Smells like me - personality and perfume choice

Wim Janssens and Patrick De Pelsmacker
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Based on a database with actual purchases and a survey with 348 subjects, the link between personality and perfume choice is studied, using the 'Big Five' personality structure for the actual self as well as the ideal-self personality. Results of correspondence analyses and discriminant analyses show that only a weak relationship exists between perfume choice and the actual self, and that there appears to be no support for a relationship between the ideal self and perfume choice.

Wim Janssens
Hasselt University and University of Antwerp

Patrick De Pelsmacker
University of Antwerp and Ghent University

INTRODUCTION

> Which perfume suits your personality?
>
> We can create a customised perfume based on her personality traits.
>
> You will be able to tell friends and family 'This is my signature scent, a fragrance designed around my own personality and bottled as a perfume or aftershave.'
>
> (Rediff 2005; Fragranceforyou 2006; Romanceher 2006)

These are just a few examples of how perfume companies are trying to sell perfumes based on the premise that there exists a link between personality and perfume preference. These attempts to market perfumes are not surprising given the importance of the perfume industry, which in 2002 reached a size of US$10bn. The cost of launching a new perfume on the market is estimated to range from £500,000 to £1,000,000 (Fashion-Era 2005). The 'personality–perfume' reasoning is not purely ad hoc, as there are a few studies that suggest such a link. However, these studies are scarce, often experimental, lacking external validity and the methodology is often not clear. This paper aims to study the link between actual perfume choice and personality (actual and ideal), the latter being measured in a valid and reliable way. As we were able to work with a combination of behavioural

and survey data, the ecological validity of this research is believed to be strong.

LITERATURE REVIEW

Perfume can be seen as a high-involvement product with a strong 'feeling' component, which is purchased on the basis of a transformational motivation (Rossiter & Percy 1997). Marketing research on perfume is scarce, but in other disciplines, such as psychology and cosmetics and sensory studies, there is substantial previous research. However, linking personality and perfume choice appears to be an under-researched area. A few studies exist, although the methodological approach is not always clear. Summarising tenets and research results enabled us to determine three main factors that are expected to determine perfume preference. First, perfume preference can be determined by external factors. These can be situational or personal – for example, the colour of the hair or the colour of the eyes (Mensing & Beck 1988), gender, age, season and occasion (Jellinek 1997). Solely focusing on the colour of the hair and eyes may sound too specific, but the French perfume house Patou, for example, recommended Love of Love to blondes and Que sais-je to brunettes (Hurton 1991). Perfume preference can also be caused by emotional factors. Experiences from the past (some of which are associated with a particular odour) are stored in long-term memory. When this odour is smelled, these experiences are recalled. Hence, a perfume will be preferred when it recalls pleasant emotions. This process works via the limbic system (Van Toller *et al. 1992),* and among the five senses, smell seems to be the sense that provokes the highest memory retention and the most immediate strong emotional vocation (Herz 1996, 1998). Finally, personality can also impact perfume choice. Personality is mainly determined by two components: genetics and socialisation processes (e.g. Zuckerman 2004). With respect to genetics, Milinski and Wedekind (2001) state that individual odour preference is an evolutionary puzzle, in which genes play an important role. For example, they show that individual preferences for specific fragrances are determined by a person's major histocompatibility complex (MHC) type. Besides this biological approach, personality can also be formed by socialisation processes. Mensing and Beck (1984) state that, in the development of a human's life, a person will associate specific odours with pleasant and unpleasant persons, situations and experiences. These socialised experiences contribute to the shaping of a person's personality, leading to a link between personality and odour preference. Furthermore, as discussed by Retiveau (2004), a perfume is used to send out a message for three typical purposes. The first motivation to wear perfume is because of a 'social dimension' (Bain 1997), in which the target population are the others in general. Graham (1993) calls this the 'others' perception motive'. Second, the target can also be a specific person, which Graham (1993) calls the 'interpersonal attraction motive'. A third target is the own person ('self-perception'; Graham 1993). In this case a person wears a fragrance to please her/himself.

As indicated by Schmitt and Shulz (1995), further research is needed on the exact role that situation and person prototypes play in the perception of fragrances. Building further on Cantor and Mischel (1979), they found that measures of perceived social characteristics of a person are good predictors of people's product representations. Hence, people may associate a specific perfume (name and scent) with a specific person prototype (e.g. a yuppie, a business executive). However, it is not clear to what extent this refers to what the person thinks of him or herself at this specific moment, or whether it relates to a prototype that is aimed at (e.g. a model or a celebrity). People consume products to construct, maintain and express their self-identity, not only by consuming actual products but also by consuming their symbolic meaning (e.g. Elliot 1994). Elaborating on this symbolic consumption element, Wicklund and Gollwitzer (1982) indicate in their symbolic self-completion theory that people will also try to fill the gap between their actual and aspired status. Or, as stated by Dittmar *et al.* (1996):

> Wicklund and Gollwitzer (1982) have argued that people acquire and display material symbols –

> amongst other strategies – to compensate for perceived inadequacies in certain dimensions of their self-concept … For instance, by displaying a recognised masculine symbol, such as wearing a black leather motorbike suit, a young man can compensate for not feeling 'masculine enough', by using the object to tell both himself and others that he is indeed 'masculine'.

It is clear from the discussion above that besides the own, actual personality, the aspired to or ideal personality may also play a role in perfume preference.

Mensing and Beck (1988) found in their study of 600 German women, correlations between extravert perfume users and fresh-floral perfumes, as well as between neurotic (or emotional unstable) perfume users and floral-powdery perfumes. They used the Melcher's Colour Pyramid Test and the Lusher Colour Test to gain insight into personality, emotional mood and colour preference. They elaborated on these findings and developed the 'Colour Rosette Test' (Mensing & Beck 1984), a system that attempts to predict perfume preference based on personality and colour preferences. According to Eysenck (1992), this model was an interesting but unreliable attempt in the search for a relationship between personality and perfume preference. For example, the two tests (Melcher's Colour Pyramid Test and the Lusher Colour Test) and the personality checklist in a pre-test (Freiburger Personality Inventory) lack validity. Although there is much debate with respect to the correct measurement of personality, some widely accepted and extensively used measurement systems exist to measure personality. One of them is the 'Big Five' framework. Notwithstanding the fact that there exists some discussion about the exact number of personality traits (e.g. Jackson *et al.* 1996) and the semantics of the (sub)dimensions (e.g. Digman 1990), the five factors appear to explain a substantial part of the variance in personality structure. Based on Fiske's (1949) work, further studies by Tupes and Christal (1961) and Norman (1963) led to a widely accepted paradigm for personality structure (Costa & McCrae 1992; Zuckerman *et al.* 1993). Following Costa and McCrae (1992), the factors were labelled (1) Extraversion, (2) Agreeableness, (3) Conscientiousness, (4) Neuroticism, and (5) Openness to experience, and these five dimensions are regularly abbreviated as the 'OCEAN' dimensions.

Compared to earlier studies, in our study we attempt to control the research method to ensure a more reliable, valid and comprehensive investigation of the link between personality and perfume preference: (1) we attempt to use a tested, valid and reliable checklist to measure personality, (2) we take actual self as well as ideal-self personality into account, (3) participants make an actual choice between perfumes in identical bottles for the different perfumes, cancelling out the biasing effects of packaging and advertising, and (4) we use a combination of behavioural data (perfume choice) and survey data (personality scales administered at a later point in time), which ensures a higher degree of ecological validity.

METHOD

Procedure and Participants

The perfume shop that provided the necessary perfume choice data and email addresses of its clients, operates its business on a 'match your perfume with your personality' principle, originated by Jean Patout (Patout 2003). The shop has 49 self-created perfumes, which are (combinations of) the following fragrance families: wood, powder, amber, fruit, green, fresh and flower. Each client who enters the shop is offered these 49 perfumes, each in an identical transparent (numbered) bottle. This cancels out biasing effects such as prior brand attitudes, advertising and packaging (Dano 1996; Mick *et al.* 2004). The client smells each perfume and writes down the numbers of the perfumes s/he likes. As there are 49 perfumes, the consumer may wish to neutralise his/her smell system. For this purpose the consumer can smell coffee beans, known for their neutralising function on odour receptors. Next, the preferred perfumes are offered, two by two, to the consumer (blind). This

procedure leads to three resulting perfumes. Until now, the consumer has mainly been exposed to the top notes of the perfume (the most volatile components). Eventually, to come to one final choice, the consumer also gets an idea of the middle note (by smelling a piece of textile that is scented with that perfume) and the base note (by smelling a wine glass that has been perfumed a week in advance). The procedure results in the choice of one perfume.

The personality traits were measured by means of an online web survey. Respondents were sent an email with the web address of the survey. People mailed were only those who had ticked an opt-in box on the perfume choice page that they had to fill in when making the perfume choice, allowing the shop to use their email address for marketing purposes. On average about four months elapsed between their perfume acquisition and the completion of the personality survey list. They were instructed to fill out a personality checklist (50 items) for themselves (actual self) and also for their ideal personality (ideal self). At the end of the survey, gender and age were measured and they could participate in a contest in which five respondents could win a bottle of perfume (50 ml). After two weeks, a reminder was sent to those who had not reacted to the first mail. A sample of 348 participants was obtained.

Perfume Classification

As mentioned above, the 49 self-created perfumes are (combinations of) the following fragrance families: wood, powder, amber, fruit, green, fresh and flower. A perfume was attributed to a specific family when more than 50% of the fragrances belonged to that specific family. For example, a perfume consisting of 50% flower, 25% amber and 25% wood was classified as a flower perfume. If a perfume consisted of 50% flower and 50% wood, it was not attributed to a specific fragrance and was left out of the study. However, when a perfume consisted of at least three fragrances in equal percentages, it was attributed to the 'mixed perfume' family. Following this procedure, 32 of 49 perfumes were withheld in the further analysis. However, there were only enough data for four perfume groups: flower (45), amber (36), fruit (83) and mixed (83). For example, only six respondents chose a typically fresh perfume. In the analysis, only the four perfume groups with sufficient data were withheld.

Personality Traits

Personality was measured by means of the 'Big Five' personality traits (neuroticism, extraversion, openness, agreeableness and conscientiousness). A number of different scales exist to measure these five personality traits. In our research the NEO-IPIP[1] personality trait questionnaire was used (50 items). Heaven and Bucci (2001) and Johnson (2005) indicate that the correlations between the NEO-IPIP scales and the original NEO scales are very high (correlations higher than 0.90). As discussed by Johnson (2005) and Gow *et al.* (2005), these scales provide valid alternatives for the original scale that contained substantially more items, and they provide reliability equal to or greater than that of the original scales on which they are based.

RESULTS

After the initial mail, 301 respondents completed the web survey and the reminder mail generated 47 extra respondents. Given a total list with email addresses of 981 persons, the response rate was 35.47%. Most respondents are females (85.1%) and 73.8% of the respondents are between 21 and 50 years old. As shown in Table 1, the Cronbach's alpha values for the personality traits range from 0.71 to 0.86 (five constructs for both the actual self and the ideal self), indicating acceptable reliability. Table 1 also shows that the correlations between the different personality traits for the actual self as well as the ideal self are low (except for the correlation between neuroticism and extraversion for the ideal self (= −0.620). Also the correlations for the same personality trait between actual and ideal self are low, except for openness, which amounts to 0.632. These

results indicate that the different personality constructs do measure different traits (discriminant validity) and that there is a difference between the actual and the ideal personality. The mean scores on each personality trait per perfume, standard deviations and standard errors are reported in Table 2.

	1	2	3	4	5	6	7	8	9	10
1. Neuroticism (AS)[a]	*0.85*									
2. Extraversion (AS)	–0.367**	*0.86*								
3. Openness (AS)	–0.111*	0.318**	*0.80*							
4. Conscientiousness (AS)	–0.315**	0.133*	0.132*	*0.71*						
5. Agreeableness (AS)	–0.399**	0.106*	0.104	0.229**	*0.72*					
6. Neuroticism (IS)[b]	0.222**	–0.159**	–0.151**	–0.090	–0.178**	*0.74*				
7. Extraversion (IS)	–0.189**	0.375**	0.154**	0.047	0.140**	–0.620**	*0.82*			
8. Openness (IS)	–0.095	0.204**	0.632**	0.115*	0.101	–0.401**	0.501**	*0.83*		
9. Conscientiousness (IS)	–0.131*	0.054	0.180**	0.401**	0.164**	–0.583**	0.522**	0.520**	*0.78*	
10. Agreeableness (IS)	–0.171**	0.055	0.078	0.177**	0.498**	–0.479**	0.437**	0.355**	0.513**	*0.70*

[a,b]AS = actual self; IS = ideal self
On-diagonal figures (in italics) are Cronbach's alpha values. Off-diagonal figures represent correlations between the different constructs (** = significant at the 0.01 level; * = significant at the 0.05 level)

Table 1: Reliabilities and correlations of actual-self and ideal-self personality traits

	Neuroticism		Extraversion		Openness		Agreeableness		Conscientiousness	
Perfume	Mean	SD (SE)	Mean	SD (SE)	Mean	SD (SE)	Mean	SD (SE)	Mean	SD (SE)
					Actual self					
Flower	3.31	*0.99 (0.15)*	4.88	*0.80 (0.12)*	5.21	*0.87 (13)*	5.23	*0.65 (0.10)*	4.89	*0.61 (0.09)*
Amber	3.12	*0.91 (0.15)*	5.18	*1.04 (0.17)*	5.26	*0.77 (13)*	5.11	*0.50 (0.08)*	4.84	*0.67 (0.11)*
Fruit	2.95	*0.83 (0.09)*	5.30	*0.91 (0.10)*	5.24	*0.94 (0.10)*	5.09	*0.68 (0.07)*	4.97	*0.65 (0.07)*
Mixed	3.14	*0.96 (0.11)*	5.17	*0.86 (0.09)*	5.12	*0.89 (0.10)*	5.17	*0.64 (0.07)*	5.22	*0.76 (0.08)*
					Ideal self					
Flower	2.16	*0.77 (0.12)*	5.58	*0.59 (0.09)*	5.70	*0.84 (0.13)*	5.78	*0.57 (0.09)*	5.72	*0.64 (0.10)*
Amber	2.26	*0.81 (0.14)*	6.00	*0.64 (11)*	5.82	*0.70 (0.12)*	5.64	*0.75 (0.12)*	5.89	*0.72 (0.12)*
Fruit	2.17	*0.75 (0.08)*	5.81	*0.74 (08)*	5.68	*0.93 (10)*	5.77	*0.64 (0.07)*	5.65	*0.66 (0.07)*
Mixed	2.10	*0.62 (0.07)*	5.74	*0.75 (0.08)*	5.60	*0.83 (0.09)*	5.80	*0.61 (0.07)*	5.71	*0.62 (0.07)*
					Difference between actual self and ideal self					
Flower	–1.15	*1.06 (0.16)*	0.70	*0.82 (0.12)*	0.49	*0.64 (0.10)*	0.55	*0.63 (0.09)*	0.83	*0.78 (0.12)*
Amber	–0.85	*0.93 (0.16)*	0.83	*1.10 (0.18)*	0.56	*0.76 (0.13)*	0.79	*0.72 (0.12)*	0.79	*0.79 (0.13)*
Fruit	–0.79	*0.96 (0.10)*	0.52	*0.90 (0.10)*	0.44	*0.68 (0.07)*	0.57	*0.61 (0.07)*	0.80	*0.77 (0.08)*
Mixed	–1.04	*1.06 (0.12)*	0.58	*0.95 (0.10)*	0.48	*0.72 (0.08)*	0.55	*0.66 (0.07)*	0.59	*0.72 (0.08)*

Mean = mean scores on a seven-point Likert-type scale; SD = standard deviation; SE = standard error. For the correspondence analysis, for the actual and ideal self, the scores are first recoded to a 0–6 scale and then doubled. For the difference between actual and ideal self, the scores are first recoded to a 0–12 scale and then doubled (Torres & van de Velden 2007).

Table 2: Average personality scores on a seven-point Likert-type scale for each perfume type, for actual self, ideal self, and the difference between actual and ideal self

First, the relationship between personality and perfume choice was studied in an exploratory way. A correspondence analysis with Euclidean measurement and symmetrical normalisation was run on a means table of perfume choice and personality. Following the procedure as outlined by Torres and van de Velden (2007), the scores are first recoded into a 0–6 scale and then doubled, implying that the bipolar labels of the OCEAN are also included in the figures. This was done separately for the actual self as well as the ideal self (Figure Ia and Ib). As can be seen in Figure Ia, there appears to be a number of matches between personality and perfume

choice. The respective couples are 'neuroticism/introversion – flower', 'openness – amber', 'extraversion – fruit', and 'conscientiousness – mixed'. Agreeableness does not seem to match with any particular perfume under study. For the ideal-self personality, Figure Ib shows that there are much less specific links between ideal personality and perfume choice. In Figure Ic the correspondence between perfume choice, and the difference between actual and ideal self (hence indicating the extent to which one is not complete in his or her own personality perception on one of the dimensions) is shown. Again, there appear to be few clear links between this difference and perfume choice.

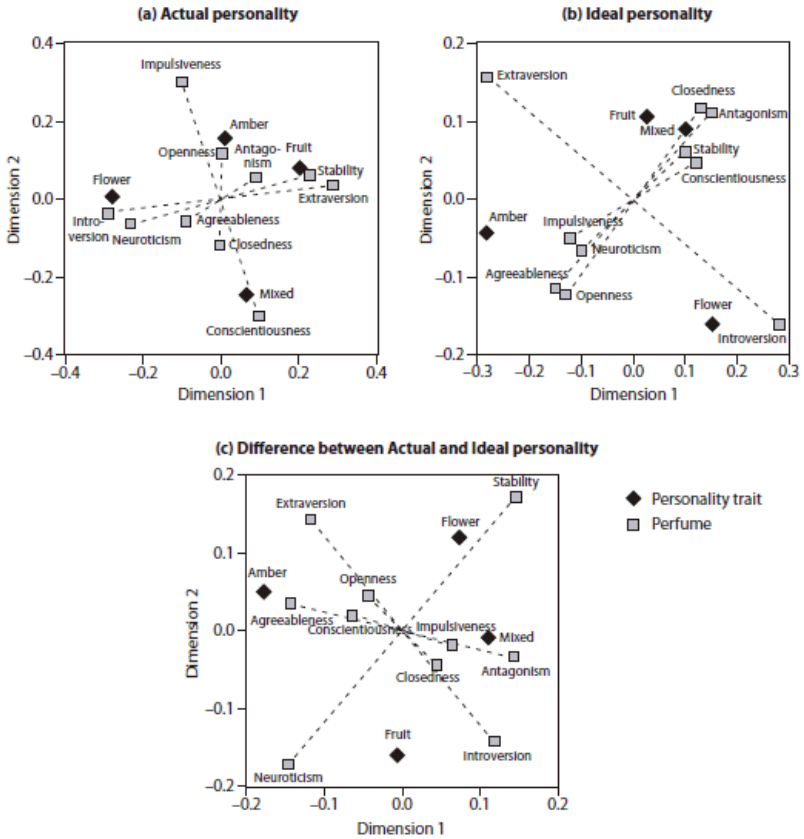

Figure 1: Perceptual map of personality and perfume choice

However, although correspondence analysis may be based on a table of means instead of a contingency table, one does not obtain an overall indication of an association between personality and perfume choice (such indication is given by the significance of the chi-square value in the case of a contingency table analysis). Consequently, the maps obtained in Figure 1 may reflect non-significant associations. Hence, although correspondence analysis is a useful exploratory exercise, the next step is to test more formally whether personality affects perfume choice. For this purpose a stepwise discriminant analysis was carried out, using the ten personality traits as independent variables, and perfume choice (four levels) as a dependent variable. Subsequently, a similar stepwise discriminant analysis was carried out but with the five 'ideal–actual' personality differences as independent variables.

Correlation coefficients with the discriminant function and standardised canonical discriminant function coefficients are reported in Table 3. The overall Wilks' lambda was significant, $\Lambda = 0.956$, $\chi^2(3, N = 247) = 10.956$, $p = 0.012$, indicating that, overall, the remaining predictors after the stepwise procedure differentiated among the four perfumes. However, it appeared that only one variable had a significant impact on the choice between the four perfumes, i.e. conscientiousness–actual self. Classification results show that the discriminating power relates to the choice between fruity and mixed perfumes, for which 51.8% and 57.8% were correctly

classified, respectively (compared to a prior probability of 33.3% for each). A reanalysis with only these two types of perfume as dependent variable again shows a significant role for 'conscientiousness–actual self, but also for 'neuroticism–actual self (overall Wilks' $\Lambda = 0.945$, $\chi^2(2, N = 166) = 9.224$, $p = 0.010$). Fruity perfumes are correctly classified in 54.2% of the cases and mixed in 65.1% (compared to prior probabilities of 50%). It appears that higher scores for conscientiousness and for neuroticism lead to a higher probability to choose a 'mixed perfume'. The standardised canonical discriminant function coefficients in Table 3 show that the impact of conscientiousness (0.955) is higher than the impact of neuroticism (0.744). For the differences, the stepwise discriminant analysis showed that none of the difference variables qualified for the analysis.

		Correlation coefficients with discriminant function		Standardised canonical discriminant function coefficients[1]	
	Personality trait	4 perfume group analysis	2 perfume group analysis	4 perfume group analysis	2 perfume group analysis
Actual	Neuroticism	–0.324	0.431	n.r.	0.744
	Extraversion	0.106	–0.097	n.r.	n.r.
	Openness	0.156	0.121	n.r.	n.r.
	Agreeableness	0.225	–0.107	n.r.	n.r.
	Conscientiousness	1.000	0.711	1.000	0.955
Ideal	Neuroticism	–0.048	0.113	n.r.	n.r.
	Extraversion	0.002	–0.077	n.r.	n.r.
	Openness	0.109	0.058	n.r.	n.r.
	Agreeableness	0.207	–0.044	n.r.	n.r.
	Conscientiousness	0.350	0.233	n.r.	n.r.

[1] Only figures for the remaining variables after the stepwise discriminant analysis are obtained; for the other variables it is indicated that this is not relevant (n.r.).

Table 3: Standardised coefficients and correlations of predictor variables with the discriminant function for the four group and two perfume group analysis (one significant discriminant function for each analysis)

DISCUSSION, CONCLUSIONS AND FURTHER RESEARCH

Some – although modest – support was found for the relationship between the actual self and perfume preference and choice. Conscientiousness and neuroticism appear to be weakly but significantly related to the choice of fruity and mixed perfumes. For these findings no a priori expectation was formulated. A possible ex-post explanation for these relationships may be that low conscientious people have typically higher scores on impulsiveness (e.g. Piedmont & Ciarrocchi 1999). High conscientious people may be less impulsive and more driven to be willing to search for more subtleties (more fragrance components) in a perfume, hence leading to a higher preference for mixed perfumes. For neuroticism, it was found that emotionally unstable persons are more often anxious people, have a highly activated nerve system and a stronger tendency to react negatively to disgusting stimuli (Pause *et al.* 1998; Druschel & Sherman 1999; Wilson *et al.* 2000). Possibly, the presence of multiple fragrances makes the perfume less intense, so that the stimulus-intensity is lower. This will be preferred by neurotics compared to emotionally stable persons, as they have no need to be extra-stimulated. Our results also seem to support findings by Retiveau (2004), who found nearly no differences in personality scores between four groups of perfume families that were constructed by a cluster analysis based on perfume liking scores. For the ideal-self personality, no support was found either.

No relation was found between perfume choice and either the ideal self or the difference between actual and ideal self. Based on the 'strive for self-completion' mechanism, i.e. filling the gap between what one currently is and what one ideally wants to be (Wicklund & Gollwitzer 1992), one would expect a relationship between perfume choice and ideal self-image, or between the size of the difference between the actual self and the ideal self, with respect to certain personality dimensions. However, apparently the ideal self is not so much taken into account when choosing a perfume type and the actual self is more relevant. In our data there is no evidence that

the self-completion mechanism plays a role in perfume choice. To some extent, this is not surprising. Self-completion has to be perceived as realistic. One could assume that too large a gap between the actual and the ideal personality could lead a consumer to believe that this gap cannot be closed by simply using the right perfume. If this is true, the relationship between the size of the gap and perfume choice would appear to be weak, as is the case here.

The 'Big Five' personality system, although extensively tested and widely used as a comprehensive system of a person's basic personality structure, is not the only structure and measurement available, and its relevance has been questioned. As indicated in the Introduction, there is some discussion about the exact number of personality traits. For instance, Hough (1992) extended the system to nine factors, but there are also frameworks that present three, four or six basic personality traits (for an overview, see Jackson *et al.* 1996). Also the semantics of the (sub)dimensions have been debated (e.g. Digman 1990). Future research could explore the relevance of other personality structure frameworks.

Although the Big Five and other similar personality-type structures are assumed to capture the basic personality traits of individuals, some argue that these dimensions are too general in nature to predict consumer behaviour in specific contexts (Evans 1959; Tucker & Painter 1961). Further research should explore whether there are more specific individual difference traits that are relevant for perfume choice.

Given the limitations of this study and some of the choices made, there are several areas for further research. Personality is only one of the potential drivers of consumer behaviour and product choice. Sociodemographics, situational and domain-specific factors, and marketing efforts also exert an influence. For instance, previous research indicates that there may be interaction between personality traits and buying situations, and that the relative influence of personality is rather small (5–15%) (e.g. Kassarjian 1971; Antonides & Van Raaij 1998). Although in our research a number of other potentially influencing variables were held constant (e.g. all perfume bottles had the same design, the perfumes were all bought in the same shop) and the image content in fine fragrances is probably one of the highest of any product type (Williams *et al.* 1992), further research on the relationship between personality and perfume choice should focus on incorporating other relevant factors influencing perfume choice in order to better assess the relative importance of a personality trait in the perfume-buying decision.

Although in this study the influence of actual as well as ideal personality was studied, future research could also take into account the extent to which respondents are satisfied with their own personality. One might be happy with oneself without perceiving oneself as ideal. As discussed by Mick *et al.* (2004), Damak (1996) ascertained in a study about the congruency between body shape and perfume bottle preference, that women who were satisfied with their body preferred bottles that were design-technically similar to their own body shape. However, women who were less satisfied with their body shape preferred bottle shapes that were close to their ideal body shape. Hence, future research could try to study to what extent self-satisfaction might moderate the results found in our study.

Future research could also elaborate on some assumptions that were made in this paper. For example, we found that higher scores for conscientiousness (and also for neuroticism in the two-perfume case) led to a higher probability of choosing the 'mixed perfume'. This was explained by arguing that the high conscientious people (vis-à-vis the low conscientious people) are less impulsive and therefore more driven to search for subtleties (more fragrance components) in a perfume, therefore leading to a higher preference for mixed perfumes. Future research could try to find support for this reasoning. One possibility is to show that the high conscientious people take more time while evaluating/testing (via smell) the perfume or that they changed their minds more often than the low conscientious people. The literature review also revealed that, sometimes, the

terms personality, emotions and moods are used together. Future research could also strive to assess the relative importance of each of these different aspects. Finally, the link with personality could also be extended to other high-involvement, transformational product categories (e.g. fashion clothes, jewellery).

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ENDNOTE

1. International Personality Item Pool Representation of the NEO PI-R™.

REFERENCES

Antonides, G. & van Raaij, F.W. (1998) *Consumer Behaviour. A European Perspective.* Chichester: Wiley.

Bain, H. (1997) Why people use perfumes. In: J.S. Jellinek (ed.) *Paul Jellinek's: The Psychological Basis of Perfumery* (4th edn). London: Blackie Academic and Professional, pp. 232–239.

Cantor, N. & Mischel, W. (1979) Prototypes in person perception. In: L. Berkowitz (ed.) *Advances in Experimental Social Psychology* (Vol 12). New York: Academic Press.

Costa, P.T., Jr & McCrae, R.R. (1992) Four ways five factors are basic. *Personality and Individual Differences,* 13, 6, pp. 653–665.

Damak, L. (1996) Corps du consommateur et design du produit. Unpublished doctoral dissertation, University Dauphine, Paris.

Dano, F. (1996) Packaging: une approche semiotique. *Recherche et Applications en Marketing,* **11**, 1, pp. 23–36.

Digman, J.M. (1990) Personality structure: emergence of the five-factor model. *Annual Review of Psychology,* 41, pp. 417–40.

Diniz, M. (2005) Rediff news. Retrieved from **http://in.rediff.com/getahead/2005/jan/25perfume.htm**. Accessed 1 August 2006.

Dittmar, H., Beattie, J. & Friese, S. (1996) Objects, decision consideration and self-image in men's and women's impulse purchases. *Acta Psychologica,* **93**, 1–3, pp. 187–206.

Druschel, B.A. & Sherman, M.F. (1999) Disgust sensitivity as a function of the Big Five and gender. *Personality and Individual Differences,* 26, 4, pp. 739–748.

Elliott, R. (1994) Exploring the Symbolic Meaning of Brands. *British Journal of Management,* 5, pp. S13–S19.

Evans, F.B. (1959) Psychological objective factors in the prediction of brand choice: Ford versus Chevrolet. *Journal of Business,* 32, 4, pp. 340–369.

Eysenck, H.J. (1992) The psychology of personality and aesthetics. In: S. Van Toller and G.H. Dodd (eds) *Fragrance: the Psychology and Biology of Perfume.* London: Elsevier, pp. 7–26.

Fashion-Era (2005) Retrieved from **www.fashion-era.com/perfume_history.htm**. Accessed 6 September 2005.

Fiske, D.W. (1949) Consistency of the factorial structures of personality ratings from different sources. *Journal of Abnormal Social Psychology,* 44, pp. 329–344.

Fragranceforyou (2006) Retrieved from **www.fragranceforyou.com**. Accessed 1 August 2006.

Gow, A.J, Whiteman, M.C., Pattie, A. & Deary I.J. (2005) Goldberg's IPIP Big-Five factor makers:

internal consistency and concurrent validation in Scotland. *Personality and Individual Differences,* 39, 2, pp. 317–329.
Graham, J.A. (1993) The psychology of fragrance. In: H. Butler (ed.) *Poucher's Perfumes, Cosmetics and Soaps* (9th edn). London: Chapman and Hall, pp. 728–739.
Heaven, P.C.L. & Bucci, S. (2001) Right-wing authoritarianism, social dominance orientation and personality: an analysis using the IPIP measure. *European Journal of Personality,* 15, 1, pp. 49–56.
Herz, R.S. (1996) A comparison of olfactory, visual and tactile cues for emotional and non-emotional associated memoires. *Chemical Senses,* **21**, 5, pp. 614–615.
Herz, R.S. (1998) Are odours the best cues for memory? A cross-modal comparison of associative memory stimuli. *Annual New York Academic Science,* 855, pp. 670–674.
Hough, L.M. (1992) The 'Big Five' personality variables – construct confusion: description versus prediction. *Human Performance,* 5, 1–2, 139–155.
Hurton, A. (1991) *Erotiek van het parfum, hemelse geuren en verleden, een cultuurgeschiedenis [Eroticism of perfume, heavenly odours and past, a culture history].* Antwerpen: Standaard Uitgeverij (in Dutch).
Jackson, D.N., Ashton, M.C. & Tomes, J.L. (1996) The six-factor model of personality structure. *Personality and Individual Differences,* 20, 1, pp. 33–45.
Jellinek, P. (1997) Odor effects diagram and personal perfume type. In: J.S. Jellinek (ed.), *Paul Jellinek's: The Psychological Basis of Perfumery* (4th edn). London: Blackie Academic and Professional, pp. 114–125.
Johnson, J.A. (2005) Ascertaining the validity of individual protocols from web-based personality inventories. *Journal of Research in Personality,* 39, 1, pp. 103–129.
Kassarjian, H.H. (1971) Personality and consumer behaviour: a review. *Journal of Marketing Research,* **8**, 4 (November), pp. 409–418.
Mensing, J. & Beck, C. (1984) Fragrance from the psychological side. The end of myth? In: J. Mtiller (ed.) *The H&R Book for Perfume, Understanding Fragrance. Origin, History, Development, Meaning.* London: Johnson, pp. 127–152.
Mensing, J. & Beck, C. (1988) The psychology of fragrance selection. In: S. Van Toller & G.H. Dodd (eds) *Perfumery: The Psychology and Biology of Fragrance.* Chapman and Hall: London, pp. 185–204.
Mick, D.G., Burroughs, J.E., Hetzel, P. & Brannen, M.Y. (2004) Pursuing the meaning in the commercial world: an international review of marketing and consumer research founded on semiotics. *Semiotica,* 152, 1/4, pp. 1–74.
Milinski, M. & Wedekind, C. (2001) Evidence for MHC-correlated perfume preferences in humans. *Behavioural Ecology, 12, 2,* pp. 140–149.
Norman, W.T. (1963) Toward an adequate taxonomy of personality attributes: replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology*, 66, 6, pp. 574–583.
Patout, J. (2003) *Pied de nez.* Avignon: Presses du Soleil.
Pause, B.M., Ferstl, R. & Fehm-Wolsdorf, G. (1998) Personality and olfactory sensitivity. *Journal of Research in Personality,* 32, 4, pp. 510–518.
Piedmont, R.L. & Ciarrocchi, J.W. (1999) The utility of the Revised NEO Personality Inventory in an outpatient, drug rehabilitation context. *Psychology of Addictive Behaviors,* 13, 3, pp. 213–226.
Retiveau, A.N. (2004) Individual differences and the perception of complex scents. Abstract of a dissertation submitted in partial fulfilment of the requirements for the degree of doctor of philosophy, Kansas State University, Manhattan, Kansas.
Romanceher (2006) Retrieved from **www.romanceher.com/perfume.htm**. Accessed 1 August 2006.
Rossiter, J.R. & Percy, L. (1997) *Advertising Communications and Promotion Management.* Boston, MA: McGraw-Hill.

Schmitt, B.H. & Schultz II, C.J. (1995) Situational effects on brand preferences for image products. *Psychology & Marketing,* 12, 5, pp. 433–446.
Torres, A. & van de Velden, M. (2007) Perceptual mapping of multiple variable batteries by plotting supplementary variables in correspondence analysis of rating data. *Food Quality and Preference,* 18, 1, pp. 121–129.
Tucker, W.T. & Painter, J.J. (1961) Personality and product use. *Journal of Applied Psychology,* 45, 5, pp. 325–329.
Tupes, E.C. & Christal, R.E. (1961) Recurrent personality factors based on trait ratings (ASD-TR-61-97). Lackland Air Force Base, TX: Aeronautical Systems Division, Personnel Laboratory.
Van Toller, S., Hotson, S. & Kendal-Reed, M. (1992) The brain and the sense of smell: can we begin to make sense of cortical information after an odour has been received? In: S. Van Toller & G.H. Dodd (eds) *Fragrance: The Psychology and Biology of Perfume.* London: Elsevier Applied Science, pp. 195–219.
Wicklund, R.A. & Gollwitzer, P.M. (1982) *Symbolic Self-completion.* Hillsdale, NJ: Erlbaum.
Williams, A.A., Whittlestone, D.J. & Martin, D.C. (1992) The role of fragrances in product development: turning images into fragrances. *Marketing and Research Today,* **20**, 2, pp. 95□106.
Wilson, G.D., Kumari, V., Gray, J.A. & Corr, P.J. (2000) The role of neuroticism in startle reactions to fearful and disgusting stimuli. *Personality and Individual Differences,* 29, 6, pp. 1077–1082.
Zuckerman, M. (2004) The shaping of personality: genes, environments and chance encounters. *Journal of Personality Assessment,* 82, 1, pp. 11–22.
Zuckerman, M., Kuhlman, D.M., Joireman, J., Teta, P. & Kraft, M. (1993) A comparison of three structural models for personality: the big three, the big five, and the alternative five. *Journal of Personality and Social Psychology,* 65, 4, pp. 757–768.

ABOUT THE AUTHORS

Wim Janssens is Assistant Professor of Marketing at Hasselt University in Belgium and is also affiliated to the University of Antwerp. His research interests include marketing communications and consumer behaviour.

Patrick De Pelsmacker is Professor of Marketing at University of Antwerp and part-time Professor of Marketing at Ghent University in Belgium. His research focuses on marketing communications, interactive advertising and branding.

Address correspondence to: Professor Wim Janssens, Hasselt University, Campus Diepenbeek, Faculty BEW, Department BEDR/BBK (B255), Agoralaan Building D, BE 3590 Diepenbeek.
Email: **wim.janssens@uhasselt.be**

WARC Ltd.
Americas: 2233 Wisconsin Ave NW, Suite 535, Washington, DC 20007, United States - Tel: +1 202 778 0680
APAC: 20A Teck Lim Road, 088391, Singapore - Tel: +65 3157 6200
EMEA: 85 Newman Street, London, United Kingdom, W1T 3EU - Tel: +44 (0)20 7467 8100

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