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Measuring Self-Congruity Using Human Personality and Brand Personality: The Effect of  
Personality Congruence on Brand Preference

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## **Measuring Self-Congruity Using Human Personality and Brand Personality: The Effect of Personality Congruence on Brand Preference**

### *Samenvatting*

Consumenten lijken een voorkeur te hebben voor merken die overeenkomen met hoe ze zichzelf zien, of hoe ze zichzelf graag zouden zien. Men construeert en onderhoudt continu een persoonlijke identiteit en één manier om dit te doen is het gebruik van merken die symbolische waarden uitstralen voor de consument zelf, of voor de omgeving van de consument.

Eerder onderzoek heeft aangetoond dat een overeenkomst tussen het zelfbeeld van mensen en het beeld dat mensen van een merk hebben (self-congruity), een positieve invloed heeft op de beoordeling van een merk. Het meten van self-congruity gebeurde vooralsnog door middel van het berekenen van het verschil tussen de eigen persoonlijkheid en het beeld van een stereotype gebruiker van een product. Het is echter aannemelijk dat merkvoorkeur of aankoopintentie zijn gebaseerd op meer factoren dan alleen het beeld van een typische gebruiker. Daarom is in dit onderzoek gebruik gemaakt van de concepten menselijke persoonlijkheid en merkpersoonlijkheid, die beiden holistisch van aard zijn. Menselijke persoonlijkheid wordt over het algemeen beschreven aan de hand van de 'Big Five' factor structuur, die alle mogelijke karaktertrekken die gebruikt kunnen worden om mensen te beschrijven terugbrengt tot vijf dimensies. Merkpersoonlijkheid beschrijft merken in termen van menselijke persoonlijkheid, eveneens gebruik makend van vijf dimensies.

In dit onderzoek is een efficiënte en up-to-date schaal ontwikkeld die een oplossing biedt voor problemen die verbonden zijn aan eerdere methoden om self-congruity te meten.

- Ten eerste is een schaal voorhanden waarmee self-concepts, person concepts and product concepts kunnen worden beschreven. Helaas ontbreekt een theoretische onderbouwing voor deze schaal. De schaal maakte geen gebruik van self-concept theorie, persoonlijkheidsliteratuur, of van merkpersoonlijkheid.
- Ten tweede worden ad hoc schalen gebruikt. Hierbij wordt met kwalitatief onderzoek een set karaktereigenschappen verzameld die beschrijvend zijn voor het onderzochte product. Nadelen zijn dat de schalen niet grondig gevalideerd kunnen worden, dat er een grotere kans is dat belangrijke dimensies van menselijke of merkpersoonlijkheid over het hoofd worden gezien en het ontwikkelen van dergelijke schalen kost meer tijd, geld en expertise dan het gebruik van een gestandaardiseerde schaal.
- Tot slot wordt ook een 'directe methode' gebruikt om self-congruity te onderzoeken. Hierbij wordt een respondent rechtstreeks gevraagd in welke mate hij of zij een product vindt overeenkomen met hoe hij of zij zichzelf ziet. Nadeel van deze methode is dat resultaten moeilijk te vertalen zijn naar praktische aanbevelingen en dat er geen koppeling mogelijk is met eerder onderzoek.

De ontwikkelde schaal is gebaseerd op de huidige kennis over menselijke persoonlijkheid en merkpersoonlijkheid. De twee hoofdvragen van dit onderzoek zijn dan ook: *“Kunnen menselijke persoonlijkheid en merkpersoonlijkheid zo vergeleken worden, dat ze gebruikt kunnen worden voor het meten van zelf-congruentie?”* en *“In welke mate kunnen merkvoorkeur en aankoopintentie worden voorspeld met deze vergelijking tussen menselijke persoonlijkheid en merkpersoonlijkheid?”*

Het onderzoek is uit de volgende fasen opgebouwd:

1. Verzameling van persoonlijkheidstrekken
2. Selectieronde 1: Het selecteren van persoonlijkheidstrekken die van toepassing zijn op mensen en merken (inhoudelijke selectie)
3. Selectieronde 2: Het selecteren van persoonlijkheidstrekken door middel van een pretest onderzoek onder studenten en factor analyses (statistische selectie)
4. Validatie van de schaal met een onderzoek onder Nederlandse consumenten

Voor de validatie van de schaal is gebruik gemaakt van een steekproef die generaliseerbaar is voor de Nederlandse bevolking tussen 18 en 65 jaar oud. De steekproef is mogelijk gemaakt door onderzoeks- en adviesbureau Newcom Research & Consultancy. In totaal hebben 850 consumenten aan het onderzoek meegedaan. Deze respondenten is gevraagd om de eigen persoonlijkheid en de merkpersoonlijkheid van drie telecomproviders te beschrijven aan de hand van de dertien persoonlijkheidstrekken die in fase 1, 2 en 3 zijn geselecteerd.

Hoewel in eerder onderzoek steeds is aangenomen dat de structuur in merkpersoonlijkheid wezenlijk verschilt van die van menselijke persoonlijkheid, wordt in dit onderzoek aangetoond dat de twee wel met een zelfde structuur vergeleken kunnen worden. Factor analyses tonen aan dat persoonlijkheidstrekken kunnen worden geïdentificeerd die dezelfde dimensies voor menselijke persoonlijkheid meten als voor merkpersoonlijkheid. Deze dimensies zijn:

- extraversion/ excitement
- agreeableness/ sincerity
- conscientiousness/ competence
- openness to experience/ sophistication

Factor analyses laten een consistent beeld zien in structuur van de eigen persoonlijkheid alsook de structuur van drie merkpersoonlijkheden. Menselijke persoonlijkheidsdimensie neuroticisme (ook emotionele stabiliteit genoemd) en merkpersoonlijheidsdimensie ruggedness zijn beiden buiten het onderzoek gelaten.

Een regressieanalyse laat zien dat tussen de acht en achttien procent van de merkvoorkeur door persoonlijkheidscongruentie kan worden verklaard. Deze resultaten zijn vergelijkbaar met die van bestaande methoden. Hiermee wordt aangetoond dat de ontwikkelde schaal een goed alternatief vormt voor de bestaande methoden om self-congruity te meten.

## **Measuring Self-Congruity Using Human Personality and Brand Personality: The Effect of Personality Congruence on Brand Preference**

### *Abstract*

Although positive effects of ‘matching’ self-concepts and brand images received considerable attention in consumer research, no generalized scales are available measuring both concepts using the human personality and brand personality frameworks. In this study, a scale is constructed that measures human personality dimensions as well as their corresponding brand personality dimensions with the same personality traits. Results obtained with this scale, show that four dimensions of human personality correspond with four dimensions of brand personality (extraversion and excitement, agreeableness and sincerity, conscientiousness and competence, openness to experience and sophistication). Regression analysis shows that about eight to eighteen percent of the variance in brand preference can be explained by personality congruence.

### *Abstract*

Consumenten lijken een voorkeur te hebben voor merken die overeenkomen met hoe ze zichzelf zien, of hoe ze zichzelf graag zouden zien. Hoewel aangetoond is dat een dergelijke congruentie over het algemeen een positief effect heeft op de waardering van een merk, ontbreekt een manier om deze congruentie te meten aan de hand van menselijke persoonlijkheid en merkpersoonlijkheid. In dit onderzoek is een schaal geconstrueerd die zowel menselijke persoonlijkheidsdimensies als hun overeenkomstige merkpersoonlijkheidsdimensies meet met dezelfde karaktertrekken. Eerste resultaten, verkregen met deze schaal tonen aan dat vier dimensies van menselijke persoonlijkheid overeenkomen met vier dimensies van merkpersoonlijkheid. (extraversion en excitement, agreeableness en sincerity, conscientiousness en competence, openness to experience en sophistication). Regressieanalyse laat zien dat tussen de acht en achttien procent van de merkvoorkeur door persoonlijkheidscongruentie kan worden verklaard.

There is a logical appeal to the idea that consumers prefer brands that are similar to how they see themselves or how they would like to see themselves. The possible effects of a congruent self-concept and brand image have been studied in various ways. In most of these studies, higher levels of congruity appear to have a positive effect on brand attitude, product preference, purchase intention, actual behaviour, product evaluation or product attachment (Dolich 1969; Helgeson & Supphellen 2004; Mugge & Govers 2004; Kleine, Kleine & Allen 1995).

Existing research almost exclusively uses the image of a typical user of a product or brand to measure self-image congruence (Levy 1959; Grubb & Grathwohl 1967; Sirgy et al. 1997). Because brand preference or purchase intentions are likely to be based on more image factors than only the image of a typical user, a scale measuring self-concept and brand image using the more holistic human personality and brand personality frameworks (Aaker 1997; McCrae & Costa 1992) is proposed in this study. Malhotra (1981) developed a scale for measuring self-concepts, person concepts, and product concepts, but it lacked a theoretical foundation. This study proposes an efficient and more up-to-date alternative after 24 years.

The two basic questions of this study are: “*Can human personality and brand personality be compared, so that they can be used for measuring self-congruity?*”, and “*To what extent can brand preference or purchase intention be predicted using this comparison between human personality and brand personality?*”

In this study, the construction of a scale measuring human personality and brand personality is discussed, and results obtained with this scale show that a four factor structure is shared between human personality and brand personality. In conclusion, the effect of congruity between human personality and brand personality on brand preference and purchase intention is examined.

### *CONCEPTUAL FRAMEWORK*

Consumer products have significance beyond their utilitarian value; they can have a functional as well as a symbolic value for the consumer (Belk 1988; Levy 1959; Park 1986; Solomon 1983; Sommers 1963). One reason for people to use brands in this symbolic way is that brands can be used to construct or maintain their self-identity (Fennis, Pruyn & Maasland 2004; Tucker 1957). People are constantly constructing and reconstructing their self-identity and one way to do this is using brands that have a signalling effect for the consumer, and the surroundings of the consumer (Grubb & Grathwohl 1967). The impact of product symbolism depends upon the interrelationship between a product's perceived image and the buyer's self image (Zinkhan & Hong 1991).

#### *Self concept*

Self concept has been defined as "*the totality of the individual's thoughts and feelings having reference to himself as an object*" (Rosenberg 1979). The self concept is formed in an interaction process between an individual and others, and the individual will strive for self-enhancement in the interaction process (Grubb & Grathwohl 1967). Individuals can have multiple 'situational' selves that become salient in different social situations. (Aaker 1999; Markus & Kunda 1986; Schenk & Holman 1980). The most common conceptualisations of self are called the 'actual self', 'ideal self', 'social self' and 'ideal social self'. The actual self



is how a person sees him- or herself. Ideal self is defined as the image of oneself as someone would like to be (Belch & Landon 1977; Dolich 1969). The social self is defined as the image that one believes others hold of him or her, while the ideal social self-concept denotes the image that one would like others to hold (Sirgy 1982).

### *Congruence between brand image and self image*

Self-concept is in part defined, enhanced and maintained through the consumption of goods as symbols (Grubb & Grathwohl 1967). What consumers buy can be influenced by the image that consumers have of themselves. Multiple researches have shown that individuals express themselves by choosing brands that are perceived to be similar to their own self-concept (Aaker, 1999; Grubb 1965; Sirgy, 1982). This similarity is called self-image/product image congruity, self-congruity or self-image congruence (for a literature review see Sirgy 1982). Congruence between the two concepts can have an effect on attitudes, behaviour, product/brand preference, purchase intention, product evaluation, product perception, store loyalty, or product attachment (Bellenger, Steinberg & Stanton 1976; Belk 1988; Cundiff 1969; Hamm & Graeff 1996; Mugge & Govers 2004; Sirgy 1985; Zinkhan & Hong 1991).

Choosing brands that are consistent with the self-identity or with the ideal self can be explained from the perspective of self-esteem or the self-consistency motive. Rosenberg (1979) defined the self-consistency motive as “*The motive to act in accordance with the self-concept and to maintain it intact in the face of potentially challenging evidence.*” and the self-esteem motive as “*the tendency to raise oneself to an aspired state or standard*”. In general these motives can be in accordance, but sometimes they can be conflicting. For example a man could really like to have a fast sports car from the self-esteem motive, but feel awkward or inconsistent when really having it and driving it around through the neighbourhood. This

indicates a choice between enhancing the self concept and maintaining the self-concept (Epstein 1980; Rosenberg 1979; Sirgy 1987).

Self-image congruence is usually measured by comparing the self concept of a consumer with the image he or she has of the typical user of a product. With this method, a consumer is asked to describe his or her own personality and the personality of a typical user of a brand. A discrepancy score can then be calculated as a measure of the level of congruity. An advantage of this approach is that the two person concepts that are measured can easily be compared. However, it is likely that attitudes towards a brand, brand preferences and purchase intentions are based on the image of a brand as a whole, not only the typical user. The question then becomes: "Is there a way to evaluate self-concepts and product concepts in a similar way?" This is where the idea of a brand personality comes to mind. A brand personality is constructed not only through one's idea of a typical user but through a whole range of factors (Aaker, D. 1996). Because it is also a personality it can, in principle, be compared with human personality and it may be a better predictor of brand preference or purchase intention because it is constructed from more factors than only the typical product-user image.

#### *Human personality and brand personality*

In human personality research a widespread way of measuring personality is using the 'Five Factor Structure' or 'Big Five' factor structure (Goldberg 1990; McCrae & Costa 1992), which reduces the vast amount of traits that can be used to describe people's personality to five dimensions. Big Five personality scales have been constructed through factor analysis of items describing the self and others. The dimensions that emerged are called extraversion,

agreeableness, conscientiousness, openness to experience (also called intellect) and neuroticism (also called emotional stability).

Since the late 1950's, brands have been conceptualised as having a personality (Martineau 1958). Brands have been described in terms of human personality traits to help differentiate brands and increase the personal meaning of the brand to the consumer (Fournier 1998; Plummer 1984). Brand personality is now regarded as one of the core dimensions of the brand identity (Aaker, D. 1996).

Aaker (1997) proposed a specific brand personality framework, using five personality dimensions, just like human personalities. Brand personality was defined as "*the set of human characteristics associated with a brand*". A brand personality scale was constructed, identifying 42 traits and 5 dimensions (excitement, sincerity, competence, sophistication and ruggedness). The same hierarchical approach was used as that of McCrae and Costa (1992) who developed the NEO-Personality Inventory (NEO-PI-R), measuring the Big Five factors of human personality. The factor structure of brand personality however was not the same as that of human personality, according to Aaker because "*a brand personality is formed in a completely different way than human personality*" (Aaker 1997).

Brand personality and human personality are both durable and stable (Tan 2004) and they both might be used to explain and predict the actions of individuals (Fournier 1998). They are also different because brands are inanimate objects which are associated with a personality through marketing communications, the image of a typical user of the brand/product, endorsement by celebrities, product attributes, symbols or any means of personification

(Aaker, D. 1996; Batra 1993; Levy 1959). Personality traits of people are created and communicated to others through attitudes, behaviours or physical characteristics (Park 1986). It is possible that objects and persons can have similar personality structures but be processed using entirely different neural systems. This idea was proposed by Yoon e.a. (2004) who found that the processing of information about human personality happens in another part of the brain than processing information about brand personality.

According to Austin, Sigauw & Matilla (2003) there are some boundary conditions for the application of the brand personality framework. They state that researchers should use the framework with extreme caution when measuring the personality of individual brands or when aggregating data within a specific product category. High cross-loadings in re-examining factor analyses were the reason for this warning. This means the brand personality framework is only to be used as a generic tool.

Helgeson and Supphellen (2004) compared self-congruity and brand personality, examining if they are conceptually different. They concluded that the two concepts are empirically discriminant and that they have independent effects on brand attitudes. It appears that the two therefore should be used separately and for different purposes. The statement that self-congruity and brand personality are different concepts has logical appeal because self-congruity is an estimation of difference between self and typical product user and a brand personality is merely describing a brand in terms of human personality. The first is comparative, the second only descriptive. The two have different goals and have different ways of accomplishing them. Using both for predicting brand preference in a same way would not only lack statistical support, like Helgeson and Supphellen (2004) showed, but it would also lack construct validity. In this study an integration of the two concepts is

suggested, based on the basics of both frameworks (i.e. using descriptive personality frameworks to get a good image of levels of self-congruity).

### *Measurement of congruity*

Two types of measurement have been dominant in self-congruity research: firstly dimension based, indirect measures of self-congruity and secondly a global, direct measure of self-congruity (Sirgy et al. 1997).

The dimension based, indirect measures of self-congruity use a scale to measure product/brand image and to measure self-image on the same dimensions. Discrepancy scores are then computed to assess the levels of congruity. Malhotra (1981) constructed a scale that could be used for this purpose, measuring self-concepts, person concepts and product concepts. Unfortunately no theoretical foundation for the scale was provided. The scale does not make use of self-concept theory or personality literature, nor does it use the limited amount of knowledge about brand personality available at that time. The objective of the paper was “*to describe the construction of the scale rather than to present a generalized scale for measuring self-concepts, person concepts, and product concepts*”. It is therefore very limited in possibilities of use.

Other dimension based, indirect measures of self-congruity are ad-hoc in nature. To ensure high image salience, Sirgy (1982, p. 296) proposed that only images found to be highly related to the product/self-image should be used (rather than standardized self-concept scales) and that self-image adjectives should be situation specific. Ad-hoc scales measuring self-congruity have in general been constructed using qualitative methods to collect personality traits that are descriptive of the products under examination. The respondents are then asked

to describe the personality of a specific brand and to describe their own personality with those traits. A disadvantage of this approach is that those scales cannot be thoroughly validated. Another drawback is the higher chance some aspects of human personality or brand personality are overlooked in the qualitative phase of selecting personality traits for a scale. It can also result in lower construct validity (questions like to what extent consumers think of themselves as being fruity, Hogg, Cox & Jeeling 2000) and to conclude, creating ad-hoc scales is a time-consuming process for the researchers involved.

The global/direct method asks a consumer to imagine the typical user of a product and then indicate if product X is consistent with how he or she sees him-/herself. This direct measurement makes it possible to investigate the effect of self-image congruence very easily, without using long lists of personality traits. But although Sirgy et al. (1997) present this direct measurement as problem-free, it also has some limitations. Especially practitioners value the brand personality concept because knowing which image dimensions are responsible for congruity or incongruity has implications for marketing strategy. Direct measurement of self-image congruence is very short and efficient, but it is hard to translate the results to practical advices. Another limitation of the direct method is that it is not able to provide a link with earlier research, like indirect measurement of self-congruity using the Big Five framework can. Quite some research has been conducted to explain and predict behaviour with the Big Five framework of personality. This knowledge would not be available when direct measurement of self-congruity is used.

In this study the construction of a manageable but more up-to-date version of Malhotra's scale (1981) is described. This new scale is based on the current knowledge of the two frameworks important in measuring self-image congruence: human personality and brand personality.

### *THE STUDY*

An efficient scale to compare self-image and brand/product image, using the Big Five human personality framework and the brand personality framework, was constructed using the following steps:

1. Personality trait generation
2. Item refinement 1: Selecting personality traits applicable to brands as well as people, using twelve judges
3. Item refinement 2: Selecting items with a student sample and factor analysis
4. Validating the scale using a consumer sample

#### *Personality trait generation*

During the selection of personality traits for a scale to measure human and brand personality, the existing factor structures in the two personalities were taken into account, so that every collected item was theorized to belong to a specific dimension.

Human personality and brand personality do not share exactly the same factor structure (Caprara & Barbaranelli 2001). Human personality dimensions are labelled extraversion, conscientiousness, agreeableness, openness and neuroticism. The brand personality dimensions are excitement, competence, sincerity, sophistication and ruggedness. Four of the brand personality dimensions seem to directly correspond with four human personality

dimensions. Agreeableness and sincerity both capture the idea of warmth and acceptance, extraversion and excitement both include the notions of sociability, energy and activity, while conscientiousness and competence both connote responsibility, dependability, and security (Aaker 1997). Openness and sophistication have not been linked in earlier research.

However, it is plausible that there is a connection between the two. The dimension openness has also been called 'openness to experience' or 'intellect'. Both openness and sophistication capture the idea of maturity, culture and creativity (or being sensitive to creativity).

Human personality dimension neuroticism (also called emotional stability) and brand personality dimension ruggedness are both left out of the construction of the scale. The dimension neuroticism was not used in this study, because it is measured with traits that are not easily attributed to brands. Many of the traits cannot be inferred from actions by an organization or brand because they refer to cognitive processes that are by definition internal. This makes it difficult to name brands that for example 'worry a lot' or brands that are 'easily upset'. Another reason that makes the dimension less suitable for assessing congruity between human personality and brand personality is that many of the trait descriptions within the neuroticism dimension are negative. Ferrandi (2003) applied a human personality scale to brands and argued that only positive items of the original bipolar human personality scale should be used because in advertising and other marketing communications only positive traits are communicated. A third reason not to use the neuroticism dimension for measuring personality congruence is that it had no strong counterpart in the brand personality structure.

Brand personality dimension ruggedness was also left out of this research. A study by Aaker (2001) showed it to be unstable across different cultural contexts. In a Japanese context the



brand personality scale contained the dimension ‘peacefulness’ instead of ruggedness, in a Spanish scale the dimension was replaced with the dimension ‘passion’ (Aaker 2001).

Ruggedness also had no clear counterpart in the human personality structure. Table 1 shows the factor structures in human and brand personality and how they are compared in this study.

**Table 1: factor structures in personality**

<b>Human personality dimensions</b>		<b>Brand personality dimensions</b>
Extraversion	← Correspond →	Excitement
Agreeableness	← Correspond →	Sincerity
Conscientiousness	← Correspond →	Competence
Openness (to experience) / Intellect	← Assumed to correspond →	Sophistication
Neuroticism (Emotional stability)	← Dimensions less suitable for measuring congruence →	Ruggedness

Items were collected for each aforementioned dimension from Aaker’s brand personality scales (Aaker 1997, 2001), earlier brand personality scales (Bellenger, Steinberg & Stanton 1976; Dolich 1969), Malhotra’s scale to measure self-people and product concepts (Malhotra 1981), ad hoc brand personality scales (Hogg, Cox & Keeling 2000; Helgeson 2004) and the Dutch brand personality scale (Van den Berge 2002). Other items were selected from Five Factor personality scales NEO-PI-R (McRae & Costa 1987), NEO-FFI (McRae & Costa 1992), Big Five Markers (Goldberg 1990, 1992; Saucier 1994), and the International Personality Item Pool (2001). The items were taken from existing scales to ensure they could be used in a certain factor structure. Only items that were potentially descriptive of brands were selected from the human personality scales. All collected English traits were translated into Dutch and all Dutch traits were translated into English so that of each trait a version in both languages was acquired. This made it possible to conduct the research in Dutch and compare the results with English existing research.

A total of 142 human trait descriptions were collected (42 traits for dimensions extraversion/ excitement (EE), 36 traits for agreeableness/ sincerity (AS), 33 traits for conscientiousness/ competence (CC) and 31 traits for openness/ sophistication (OS)).

*Item refinement 1: Selecting personality traits applicable to brands as well as people, using twelve judges*

To reduce the number of personality traits, twelve graduate communication students were asked to judge which of the items are only descriptive for people and which are descriptive for both people *and* brands. They were told only to classify a trait as applicable to both when it does not have different meaning when describing brands and when describing people (Azoulay & Kapferer 2003; Caprara, Barbaranelli & Gianluigi 2002; Landon 1974). They were also asked to think of as many brands as possible while forming their judgment. Traits that less than six judges found to be applicable to brands and people were deleted. After this refinement, a total of 50 items remained and were included in the next purification phase: a student sample pretest.

*Item refinement 2: Selecting items with a student sample and factor analysis*

For the pretest, an online questionnaire was constructed. The popular semantic differential was not used, in favour of a uni-polar scale. Sirgy (1982) stated that uni-polar scales could increase the applicability and certainty attached to each adjective and avoid the forced associations of the bipolar format.

Due to the limited amount of aspects that may be addressed in an online questionnaire, a choice had to be made about which type of self-concept should be measured. For the scale to eventually be applicable to more types of personality (actual, ideal, social, situational), the

actual self was used in this research because it is a composite of the other types of personality (Burns 1979; Malhotra 1988, Rosenberg 1979, Sirgy 1981, 1982, 1986). In other words: people construct a view on their actual self with parts of their ideal self, parts of their social self, and so on. Therefore it is likely that actual self is more stable than the other selves.

To be able to recognize differences between product categories and between brands within one product category, four brands in two product categories were selected as stimuli (two beer brands and two providers of mobile telecom services). Respondents were asked to describe their own personality with the earlier selected 50 items. After that they were asked to describe each of the four aforementioned brands with the same traits, if they were familiar with that brand. A total number of 93 students completed the online questionnaire. Factor analysis was conducted to examine the factor structure of the scale and to see if the expected structure was confirmed. Explained variance per factor analysis varied from 54.6% (Mobile provider 2, n=78) to 58.4% (Mobile provider 1, n=80).

For items to be selected they should have high factor loadings on the dimensions they were theorized to belong to and low loadings on other factors across all five personalities (own personality and four brand personalities). All factor loadings for the selected traits were above .50 on the dimensions they belonged to, except for the trait authentic which loaded .473 on agreeableness/sincerity for mobile telecom provider 1. In three out of five factor analyses, the dimensions extraversion/excitement and openness/sophistication ended up in the same factor. In one factor analysis, the factors agreeableness/sincerity and conscientiousness/competence ended up in one factor. Because their content is theoretically different and because in one factor analysis the items were all attributed to the four different factors, the distinction was preserved for the rest of the study.

The reduced measures of the dimensions should have a high Cronbach's alpha's. Table 2 shows Cronbach's alpha for the total number of items that measured certain dimensions and the alpha's for the reduced number of items. All alpha's of the dimensions of the reduced scale were higher than .70. A total of 13 items was selected for the eventual personality congruence scale.

**Table 2: Cronbach's Alpha's student sample pretest**

	<i>Factor and number of items</i>							
	EE (13)	EE (4)	CC (13)	CC (3)	OS (14)	OS (3)	AS (10)	AS (3)
<b>Self</b> (n=157)	.88	.85	.91	.83	.83	.84	.82	.76
<b>Beer brand 1</b> (n=97)	.91	.87	.90	.79	.85	.89	.73	.72
<b>Beer brand 2</b> (n=71)	.87	.82	.89	.79	.85	.79	.80	.81
<b>Mobile provider 1</b> (n=80)	.90	.88	.89	.82	.88	.90	.85	.81
<b>Mobile provider 2</b> (n=79)	.89	.85	.88	.79	.83	.89	.86	.77

*Validating the scale using a consumer sample*

To assess the external validity and generalizability of the data collected with the scale, a representative sample of the Dutch population between 18 and 65 years old was used. The sample used in this research was a Dutch research panel of research agency Newcom Research & Consultancy.

According to Vernet (2003) product category plays a big role in the desirability of a congruent brand image. As mentioned earlier, some product categories are used more often for symbolic signaling than others. One goal of this study is that the constructed scale is applicable to less conspicuous or less symbolic products. Therefore three telecom providers were selected as stimuli for the research, because using a specific telecom provider is not very visible for the user's surrounding, providers do try to build different brand personalities through advertising and so far no research has been conducted regarding the effect of self-image congruence in the telecom sector. Grace and O'Kass (2005) developed a model of

service branding in a context of service brands such as retail stores and banks. This model includes self-image congruence as one of the factors that influences the consumer's decision regarding future patronage/boycotting.

The respondents that participated were asked to what extent the 13 personality traits describe their own personality, what the quality of this description is and to what extent they found it difficult to describe their own personality in this way. The respondents that owned a mobile phone were asked to describe the brand personality, current usage, intention of use and brand preference for the mobile telecom providers they were familiar with. Here, they were also asked to what extent they found it difficult to describe the brand personalities in this way.

### *RESULTS*

A total of 850 people participated in the research. Respondents were invited through a personalised e-mail with a hyperlink to the online questionnaire. After six days, a reminder was sent to all the people that had not completed the questionnaire or had not opened the questionnaire yet. This research was part of a bigger research in which 1014 people participated.

Within the sample, 52 percent was male, 48 percent female. Age ranged from 15 to 78 years old (mean: 42 years). Of all respondents, 18 percent received lower education, 26 percent average education, 56 percent was higher educated. Within the non-response, 64.3 percent was male, 35.7 percent female. Ages ranged from 17 to 84 (mean: 45 years old). Of the respondents, 25.2 percent received lower education, 23 percent average education, 51.8 percent higher education.

In all four examined personalities (self description and three brand personalities) a principal component factor analysis with varimax rotation showed that the expected four factor structure is shared between the self-images and the three brand personalities. All items loaded higher than .65 on the factors they were theorized to belong to, for three or more personalities. Exceptions were the items ‘friendly’ (.56 for provider 2) and ‘authentic’ (.44 for own personality). All traits loaded higher on the factors they were theorized to belong to than on any other factor. Explained variance ranged from 66.2% (description of self, n=857) to 88.9% (provider 2, n=605).

The above factor analyses were carried out forcing a 4-factor solution. The forced factors were mutually discriminant in all four factor analyses, unlike the results from the pretest (dimensions statistically belonging to one factor). When a free factor analysis was used, extraversion/ excitement and openness/ sophistication tended to group into one factor, conscientiousness/competence and agreeableness/sincerity in a second factor. This is consistent with findings in human personality research (Digman 1997) stating that extraversion and openness correlate strongly.

The alphas per dimension were all above .78, except for the dimension agreeableness/sincerity when measuring self-concept (.53). In particular the trait ‘authentic’ was the reason for this lower reliability.

**Table 3: Cronbach’s Alpha per personality dimension – consumer sample**

	EE (4 items)	AS (3 items)	CC (3 items)	OS (3 items)
<b>Self</b> (n=857)	.78	.53	.81	.82
<b>Mobile provider 1</b> (n=761)	.95	.88	.91	.94
<b>Mobile provider 2</b> (n=605)	.96	.90	.93	.95
<b>Mobile provider 3</b> (n=716)	.94	.84	.89	.93

The participants were asked to what extent they found it difficult to describe their own personality and the brand personalities on a scale from one to seven (1=not difficult, 7=very difficult). A mean score of 2.97 was found for describing own personality. Describing brand personality was rated more difficult; mean scores range from 3.64 to 4.06. Table 4 summarizes the results regarding the difficulty scores.

**Table 4: Difficulty describing personalities with the personality congruence scale**

	Own personality	Mobile provider 1	Mobile provider 2	Mobile provider 3
N	857	761	605	716
Mean	2,97	3,65	3,77	4,07
Median	2,00	4,00	4,00	4,00
Mode	2	2	1	7
Std. Deviation	1,62	2,02	2,06	2,10

Participants were also asked to rate the quality of their self-description on a scale from one to seven (1=not a good description, 7=very good description). A mean score of 4.96 was found (a median and modus both 5), which is quite positive because reducing a scale to 13 items for efficiency reasons can eliminate some of the underlying meaning of personality scales.

Participants however still seemed to have the idea they could give a self-description of good quality with the 13 item scale.

Discrepancy scores were computed using the following mathematical index:

$$\sum_{i=1}^n |S_i - B_i|$$

$S_i$  = rating of self along dimension  $i$  and

$B_i$  = rating of brand personality along dimension  $i$ .

Correlations between the absolute discrepancy scores per dimension, brand preference and intention were computed. All correlations are significant at the .001 level, for both brand preference and intention. The correlations per dimension are between .174 and .409. The highest correlations were found on the dimension agreeableness/ sincerity. As can be seen in table 5, the lower the discrepancy scores (more congruent images) the higher the brand preference and intention. In all cases the effect of congruent personalities is stronger for brand preference than for intention of future use.

**Table 5: correlations between absolute discrepancy scores per personality dimension, brand preference and intention\***

	Preference provider 1	Intention provider 1	Preference provider 2	Intention provider 2	Preference provider 3	Intention provider 3
Discrepancy scores dimension <b>ee</b>	-,251	-,173	-,182	-,159	-,228	-,222
Discrepancy scores dimension <b>as</b>	-,314	-,240	-,409	-,356	-,260	-,213
Discrepancy scores dimension <b>cc</b>	-,233	-,175	-,318	-,276	-,243	-,225
Discrepancy scores dimension <b>os</b>	-,215	-,168	-,215	-,184	-,174	-,151

\*All correlations are significant at the 0.01 level (2-tailed)

When comparing these results to the direct measurement technique of Sirgy (1997), who found a correlation of .373 ( $p < .01$ ) it is evident that the scale used in this study can be a useful alternative, especially when a more detailed image of the personalities is wanted.

A standard multiple regression analysis was performed with the four discrepancy scores per brand as independent variables and brand preference as the dependent variable. The results show the highest and most significant beta weights for factors agreeableness/sincerity ( $p < .002$  for all three brands; standardized  $\beta = .230, .372$  and  $.147$ ). Extraversion/ excitement is significant twice at the .05 level ( $\beta = .103$  and  $.096$ ), and once at the .06 level ( $\beta = .094$ ). Conscientiousness/ competence is significant twice at the .05 level ( $\beta = .149$  and  $.106$ ). The



adjusted  $R^2$  scores were .109 for mobile provider one, .175 for provider two and .082 for provider three. The  $R^2$  found with the direct measurement by Sirgy et al. (1997) was .139, so the two methods seem to provide comparable results. Both scores are relatively low, and seem to marginalize the effect of personality congruence. In the next the paragraph the implications of these findings will be discussed.

### *GENERAL DISCUSSION*

The objective of this research was to construct and test a scale that measures human personality and brand personality with the same personality traits. This makes it possible to compute congruity scores, with which the effect of ‘matching’ human personalities and brand personalities can be evaluated. A similar scale has been constructed by Malhotra (1981) but it lacks a solid theoretical foundation. The scale constructed in this study overcomes this and other problems that were earlier associated with the measurement of self-image congruity, and it is efficient to use. The scale shows a predictive ability for brand preference, similar to that of the direct self-image congruence measurement method developed by Sirgy et al. (1997).

Although Aaker (1997) argued that the factor structure in brand personality is substantially different from the structure in human personality, this study shows that traits can be identified that measure the same dimensions for both human personality and for brand personality. The dimensions that were included in the study have all shown to correspond (extraversion and excitement, agreeableness and sincerity, conscientiousness and competence, and openness to experience and sophistication). Factor analyses showed a consistent structure across human personality and three brand personalities of telecom service providers. Regression analysis

showed that of all four dimensions, agreeableness/ sincerity explained the most variance in product preference.

For a long time, human personality and brand personality have been seen as two concepts that are quite difficult to compare. This study sheds new light on the relationship between the two personality concepts. The constructed scale offers a method to evaluate personality congruence in a very efficient way, something especially useful for marketing practitioners.

Concepts that may have a moderating role in determining self-image congruity, like self-monitoring, self concept clarity, public/private consumption, conspicuousness of the consumption, need for uniqueness, response mode, social desirability of the products investigated and social desirability in describing own personality were not taken into account in this research. Doing so could probably further improve the understanding of self-image congruence (Graeff 1996; Dolich 1969; Tepper Tian 2001; Helgeson & Supphellen 2004).

Malhotra (1988) argues that it is important to adopt a multidimensional view of self-concept, which takes into account the role of ideal, actual and social self concepts. In this study, only actual self was used to evaluate congruity in personality. In future research it could be interesting to also use ideal self image or situational ideal self-image. Using these concepts has shown to be more predictive of brand attitudes in some situations or for some product categories than using just the concept of actual self (Graeff 1997).

Self-image congruence may not be an important factor in purchase and evaluation of all product categories. Some products are more conspicuous or rely more heavily on image. In this study, relatively low values of explained variance in brand preference were found for

telecom service providers. However, this does not mean personality congruence is of little importance for organizations that try to build appealing brands. In today's big homogeneous markets even the smallest fluctuations in brand preference can determine the success of an organization.

The scale was tested with telecom service brands. It is possible that the personality congruence scale shows a higher predictive value for brand preference or intention when used for describing more conspicuous or more symbolic product categories. Vernette (2003) found that product category is an important factor in the process of matching or mismatching personalities and product preference. Earlier research in the self-congruity field included for example automobiles, jewellery, travel destinations, drinks and fashion clothing (Jamal & Goode 2001; Ericksen 1996; Sirgy et al. 1997; O'Cass 2001). The current scale was tested for beer brands and telecom providers, but of course other product categories are to be evaluated too.

The most obvious improvement of the scale would be replacing the trait 'authentic'. It seems to be not very useful in describing own personality. The question is if the scale remains stable across different languages and different cultures. Is a relationship between congruent personalities and product preference causal? What sources are used constructing a brand personality in a consumers mind? How many sources does one use? Are some sources more important than others? Which personality dimensions are most important to the consumer when judging a brand? Is there a difference between personalities desired in different product categories, like brand relationship theories suggest (Fournier 1998)? It can be of great value to academics and practitioners to investigate these questions, deepening our understanding of human motivations and their implications for marketing.

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