UNIVERSITEIT GENT

**FACULTEIT ECONOMIE
EN BEDRIJFSKUNDE**

WORKING PAPER

A New Measure of Brand Personality

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A New Measure of Brand Personality

Abstract

In response to criticism on brand personality measures that embrace other aspects besides brand personality, we developed a new brand personality measure consisting of personality items only. 12,789 Belgian respondents participated in a study on 193 brands. The new scale consists of five factors that show an affinity with the Big Five of human personality. Unlike existing scales, this new measure proved to be reliable for between-brand between-category comparisons, for between-brand within-category comparisons, and for between-respondent comparisons. Moreover, the scale showed high test-retest reliability and cross-cultural validity (in the US and nine other European countries).

Strong and differentiated brands significantly enhance firm performance (Colucci, Montaguti, & Lago, 2008; Madden, Fehle, & Fournier, 2006; Warlop, Ratneshwar, & van Osselaer, 2005). In this paper we focus on brand personality. 'Brand personality is the set of *human personality traits* that are both *applicable to* and *relevant for* brands' (Azoulay & Kapferer, 2003, pp. 151). Plummer (1984; 2000) argued that brand personality might be crucial in understanding brand choice. Indeed, at a time in which consumers consider product quality as a given and competitors can easily copy product characteristics, a strong brand identity and personality are invaluable to build brand equity (van Rekom, Jacobs, & Verlegh, 2006).

The foregoing puts brand personality high on the agenda of academics and practitioners alike. As a consequence, reliable, valid and practical measurement tools are invaluable. The work of Aaker (1997) inspired the majority of the research on brand personality to date. She meticulously developed a 44-item Brand Personality Scale which encompasses five broad dimensions: Sincerity, Excitement, Competence, Sophistication, and Ruggedness. The scale has served as a brand personality measure in many studies and its factor structure proved to be robust in several of them (Aaker, 1997; 1999; Aaker, Benet-Martinez, & Garolera, 2001; Kim, Han, & Park, 2001). However, Aaker's scale has recently received criticism on several grounds.

A first criticism pertains to the loose definition of brand personality that embraces several other characteristics (such as age, gender, etc.) besides personality (Azoulay & Kapferer, 2003; Bosnjak, Bochmann, & Hufschmidt, 2007). This induces a construct validity problem and leaves researchers and practitioners uncertain of what they have actually measured: the

perceived brand personality (a sender aspect) or perceived user characteristics (receiver aspects).

A second criticism concerns the non-generalizability of the factor structure for analyses at the respondent level (for a specific brand or within a specific product category) (Austin, Siguaw, & Mattila, 2003). Because Aaker (1997) conducted all analyses on data aggregated across respondents (for between-brand comparisons), she actually removed all within-brand variance which led to factor analysis results that are exclusively based on between-brand variance. As a result, the framework does not seem to generalize to situations in which analyses at the individual brand level and/or situations in which consumers are an element of differentiation. Because the latter is the topic of a majority of practitioners' research, this is a serious boundary condition.

A third criticism relates to the non-replicability of the five factors cross-culturally (Azoulay & Kapferer, 2003). Aaker et al. (2001), for example, found that only three of the five factors applied in Spain (namely, Sincerity, Excitement, and Sophistication). Peacefulness replaced Ruggedness and Passion replaced Competence. In Japan four of the five factors emerged, whereas Peacefulness again replaced Ruggedness. This shortcoming led several researchers to construct a country-specific brand personality scale. Bosnjak et al. (2007) developed a German scale, Milas and Mlačić (2007) a Croatian one, and Smit, van den Berge and Franzen (2002) a Dutch one.

The first objective of this paper was to go back to the basics of brand personality and develop a new scale based on a rigorous definition of brand personality that excludes all non-personality items. To have any practical value, the scale should be short and easy to administer since brand personality often is only one of several measures in a questionnaire. In

this respect, we took at heart a recent trend to develop ultra-short scales (Burisch, 1997; Rammstedt & John, 2007).

A second objective was to assess the generalizability of the revised scale across research purposes and countries. With respect to the former, we investigated the replicability of the scale on (1) data aggregated across individuals for many brands of different product categories (to allow between-brand between-category comparisons), (2) data at the respondent level for several brands within the same product category (to allow between-respondent comparisons, but especially between-brand within-category comparisons), and (3) data at the respondent level for single brands (to allow between-respondent analyses). Concerning the latter, we assessed the validity of the revised scale in an additional ten countries.

Third, we tested the reliability and validity of the scale further (1) by examining test-retest correlations of the brand personality dimensions for 84 brands with a time interval of one year (in two different samples), and (2) by investigating the relation between brand attitude and the brand personality dimensions for distinct consumer groups to assess nomological validity of the scale.

Theoretical background

Brand personality forms a major component of brand identity. Therefore, we first discuss brand identity frameworks, the place of brand personality therein, and the importance of measuring brand personality by means of personality items only. Next, we present an overview of human personality, and summarize how personality appears in recent brand personality scales.

Brand Identity, Brand Image and Brand Personality

Kapferer (2008) defines brand identity as a brand's meaning as put forward by the firm. It is the way a company wants to present its brand to its target groups. Brand image, on the other hand, is the consumers' perception and interpretation of the brand's identity (De Pelsmacker, Geuens, & Van den Bergh, 2007). Academics typically conceptualize brand identity and image as multi-dimensional constructs of which brand personality is an important component. Keller (2008), for example, defines brand image as consisting of (1) user profiles, (2) purchase and usage situations, (3) personality and values, and (4) history, heritage and experiences. Aaker and Joachimsthaler (2000) organize brand identity elements around four perspectives: (1) the brand as a product, (2) the brand as an organization, (3) the brand as a person, and (4) the brand as a symbol.

Building on the constructivist school of theorizing about communications, Kapferer developed a brand identity prism in which he considers a brand as a speech flowing from a sender to a receiver (Kapferer, 2008). He argues that the brand identity dimensions physique (i.e., physical features and qualities) and personality (i.e., human personality traits) picture the sender. The identity dimensions reflection (i.e., image of the target group) and self-image (i.e., how the brand makes consumers feel) depict the receiver. The dimensions culture (i.e., values) and relationship (i.e., mode of conduct) form a bridge between the sender and the receiver.

Although several brand identity frameworks exist, most researchers share the opinion that brand identity (and brand personality) is best understood from the sender-side and brand image from the receiver-side perspective (Konecnik & Go, 2008). It is important to make this distinction between sender and receiver, and each of the composing elements of brand

identity, not only theoretically, but also in practical measurement instruments (Azoulay & Kapferer, 2003). Otherwise, among other things, brand and user personality get mixed up leading to unclear directions to take action in case of a gap between the desired and the perceived personality.

Indeed, user imagery often is not in agreement with brand personality (Keller, 2008). Plummer (2000, pp. 82), for example, found that consumers perceive the stereotypical user of Oil of Olay as "a pretty, down-to-earth, solid, female citizen", whereas the brand personality of Oil of Olay is more upscale and aspirational.

In sum, a first reason to focus on personality traits only in a brand personality scale is that brand identity frameworks become useless if no appropriate measurement instruments exist for each of its components. Secondly, results are no longer interpretable and become meaningless if, for example, a measurement instrument mingles sender and receiver characteristics. Further, consumers use brands with a strong brand personality to build relations with (Fournier, 1998) and to show their own personality (e.g., Belk, 1988). If a brand personality scale would resemble a human personality scale, it is easier for brand managers to translate consumer research into the most appropriate actions to create the "right" brand personality in view of their target group.

Personality in Human Personality Scales

Psychologists define the substance of personality as 'the systematic description of traits' (McCrae & Costa, 1987, pp. 81), where traits are 'relatively enduring styles of thinking, feeling, and acting' (McCrae & Costa, 1997, pp. 509). After decades of research on a taxonomy of human personality, consensus now rests upon five dimensions that provide a complete description of personality: (1) Extraversion or Surgency (talkative, assertive,

energetic), (2) Agreeableness (good-natured, cooperative, trustful), (3) Conscientiousness (orderly, responsible, dependable), (4) Emotional Stability versus Neuroticism (calm, not neurotic, easily upset), and (5) Openness or Intellect (intellectual, imaginative, independent-minded) (John & Srivastava, 1999).

The "Big Five" dimensions are a result of analyses of the natural language terms humans use to describe themselves and others (Goldberg, 1993). Although the development of the Big Five was not theory-driven, most important personality constructs as put forward by personality theorists as diverse as Jung, Leary, Guilford, and Eysenk, are integrated in the Big Five structure, which increased trust in the Big Five (Sanz, Gil, Garcia-Vera, & Barrasa, 2008).

The idea to start from all personality terms that can be found in a dictionary stems from the assumption that natural language contains all relevant and salient personality traits (Allport, 1937). Starting from different sets of several hundred personality characteristics, a number of researchers found evidence of five recurrent factors (Costa & McCrae, 1992; Goldberg, 1992; Norman, 1967; etc). Although the individual items do not always load on the same factor and the factors are not always identically labeled (Neuroticism/Emotional Stability has appeared as Emotionality and Affect. Openness/Intellect emerged as Imagination, Culture, Rebelliousness, and Unconventionality, and researchers have suggested to relabel Conscientiousness into Responsibility), the general contours of the Big Five appeared in most (cross-national) studies. The evidence is least convincing for the Openness factor, though (John & Srivastava, 1999).

Initial scales contained as much as 240 (Costa & McCrae, 1992) and 100 (Goldberg, 1992) items. The trend away from overly long scales (Burisch, 1997) and the demand for efficient yet psychometrically sound measures resulted first in a 40-item version (Saucier, 1994), and recently in a 10- (Gosling, Rentfrow, & Swann, 2003; Rammstedt & John, 2007) and 5-item scale (Woods & Hampson, 2005). These ultra-short scales prove to be a reasonable alternative to longer scales, balancing the demands of brevity versus reliability and validity.

With respect to products and brands, humans seem to feel a need to anthropomorphize objects to enhance interactions with the nonmaterial world (Brown, 1991). Consumers also appear to experience no problems in assigning human characteristics to brands (Aaker, 1997) or to build a relationship with brands (Fournier, 1998). Therefore, it is possible that the Big Five structure also extends to brand personality. In the next section, we review how researchers operationalize personality in current brand personality scales and which factor structures emerged in the past.

Personality in Brand Personality Scales

Moving beyond personality traits

Aaker (1997, pp. 347) defined brand personality as "the set of human characteristics associated with a brand". So, in contrast to psychologists, Aaker defines personality in terms of characteristics instead of traits. To construct a brand personality scale, Aaker (1997) started from Big Five items, but completed them with, amongst other, socio-demographic characteristics. Consequently, whereas Big Five researchers deliberately exclude gender and social class (McCrae & Costa, 1997), Aaker does include feminine, upper class, young, etc. Other researchers adopted Aaker's definition. They admitted that not all of their items are

real personality traits, and came up with items such as good-looking, healthy, old, new, heavy, and big (Sung & Tinkham, 2005), or cost-effective and financially stable (Venable, Rose, Bush, & Gilbert, 2005).

By relaxing the definition of brand personality, Aaker's scale mixes up sender and receiver aspects, and embraces a mix of the different identity concepts. For example, 'the brand as a person' from Aaker and Joachimsthaler's model (2000) is mixed up with 'the brand as a product' and the 'brand as a symbol'. Also with respect to Keller's framework (Keller, 2008), 'brand personality' merges with 'user profiles'. Considering Kapferer's identity prism (Kapferer, 2008), Aaker's scale also pertains to inner values (Culture), physical traits (Physique), and typical user characteristics (Reflection) (Azoulay & Kapferer, 2003).

Brand Personality Dimensions

Aaker (1997) obtained a five-factor structure of which three dimensions relate to Big Five dimensions. Sincerity taps into traits of Agreeableness and Conscientiousness. Excitement includes items like sociability, energy and activity, just as Extraversion does. Competence captures traits found in Conscientiousness and Extraversion. The other two dimensions, Sophistication and Ruggedness, do not relate to any of the Big Five dimensions. Aaker (2000), Aaker et al. (2001), and Kim et al. (2001) more or less replicate Aaker's brand personality structure. Several other researchers came up with rather different variations (e.g., d'Astous & Lévesque, 2003; Sung & Tinkham, 2005; Smit et al., 2002), but none of them replicated the Big Five structure (see Table 1). Surely, this may not be too surprising since most of them started from Aaker's broad brand personality definition. Caprara, Barbaranelli

and Guido (2001), Bosnjak et al. (2007), and Milas and Mlačić (2007) did use only Big Five items, but only in the latter study a resemblance to the Big Five dimensions emerged.

Insert Table 1 about here

Considering the 17 factor structures summarized in Table 1, it is striking that some of the Big Five dimensions recur more often than others. Extraversion comes out 11 times as a pure dimension, and Conscientiousness 9 times. Agreeableness shows up in 9 studies and is sometimes framed positively (5 times), sometimes negatively (2 times), and 2 studies report both a negative and positive Agreeableness dimension. Openness emerges as a pure factor in 4, and Emotional Stability in 2 studies. In 9 studies dimensions emerge that consist of a mix of items belonging to two different Big Five dimensions. The dimensions that do not show an affinity with the Big Five (i.e., Sophistication, Ruggedness, Femininity, Chic, White Collar, Androgyny, Western, Ascendancy, Classic), do not contain any traits.

To conclude, a loose definition of brand personality induces a construct validity problem and leads to brand personality dimensions that do not cover personality traits. Therefore, a first objective of this paper was to develop a scale that is based on personality traits only and that excludes functional attributes, demographic characteristics, user imagery, user appearance, and brand attitudes. To this end, we adopted the strict definition of brand personality as put forward by Azoulay and Kapferer (2003, pp. 151) and used in several recent papers (e.g., Bosnjak et al., 2007; Milas & Mlačić, 2007): 'brand personality is the set of *human personality traits* that are both *applicable to* and *relevant for* brands'. We expect to find a Big Five like structure. However, taking the factor structures of Table 1 into account, it is possible that the evidence for the Emotional Stability and Openness dimension will be less convincing.

Method

Selection of Personality Items

Rossiter's (2002) C-OAR-SE procedure delivers an important contribution to the measurement literature. He developed C-OAR-SE to object to a rigid use of Churchill's method of scale development. The value of a thorough construct definition and the recognition of the importance of the nature of the object, for example, cannot be overestimated. However, we are less convinced of his proposition that only expert judgments matter and that empirical evidence and statistical analyses play no role. Therefore, we try to reconcile the best of both worlds by carefully examining, together with experts, which dimensions and items best represent brand personality. Because the object of evaluation changes (from human to brand personality), traditional measures and items may not be fully appropriate. Next, we use traditional statistical analyses to reduce the list to a short measurement instrument containing the most stable items.

In a first step, we composed an extensive list of personality items. We included the items of Aaker (1997) that do reflect personality, as well as items from personality scales assumed to measure human personality by means of the Big Five (Costa & McCrae's 1992 revised NEO-PI scale, Mervielde's 1992 Dutch Big Five version, and Saucier's 1994 brief version of Goldberg's Big Five markers). Moreover, we organized two focus groups to brainstorm on useful brand personality items. The participants in the first focus group were eight junior researchers in the marketing domain, the second focus group consisted of ten graduate students in General or Marketing Management. We asked the participants to imagine the brand as a person and to describe in their own words the personality of some brands. We explained that personality can be described as 'relatively enduring styles of thinking, feeling

and acting' (McCrae & Costa, 1987, pp. 81). We stressed that we were looking for personality traits and not personality or image characteristics such as young, masculine, rugged, etc. This resulted in 244 unique items.

In a second step, a panel consisting of 8 judges that were active in a marketing profession (either as marketing professor at a business school or as marketing manager in a company) received the same description of personality and deleted items from the list that seemed inappropriate for brands. This resulted in 108 items. The panel deleted items such as daydreamer, depressed, easily distracted, envious, fearful, fretful, has a forgiving nature, interested in opposite sex, jealous, moody, talkative, tends to find fault with others, touchy, philosophical, withdrawn, worries a lot, etcetera. Note that many of these traits classify as Emotional Stability aspects. So, perhaps the fact that many of the Emotional Stability items do not seem to be appropriate for a brand, can explain the absence of this dimension in several previous brand personality studies.

To further reduce the list, 20 different marketing researchers of a university or business school indicated which of the remaining 108 items were most and least appropriate for brand personality. We told them that a brand could pertain to a product, a service, a place, a person, etc., and gave them the same definition of personality. The items reliable, responsible, traditional, innovative, cool, genuine, adventurous, trustworthy, creative, dynamic, sympathetic, inspiring, passionate, ordinary, simple, active, stable, and romantic came out as most appropriate. The items shy, submissive, diligent, sly, hypocritical, naïve, impatient, chaotic, narrow-minded, tolerant, approachable, shallow, open-hearted, brave, calm, and aloof came out as least appropriate.

On the basis of these results and the existing Big Five scales, we constructed an initial pool of 40 items (see Table 2). The biggest difference with Big Five scales lies in the Emotional Stability factor. As explained above, the expert judges considered most of the typical items for this dimension as inappropriate. Therefore, the dimension here is biased towards a more emotional direction. Not all Big Five scales include the trait 'emotional', but it does appear as a marker item of Emotional Stability in a Big Five list composed by experts (John & Srivastava, 1999, pp. 113).

In what follows, we report the results of a pretest on twenty well-known brands to reduce the items to an efficient, psychometrically sound measurement scale. Next, we tested the remaining items on 193 different brands from twenty different product categories.

Study 1: Pretest on 20 brands

Sample. We collected data from an online Belgian consumer panel, generating a 41.7% response rate or 1,235 useful responses. About half of the respondents was male (49.0%). 41.8% was younger than 35 and 58.2% was aged between 35 and 65. About half of them (51.4%) obtained a post-secondary education degree (i.e., college, university or equivalent degree). Each respondent rated one brand on each of the 40 items using a 7-point Likert scale (1=not characteristic for the brand at all, 7=very characteristic for the brand). Only the participants who indicated to know the brand, qualified to proceed with the questionnaire. This led to about 60 observations per brand.

Brands. To enhance the representativeness of the sample of brands, we selected the brands in a way that different purchase motivations were represented (Park, Jaworski, & MacInnis, 1986; Völckner & Sattler, 2007). Some of the brands scored high on functional motivations

(Bic, Mr. Clean, Philips, Renault, and Skoda), others on experiential (Côte d'Or (chocolate brand), Delhaize (upscale supermarket), Jupiler (beer brand), Lipton Ice Tea, Senseo, and Whiskas), symbolic (Cartier, Chanel, Ferrari, Rolex, and Veuve-Cliquot Ponsardin (champaign brand)), and/or emotional (Body Shop, SN Brussels Airlines, KBC Bank, and Nivea) motivations.

Results. Because this study involved only twenty brands, we ran all analyses on the respondent level. Principal components analysis with Varimax rotation of the 40 items resulted in five factors with Eigenvalue exceeding 1. The five-factor solution largely resembled the Big Five structure, and explained 59.63% of the variance with 18.73%, 17.12%, 10.89%, 7.68% and 5.21% for Extraversion, Conscientiousness, Emotional Stability, Agreeableness, and Openness respectively. However, several items showed very high loadings on more than one factor. Therefore, all items that scored lower than .60 on their focal factor and/or had cross-loadings higher than .35 were eliminated (Aaker, 1997; Nunnally, 1978). This resulted in twenty-five items of which seven loaded on Extraversion, ten on Conscientiousness, three on Agreeableness, three on Emotional Stability, and two on Openness (see Table 2).

Insert Table 2 about here

Similar to Big Five studies on human personality, items like active, dynamic, adventurous, energetic, and lively loaded high on Extraversion. Unlike Big Five studies, innovative and creative also loaded high on Extraversion. As mentioned before, also for human personality, items sometimes shift from dimension although the main dimensions remain stable. However, the shift from Openness to Extraversion for innovative and creative seems to generalize across brand personality studies. In Aaker (1997; 2000), Aaker et al.

(2001), and Milas and Mlačić (2007), items like imaginative and creative also loaded exclusively on the Extraversion dimension.

Conscientiousness contained the items that we expected on the basis of the Big Five: consistent, reliable, trustworthy, down to earth, stable, responsible, rational, etc. However, also steady and genuine loaded high on Conscientiousness. Steady was meant to reflect emotional stability, but for brands it seems to capture more the steadiness of brand performance and becomes almost a synonym for stable. Genuine was expected to load on Openness. Its relation to reliable and trustworthy is perhaps responsible for the shift of dimensions.

Emotional Stability reduces to the emotionality part with items like emotional, romantic, and sentimental loading high on it. This is not surprising because most Stability items such as moody, jealous, touchy, and worrying classified as poor indicators of brand personality and did not figure in the 40 initial items. Also, hardly any other brand personality study reports a pure Emotional Stability factor. Moreover, in view of the importance attached to affect in consumer behaviour by many authors (e.g., Kwortnik & Ross, 2007; Tsai, 2005, etc.), Emotionality seems a more relevant dimension for brands. This dimension also emerged in the brand personality study by Venable et al. (2005) with Nurturance tapping into aspects such as compassionate, caring, and loving. Furthermore, also in a former human personality study researchers used the label Emotionality for the Emotional Stability dimension (see John & Srivastava, 1999).

Agreeableness consists of the items aggressive, bold and pretentious and consequently contains only the negatively phrased items of this Big Five dimension. Surprisingly, the items

pleasant, kind, sympathetic, and friendly loaded on multiple dimensions and had stronger loadings on Extraversion or Conscientiousness than Agreeableness. Several other researchers studying brand personality also report a negative Agreeableness dimension. d'Astous and Lévesque (2003), for example, mention the dimension Unpleasantness, Davies et al. (2004) came up with Ruthlessness, and Smit et al. (2002) label one of their dimensions Annoying.

Finally, with the items creative and innovative loading high on the Extraversion dimension, the Openness dimension reduces to the items contemporary and simple. This is in line (although negatively phrased) with the few brand personality studies that encountered an Openness factor. For example, Sung and Tinkham (2005) report a Trendiness and Traditionalism dimension, Helgeson and Supphellen (2004) found a Modern factor, and Smit et al. (2002) mention a Distinction dimension. For human personality, the Openness dimension has also appeared as Unconventionality before (John & Srivastava, 1999).

Taken together, the five factors we retrieved here resemble quite well the Big Five, although less facets are present in the brand personality than in the human personality dimensions. This is especially the case for Agreeableness, Emotional Stability and Openness.

To make the scale more balanced, we took a closer look at the Extraversion and Conscientiousness dimensions. Taking the factor loading and the meaning of the items into account, we tried to detect items that were somewhat redundant and whose deletion would not change the scope and meaning of the dimension. Two Extraversion and five Conscientiousness items fulfilled these criteria. We removed energetic and lively from Extraversion because they showed some overlap with active and dynamic, and the marketing experts mentioned the latter more often as items highly appropriate for brand personality.

Concerning the Conscientiousness dimension, we removed the items honest, rational, trustworthy, genuine, and steady. The item reliable largely captures honest, trustworthy and genuine. Steady largely resembles the item stable. We deleted rational because the scale also contains the item emotional and rational did not come out of the expert interviews as one of the most important items for brand personality. Consequently, we retained eighteen items (see Table 2; R2). Factor analysis on these items resulted in a five-factor solution which together explained 67.00 % of the variance. The corrected item-to-total correlations ranged between .445 and .691 and the reliability of each dimension was satisfactory (Cronbach's alpha's of .848, .830, .743, .820 and .616 for Conscientiousness, Extraversion, Agreeableness, Emotionality, and Openness respectively).

In a next step, we carried out confirmatory factor analysis using AMOS, version 6.0. We randomly split the sample in two: pretest1 and pretest2. Pretest1 served to calibrate the factor structure, pretest2 served to validate the model afterwards. The data of both pretest1 and pretest2 fitted the five factor model well ($\chi^2(125)$ = 461.490 and 413.594, CFI = .927 and .930, TLI = .910 and .914, and RMSEA = .066 and .061 for pretest 1 and pretest2 respectively). For both samples all factor loadings were significant at the .001 level and composite reliabilities of the five factors ranged between .77 and .86 for pretest1, and between .66 and .84 for pretest2.

Study 2: Five factor validation on 193 brands

Since the pretest pertained only to 20 brands, it was necessary to repeat the foregoing for a wider array of brands. We selected 193 different brands from 20 different categories. A second objective of this study was to investigate whether the new 18-item scale generalizes across research purposes. To this end, we tested the factor structure of the scale on (1) data

aggregated across individuals for many brands of different product categories (for between-brand between-category comparisons), (2) data at the respondent level for several brands within the same product category (for between-respondent and between-brand within-category comparisons), and (3) data at the respondent level for single brands (for between-respondent analyses).

Sample. By means of an online questionnaire 12,789 Belgian respondents participated in the conclusive study (19.2% response rate). About half of them was male (47.8%). 37.4% was younger than 35 and 63.6% was aged between 35 and 65. As for formal education, 53% obtained a post-secondary degree (college, university or equivalent degree). Each respondent rated one brand. This resulted in about 60 observations for all but six brands. For six brands from six different product categories (Fortis Bank, Nivea, Nokia, PizzaHut, Q8, and Sony) we gathered more than 200 responses to be able to test the factor structure for individual brands.

Brands. The study focused on twenty product categories, going from banks and insurances to margarine, from cars to beauty brands, from supermarkets to TV channels, and from gasoline to political parties. A minimum of five and a maximum of 21 brands (or sub-brands) represented each category, leading to a total of 193 brands (a list of all brands per product category is available from the authors upon request). The selection of brands contained both national and international brands, as well as functional, image, experiential and emotional brands.

Measures. Respondents rated the 18 personality items retained in the previous study on a 7-point Likert scale (1=not characteristic for the brand at all, 7=very characteristic for the brand).

Results. As in the pretest, we split the full sample randomly in two: conclusive1 and conclusive2. Next, we aggregated the data for each sub-sample to run analyses on the brand level. So, each file contained 193 entries (brands, on average composed of 30 observations each). We used Conclusive1 to further reduce the items, if necessary. Conclusive2 served for validation purposes. Using the data of conclusive1, the 18-item-5-factor model did not provide a satisfactory fit (see Table 3, row 1). Elimination of a further 6 items (based on the modification indices) was necessary to obtain a satisfactory fit which we could replicate in the second subsample, conclusive2 (see Table 3, rows 2 and 3; for factor loadings see Table 2). Table 2 shows the means and standard deviations for each dimension across all brands in the study, and indicates that the observed values follow a Normal distribution.

Insert Table 3 about here

The resulting scale consists of 12 items (see Figure 1). We removed the items reliable and consistent from the Conscientiousness factor leaving the factor with the items down-to-earth, stable, and responsible. Although several experts mentioned the trait reliable, its deletion is not problematic because we retained the trait responsible. Responsible is a more general trait which encompasses a combination of traits like reliable and social. In view of the remaining items, we changed the name of this dimension to Responsibility. Also in human personality studies the Conscientiousness dimension has appeared as Responsibility (John & Srivastava, 1999).

We deleted adventurous and creative from the Extraversion dimension which now consists of active, dynamic, and innovative. Adventurous and creative are certainly relevant items, but we do believe their spirit is largely captured by the remaining three items. In light of the composing items, we decided to label this dimension Activity instead of Extraversion.

Concerning the Agreeableness dimension, the item pretentious disappeared leaving only aggressive and bold. Although bold only partly covers pretentious, the deletion of pretentious probably is not harmful because this item did not rank high on being appropriate for brand personality. To better represent its underlying items, we labeled the dimension Aggressiveness.

From the Emotional Stability dimension we had to skip the item emotional which leaves romantic and sentimental. We renamed the dimension as Emotionality. The Openness dimension remains the same, consisting of the items ordinary and simple. In view of its meaning, we labeled it Simplicity.

Insert Figure 1 about here

As mentioned, hereafter we used conclusive2 (aggregated data across the 193 brands) to test the reliability and discriminant validity of the scale.

Reliability. All factor loadings were significant at the .001 level and exceeded .59 (Hair et al., 1998). Furthermore, composite reliabilities of the five factors were .95, .95, .93, .95 and .79 respectively. The foregoing suggests the factors were highly reliable.

To further validate the new brand personality measure, we tested the 12-item-5-factor model for the 20 different product categories separately. Because of the small number of brands per category, we ran the analyses on the respondent instead of the brand level. The data fitted the model well for all product categories (see Table 3). Finally, we tested the model for six brands individually. Again, the data fitted the model well. It thus appears that

the revised scale can be used (1) for brands of very different product categories, (2) for brands within a specific product category, and (3) on an individual brand level.

Discriminant validity. Next, we compared the average variance extracted within factors with the square of the bivariate correlations between factors (Fornell & Larker, 1981). The variance extracted for the five dimensions was .86 for Activity, .85 for Responsibility, .87 for Aggressiveness, .67 for Simplicity, and .90 for Emotionality. The square of the correlations between the dimensions varied between .00 and .43. Since none of the variance-extracted estimates was smaller than the between-factor squared correlations (shared variance), we can assume discriminant validity.

Study 3: Test-retest reliabilities of the five dimensions

Brand personality usually is rather stable over time. Therefore, we used a stringent test to investigate the stability of the scale. We calculated test-retest correlations of the five dimensions for 84 brands over a time period of exactly one year. Moreover, the second data collection took place in an independent sample that did have similar demographic characteristics though.

Samples. The sample of Study 2 served as the sample of year 1. In year 2, a new online questionnaire generated 4,500 respondents (response rate of 14.3%). Gender was nicely balanced (49.8% males). Concerning age, 33.8% was younger than 35 and 66.2% was 35 or older. About half of the sample (52.7%) held a post-secondary education degree (college, university or equivalent degree). Each respondent filled out the 12-item brand personality scale for three brands, resulting in an average of 150 observations per brand.

Brands. Eighty-four from the 193 brands of Study 1 were included. These brands covered 12 product categories. Again, we made sure to include both national and international brands.

Results. The new scale proves to be highly stable, the more because there was a one year time lag between the two measures and we used data from two different samples. Correlations between the scores obtained from sample$_{year1}$ and sample$_{year2}$ were .85 for Activity, .90 for Responsibility, .84 for Aggressiveness, .93 for Simplicity, and .90 for Emotionality.

Study 4: Cross-cultural validation (US) and nomological validity

In study 2 we established the generalizability of the new scale across research purposes. In study 3 we assessed the stability over time. Another issue is the generalizability of the scale across countries. Up to this point, we have tested the scale only in Belgium (in Dutch and French). To assess whether the five factor structure generalizes outside Belgium, we conducted a fourth study. In this study, US respondents completed the 12 item brand personality scale for 20 brands.

In addition to the cross-national generalizability, we wanted to investigate nomological validity. Previous research points out that personal values exert an important influence on consumer behaviour (Steenkamp & Burgess, 2002). For example, consumers like those brands that have values and a personality that is congruent with their self-concept (Sirgy, 1982). As a test of nomological validity, we therefore investigated the differential contribution of each brand personality dimension to brand attitude for two groups of consumers adhering different values.

Sample. By means of an online questionnaire 401 US citizens participated in this study (response rate of 2.8 %). Half of them was male (50%). With respect to age, 37.4% was younger than 35 and 63.6% was aged between 35 and 65. About 36.9% held a lower education degree (below or equal to secondary education), whereas 63.1% obtained a post-secondary degree (college, university or equivalent degree). Each respondent rated three brands. This resulted in about 60 observations for all brands, except one. For the Spanish clothing retailer Zara, only 33 responses were collected due to low awareness for this brand.

Brands. The study focused on twenty brands. Five were predominantly functional (Tide, FedEx, Colgate, Samsung, and Google), five were image brands (Zara, Lexus, Armani, Diesel, and Martini), five were experiential in nature (Wii, Disney, Harley Davidson, YouTube, and iPhone), and five were hedonic (McDonald's, Starbuck's, Hershey's, Unicef, and Nescafé).

Measures. The respondents filled out the 12 brand personality items on a 7-point Likert scale (1=not characteristic for the brand at all, 7=very characteristic for the brand). Three 7-point semantic differentials (unattractive-attractive, low quality-high quality, unpleasant-pleasant) measured brand attitude (Cronbach's alpha=.87). The 10-item, 9-point Short Schwartz's Value Survey (0=opposed to my values, 1=not important, 4=important, 8=of supreme importance) (Lindeman & Verkasalo, 2005) measured respondents' values. We used the formula put forward by Lindeman and Verkasalo (2005, pp173) to calculate the dimensions Conservation ($M = 1.49$, $SD = .78$) and Self-Transcendence ($M = -.92$, $SD = .71$). The dimension Conservation opposes values emphasizing own independent thought and action and favoring change (i.e., self-direction and stimulation) to those emphasizing submissive self-restriction, preservation of traditional practices and protection of stability (i.e., security,

conformity, and tradition). The dimension Self-Transcendence opposes values emphasizing the pursuit of one's own relative success and dominance over others (i.e., power and achievement) to those emphasizing acceptance of others as equals and concern for their welfare (i.e., universalism and benevolence) (Schwartz, 1992). Afterwards, we classified respondents in a low and high Conservation group (M_{low} = .92, SD = .64 versus M_{high} = 2.05, SD = .42, t_{1195} = -35.746, p < .001), and a low and a high Self-Transcendence group (M_{low} = -1.51, SD = .34 versus M_{high} = -.32, SD = .45, t_{1195} = -51.896, p < .001) on the basis of a median split.

Results. Concerning the cross-cultural validation of the scale, the 12-item-5-factor model showed a satisfactory fit (χ^2 = 482.878, df = 44, TLI = .903, CFI = .935, RMSEA = .091). All loadings were significant at the .001 level. Composite reliabilities amounted to .87, .80, .70, .70, and .78 for Activity, Responsibility, Aggressiveness, Simplicity, and Emotionality respectively. This indicates that the scale generalizes to the English language.

We tested nomological validity by two multi-group analyses. The first multi-group analysis pertained to differences between individuals scoring low versus high on Conservation. In the model we test, brand attitude is a function of the five brand personality factors. First we investigated measurement weights invariance and afterwards structural weights invariance. We tested measurement weights invariance of the factor model by constraining all loadings to equality between samples (Steenkamp & Baumgartner, 1998). The results support the invariant pattern of the factor loadings (χ^2 = 6.979, df = 9, p = .639). Constraining all regression weights to invariance leads to the conclusion that there is no significant difference between the low and high Conservation group (χ^2 = 6.864, df = 5, p = .231). None of the between-group difference t-tests for the regression weights was significant

(with t-values of .619, -1.243, 1.018, -1.032, and .865, for Responsibility, Activity, Aggressiveness, Emotionality, and Simplicity respectively).

However, taking a look at the results in Table 4, we see that several differences are in line with theoretical expectations. The impact of Responsibility on brand attitude is more pronounced for high than low Conservation people. Activity and Emotionality have a significant positive impact, and Simplicity a significant negative impact, in low Conservation people only. These results are congruent with the ones of Roccas, Sagiv, Schwartz, and Knafo (2002) who linked the Big Five and affect to the ten Schwartz values. They found that Conscientiousness was positively related to the values of security and conformity, and negatively to stimulation. From this, we can expect that Responsibility is more important for high than low Conservation individuals. Roccas et al. (2002) also showed that Extraversion, Openness and positive affect were positively correlated with stimulation, and negatively with conformity. The foregoing suggests that Activity and Emotionality are more important predictors, and Simplicity (as the opposite of Openness) is a less important predictor of brand attitudes in low than high Conservation individuals.

Insert Table 4 about here

The second multi-group analysis dealt with differences between low versus high Self-Transcendence respondents. The results of a measurement weights invariance test support the invariant pattern of the factor loadings ($\chi^2 = 12.005$, df $= 9$, p $= .213$). Constraining all regression weights to invariance leads to the conclusion that the brand personality dimensions have a differential impact on the low versus high Self-Transcendence group ($\chi^2 = 17.444$, df $= 5$, p $= .004$). To find out where the differences are located, we looked at the results of a

between-group difference t-test. The t-values amounted to .331, .911, -2.433, 1.171, and -.614, for Responsibility, Activity, Aggressiveness, Emotionality, and Simplicity respectively.

Table 4 shows that Responsibility is a significant influencer of brand attitudes in both low and high Self-Transcendence people. Aggressiveness has a significant positive impact in low, but not in high Self-Transcendence people, whereas Emotionality significantly enhances and Simplicity significantly decreases brand attitudes in high, but not in low Self-Transcendence individuals. Also these results are in line with theoretical expectations. Roccas et al. (2002) found that Conscientiousness showed a positive correlation both with achievement and dutifulness, suggesting that Responsibility is important for both Self-Transcendence groups. They also reported a negative relation between Agreeableness and power and achievement, and a positive relation between Agreeableness and benevolence, on the basis of which a more positive impact could be expected of Aggressiveness in low than high Self-Transcendence persons. Finally, Roccas et al. (2002) observed a positive relation between positive affect and Openness, and between positive affect and universalism. The latter suggests that positive affect may have a more positive and Simplicity a more negative impact on high versus low Self-Transcendence persons.

Although most of the differences in the regression weights were insignificant, they did point in the right direction. Therefore, we conclude that nomological validity was partially supported.

Study 5: Further cross-cultural validation of the new BP scale in 9 European countries
To further assess the cross-cultural validity of the 12-item scale, we asked respondents from nine other countries to complete the 12 item scale for one specific brand, namely Coca-Cola.

Sample. We collected data from an online European consumer panel, resulting in a representative adult sample concerning gender and age for France, Germany, Italy, the Netherlands, Poland, Romania, Spain, Switzerland, and Turkey (respondent characteristics per country are available from the authors upon request).

Brand. We selected Coca-Cola as the focal brand because of its global appeal, because it is a well-known brand in all the countries under study, and because it is a product that most consumers irrespective of their demographic profile purchase.

Measures. To safeguard translation equivalence (Steenkamp, & Ter Hofstede, 2002; Strizhakova, Coulter, & Price, 2008), we hired official translators to translate and back-translate the twelve items of the new brand personality scale in all the different languages. Where necessary, adaptations were made (translations are available from the authors upon request). Again, we measured every item by means of a 7-point Likert scale.

Results. We ran all analyses on the respondent level. First, we tested configural invariance of the factor model across the nine countries by carrying out a multi-group analysis. The results indicate a good fit of the five-factor model across the countries (χ^2=1095.5, df=396, TLI=.936, CFI=.957, RMSEA=.028). The invariance of the 12-item-5-factor model is further underscored by the satisfactory fit indices for each country separately (see Table 5). Composite reliabilities equaled or exceeded .86, .62, .60, .78, and .64 for Activity, Responsibility, Aggressiveness, Simplicity, and Emotionality respectively, except for Aggressiveness in Germany where the composite reliability was only .55. This suggests that, except for one dimension in one country, all factors were reliably measured in all countries.

Insert Table 5 about here

To complement our cross-cultural CFA study, we applied G theory to the cross-cultural data. We based the G study on Sharma and Weathers (2003). G theory provides information on how the total variance of the items can be assigned to different sources of variance, some of which are desirable (individuals and countries), others of which are undesirable (error and cross-cultural item bias). Additionally, G theory allows us to assess the extent to which the scores on each factor can be generalized beyond the items actually used to measure each factor.

The sources of variance in the brand personality factors in the current study were the following: (1) individual respondents represented a differentiation factor because we aimed to measure differences in the way individuals perceive a brand's personality; (2) countries represented a secondary differentiation factor in that one might want to know how a brand's personality differs across countries; (3) items represented a G-factor, in that we want to know how the current measurement generalizes to other items from the same content domain (i.e., items that would measure the same factor); (4) the item by country interaction was indicative of country specific variance that is different across items, which is not desirable because it would lead to cross-cultural bias in the measures; (5) the remainder of the variance was ascribed to error (note that this error term is confounded by design with both the two-way interaction between individual and item, and the three-way interaction between item, country and individual). We studied these sources of variance for each brand personality factor separately because we do not view the brand personality factors as randomly sampled from a broader population of factors, but rather as providing a full brand personality profile.

We used the variance components MINQUE (minimum norm quadratic unbiased estimator) procedure in SPSS 15.0. Table 6 presents the variance components (in absolute

numbers and in percentages), as well as the generalizability coefficient (GC) for each factor. In the current context, the GC gives an indication of the extent to which factor scores can be generalized beyond the items used to actually measure a brand personality factor. GC's can range from zero to one and a GC equal to one indicates that the items in a scale are interchangeable with other items from the same content domain. A GC of one also implies that the items in a scale are redundant and that the scale is as reliable with one item as with any number of items. In other words, ideally, a GC should be high but smaller than one. Sharma and Weathers (2003) suggest .90 as the optimum GC level and find GC's close to that value, among others for a 17-item scale measuring Consumer Ethnocentrism. The GC's for our brand personality factors range from .70 through .91. Given the fact that the factors consist of only two or three items, this indicates that the items represent their respective content domains rather well and that there is no need to add more items to measure each of these factors.

Insert Table 6 about here

Furthermore, the major source of variance is the individual. This indicates that the scale can be meaningfully used to differentiate between individual consumers based on the way they evaluate a brand's personality. The country level explains a much smaller proportion of the variance, suggesting that the brand used for the current study projects a rather consistent brand personality across countries. The error component of the variances is comparable to the proportions observed by Sharma and Weathers (2003).

Another important consideration relates to the question of cross-cultural bias. The very low proportion of variance that is assigned to the country by item interaction (0.1% through

30

2.7%; see Table 6) provides evidence in support of the cross-cultural equivalency of the

scales. In

particular, these low percentages indicate that the item-factor relation is similar across

countries.

To summarize, the G theory analysis of the cross-cultural brand personality study indicates

(1) that the items represent the brand personality factors well; (2) that the scales can be

meaningfully used to differentiate the way individual consumers view a brand's personality;

and (3) that the items are cross-culturally equivalent.

Discussion, Implications and Further Research

Starting from a definition that restricts brand personality to human personality traits that

are relevant for and applicable to brands, we developed a new measure for brand personality.

The new scale consists of twelve items and five factors (Activity, Responsibility,

Aggressiveness, Simplicity, and Emotionality). By means of five studies we proved that the

dimensions are reliable and valid, and that the scale can be used for studies on an aggregate

level across multiple brands of different product categories, for studies across different

competitors within a specific product category, for studies on an individual brand level, and

for cross-cultural studies. The new scale thus promises to be a practical instrument for

branding research, and is important for both academics and practitioners. For academics it

simplifies theorizing and hypothesis generation when one and the same scale can be used for

whatever product category and whatever country. For practitioners it is very important that

the scale can be used on an industry (for between-brand within-category comparisons) and

individual brand level (for between respondent analyses) because this type of studies are most

frequently carried out by practitioners (Austin et al., 2003). Moreover, global companies can

use the scale to assess to what degree their brands have a true global brand personality (cfr, as Coca Cola appears to have, see Study 5).

However, this study is not without limitations. First, we started from a theoretical basis, but afterwards turned to a data driven way to select and retain items. Therefore, it is possible that we have deleted useful and meaningful items because they were not associated with one of the dimensions. Second, although the validity and reliability of the scale was extensively studied in Belgium using a huge sample of representative respondents, very diverse product categories and a large amount of individual brands, this was not the case in the other countries. In the US only 20 brands, and in the other nine countries only one brand (Coca Cola) was investigated. More research is called for to further investigate the cross-cultural validity of the new scale. Third, nomological validity should be further investigated. Although for most hypotheses the correct trend was observed, several results were insignificant. We see at least two reasons for this. We worked with a small sample to test the hypotheses which reduced the power of the between-group test. Moreover, our hypotheses were largely based on the results of a study that linked the Big Five dimensions to personal values. Because our scale deviates from the Big Five and contains less facets, the predictive power of values for the impact of brand personality dimension on brand attitude may have been less strong.

A fruitful avenue for future research is to further investigate the antecedents and consequences of the different brand personality dimensions. Not only consumer values, but also other characteristics of specific target groups (demographics, personality, goals, etc.) may be related to the extent that the different brand personality dimensions determine consumers' brand attitudes, brand choice, brand loyalty, etc. It is possible, for example, that

promotion focused individuals have a preference for brands scoring high on the Activity dimension, whereas prevention focused individuals rather prefer brands scoring high on the Responsibility dimension (for a discussion on self-regulatory focus see Higgins, 1997; Pham, & Higgins, 2005). Another interesting avenue for further research is to investigate how marketing activities impact the different brand personality dimensions. For example, can a dynamic, innovative communication campaign increase a brand's score on the Activity dimension, or is this a prerogative for innovative product introductions? And, what is the impact of specific communication elements (e.g., Ang & Lim, 2006), logos, brand characters, sponsoring of events, co-branding partners, etcetera on the five brand personality dimensions? Further, in view of the importance of CSR activities (Du, Bhattacharya, & Sen, 2007; Klein, & Dawar, 2004), how do different CSR activities relate to the Responsibility dimension? To what extent does consumers' perception of a company's responsible behaviour towards its customers, employees, and/or the environment determine their view on the brand's Responsibility dimension? Also, keeping in mind the importance of brand extensions, the new scale can be used to extend the research on using brand personality to create a conceptual fit for brand extensions (e.g., Lau & Phau, 2007). In summary, application of our scale in experimental or longitudinal data collections could provide more information about the evaluation and evolution of a brand's personality due to differential positioning strategies, differential marketing activities and communication messages, leverage of differential secondary associations (Keller, 2008), etcetera.

REFERENCES

Aaker, D., & Joachimsthaler, E. (2000). *Brand leadership.* New York: Free Press.

Aaker, J.L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, *34*(August), 347-356.

Aaker, J.L. (1999). The malleable self: The role of self-expression in persuasion. *Journal of Marketing Research*, *36*(February), 45-57.

Aaker, J.L. (2000). Accessibility or diagnosticity? Disentangling the influence of culture on persuasion processes and attitudes. *Journal of Consumer Research*, *26*(March), 340-356.

Aaker, J.L., Benet-Martinez, V., & Garolera, J. (2001). Consumption of symbols as carriers of culture: A study of Japanese and Spanish brand personality constructs. *Journal of Personality and Social Psychology*, *81*(September), 492-508.

Allport, G.W. (1937). *Personality: A psychological interpretation*. New York: Holt.

Ang, S.H., & Lim, E.A.C. (2006). The influence of metaphors and product type on brand personality perceptions and attitudes. *Journal of Advertising, 35*(2), 39-53.

Austin, J.R., Siguaw, J.A., & Mattila, A.S. (2003). A re-examination of the generalizability of the Aaker brand personality measurement framework. *Journal of Strategic Marketing*, *11*(June), 77-92.

Azoulay, A., & Kapferer, J.N. (2003). Do brand personality scales really measure brand personality? *Brand Management*, *11*(November), 143-155.

Belk, R.W. (1988). Possessions and the extended self, *Journal of Consumer Research, 15*(September), 139-168.

Bosnjak, M., Bochmann, V., & Hufschmidt, T. (2007). Dimensions of brand personality attributions: A person-centric approach in the German cultural context. *Social Behavior and Personality, 35*(3), 303-316.

Brown, D.E. (1991). *Human Universals*. New York: McGraw-Hill.

Burisch, M. (1997). Test length and validity revisited. *European Journal of Personality, 11*, 303-315.

Caprara, G.V., Barbaranelli, C., & Guido, G. (2001). Brand personality: How to make the metaphor fit? *Journal of Economic Psychology*, *22*, 377-395.

Colucci, M., Montaguti, E., & Lago, U. (2008). <u>Managing brand extension via licensing: An investigation into the high-end fashion industry</u>. *International Journal of Research in Marketing, 25*(2), 129-137.

Costa, P.T., & McCrae, R.R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI): Professional manual*. Odessa: Psychological Assessment Resources.

d'Astous, A., & Lévesque, M. (2003). A scale for measuring store personality. *Psychology & Marketing*, *20*(May), 455-469.

De Pelsmacker, P., Geuens, M., & Van den Bergh, J. (2007). *Marketing Communications* (3rd ed.), London: Pearson Education.

Davies, G., Chun, R., Vinhas da Silva, R., & Roper, S. (2004). A corporate character scale to assess employee and customer views of organization reputation. *Corporate Reputation Review*, *7*, 125-146.

Du, S., Bhattacharya, C.B., & Sen, S. (2007). Reaping relational rewards from corporate social responsibility: The role of competitive positioning. *International Journal of Research in Marketing, 24*(3), 224-241.

Ferrandi, J.M., Valette-Florence, P., & Fine-Falcy, S. (2000). Aaker's brand personality scale in a French context: A replication and preliminary test of validity. In H.E. Spotts, & H.L. Meadow (eds.), *Developments of Marketing Science, Vol. 23* (pp. 7-13). Montreal: Academy of Marketing Science.

Fornell, C., & Larker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(February), 39-50.

Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of Consumer Research*, *24*(March), 343-373.

Goldberg, L.R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4,* 26-42.

Goldberg, L.R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48*(1), 26-34.

Gosling, S.D., Rentfrow, P.J., & Swann, W.B. (2003). A very brief measure of the Big-Five personality domains, *Journal of Research in Personality, 37*, 504-528.

Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.C. (1998). *Multivariate Data Analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Helgeson, J.G., & Supphellen, M. (2004). A conceptual and measurement comparison of self-congruity and brand personality. *International Journal of Market Research*, *46*(2), 205-233.

Higgins, E.T. (1997). Beyond pleasure and pain. *American Psychologist*, *52*(12), 1280-300.

Hosany, S., Ekinci, Y., & Uysal, M. (2006). Destination image and destination personality: An application of branding theories to tourism places. *Journal of Business Research*, *59*(May), 638-642.

John, O.P., & Srivastava, S. (1999). The Big Five trait taxonomy: history, measurement and theoretical perspectives. In L.A. Pervin, & O.P. John (Ed.), *Handbook of Personality* (pp. 102-138). New York/London: The Guilford Press.

Kapferer, J.N. (2008). *The new strategic brand management* (4th edition). London: Kogan Page.

Keller, K.L. (2008), *Strategic Brand Management. Building, Measuring, and Managing Brand Equity* (3rd edition)*. Upper Saddle River, NJ: Prentice Hall.

Kim, C.K., Han, D., & Park, S.B. (2001). The effect of brand personality and brand identification on brand loyalty: Applying theory of social identification. *Japanese Psychological Research*, *43*(November), 195-206.

Klein, J., & Dawar, N. (2004). Corporate social responsibility and consumers' attributions and brand evaluations in a product-harm crisis. *International Journal of Research in Marketing, 21*(3), 203-217.

Konecnik, M., & Go, F. (2008). Tourism destination brand identity: The case of Slovenia. *Journal of Brand Management, 15*, 177-189.

Kwortnik, R.J., & Ross, W.T. (2007). The role of positive emotions in experiential decisions. *International Journal of Research in Marketing, 24*(4), 324-335.

Lau, K.C., & Phau, I. (2007). Extending symbolic brands using their personality: examining antecedents and implications towards brand image fit and brand dilution. *Psychology & Marketing, 24*(5), 421-444.

Lindeman, M., & Verkasalo, M. (2005). Measuring values with the Short Schwartz's Value Survey. *Journal of Personality Assessment, 85*(2), 170-178.

Madden, T.J., Fehle, F., & Fournier, S. (2006). Brands matter: An empirical demonstration of the creation of shareholder value through branding. *Journal of the Academy of Marketing Science*, *34*(Spring), 224-235.

McCrae, R.R., & Costa, P.T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*(January), 81-90.

McCrae, R.R., & Costa, P.T. (1997). Personality trait structure as a human universal. *American Psychologist*, *52*(May), 509-516.

Mervielde, I. (1992). The B5BBS-25: A flemish set of bipolar markers for the big-five personality factors. *Psychologica Belgica*, *32*(2), 195-210.

Milas, G., & Mlačić, B. (2007). Brand personality and human personality: Findings from ratings of familiar Croatian brands. *Journal of Business Research, 60*, 620-626.

Norman, W.T. (1967). *2,800 personality trait descriptors: Normative operating characteristics for a university population.* Department of Psychology, University of Michigan, Ann Arbor, MI.

Nunnally, J.C. (1978). *Psychometric Theory.* New York: McGraw Hill.

Park, C.W., Jaworski, B.J., & MacInnis, D.J. (1986). Strategic brand concept-image management. *Journal of Marketing*, *50*(October), 135-145.

Pham, M.T., & Higgins, E.T. (2005). Promotion and prevention in consumer decision-making. The state of the art and theoretical propositions. in S. Ratneshwar, & D.G. Mick (eds.), *Inside Consumption*, New York: Routledge.

Plummer, J.T. (1984). How personality makes a difference. *Journal of Advertising Research*, *24* (December/January), 27-31.

Plummer, J.T. (2000). How personality makes a difference. *Journal of Advertising Research*, *40* (November/December), 79-83.

Rammstedt, B., & John, O.P. (2007). Measuring personality in one minute or less: a 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality, 41*, 203-212.

Roccas, S., Sagiv, L., Schwartz, S.H., & Knafo, A. (2002). The Big Five personality factors and personal values. *Personality and Social Psychology Bulletin, 28*(6), 789-801.

Rossiter, J.R. (2002). The C-OAR-SE procedure for scale development in marketing. *International Journal of Research in Marketing, 19(4),* 305-335.

Sanz, J., Gil, F., Garcia-Vera, M.P., & Barrasa, A. (2008). Needs and cognition/behavior patterns at work and the Big Five : an assessment of the personality and preference inventory-normative (PAPI-N) from the perspective of the five-factor model. *International Journal of Selection and Assessment, 16*(1), 46-58.

Schwartz, S.H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. Advances in Experimental Social Psychology. In Zanna, M. (Ed.), *Advances in Experimental Social Psychology (pp. 1-65).*

Saucier, G. (1994). Mini-markers: A brief version of Goldberg's unipolar big-five markers. *Journal of Personality Assessment*, *63*(December), 506-516.

Sharma, S. & Weathers D. (2003). Assessing generalizability of scales used in cross-national research. *International Journal of Research in Marketing, 20*(1), 287-295.

Sirgy, J.M. (1982). Self-concept in consumer behavior: a critical review. *Journal of Consumer Research, 9*(3), 287-300.

Smit, E.G., van den Berge, E., & Franzen, G. (2002). Brands are just like real people! The development of SWOCC's brand personality scale. In F. Hansen, & L.B. Christensen (eds.), *Branding and Advertising* (pp. 22-43), Copenhagen: Copenhagen Business School Press.

Steenkamp, J.B.E.M., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research, 25*(1), 78-90.

Steenkamp, J.B.E.M., & Burgess, S.M. (2002). Optimum stimulation level and exploratory consumer behavior in an emerging consumer market. *International Journal of Research in Marketing, 19*(2), 131-150.

Steenkamp, J.B.E.M., & Ter Hofstede, F. (2002). International market segmentation: Issues and perspectives. *International Journal of Research in Marketing, 19*(3), 185–213.

Strizhakova, Y., Coulter, R.A., & Price, L.L. (2008). The meanings of branded products: A cross-national scale development and meaning assessment. *International Journal of Research in Marketing, 25*(2*)*, 82-93.

Sung, Y., & Tinkham, S.F. (2005). Brand personality structures in the United States and Korea: Common and culture-specific factors. *Journal of Consumer Psychology*, *15*(4), 334-350.

Tsai, S.P. (2005). Utility, cultural symbolism and emotion: a comprehensive model of brand purchase value. *International Journal of Research in Marketing, 22*(3), 277-291.

van Rekom, J., Jacobs, G., & Verlegh, P.W.J. (2006). Measuring and managing the essence of a brand personality. *Marketing Letters*, *17*(July), 181-192.

Venable, B.T., Rose, G.M., Bush, V.D., & Gilbert, F.W. (2005). The role of brand personality and charitable giving: An assessment and validation. *Journal of the Academy of Marketing Science*, *33*(Summer), 295-312.

Völckner, F., & Sattler, H. (2007). Empirical generalizability of consumer evaluations of brand extentions. *International Journal of Research in Marketing*, *24*(2), 149-162.

Warlop, L., Ratneshwar, S., & van Osselaer, S. (2005). Distinctive brand cues and memory for product consumption experience. *International Journal of Research in Marketing, 22*(1), 27–44.

Woods, S.A., & Hampson, S.E. (2005). Measuring the Big Five with single items using a bipolar response scale, *European Journal of Personality, 19*, 373-390.

TABLE 1

Resemblance of Brand Personality Dimensions with the Big Five Dimensions

Author(s)	Country	Big Five Like Dimensions	Other Dimensions
Aaker (1997)	US (Brands)	Sincerity (A-C), Excitement (E), Competence (C-E)	Sophistication, Ruggedness
Aaker (2000)	Japan (Brands)	Sincerity (A-C), Excitement (E), Competence (C-E), Peacefulness (E-A)	Sophistication
Aaker, Benet-Martinez, and Garolera (2001)	Japan (Brands)	Sincerity (A-C), Excitement (E), Competence (C-E), Peacefulness (E-A)	Sophistication
	Spain (Brands)	Sincerity (A-C), Excitement (E), , Peacefulness (E-A), Passion (ES-O)	Sophistication
Bosnjak, Bochmann, and Hufschmidt (2007)	Germany (Brands)	Drive (E), Conscientiousness (C), Emotion (ES), Superficiality (A)	
Caprara, Barbaranelli and Guido (2001)	Italy (Brands)	Markers of 1. (A-E), and 2. (E-O)	
d'Astous and Lévesque (2003)	Canada (Stores)	Enthusiasm (E), Unpleasantness (A), Genuineness (C), Solidity (C)	Sophistication
Davies, Chun, Vinhas da Silva, and Roper (2004)	US (Brands)	Agreeableness (A), Enterprise (E), Competence (C), Ruthlessness (A)	Chic
Ferrandi, Valette-Florence, and Fine-Falcy (2000)	France (Brands)	Sincerity (A-C), Dynamism (E), Robustness (C), Conviviality (A)	Femininity
Helgeson and Supphellen (2004)	Sweden (Retailers)	Modern (O)	Classic
Hosany, Ekinci, and Uysal (2006)		Sincerity (C-O), Excitement (E-O), Conviviality (A)	
Kim, Han, and Park (2001)	Korea (Brands)	Sincerity (A-C), Excitement (E), Competence (C-E)	Sophistication, Ruggedness
Milas and Mlacîc (2007)	Croatia (Brands)	Conscientiousness (C), Extraversion (E), Agreeableness (A), Intellect (O), Emotional Stability (ES)	

Smit, van den Berge, and Franzen (2002)	Netherlands (Brands)	Competence (C), Excitement (E), Gentle (A), Distinction (O), Annoyance (A)	Ruggedness
Sung and Tinkham (2005)	US (Brands)	Likeableness (A), Trendiness (O), Competence (C), Traditionalism (O)	Sophistication, Ruggedness, White collar, Androgyny
	Korea (Brands)	Likeableness (A), Trendiness (O), Competence (C), Traditionalism (O)	Sophistication, Ruggedness, Western, Ascendancy
Venable, Rose, Bush, and Gilbert (2005)	US (non-profit)	Integrity (C), Nurturance (A-ES)	Sophistication, Ruggedness

Note. Letters between brackets in the third column refer to the Big Five dimensions: E=Extraversion, A=Agreeableness, C=Conscientiousness, ES=Emotional Stability, O=Openness

TABLE 2

Factor loadings of the items retained from the original 40 item pool after the first, second, and third reduction (R1, R2, R3)

Items[*]	BRAND PERSONALITY DIMENSIONS														
	Conscientiousness/ Responsibility			Extraversion/ Activity			Emotional Stability/ Emotionality			Agreeableness/ Aggressiveness			Openness/ Simplicity		
	R1	R2	R3	R1	R2	R3	R1	R2	R3	R1	R2	R3	R1	R2	R3
Down-to-earth[C]	.688	.716	.894												
Responsible[C]	.712	.763	.882												
Stable[C]	.666	.708	.882												
Consistent[C]	.753	.785													
Reliable[C]	.715	.719													
Trustworthy[C]	.737														
Steady[ES]	.732														
Rational[C]	.664														
Honest[C]	.632														
Genuine[O]	.613														
Dynamic[E]				.747	.749	.874									
Innovative[O]				.657	.720	.868									
Active[E]				.727	.717	.827									
Adventurous[E]				.743	.758										
Creative[O]				.672	.711										
Lively[E]				.776											
Energetic[E]				.762											
Romantic[ES]							.801	.819	.939						
Sentimental[ES]							.829	.841	.936						
Emotional[ES]							.792	.802							
Bold[A]										.816	.820	.928			
Aggressive[A]										.835	.826	.919			
Prententious[A]										.709	.729				
Ordinary[O]													.877	.847	.907
Simple[O]													.737	.750	.765
Mean across brands	3.47	3.49	4.22	3.41	3.36	4.21	2.91	2.91	3.46	2.56	2.56	3.21	2.96	2.96	4.10
SD	.16	.18	.42	.21	.20	.44	.32	.32	.48	.35	.35	.49	.45	.45	.40
p (normality test)	.958	.949	.927	.982	.981	.972	.649	.649	.850	.130	.130	.159	.393	.393	.575

Notes.   - Superscripts C, E, ES, A, O refer to the dimension (Conscientiousness, Extraversion, Emotional

Stability, Agreeableness, or Openness) the respective item was theoretically expected to load high on

- R1: reduction from 40 to 25 items based on Study 1 (20 brands); R2: reduction from 25 to 18 items

based on Study 1 (20 brands); R3: reduction from 18 to 12 items based on Study 2 (193 brands)

- Items included in the set of 40 items, but not withheld after the first reduction (and therefore not listed

in the table):

E: cool, playful, jolly; ES: level-headed, independent, passionate, keen; A: pleasant, kind, social,

sympathetic,

friendly; O: humorous, inspiring, traditional

TABLE 3

New brand personality measure is reliable on the brand *and* respondent level

Nr of items	Level of analysis	Sample	N	χ^2	df	CFI	TLI	RMSEA
18	Brand	Conclusive1	193	576.024	125	.857	.883	.137
12	Brand	Conclusive1	193	110.119	44	.969	.954	.088
12	Brand	Conclusive2	193	117.102	44	.965	.948	.093
12	Respondent	Banks	600	132.620	44	.980	.970	.058
12	Respondent	Restaurants	300	116.678	44	.941	.912	.074
12	Respondent	Super-markets	540	197.638	44	.951	.927	.080
12	Respondent	Margarine	600	141.722	44	.975	.962	.061
12	Respondent	Fashion	360	86.787	44	.974	.961	.052
12	Respondent	Beauty	780	210.248	44	.963	.945	.070
12	Respondent	Beer	717	205.275	44	.965	.947	.072
12	Respondent	Lottery	474	137.294	44	.968	.953	.067
12	Respondent	Food	540	205.419	44	.956	.934	.083
12	Respondent	Cars	1260	237.251	44	.977	.965	.059
12	Respondent	Telecom	653	128.229	44	.983	.975	.054
12	Respondent	Electronics	240	124.712	44	.953	.929	.088
12	Respondent	Mobile phones	420	103.876	44	.984	.977	.057
12	Respondent	Magazines	420	95.829	44	.969	.954	.063
12	Respondent	Radio channels	706	166.875	44	.975	.962	.063
12	Respondent	TV channels	832	140.624	44	.980	.971	.051
12	Respondent	Newspapers	717	180.664	44	.970	.956	.066
12	Respondent	Gasoline	360	81.811	44	.987	.981	.049
12	Respondent	Political parties	360	86.582	44	.985	.978	.052
12	Respondent	Politicians	540	205.419	44	.956	.934	.083
12	Respondent	Fortis Bank	210	59.357	44	.988	.982	.041
12	Respondent	PizzaHut	220	89.245	44	.948	.922	.069
12	Respondent	Nivea	213	78.692	44	.971	.956	.061
12	Respondent	Sony	241	92.194	44	.957	.936	.068
12	Respondent	Nokia	440	114.948	44	.975	.962	.061
12	Respondent	Q8	286	118.606	44	.968	.953	.077

Note. For all models p <.001

TABLE 4

The differential impact of Brand Personality Dimensions on Brand Attitude for respondents with a different value hierarchy

Value	Group	Brand Personality Dimensions				
		Responsibility	Activity	Aggressiveness	Emotionality	Simplicity
Conservation	Low	.467***	.291*	.057	.114*	-.247**
	High	.584***	-.095	.316	.010	-.143
Self-transcendence	Low	.422***	.035	.378**	.043	-.114
	High	.509***	.321	-.143	.142*	-.280*

Note.   * $p < .05$, ** $p < .010$, *** $p < .001$

TABLE 5

New brand personality measure is valid across cultures

Country	N	Fit indices				
		χ^2	df	TLI	CFI	RMSEA
France	284	161.973	44	.905	.937	.097
Germany	250	140.932	44	.903	.936	.094
Italy	231	99.029	44	.956	.971	.074
Netherlands	265	128.994	44	.922	.948	.086
Poland	198	88.440	44	.954	.969	.072
Romania	251	100.983	44	.966	.977	.072
Spain	250	132.951	44	.934	.956	.090
Switzerland	225	111.205	44	.900	.934	.083
Turkey	250	131.032	44	.949	.966	.089

Note. All models p < .001

TABLE 6

Applying G-theory: New brand personality measure contains sufficient items, and is cross-culturally equivalent

Variance Component	Brand Personality Dimensions									
	Activity		Responsibility		Aggressiveness		Simplicity		Emotionality	
Individual	2.42	73.6%	1.96	56.0%	1.59	44.0%	1.87	59.5%	2.53	75.3%
Country	0.11	3.3%	0.09	2.6%	0.33	9.2%	0.13	4.3%	0.19	5.5%
Item	0.04	1.4%	0.25	7.2%	0.03	0.7%	0.01	0.4%	0.00	0.1%
Item * Country	0.01	0.3%	0.04	1.0%	0.10	2.7%	0.06	2.1%	0.00	0.1%
Error	0.71	21.5%	1.16	33.1%	1.57	43.4%	1.06	33.8%	0.64	19.0%
Total	3.28		3.51		3.61		3.14		3.35	
GC	0.91		0.84		0.70		0.78		0.89	

Note. - Cell entries are absolute numbers and percentages of the variances for each component

- High variance share for the individual/country component indicates big differences

  in brand perception between individuals/countries respectively

- High variance share of the item component indicates the item is redundant

- High item*country variance share indicates the items are not cross-culturally equivalent

- GC should be large but different from 1

FIGURE 1

The New Brand Personality Measure