaming is still limited in number and scope (Kinard & Hartman, 2013; Rifon et al., 2014).

2.2. Brand personality and brand association

Brand personality can be described as "the set of human characteristics associated with a brand" (Aaker, 1997, p. 347). On the basis of this notion, it is considered that consumers often views brands as having human characteristics (Aaker, 1997, 1999; Plummer, 2000). In a marketing context, people can build and maintain emotionally charged relationships with the brand as being a person with whom they may choose to have a relationship (Blackston, 2000; Malär, Krohmer, Hoyer, & Nyffenegger, 2011). This is due to the fact that, for the purpose of advertising, marketers and advertisers seek to humanize and anthropomorphize their brands by promoting products' (and services') symbolic images; consumers may easily view a brand as having certain human traits (Lee & Cho, 2009). These characteristics could be traits such as friendly, youthful, sporty, dynamic or sophisticated. For example, one may use the following words to describe some popular brands: "cool" and "real" for Coca-Cola, whereas "young" and "exciting" for Pepsi (Aaker, 1997), "sophisticated" for a BMW (Phau & Lau, 2000),

and "unique" for Dr. Pepper (Aaker, 1997; Plummer, 2000). Along these lines, when brands are associated with specific user characteristics, consumers may obtain a favorable social classification by using these brands (Aaker, 1997). Moreover, being associated with a certain consumer's profile may contribute to the development of the ideal self-concept and the identity of the consumer (Sirgy, 1982; Supphellen & Gronhaug, 2003). As the idea of brand association is commonly considered a novel communication tool for increasing consumers' preferences for a brand by differentiating that brand within a product category (Aaker, 1997, 1999; Keller, 1993), many researchers have long suggested that the perceptions (or personality) associated with a brand go beyond mere functional product-related attributes and relate to demographic factors such as gender, age and social class (e.g., Keller, 1993; Levy, 1959; Lee & Cho, 2009, 2012).

As argued by Aaker (1997), brand personality that a consumer associates with a particular brand might have some traits congruent with human personalities. On the other hand, according to other studies, brand personalities differ from human personalities in that human personality traits are developed on the basis of individuals' behaviors, physical characteristics, attitudes and beliefs (Lee & Cho, 2012), whereas brand personality traits are formed through indirect or direct contact that the consumer has with the brand (Plummer, 2000). In sum, most of the research papers on brand personality have generally provided empirical support for the notion that favorable brand associations help create overall brand images (or personalities) and their evaluations are stored in consumers' memories.

2.3. Advergame personality defined

The concept of brand personality has become quite generally accepted in the marketing field. In fact, studies on the application and validation of Aaker's (1997) brand personality scale (or researchers' own) seem to have been continuously carried out. Research efforts have been extended into new areas such as service businesses, nonprofit organizations and sports activities. For example, TV stations, hotels, restaurants, airlines, tourism places, cities, countries, and sports activities are examples that have been applied to the brand personality concept (e.g., Ekinci & Hosany, 2006; Karande, Zinkhan, & Lum, 1997; Lee & Cho, 2012; Lin, 2010; Meenaghan, 2001; Shim, Kim, & Hwang, 2008; Sigauw, Matilla, & Austin, 1999; Usakli & Baloglu, 2011; Venable, Rose, Bush, & Gilbert, 2005). These academic efforts have been made to examine whether any theoretical structure of a personality could exist in a specific product, services and organizations, and they explored perceptions of brand personality and developed a measuring scale for the personality by adopting human personality dimensions.

For example, Lin (2010) investigated whether consumers may perceive specific video game brands (i.e., Bandai) as having personalities in terms of excitement, competence, peacefulness, sincerity, and sophistication. The study found that a specific brand scored high on brand personality for "competence" and "sophistication", which means that consumers had developed certain levels of relationship with the game brand, which further influences their brand loyalty. In support of this perspective, Meenaghan (2001) reported that a sporting event may have its own particular personality traits. The study suggests that some personality traits which are associated with high-brow arts activities such as ballet (sophisticated, elite, discrimination, upmarket, serious, and pretentious) are differentiated from other events. In another example, Ekinci and Hosany (2006) examined the applicability and validity of Aaker's (1997) brand personality framework in the context of tourism destinations. Their findings showed that destination

personality consists of three salient dimensions, namely: “sincerity,” “excitement,” and “conviviality.” Thus, the authors generalized beyond the specific context of personality dimensions (i.e., tourism destinations) they had identified by arguing that tourists ascribe personality traits to destinations.

Similarly, Usakli and Baloglu (2011) used the brand personality concept to differentiate tourism destinations and reported that the consumers' perceived destination personality of Las Vegas is multi-dimensional (vibrancy, sophistication, competence, contemporary, and sincerity). In a later study, Lee and Cho (2012), also uncovered sporting events' own personality dimensions (diligence, uninhibitedness, fit, tradition, amusement) by utilizing Aaker's (1997) brand personality terminology, hypothesizing that there are theoretical personality structures in sporting event sectors. The study results indicate that individuals can distinguish a sporting event from other events by imbuing it with human characteristics. Briefly, these prior perspectives hold that not only a commercial brand but also a nonhuman and inanimate entity may become associated with human characteristics.

In branded entertainments, having one's own unique brand personality could help to differentiate brands more easily and enhance brand equity (Keller, 1993; Um & Kim, 2014). Recognizing that advergimes are typical forms of branded entertainment that provides consumers with opportunities to experience a brand by playing advergimes (Adis & Kim, 2013a,b; Cauberghe & De Pelsmacker, 2010; Lee & Youn, 2008; Terlutter & Capella, 2013), we posit the concept that brand personalities can be extended to gauge personality traits that consumers ascribe to advergimes when they are experiencing brand characteristics as they are playing advergimes. Furthermore, due to the hedonic nature of the gaming experience and given that advergimes are rich in terms of symbolic values, it is believed that the concept of brand personality can be applied to advergence contexts similar to other contexts such as tourist attractions, restaurants and hotels. However, very little is known about the possibility that certain personality dimensions of advergimes may exist. To our best knowledge, the idea of defining the individual personalities of advergimes is new. Thus, integrating existing knowledge of brand/product personalities into the commercial goods and services settings, we assume that, similar to consumer brands, advergimes could have their own distinct personalities. Therefore, in the current study, AP is defined as *the set of human characteristics associated with an advergence as perceived from a consumer (i.e., game player) viewpoint*.

In the following section, we explore the nature of the dimensions that organize AP perceptions. Next, we examine a theoretical model which specifies the relationships among AP, company attributes, product category, and consumers' future behavioral intentions (i.e., intention to play the game and purchase). Accordingly, we postulate the following research questions:

RQ 1. Are advergimes perceived to possess personalities? If so, what are the underlying dimensions of AP?

RQ 2. How does AP relate to company attributes, product category and consumer behaviors?

3. Methodology

3.1. Personality dimensions of advergimes

Although Aaker's (1997) brand personality scale has been widely used within different product categories and across different cultures (Usakli & Baloglu, 2011), the scale is not particularly designed for advergimes. Admittedly, brand personality traits are formed through many aspects such as product-related

attributes, product category associations, brand names, symbols or logos, advertising styles, price and distribution channels, brand user imagery, etc. (Aaker, 1997; Lee & Cho, 2012). These general elements for building brand personalities might be applied to the AP concept. However, AP is expected to have its own unique source inferences that differentiate it from brand personalities. As an advergence consists of a digital game and a brand, advergimes engage consumers in the game to activate an emotional reaction between the game and the brand featured within it (Cauberghe & De Pelsmacker, 2010; Lee, Park, & Wise, 2014). This interactive aspect of advergence play will likely influence consumers' personality perceptions towards advergimes and is almost non-existent in the case of a brand.

It is also important to note that Aaker's 42-item brand personality scale contains only positive personality traits. However, these positive associations with brands do not always occur. Furthermore, negative attributes might characterize a certain concept or be part of the nature of a brand. For example, car makers often deliberately maintain the perception of their brand as unfriendly and slightly arrogant (Mark & Pearson, 2001), and personality traits associated with a specific sports event such as NBA's (National Basketball Association) All-Star Game event in the US can be show-off, arrogant and aggressive (Lee & Cho, 2012). Thus, in the digital game context, negative attributes might also characterize AP. The possible assumption here is that a negative experience while playing advergimes may affect players' moods and that will accordingly form negative personality perceptions of the advergimes. Thus, the dimensions underlying AP may differ from previous standards and a new theoretical structure needs to be considered in the current study.

3.1.1. First stage: generation and purification of personality traits

The first step of AP trait generation was to take a list of human personality traits from the literature in brand personality research. Specifically, 281 personality traits were borrowed from previous scales to be used in measuring human and brand personalities (e.g., Aaker, 1997; Aaker, Benet-Martinez, & Garolera, 2001; Doss & Carstens, 2014; Ekinci & Hosany, 2006; Lee & Cho, 2009, 2012; Lin, 2010; Meenaghan, 2001; Murphy, Moscardo, & Benckendorff, 2007; Plummer, 2000; Sweeney & Brandon, 2006; Usakli & Baloglu, 2011). In this stage, to ensure that the personality traits used in this study are pertinent to advergimes, it was predetermined that if a trait seemed unrelated to this study (e.g., naughty, big-headed, quarrelsome, etc.) and was seriously negative and unusual (e.g., cruel, hostile, barbaric, etc.), it would not be used. However, moderately negative attributes were kept in the pool (e.g., violent, aggressive, and noisy).

In addition, to identify any unique personality traits related to advergimes, a free-elicitation task was conducted among 34 participants (61% female; M age = 22). The subjects were recruited from undergraduate business classes and considered to have a certain level of interest in digital game playing. They were selected on an opportunity basis and were told they would be taking part in a study investigating how people perceive advergimes.

Since there are many types of advergimes, this study adopts Lee and Youn's (2008) classification of advergence genres and defines 13 types of unique criteria, specifically: *action, adventure, quiz, fighting, puzzle, racing, role playing, shooting, simulation, sports, strategy, card game, and arcade*. After explaining the concept of advergimes and specific game genres, we asked participants to think of each advergence genre as if it were a human and write down the personality characteristics that first came to mind. Three unique traits (i.e., imaginative, immersed, and surreal) that resulted from this procedure were added into the initial trait list and a total of 184 relevant personality traits were gathered.

Table 1
Descriptive statistics of thirty-eight AP traits.

Trait	Frequency	Percentage-checked	Trait	Frequency	Percentage-checked
Challenging	21	78%	Competitive	21	78%
Intelligent	20	74%	Speedy	20	74%
Energetic	19	70%	Funny	18	67%
Clever	18	67%	Active	16	59%
Strategic	16	59%	Smart	16	59%
Skillful	15	56%	Exciting	15	56%
Dynamic	15	56%	Enthusiastic	14	52%
Lively	14	52%	Brave	14	52%
Encouraging	13	48%	Sophisticated	13	48%
Tactical	12	44%	Imaginative	12	44%
Intense	12	44%	Entertaining	12	44%
Successful	11	41%	Passionate	11	41%
Vigorous	10	37%	surreal	10	37%
Immersed	10	37%	Unpredictable	10	37%
Boring	10	37%	Tough	10	37%
Classic	9	33%	Confident	9	33%
Dull	9	33%	Strong	9	33%
Aggressive	9	33%	Athletic	9	33%
Powerful	9	33%	Loud	9	33%

To reduce the list of personality traits to a manageable size, another survey was conducted with a convenience sample of 37 undergraduate students from the same university (58% female; M age = 23). Adopting the purification process by Usakli and Baloglu (2011), after listing the 184 traits, participants were asked to think of 13 types of advergimes and check all the traits from the list that they considered appropriate to describe the advergimes. If a trait was checked by at least 30% of the subjects, it would be included in the final pool of personality traits. Through this process, a total of 38 personality traits were selected. Their frequencies and percentages are described in Table 1.

3.1.2. Second stage: exploratory factor analysis of AP traits

In this stage, 38 personality traits in the AP were tested for exploratory factor analysis. For the analysis with which to determine the number and nature of dimensions of AP, a random subset of 203 undergraduate students was utilized (122 females, 60% and 81 males, 40%; M age = 23, SD = 1.61). By adopting the design in Aaker's study (1997), 13 genres of advergimes (Lee & Youn, 2008) were placed into four distinct advergime categories according to common features in each category. As such, each category contained similar characteristics of advergimes (see Table 2). At the commencement of the survey, the authors explained each advergime category and then presented example videos of advergimes representing typical features of each advergime category in order to help the participants better understand the survey. Then, participants were asked to rate the degree to which they perceived that each of the 38 personality traits accurately described the particular advergime category on a 7 point semantic differential scale (1 = not at all describing, 7 = extremely describing).

To test the appropriateness of factor analysis for the 38 traits, the results of Kaiser-Meyer-Olkin Measure of Sampling Adequacy

Table 2
Four Categories of advergime.

Advergime category 1	Advergime category 2	Advergime category 3	Advergime category 4
Action	Quiz	Sports	Role
Adventure	Puzzle	Racing	playing
Arcade	Card game		Simulation
Fighting	Strategy		
Shooting			

(0.85) and the Bartlett's test ($p < 0.001$, chis-square = 8371.395, $df = 703$) showed that sufficient correlations exist among the variables to run a factor analysis. Principal component analysis, with varimax rotation and latent root criterion (eigenvalues > 1), was used in the factor analysis. As recommended by Hair, Black, Babin, Anderson, and Tatham (2005), factor loadings greater than 0.50 are considered necessary for significance. Thus, in the factor analysis, 11 items with low factor loadings were removed. After removing these items, all items exhibited factor loadings greater than 0.50, and no items were cross-loaded.

As shown in Table 3, the reliability of the items was satisfactory, ranging from 0.74 to 0.86. A name was assigned for each factor based on factor loading size (Hair et al., 2005) and the characteristic of the item in each factor. AP factor 1 consisted of "dynamic, brave, speedy, encouraging, skillful, lively, entertaining, enthusiastic, and classic". Thus, it was named "Vibrancy". Factor 2 included "immersed, confident, unpredictable, strong, loud, and tough". These were labeled as "Competence". Although some items in factor 2 were included in the "ruggedness" dimension in Aaker's study (1997), it was titled "Competence" rather than "ruggedness", given that the two items (i.e., strong, tough), which had greater influence on the factor name "ruggedness" in Aaker's study (1997), had relatively fewer factor loadings in this study. Factor 3 consisted of "strategic, intelligent, challenging, smart, and funny" and it was labeled "Intelligence". These items seemed to reflect players' intellectual abilities to accomplish game tasks, thus, they were labeled as "Intelligence". Factor 4 included "dull, athletic, surreal, boring, and passionate" and it was labeled as "Activeness" because these items appeared to represent the players' emotional activities while playing advergimes. Factor 5 included "exciting and vigorous" and it was named as "Excitement". The name was assigned because, although the original "Excitement" factor in Aaker's study (1997) consisted of "daring, spirited, imaginative, and up-to-date", both the meaning of current items (i.e., exciting, vigorous) in this study and those in Aaker's (1997) dimension connote the notion of excitement-seeking personalities. The factor analysis accounted for approximately 72% of the total variance, with all commonalities ranging from 0.55 to 0.87.

3.2. Confirmatory factor analysis of advergime

Confirmatory factor analysis was used to establish uni-

Table 3
Five dimensions of advergaming personality via exploratory factor analysis.

Factors	Factor loading	Eigenvalue	Explained variance (%)	Reliability
Vibrancy		9.178	20.162	0.809
Dynamic	0.615			
Brave	0.612			
Speedy	0.590			
Encouraging	0.544			
Skillful	0.543			
Lively	0.528			
Entertaining	0.515			
Enthusiastic	0.509			
Classic	0.503			
Competence		6.802	19.656	0.748
Immersed	0.748			
Confident	0.706			
Unpredictable	0.567			
Strong	0.541			
Loud	0.521			
Tough	0.514			
Intelligence		6.029	14.725	0.757
Strategic	0.614			
Intelligent	0.613			
Challenging	0.603			
Smart	0.588			
Funny	0.537			
Activeness		3.616	9.114	0.741
Dull	0.637			
Athletic	0.632			
Surreal	0.607			
Boring	0.583			
Passionate	0.506			
Excitement		1.784	8.471	0.861
Exciting	0.659			
Vigorous	0.598			
Total variance explained			72.182	

Note: N = 203. Reliabilities were assessed using Cronbach's alpha coefficients.

dimensionality and convergent and discriminant validity of the scale, using a new set of samples (N = 193 who were undergraduate students, 109 females, 56% and 84 males, 44%; M age = 24, SD = 1.78). Among 27 traits, a 5 dimension confirmatory factor model was estimated using AMOS 18.0, and inspection of model fit revealed indices that were generally below acceptable thresholds ($\chi^2_{(314)} = 1040.599$, $p < 0.001$, TLI = 0.88; CFI = 0.89; and RMSEA = 0.11). Thus, the results were subjected to modification to improve the fit of the model while simultaneously respecting theoretical significance. As suggested by Bentler and Chou (1987), model refinement was done with deletion of insignificant paths and the deletion of items with large residuals. After an inspection of the modification indices (MIs), the items *encouraging*, *skillful*, *enthusiastic*, *classic*, *loud*, and *tough* were candidates for removal.

A final confirmatory model was established with the remaining 21 trait items. The model exhibited a better and adequate model fit ($\chi^2_{(173)} = 336.826$, $p < 0.001$, TLI = 0.96; CFI = 0.97; and RMSEA = 0.070). As the final 21 traits represent the five AP dimensions, and each item characterizes a unique facet of each dimension, no further items were removed. In addition, internal-consistency estimates of reliability for each of the five dimensions were calculated and they were acceptable (*vibrancy* = 0.81, *competence* = 0.72, *intelligence* = 0.76, *activeness* = 0.74, *excitement* = 0.86).

Two tests were also conducted to ensure construct validity. First, for the discriminant validity, all average variance extracted (AVE) values ranging from 0.53 to 0.81 were confirmed to exceed the recommended 0.50 cut-off as described by Fornell and Larcker (1981), and the AVE of each latent construct was higher than the

latent construct's highest squared correlation with any other latent constructs; therefore, the discriminant validity of the model was achieved (Hair et al., 2005). Second, to assess convergent validity, all AVE and composite reliability (CR) values ranging from 0.80 to 0.94 were higher than 0.5 and 0.7, respectively, which indicated a sufficient degree of convergent validity (Fornell & Larcker, 1981). Additionally, variance-extracted (VE) estimates were measured and ranged from 0.72 to 0.87. These estimates also exceeded the recommended lower limit of 0.50 (Fornell & Larcker, 1981). Together, all test results supported the convergent validity of the scales. The final confirmatory factor analysis model is presented in Fig. 1 and demonstrates the AP dimensions.

4. Validation of the five factor model of advergaming personality

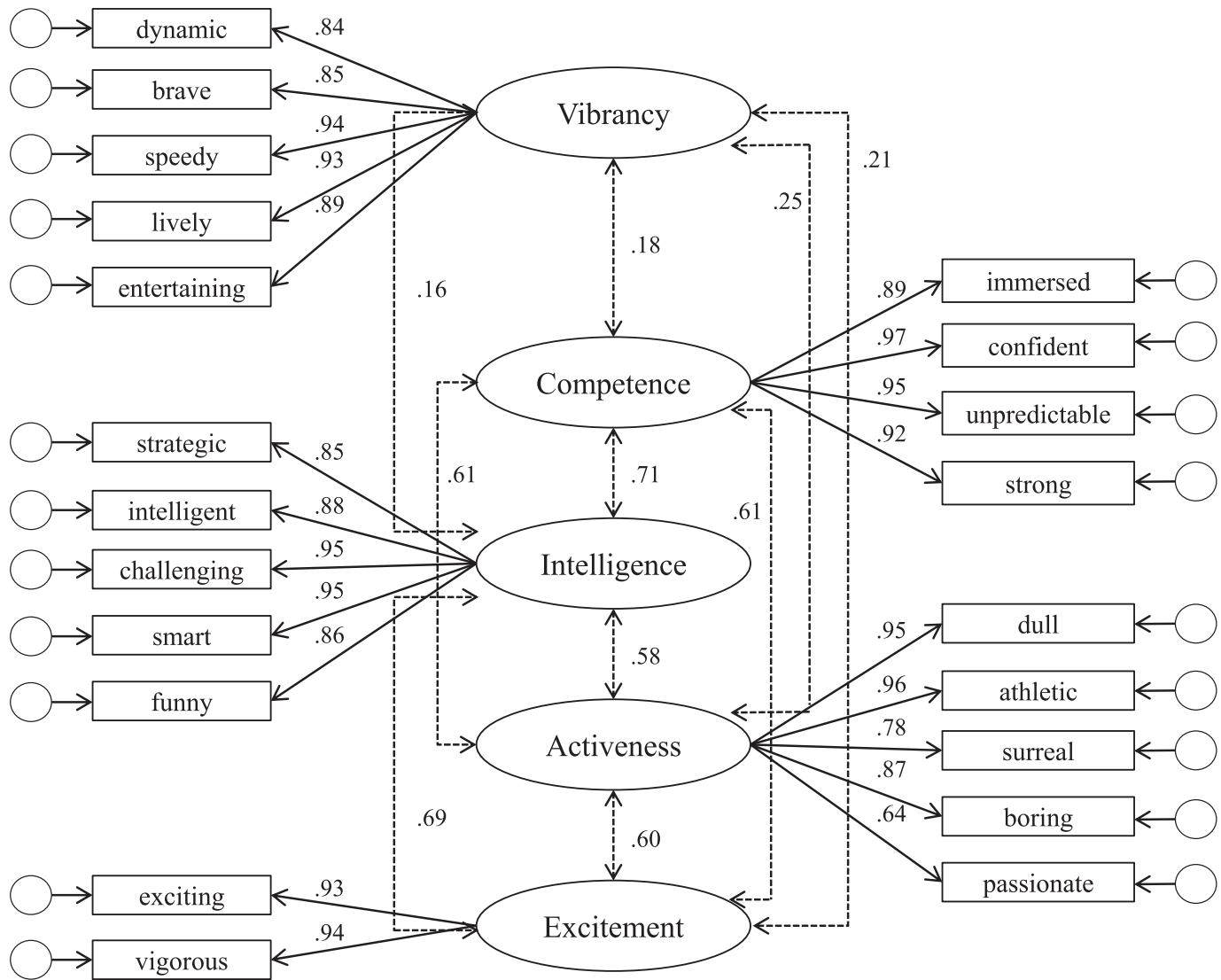
4.1. Validation of AP dimensions

As Fig. 2 indicates, the dimensions of AP were identified through a general scale development process.

However, it is important to validate the identified dimensions of AP. As a way to validate, we examined the relationship of AP with other important constructs such as advertising effectiveness. For the first step in validating of AP, an additional confirmatory factor analysis was conducted to determine the extent to which the five-factor model with 21 traits was robust across new subjects. Following the same procedure used in the second stage, 117 undergraduate students at the same university were newly selected (84 females, 72% and 33 males, 28%; M age = 23, SD = 1.51) and completed the 21 item AP scale (1 = not at all describing, 7 = extremely describing). The results from the analysis indicated that the overall fit indices were adequate ($\chi^2_{(174)} = 309.455$, $p < 0.001$, TLI = 0.94; CFI = 0.95; and RMSEA = 0.082). Although the root mean square error of approximation (RMSEA) was higher than ideal, the value was still less than the 0.1 limit for acceptability (Browne & Cudeck, 1993). Thus, this structural model confirms the model proposed in Fig. 1.

4.2. Relationships of AP with other constructs

Following additional CFA, the path analysis reported here was intended to ascertain the effects of AP on advergaming players' intentions to play and purchase. Consumers' intentions to play digital games and purchase a product is of considerable interest since advertisers and advergaming creators can benefit greatly from improved understandings of the predictors behind players' behavioral intentions (Ko & Yun, 2006; Wu & Liu, 2007). If an advergaming, as a branded entertainment, evokes a response, this alone may lead to intentions to play an advergaming and purchase. Before we propose that AP has a significant effect on the players' behavioral intentions, we assumed that the product category and company attributes might influence the personality perception attached to advergaming with regard to the perceived images and characteristics of a company. Researchers, in fact, have demonstrated that specific company (or product) attributes relate to brand equity and influence brand evaluations (e.g., Aaker, 1997; Cretu & Brodie, 2007; Grass, 1978; Keller, 1993). For example, Aaker (1997) argued that the company's image, product category, brand name, symbol or logo, and advertising style might be antecedents to creating brand personality. Consistent with this assertion, Cretu and Brodie (2007) found that firms' reputations exert significant influence on consumers' perceptions of brands. Similarly, Keller (1993) also asserted that non product-related attributes such as price, or user imagery can also produce brand personality attributes.



Model fit: $\chi^2/df = 1.95$ ($\chi^2 = 336.826$, $df = 173$), TLI = .96, CFI = .97, RMSEA = .070

Notes: All coefficient values are standardized and statistically significant ($p < .001$).

Dotted lines represent correlations

Fig. 1. Five factor model via Confirmatory Factor Analysis.

Thus, we selected company brands considering two product categories (utilitarian, hedonic), two company size levels (large, small), two company reputation levels (strong, weak), and two degrees of relevance to the digital game (high, low). For this purpose, company brands, 3 M and Blue Club, which is a moderate-priced hair care service chain, were selected for this study (i.e., 3 M: utilitarian product company of large size, strong reputation, and relatively high relevance to digital games; Blue Club: hedonic service provider, of small size, weak reputation, and relatively low relevance to digital games). The subjects ($n = 117$) were randomly assigned to two different groups according to the product category (i.e., utilitarian vs. hedonic product) and asked to rate their perceptions based on descriptions. As a manipulation check, the mean scores of the two groups for the company characteristics were compared and differed significantly from each other as intended ($p < 0.001$). After the concept of advergame was explained to respondents, they were asked to imagine how they would feel if they

were playing an advergame created by each company. It should be considered important that prior attitudes toward a company can affect dependent variables. Therefore, in this study, pre-existing attitudes were controlled while conducting a path analysis.

The company characteristics, which consist of three constructs, were measured with three, seven-point Likert scales each based on the study by Jung and Lee (2011). The reliability of the scales was considered highly acceptable as the construct showed a reliability value ranging from .78 to .87. The intention to play an advergame, which consist of 3 constructs, was measured with three, seven-point Likert scales based on the study by Wu and Liu (2007), and in order to measure purchase intention this study revised Kim and Shim's (2015) measurement scale and it was found to be reliable (Cronbach's alpha .89 and .91). Table 4 provides a summary of measures and descriptive statistics for each study variable.

As seen in Figs. 3 and 4, five AP dimensions extracted in this study were differently influenced by company characteristics. It

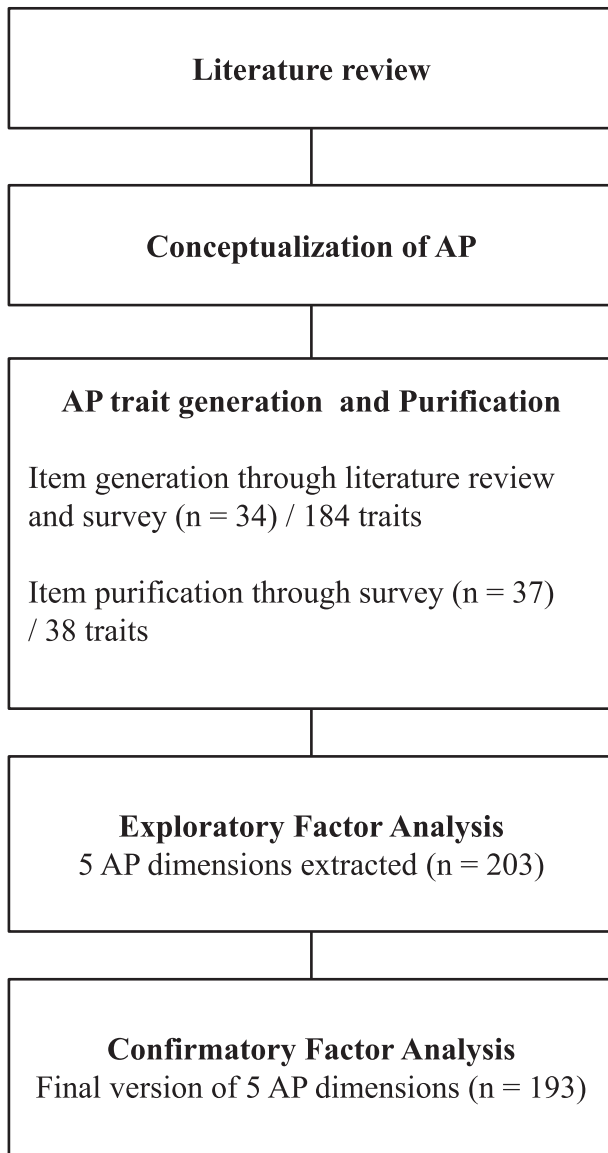


Fig. 2. Process of AP dimension development.

was found that, in assuming that a utilitarian product company deploys an advergame, *intelligence* and *activeness* dimensions were most influenced by company characteristics. Specifically, in the utilitarian product case, the perceived size of companies ($\beta = 0.30$, $p < 0.05$), and the perceived relevance to digital games ($\beta = 0.34$, $p < 0.05$) were the two most important factors affecting the *intelligence* dimension according to the strength of the standardized path coefficient. Similarly, the perceived size of companies is the most influential factor affecting *activeness* and *excitement* dimensions in the case of the hedonic product, respectively ($\beta = 0.36$, $p < 0.05$; $\beta = 0.31$, $p < 0.05$). In addition, the *intelligence* dimension was affected by the degree of consumers' perceptions of corporate reputation in both utilitarian and hedonic product conditions ($\beta = 0.22$, $p < 0.10$; $\beta = 0.29$, $p < 0.05$). However, the *intelligence* dimension was affected by the degree to which a company is relevant to digital games only in the utilitarian product case ($\beta = 0.34$, $p < 0.05$). These findings, in both utilitarian and hedonic natures of products, noticeably indicate that *activeness* and *excitement* dimensions seem closely tied with how consumers perceived a company's size; that is, the more consumers perceive a company

Table 4
Summary of measures and descriptive statistics.

Latent variables	Items	Mean	SD	Cronbach's α
Size	The company owns many affiliates	5.03	1.18	0.87
	The company is one of the large-sized companies	4.77	1.79	
	The company is large enough in its industries	4.88	1.16	
Reputation	The company has credibility	4.52	1.09	0.88
	The company is reliable	4.38	1.01	
	The company is trustworthy	4.30	0.96	
Relevance to digital game	The company is suited for digital games	4.16	1.01	0.78
	The company is well matched with digital games	4.16	0.94	
	The company is related to digital games	4.33	1.07	
Intention to play	I will play the advergame frequently in the future	4.22	1.70	0.91
	I intend to play the advergame	4.16	1.84	
	I will play the advergame for a long time	3.91	1.23	
Intention to purchase	The advergame is helpful to purchase the product/service	3.93	1.16	0.89
	The advergame can affect purchase decision	4.09	1.25	
	The advergame makes me look up the product/service	4.10	1.31	

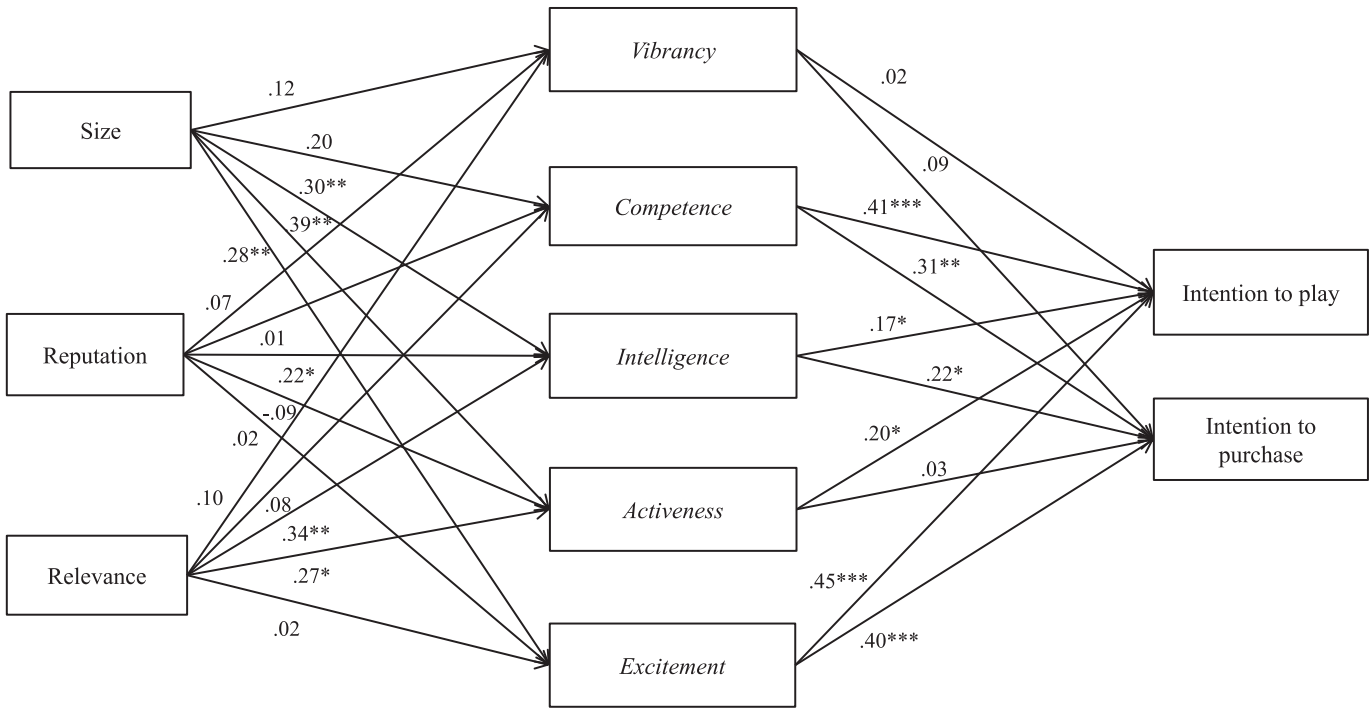
as large when they are playing an advergame, the more personality traits in these two dimensions stood out as being the strongest and most influential factors that form the dimension.

Finally, we examined the relationship between AP and behavioral intentions. As Figs. 3 and 4 show, among other AP dimensions, the *competence* and *excitement* dimensions are two of the most influential factors affecting a significant and positive impact on intention to play and purchase in both utilitarian and hedonic product cases. In the utilitarian product context, the intention to play an advergame and purchase was affected by *competence* ($\beta = 0.41$, $p < 0.001$; $\beta = 0.31$, $p < 0.05$) and *excitement* ($\beta = 0.45$, $p < 0.001$; $\beta = 0.40$, $p < 0.001$) dimensions. In the hedonic product context, the intention to play an advergame and purchase was also positively and significantly affected by *competence* ($\beta = 0.39$, $p < 0.05$; $\beta = 0.30$, $p < 0.05$) and *excitement* ($\beta = 0.28$, $p < 0.05$; $\beta = 0.31$, $p < 0.05$) dimensions. However no significant effect was found for the rest of AP dimensions. These results also show that the *competence* and *excitement* dimensions are more intense in the utilitarian product context than those in the hedonic service provider context.

In sum, the results suggest that intentions to play an advergame and purchase an advertised product in advergames are thus influenced differently by AP according to how players (i.e., consumers) perceive the company's characteristics and what the product category is. More specifically, these findings indicate that the more advergames are perceived as competitive and exciting, the more consumers are likely to want to play advergames. Using the same notion, the more players perceive advergames in that way, there might be more beneficial effects on intention to purchase.

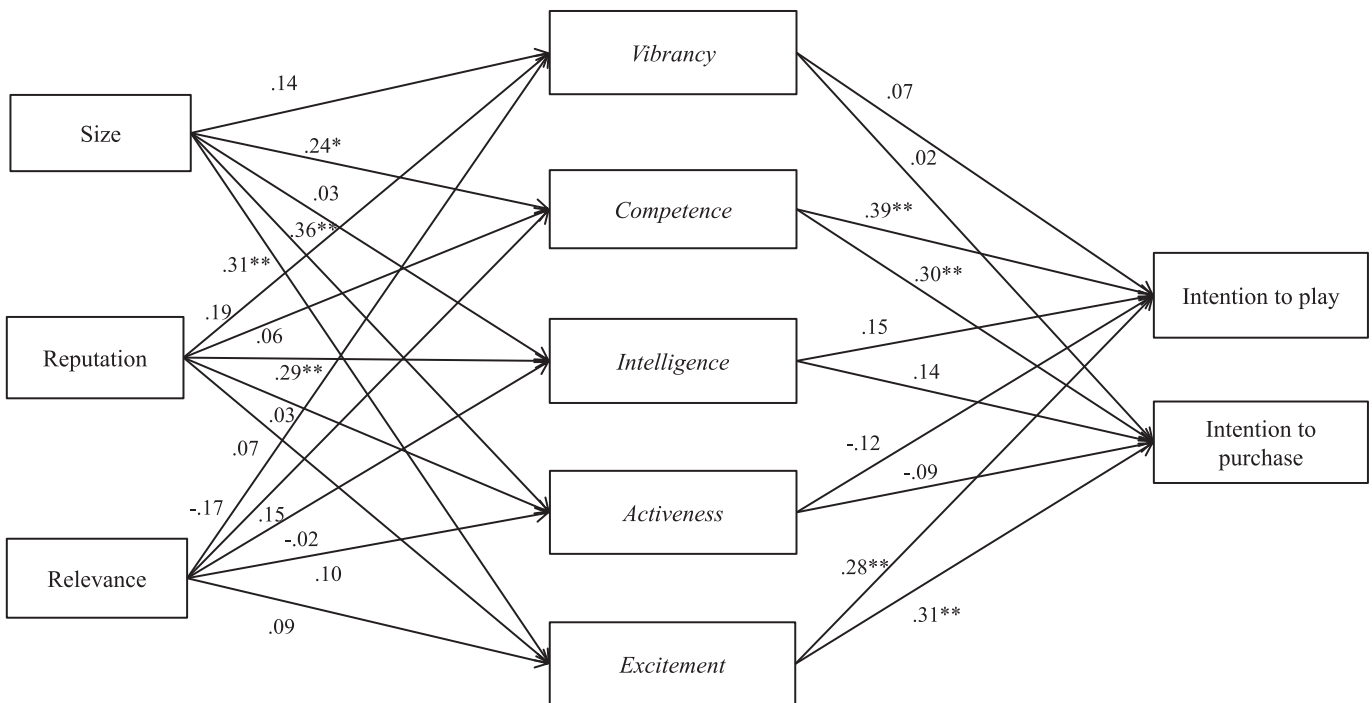
5. Discussion and implications

The purpose of this study was to explore the dimensions of AP by extending Aaker's (1997) conceptualization of brand personality to advergames. To develop AP, we first gathered 281 human personality traits from the literature in brand personality research. The traits were subjected to a purification process involving exploratory and confirmatory factor analysis and 21 trait items to represent the



Notes: The case of the utilitarian product. All path coefficients are standardized.
 *p < .10, **p < .05, ***p < .001

Fig. 3. Relationship among advergame personalities, company attributes, and behavioral intentions.



Notes: The case of the hedonic product. All path coefficients are standardized.
 *p < .10, **p < .05, ***p < .001

Fig. 4. Relationship among advergame personalities, company attributes, and behavioral intentions.

five AP dimensions, namely: “*vibrancy*,” “*competence*,” “*intelligence*,” “*activeness*,” and “*excitement*.” We conducted an additional confirmatory factor analysis to confirm the factor structure, and the result indicated that this five factor model had an adequate fit with the data. Accordingly, we now discuss the implications of this study and consider future research areas.

5.1. Theoretical implications

The results of the current study clearly indicate that game players ascribe personality traits to advergames. Although this study appears to be in line with previous research on the application of the brand personality scale replicating two dimensions (i.e., competence, excitement) following those in Aaker's study (1997), the personality trait in each dimension is quite different from the original five brand personality framework. Specifically, unlike consumer goods, advergame experiences are considered to be unique and emotionally rich in terms of experience attributes (Greitemeyer, Osswald, & Brauer, 2010). These dimensions are closely related to the experiential characteristics such as enjoyment, fun, and pleasure. Thus, in the current study, the experiential nature of digital game playing could explain why the five dimensions have emerged.

The first dimension, *vibrancy* consists of dynamic, brave, speedy, lively, and entertaining. The emergence of the *vibrancy* dimension may be explained by the general assumption that consumers mainly perceive advergames as energetic and exciting. Therefore, this *vibrancy* dimension emphasizes the importance of advergame elements that provide players with a sense of intensity while carrying out tasks.

The second dimension, *competence* includes four traits such as immersed, confident, unpredictable, and strong. These traits were mainly related to those of important digital game elements such as competition, rivalry and winning. Most digital games, including advergames encourage adequate competition among peers for motivating players and encouraging longer engagement. According to a theoretical game model, one of the most common ways to motivate players is by adding competition to the game (ESA, 2015). The winning or success experience in competition will stimulate continued motivation if there is enough challenge to require a degree of effort to succeed. Furthermore, this dimension is particularly notable as it was found to be one of two most influential AP dimensions (i.e., along with the excitement dimension) to have a statistically significant influence on intention to play and purchase.

The third AP dimension, *intelligence*, emerged as predicted with regard to digital game playing. It consists of traits such as strategic, intelligent, challenging, smart, and funny. *Intelligence* is an important underlying dimension of AP in that the dimension appears to clearly define an advergame itself. For many players, testing their abilities and overcoming obstacles is why they play digital games (Garzotto, 2007). Therefore, digital gaming should be able to stimulate players' motivations to solve problems or complete given tasks (ESA, 2015), and players' working with their intellectual abilities are vitally needed to win a game. In line with this notion, smart decision making skills and strategic planning are necessary for players to properly enjoy an advergame and yield gaming pleasure.

The *activeness* dimension was new and also specific to the advergame context. This observation reflects the fact that advergames are inherently about eliciting mental activities of players and their emotional responses towards the brand. Advergame can be used as an activeness-based approach; which in turn, produces a positive emotional state building a relationship between a player (i.e., consumer) and a brand. This finding is consistent with the argument of previous studies (e.g., Greitemeyer

et al., 2010; Ravaja et al., 2004) that advergames are mood-boosting and playing video games increases emotional activities. It is, however, unexpected that some of AP traits described by respondents in the *activeness* dimension are somewhat negative (i.e., dull and boring). These negative perceptions may be due to the fact that advergames are usually simple to learn how to play and do not require complex rules (Adis & Kim, 2013a; Terlutter & Capella, 2013); therefore, this may prompt consumers to find advergames a bit boring and uninteresting.

The final dimension, *excitement*, includes such traits as exciting and vigorous. In general, digital games that are perceived to have exciting personalities are considered more enjoyable and are thus highly capable of generating interest (Moon & Lee, 2012). It seems obvious that the primary purpose of any digital game including advergames would be to bring pleasure, joy and fun, which may explain why respondents attach a sense of excitement to advergames.

Furthermore, this study revealed that AP is not only related with companies' attributes and but also affect consumers' behavioral intentions to play advergames and purchase the products (or services). This finding is in line with previous studies, in which researchers have suggested that products' or brands' personalities influence consumer preferences and usages (Aaker, 1999; Ekinci & Hosany, 2006; Sirgy, 1982).

In sum, this study is the first attempt to assess personality traits supposedly related to advergames and to theoretically test the matching effect of advertisers and AP dimension on consumers' intentions to play and purchase. Our theoretical conceptualization and empirical results show strong relationships between AP, various company attributes, product categories, and behavioral intentions of consumers. These provide a theoretical foundation and knowledge for researchers who have interested in investigating the effect of relevance or congruence between the content of advergames and the characteristics of advertisers or products. Prior studies in the context of brand personality have suggested that distinct company characteristics and other non-product-related attributes such as price, brand logos and names, users' images of products have an impact on creating brand personality (Aaker, 1997, 1999; Cretu & Brodie, 2007). The findings presented in this study further confirm that advergames possess unique personality dimensions which have been found to be closely related to a firm's attributes, product categories, and consumers' behavioral intentions.

5.2. Managerial implications

From a practical standpoint, the findings in the present study can help advertisers identify potential problems with their advergames and provide new insights into ways to advertise through digital games. For example, determining which type of advergames is suitable for which types of product categories. Under which conditions does the congruity of the companies with the advergames lead to positive effects of advertising on purchase probabilities? Which game features need to be taken into consideration? As brand personality has many benefits for advertisers, including an increase in consumer loyalty and trust (Fournier, 1998), and the ability to increase consumers' preference towards the brand (Sirgy, 1982), we believe that firms should recognize AP as effective ways of creating brand differentiation and generating consumers' positive behavioral intentions.

In particular, the findings from this study demonstrate an important implication for advertisers to which personality traits are more highly valued and which are perceived as indispensable. This implies that advertisers who want to take full advantage of an advergame must be attentive to the players' (i.e., consumers) need

for being in states of excitement and competence during gameplay. As the present results indicate, if one large company develops an advergame but consumers perceive it as only dynamic or entertaining, consumers may show a lower intention to play the advergame again or are not likely to purchase the product. Consequently, more exciting and emotionally competent aspects in an advergame imply more likelihood of positive consumer-behavioral intentions; i.e., employing more exciting and competent contents in advergame design may enable consumers to have strong game play and purchase intentions. As a result, this study's findings provide a practical guide to help advertisers and agencies develop plans to use advergames that work for them.

5.3. Limitations and future research areas

This study has several limitations. First, although a convenience sample is normally used for exploratory purposes, using a non-random sample of students might weaken the generalizability of these findings to the whole population. Therefore, future researchers are encouraged to augment external validity by replicating the procedures in different settings. A second limitation of the study is related to its methodological approach. Respondents were asked to imagine they were playing different types of advergames and rate their perceptions of the advergame personality with company attributes. Since they did not actually play an advergame, it is difficult to know to what degree their perceptions were caused solely by the advergame. To provide a comprehensive picture of the AP construct, future research could use an experimental design and/or a qualitative research design using focus groups to elicit advergame-specific personality characteristics. For example, participants could be playing an advergame as a stimulus, and then be asked to generate a list of personality traits that can be attributed to the advergame.

Third, this study did not take into account the effects of players' motivations to engage in advergames. The motivation of gameplay has often been considered as an important factor affecting behavioral intentions (Jeng & Teng, 2008; Prensky, 2002). Thus, advergame motivations may influence the magnitude of the relationship of AP with company attributes and intentions to play and purchase. Therefore, future research should replicate this study under different gaming motivations.

In addition, the results of this study are only exploratory and should be examined thoroughly in further studies. For example, the influence of AP on consumers' other behavioral intentions and perceived values, such as recommendations, or attitudes towards brands, could be researched. It would also be interesting to investigate the personality congruence among brands and advergames in order to identify which brands and advergames fit together best for advergame brand integration.

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