

## **THE STUDY OF SCENT ASSOCIATION AND PREFERENCE AMONG YOUTH IN BANDUNG**

Alivia Puti Kamila and Reza Ashari Nasution  
School of Business and Management  
Institut Teknologi Bandung, Indonesia  
alivia.puti@sbm.itb.ac.id

**Abstract.** *Olfactory stimuli, also known as sense of smell, is the part of sensory system that is used for smelling. Scent is the pleasant odor captured by human olfactory system. It is known to add value by the use of fragrance on products. The use of scent by fragrance have been practiced in many industries. Fast moving consumer goods is one of the industry which product uses lot of scents, namely personal care. Product scent is being put into consideration when it comes to choosing personal care product. It is the main purchase driver of personal care product. In order to distinguish itself with others and offer unique selling point, the product must be different and easy to be remembered. This is where perception plays important role by creating cluster of association held in consumer's mind that is stored in memory. These associations will help marketer to understand the consumer better in order to create a targeted marketing for certain potential market and to generate a scent profile that may be useful for product development. In order to be a favorable scent, it has to be pleasant. However, there has not been any research about whether a pleasant, likeable scent makes consumer want to buy the product. There has not been many research about scent which is why this research will contribute to begin bridging the gap in the real world and the actual association held in consumer's mind and to find out the relationship between scent likeability and product preference. Therefore, this research was conducted using 5 samples of liquid soap to represent personal care product due to its high intensity of fragrance survey to 101 male and female aged 15-24 years old in Bandung who are divided into two groups based on their age (15-19 years old as teenagers and 20-24 years old as early adult). The respondents were asked to smell the soap first before they fill in the survey. The sample of soap being used are cool, fantasy, fresh, gourmand, and fruit scent. The type of association being asked are personality (symbolic), object, and emotion. The result of this research shows the association of each scent although the result shows little to no difference between two age groups. Charming is the personality that is associated across all scents that are natural based, though fresh does not have any strong personality association to it. These scents generally bring pleasant emotion. The objects associated with the scent come mostly from the item with similar scent to it, object of respondents surrounding, and the source of scent itself. These associations help to create scent profile. The relationship between scent likeability and product preference is positive, which means if the scent is liked by consumer then it is also more preferred by consumer.*

*Keywords: olfactory stimuli, scent, association, preference*

### **Introduction**

Olfactory stimuli, also known as sense of smell, is the part of sensory system that is used for smelling. The smelling process happens in a complex way through our receptors and neurons. The odor perceived by the stimuli may be pleasant and unpleasant one. The term that is used in this research will be scent in which the smell is favorably pleasant and fragrance as the scent added to the product. Scent is effective at enhancing memory, since its process involved amygdala and hippocampus which are related to emotion and memory. Scent benefits in a way that it makes a product memorable and easy to differentiate with other products. The memory of certain scent happened because of the process of perception and creation of association. The creation of image in consumer's mind is made up upon the cluster of association that is linked to memory.

One of the industry that adds fragrance to many of their products is fast moving consumer goods, especially under personal care category. Product scent becomes main consideration when it comes to choosing personal care product and known as primary purchase driver in this category since it is the main attribute of the product. Therefore, the author would like to see if the fragrance applied to personal care product, which is represented by soap in this case, has certain associations based on consumer mind and whether scent likeability affect product preference in general.

This study aims to explore the association held in consumer's mind of the scent of personal care product, to examine how scent likeability may or may not affect product preference, and to provide empirical data on how product scent association may be useful for marketer. In order to reach these objectives, a survey was carried out to 101 respondents aged 15-24 years old. The survey consists of two parts which are scent association and scent likeability and preference.

The research on product scent alone is not much and there hasn't been any research personal care product category related to olfactory cue. Product scent association itself hasn't been much explored by researchers, while scent profile created based on these associations may actually benefit marketer for numerous reason such as to create targeted marketing, development of new product, etc.

This study aims to find the association held in consumer mind based on the scent of their personal care product which in this research is represented by soap as the medium. The association created may vary based what each consumer perceive. This study aims to find the association held in consumer mind and to find if there is any relationship between scent likeability and product preference. The result of this research will provide empirical data for marketer to generate the result as a scent profile based on consumer association of the product scent in order to understand consumer association of their product and to provide scent provide that is beneficial for creating targeted marketing strategy, product development, etc

The limitation of this research is that each person perceives and describes scent differently which will actually lead us to the kind of free-association. The product that is used for this research is only limited to soap being sold in local supermarket that is hopefully able to represent the personal care product category. Since there is not many research on scent, especially for this product category, this research will open windows to more research of scent profile and other combination of scent used for a particular market, such as those who are aged 15-24 years old in this case for instance. This research also does not figure out differences in both gender since the result does not show any significant differences and that previous research also states mixed findings that result in confusion

## **Literature review**

### *Olfactory Stimuli*

Olfactory stimuli, also known as sense of smell, is the part of sensory system that is used for smelling. It is one of the stimuli in sensory marketing that hasn't been fully developed by marketers. The process of human olfactory system happens through our receptors and neurons. The odor that is being captured by olfactory stimuli varies from pleasant to unpleasant ones. To use the word 'odor' is slightly misfit in this case because the word represents both pleasant and unpleasant smell. Therefore, the word 'scent' will be used since it is well-known to describe pleasant smell.

Fragrance is what gives scent to the product. FMCG to add fragrance to their products. Fast moving consumer goods contains lot of scent in their product especially personal care product. People tend to put product scent into consideration when it comes to choosing personal care product. When it comes to choosing personal care product, scent is the number one primary factors to be considered

before making any purchase. The fragrance being put into soap have to be pleasant since unpleasant scent gives negative effect and is unpopular.

Scent evaluation is needed to help determine the appropriate product scent combination. Scent has been linked to certain pictures or images since some can be clearly suited one another in a consistent way. With the information of fragrance association marketer is able to be pointed in a position in which they are about to design a particular fragrance for particular market position or consumer segment (Williams and Martin, 1991).

The scent associated with particular product will help marketer to determine certain scent for particular market and show the benefit of the product. Knowing the scent association also help to search for unique selling proposition or source of competitive advantage. Cluster of association held in consumers' minds help them remember the product easily. Thus, the scent is suggested to have certain association towards itself.

### *Perception and association*

The process of creating association comes from perception. Perception refers to the product of psychological processes which include context, relationships, meaning, past experiences, and memory as key factors (Schiffman, 1992). Perception of scent is modified by the context within which the scent is smelled. An association is a node that is linked to a scent. Consumer perceive and experience our product and service through their senses. The process happening in our brain stores the sensory information and it distinct the association/image that is created which need to be further activated by long-term memory.

The type of association being asked in this research are personality as a symbolic association, emotion, and object. The personality used in this research is derived from Aaker's Brand Personality (1997) and Five Factor Model by Norman (1963). The brand personality assessed from five factor model, which are extraversion, agreeableness, conscientiousness, neuroticism and openness. It is developed to 5 brand personality which are sincerity which refers to agreeableness, extroversion refers to excitement and conscientiousness refers competence while the other two dimensions of brand personality, sophistication and ruggedness, differs from the five human personality (Briggs, 1992). Therefore, the traits that are chosen in this research are derived from both dimension of brand personality and five factor model and is represented by words of adjectives that captures both personality and are well-known to respondent. Those traits are honest to represent sincerity, imaginative from excitement, reliable to represent competence, charming that shows sophistication, and tough to show ruggedness.

According to (Mintel, 2015) floral, fruity, fantasy, gourmand and fresh & clean are the most common fragrance families in personal category while in soap and bath products/body care alone, floral is the most represented family. The field observation done in supermarket shows otherwise. The product scent being offered are not varied much and also there are lots of brands which carry the same type of scent.

Pleasant scent may improve mood by enhancing our positive perception and emotion. The emotion association part of this research will use the categories used in Warrenburg (2005) on his research about 'Effects of Fragrance on Emotions: Moods and Physiology'. The categories consist of happy, relaxed, sensuous, stimulated, irritated, stressed, depressed, and apathetic.

Scent is sometimes believed to be indescribable because an individual's perception of scent differs from one another and also their selection of words to describe it. It results in creating difficulty when discussing or referring to fragrance since there is no universal language for it. It is also difficult to describe accurately and results in difficulties while communicating about the scent because an

individual's perception of fragrance differs from the words they may choose to describe it. The object association on this research is a free association, resulting in various answers. Therefore, the associated objects will be listed into groups of object.

#### *Consumer product preference*

Consumer choice is now becoming hard to predict because of rapid product innovation and technological change (Betterman, 1998). It has been figured by (Schroiff, 1991) that a product's fragrance affects the product purchase decision. It is also being known to have a significant impact on the brand and may provide product advantages/clear point of difference and can be assigned to a unique selling proposition which benefit marketers. This happened due to the process of consumer understanding the olfactory information which can be quite ambiguous compared to other cues such as verbal and visual. Fragrance pleasantness also found to impact product's performance in consumer's mind. Moreover, it raises a question of whether scent likeability of the consumer affect their product decision.

### **Data collection**

#### *Population and sampling*

The target population of this research are male and female aged 15-24 years old located in Bandung who ever buy and use the soap that are being sold in local supermarket. The number of sample is determined using Slovin formula with error term (e) of 0.1 (10%). The formula is as followed:

$$n = \frac{N}{1 + Ne^2}$$

N = Population size

e = Allowed probability in committing an error

n = sample size

The respondents are those who are between 15-24 years old who lives in Bandung. The total population of Bandung resident aged 15-19 years old is 226.768 while the group 20-24 years old is 260,703 with a total of 487.471 for both groups, the number of respondents become:

$$n = \frac{487.471}{1 + 487.471[0.1^2]} = 99,97 \approx 100$$

#### *Data collection*

The data used on this research is collected through survey and field observation to supermarket. Field observation to the supermarket is also needed to collect information about the soap being sold in the market and to choose the ones that will be used in this research. There were five sample of soap that are given to the respondent before they answer the survey. The survey consists of two parts, which are scent association, scent likeability and product preference

#### *Data analysis*

##### *a. Descriptive analysis*

The object mentioned by respondents are categorized into these groups of objects:

Table 1 Group of objects

No.	Group name	Object
1	Personal belonging (PB)	Car, clothes, towel, bed, shoes, napkin, doll, umbrella, bag, watch
2	Outdoor place (O)	Park, spa, beach, ocean, fresh air, pool
3	Indoor place (I)	Bedroom, room, shop
4	Fruit (FR)	Fruit, pomegranate, lemon, strawberry, apple
5	Plant (PL)	Mint, flower, rose, vanilla
6	Food and beverage (FB)	Candy, Milk, Ice cream, cream, tea, pie, cookies, fruit punch, mint candy, water, cake, milk shake
7	Other personal care (PC)	Lotion, shampoo, perfume, hand cream, wet tissue, shower puff
8	Person (PRS)	Male
9	Body parts (BP)	Foot, hair
10	Uncategorized (ETC)	Stick, floor, bathroom cleaner, rubber, bathroom cleaner, ice, basketball, chair, chalk, crown, needle

The first scent comes from mint to fulfill the aim being 'cool' as the name of scent suggests. A masculine, man-like scent is what best described this scent though the product is not specialized for certain gender. Tough is the personality that is most associated with this scent, followed by charming. The emotion generated from this scent results in making people feel relaxed and stimulated at most. The object that is highly identified with this scent comes from group of food and beverage. The detail of these results also suggests the same thing as written down below.

Table 2 Results of scent 1

SCENT 1	ASSOCIATION	15-19		20-24		GEN	
		f	%	f	%	f	%
SYMBOLIC	CHARMING	10	21.3	19	35.2	29	28.7
	HONEST	8	17.4	8	14.8	16	15.8
	IMAGINATIVE	4	8.5	4	7.4	8	7.9
	RELIABLE	11	23.4	4	7.4	15	14.9
	TOUGH	14	29.8	19	35.2	33	32.7
	Total	47	100,0	54	100	101	100.0
OBJECT OBJECT	PB	10	21.3	6	11.2	16	15.8
	O	7	14.8	6	11.2	13	12.9
	I	3	6.4	6	11.2	9	8.9
	FR	0	0	2	3.7	2	2.0
	PL	4	8.5	4	7.4	8	7.9
	FB	14	29.7	14	26	28	27.7

	PC	0	0	1	1.9	1	1.0
	PRS	<b>7</b>	<b>14.9</b>	<b>9</b>	<b>16.7</b>	<b>16</b>	<b>15.8</b>
	BP	1	2.1	2	3.7	3	3.0
	ET	1	2.1	4	7.5	5	5.0
	Total	47	100,0	54	100,0	47	100.0
EMOTION	APATHETIC	2	4.3	6	11.1	8	7.9
	DEPRESSED	0	0	0	0	0	0.0
	<b>HAPPY</b>	<b>7</b>	<b>14.9</b>	<b>10</b>	<b>18.5</b>	<b>17</b>	<b>16.8</b>
	IRRITATED	3	6.4	4	7.4	7	6.9
	<b>RELAXED</b>	<b>14</b>	<b>29.8</b>	<b>15</b>	<b>27.8</b>	<b>29</b>	<b>28.7</b>
	SENSUOUS	3	6.4	6	11.1	9	8.9
	<b>STIMULATED</b>	<b>16</b>	<b>34</b>	<b>11</b>	<b>20.4</b>	<b>27</b>	<b>26.7</b>
	STRESSED	2	4.3	2	3.7	4	4.0
	TOTAL	47	100	54	100	101	100.0

Tough comes as the highest in both group, though charming is also the highest in the second group (20-24 years old). Honest and reliable follows which really came close between each personality. Thus, resulting in tough as the main personality association in general with imaginative being the least chosen personality. There is also difference in age group 1 (15-19 years old) with reliable being in the second and charming in the third.

Food and beverage is strongly associated by both groups with this scent. The rest of majority also associate it with object from person and personal belonging, though personal belonging ranked on second place by age group 1 (15-19 years old) and person as runner up for age group 2 (20-24 years old). Other results may vary and is coming from several groups of object such as outdoor places like bathroom and ocean, while others refer this scent to their clothes, car, and their other personal belonging. Others are not mentioned since it falls below 15%.

From the association of emotion, relaxed is highly referred as the emotion of this scent by both groups, while stimulated came close in the second place. This cool scent creates pleasant emotion according to 70% of the respondent, as relaxed, happy, and stimulated are the emotions which are mostly generated by this scent. The minority also shows result of unpleasant emotion but the result is only 19% combined. However, no one associates this scent with depressed emotion. Age group 1 (15-19 years old) thinks the scent stimulates them the most while age group 2 (20-24 years old) referred to relaxed as the emotion that is generated the most by this scent.

The sweet scent of scent 2 came from flower that is labelled as fantasy scent. However, respondent able to identify this to the object that has the same sweet scent and the flower itself. Most refer to this scent as having a charming and imaginative personality, and that the scent is highly favored as pleasurable scent. The detail of result are as follows.

Table 3 Results of scent 2

SCENT 2	ASSOCIATION	15-19		20-24		GEN	
		f	%	f	%	f	%
SYMBOLIC	CHARMING	15	31.9	19	35.2	34	33.7
	HONEST	8	17	11	20.4	19	18.8
	IMAGINATIVE	17	36.2	17	31.5	34	33.7
	RELIABLE	5	10.6	5	9.3	10	9.9
	TOUGH	2	4.3	2	3.7	4	4.0
	Total	47	100	54	100	101	100.0
OBJECT	PB	2	4.3	8	14.8	10	9.9
	O	2	4.3	2	3.7	4	4.0
	I	1	2.1	0	0	1	1.0
	FR	13	27.6	9	16.8	22	21.8
	PL	13	27.7	18	33.4	31	30.7
	FB	13	27.6	15	27.9	28	27.7
	PC	3	6.4	1	1.9	4	4.0
	PRS	0	0	0	0	0	0.0
	BP	0	0	0	0	0	0.0
	ET	0	0	1	1.9	1	1.0
Total	47	100,0	54	100,0	101	100.0	
EMOTION	APATHETIC	0	25.5	1	1.9	1	1.0
	DEPRESSED	0	0	2	3.7	2	2.0
	HAPPY	12	2.1	8	14.8	20	19.8
	IRRITATED	1	23.4	1	1.9	2	2.0
	RELAXED	12	31.9	9	16.7	21	20.8
	SENSUOUS	15	10.6	28	51.9	43	42.6
	STIMULATED	5	4.3	5	9.3	10	9.9
	STRESSED	2		0	0	2	2.0
Total	47	100	54	100	101	100.0	

The most chosen personality for this fantasy scent are charming and imaginative. Honest also came in the third place. However, each of age group have different opinion on which personality should be in the first place, since imaginative (19 years old) yet it is the other way around for age group 2 (20-24 years old). The emotion generated is considered pleasant with sensuous being in the first place, followed by relaxed and happy which came close in second place (both around 20%). Only minority of approximately 10% shows the unpleasant emotion. This shows that the scent is generally liked by most respondent of this research. The majority of respondent associates this scent with plant, food and beverage, and fruit.

The sweet scent of this product creates association of flower from plant category and candy from food & beverage which has the same sweet scent. Fruit also makes it to the top 3 association for this scent.

The respondents are able to recognize this scent because it is actually a flower based scent and they refer it to flower. Other objects that are associated with this scent are fruit, clothes, park, and perfume which may have the similar sweet scent compared to this particular scent.

Scent number 3 came from the fruit, lemon, which aims to be a fresh scent for its consumer. Respondents have varied result when it comes to the personality of this scent, especially since there are not much of a difference between personalities except for tough. Happy and relaxed are the emotion best associated with this scent.

Table 4 Results of scent 3

SCENT 3	ASSOCIATION	15-19	20-24		GEN		
		f	%	f	%	f	%
SYMBOLIC	CHARMING	10	21.3	12	22.2	22	21.78
	HONEST	10	21.3	11	20.4	21	20.79
	IMAGINATIVE	11	23.4	10	18.5	21	20.79
	RELIABLE	9	19.1	13	24.1	22	21.78
	TOUGH	7	14.9	8	14.8	15	14.85
	Total	47	100,0	54	100	101	100
OBJECT	PB	11	23.5	5	9.4	16	15.84
	O	0	0	0	0	0	0.00
	I	2	4.3	2	3.8	4	3.96
	FR	21	44.6	18	33.3	39	38.61
	PL	1	2.1	9	16.7	10	9.90
	FB	5	10.7	6	11.2	11	10.89
	PC	2	4.2	7	13.1	9	8.91

Table 4 Results of scent 3 (cont.)

	BP	0	0	3	5.7	3	2.97
	ET	4	8.5	4	7.5	8	7.92
	Total	47	100,0	54	100	101	100
EMOTION	APATHETIC	4	8.5	4	7.4	8	7.92
	DEPRESSED	2	4.3	1	1.9	3	2.97
	HAPPY	15	31.9	22	40.7	37	36.63

IRRITATED	4	8.5	7	13	11	10.89
RELAXED	12	25.5	13	24.1	25	24.75
SENSUOUS	3	6.4	2	3.7	5	4.95
STIMULATED	2	4.3	3	5.6	5	4.95
STRESSED	5	10.6	2	3.7	7	6.93
Total	47	100	54	100	101	100.00

The fresh lemon scent in this soap is hard to associate with certain personality, resulting in association of mixed personalities. Four of the personality which are charming, honest, imaginative, and reliable have similar results about approximately 20% each, resulting in 80% respondent choosing those personalities while tough is the least favorite personality for this scent. This phenomenon occurs across all age groups.

This fresh, lemon scented product generates pleasant emotion such as happy and relaxed for both age groups which results are similar. Some feel like this scent irritates them and make them feel apathetic as shown by those of 28.7% who thinks this scent makes them feel unpleasant.

This scent is highly associated as the object from fruit category. Lemon is the recognized scent of this product by respondent, making it the top association of object. Other groups of object that makes it to the top 3 include personal belonging and food and beverage. Other groups of object fall below 10%.

Milk is the main ingredient and source of scent for product number 4. Honest is highly suggested as the personality for this scent though it is followed by reliable and the rest of personality. It is sought as the scent that brings pleasant emotion by 86.1% of the respondent. The association of object for this scent are mostly of those with the similar scent. The results are described down below.

Table 5 Results of scent 4 (cont.)

SCENT 4	ASSOCIATION	15-19		20-24		GEN	
		f	%	f	%	f	%
SYMBOLIC	CHARMING	9	19.1	7	13	16	15.8
	HONEST	16	34.0	17	31.5	33	32.7
	IMAGINATIVE	6	12.8	5	9.3	11	10.9
	RELIABLE	11	23.4	14	25.9	25	24.8
	TOUGH	5	10.6	11	20.4	16	15.8
	Total	47	100,0	54	100	101	100.0
OBJECT	PB	9	19.1	10	18.6	19	18.8
	O	4	8.5	0	0	4	4.0
	I	2	4.2	2	3.8	4	4.0
	FR	0	0	2	3.7	2	2.0
	PL	4	8.5	7	13	11	10.9
	FB	14	29.7	22	40.8	36	35.6

	PC	5	10.6	4	7.5	9	8.9
	PRS	1	2.1	0	0	1	1.0
	BP	4	8.5	2	3.7	6	5.9
	ET	4	8.5	5	9.4	9	8.9
	Total	47	100	54	100	101	100.0
EMOTION	APATHETIC	3	6.38	3	5.56	6	5.9
	DEPRESSED	4	8.51	0	0.00	4	4.0
	IRRITATED	0	0.00	4	7.41	4	4.0
	RELAXED	18	38.30	23	42.59	41	40.6
	SENSUOUS	2	4.26	5	9.26	7	6.9
	STIMULATED	4	8.51	7	12.96	11	10.9
	STRESSED	0	0.00	0	0.00	0	0.0
	Total	47	100.00	54	100.00	101	100.0

The milky scent of this soap is associated with various personality by respondent. Honest, is the most associated personality that is followed by reliable, said both groups. Charming and tough also follows with the same number of respondent choosing it out amongst other personalities in the third place.

Strong association of food and beverage from this scent is shown by the result of 39% for this category. Personal belonging and plant placed in the second and third place though the difference of these results is really significant. Some are able to identify it as milk when it comes to associating the scent with an object. There is a slight difference in age group 1 (15-19 years old) which second place is taken by personal care which is then followed by plant that has the same score as outdoor. Other results from group of objects fall below 10%.

Milky scent from this product is also considered as pleasant scent which brings positive emotion for majority such as relaxed and happy. Stimulated is ranked in the third place with low number. Only minority shows their dislikes for this scent for only about 13.9% of the respondent. There is no sign of many differences between each age group.

The scent number five comes from fruit that are not commonly used as soap scent since product with fruit scent are mostly come from strawberry to produce sweet scent. Pomegranate is actually becoming a new scent to add in the fruit category, with similar sweet scent as strawberry. It is associated with charming as the personality, which evoke emotion such as happy and sensuous. The object associated varies from the fruit itself to things that have similar sweet scent. Each of the result are listed down below.

Table 6 Results of scent 5

SCENT 5	ASSOCIATION	15-19		20-24		GEN	
		f	%	f	%	f	%
SYMBOLIC	CHARMING	16	34	17	31.5	33	32.7
	HONEST	8	17	10	18.5	18	17.8
	IMAGINATIVE	12	25.5	15	27.8	27	26.7
	RELIABLE	6	12.8	6	11.1	12	11.9
	TOUGH	5	10.6	6	11.1	11	10.9
	Total	47	100	54	100	101	100.0
OBJECT	PB	9	19.1	8	15	17	16.8
	O	1	2.1	3	5.6	4	4.0
	I	2	4.2	1	1.9	3	3.0
	FR	8	17	7	13.1	15	14.9
	PL	8	17	15	27.8	23	22.8
	FB	10	21.3	14	25.9	24	23.8
	PC	7	14.8	4	7.4	11	10.9
	PRS	0	0	0	0	0	0.0
	BP	2	4.2	1	1.9	3	3.0
	ET	0	0	1	1.9	1	1.0
Total	47	100	54	100	101	100.0	
EMOTION	APATHETIC	2	4.3	0	0.0	2	2.0
	DEPRESSED	2	4.3	2	3.7	4	4.0
	HAPPY	13	27.7	22	40.7	35	34.7
	IRRITATED	4	8.5	4	7.4	8	7.9
	RELAXED	7	14.9	9	16.7	16	15.8
EMOTION	SENSUOUS	14	29.8	11	20.4	25	24.8
	STIMULATED	5	10.6	3	5.6	8	7.9
	STRESSED	0	0.0	3	5.6	3	3.0
	Total	47	100.0	54	100.0	101	100.00

Charming, imaginative, and honest are the type of personality that are mostly being associated by respondent for this scent. Charming, is believed to be the type of personality that is strongly related to this scent. While imaginative and honest came in the second and third place.

The majority of respondent associates the scent of pomegranate with food and beverage, plant, and their personal belonging in said order. The food and beverage consists of sweet item that is candy and cake, while the smell is also perceived as a flower scent than a fruity one. Meanwhile, the root of this scent that falls into fruit category has low score. The number between age groups show difference whereas plant is in the first rank of object for age group 1 (15-19 years old) while it is food and beverage for age group 2 (20-24 years old)

The majority associates this sweet fruity scent with happy, sensuous and relaxed emotion. There is a slight difference between age group such which emotion has the highest number according to each group, although the result is generally the same. The rest falls under 10% of the respondent.

*b. Scent likeability and product preference analysis*

This analysis examines the relationship between scent likeability and product preference. From the result, it is shown whether the scent that they like affect their product preference by how they rank each product after sniffing the product sample. The hypothesis will be:

$H_0 : \rho = 0$  (No relation between scent likeability (X) and product preference (Y))

$H_1 : \rho \neq 0$  (There is a relation between scent likeability (X) and product preference (Y))

The correlation shows how it is related or not as listed on the table down below:

No	Variable	$\rho$	Sig.	Hypothesis decision	Information
1	scent 1(Scent Likeability) and scent 1 (Product Preference)	0.816	0.000	Ho denied	Significant
2	scent 2(Scent Likeability) and scent 2 (Product Preference)	0.786	0.000	Ho denied	Significant
3	scent 3(Scent Likeability) and scent 3 (Product Preference)	0.801	0.000	Ho denied	Significant
4	scent 4(Scent Likeability) and scent 4 (Product Preference)	0.621	0.000	Ho denied	Significant
5	scent 5(Scent Likeability) and scent 5 (Product Preference)	0.694	0.000	Ho denied	Significant

It can be seen from the table that the correlation between scent likeability and product preference of all scent are considered as strongly correlated. The result shows sig. (0.000) < 0.1. Therefore, Ho is denied which means there is a relationship between scent likeability and product preference. It means there is a positive monotonic relationship between the variable. The higher scent likeability there is, the product is also more preferred by consumer. The scent with highest score is scent 1 (cool) with  $\rho=0.817$  and the lowest one is scent 4 (milk) with  $\rho=0.623$ .

**Conclusion**

When it comes to object association, people tend to have identify it with things they are familiar with and their opinion based on their own experience. It results in many objects from their free association, which lead to the grouping of object. These groups are personal belonging, outdoor place, indoor place, fruit, plant, food and beverage, other personal care product, person, body parts, and uncategorized object.

To sum it up, all of these scents came from natural resources. However, the association is different based on what is perceived by consumer. It may be concluded that all scents can be associated with certain personality except for scent 3 (fresh) that has no strong association to any personality. Charming is highly associated with all these natural based scents since it is always make it to the top 3 of personality association, though the number is slightly lower for scent 4 (gourmand) that is not a plant based scent. The scent that are sweet with floral and fruit scent are mostly associated with charming and imaginative personality. It is possible that scent 2 (fantasy) and 5 (fruit) have interchangeable features according to these associations. All of the scents are favourably pleasant since it generates many positive emotions.

This research also examine the relationship between scent likeability and product preference to see if the respondent like a certain scent, they would prefer to use it or not. The results show positive relationship in which it means that if the level of scent likeability gets higher, the product will also be more preferred by consumer. The scent with highest score is scent 1 (cool) with  $p=0.817$  and the lowest one is scent 4 (milk) with  $p=0.623$ . Therefore, if the scent is liked by consumer then it is also highly preferred.

This research shows that while association may vary, consumer may perceive the same image being delivered by the product as seen from the result of all respondents. Having a strong message or association is important and marketer should think about what image wants to be delivered by olfactory stimuli other than the scent itself being pleasant. Also, the result of this research shows that what considered a likeable, pleasant scent is actually a more preferred product. Therefore, being pleasant is important since it is considered pleasurable and has its own benefit to it. However, if the scent is only known as being pleasant with no particular identity, it will be hard for consumer to describe and remember it since there is no association held in mind of certain scent. The association found in this research may be beneficial to be considered as the message that marketer wants to deliver in order to be a memorable product. More study should be conducted to develop and explore the scent profile itself.

## References

- Mintel. (2015). *Scent Trends in Personal Care and Household*. Barcelona: Mintel Group, Ltd.
- Schiffman, S. S. (1992). Aging and The Sense of Smell; Potential Benefit of Fragrance Enhancement. *Fragrance: The Psychology and Biology of Perfume* .
- Briggs, S. (1992). Assessing the Five-Factor Model of Personality Description. *Journal of Personality* , 253-293.
- Schroiff, H. W. (1991). All's well that smells well? *Fine Fragrances and Fragrances in Consumer Products Using Research and Development and Optimisation* .
- Blondeau, M., & Tran, A. (2009). *Scent Marketing: What is the impact on stores in Umeå?* Umeå School of Business.
- Holloway, M. (1999). *The Ascent of Scent*. Scientific American.
- Herz, R., & Chupchik, G. (1995). The Emotional Distinctiveness of Odor-Evoked Memories. *Chemical Senses* , 517-528.
- Wolfe, O., & Busch, B. (. (1991). Two Cultures Meet and Create A Third: From Consumer Goods and Fine Fragrances to New Product Concepts. London: E.S.O.M.A.R.
- Peck, J., & Childers, T. L. (2008). *If it tastes, smells, sounds, and feels like a duck, then it must be a...: Effects of Sensory Factors on Consumer Behaviors*. New York: Psychology Press.
- Groome, e. a. (2010). *An Introduction to Cognitive Psychology: Processes and Disorders*. New York: Psychology Press.
- Davis, G., & Murphey, R. (1994). Retrograde Signaling and the Development of Transmitter release Properties in the Inver. *Journal of Neurobiology* , 740-756.
- Schiffman, H. R. (2001). *Sensation and Perception: An Integrated Approach*. Oxford: John Wiley & Sons.
- Anderson, J. R. (1995). *The Architecture of Cognition*. Psychology Press.
- Finnegan, R. H. (2002). Communicating: The Multiple Modes of Human Interconnection.
- Aaker, J. L. (1997). Dimension of Brand Personality. *Journal of Marketing Research* .
- 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* , 573-583.
- Chebat, J. C., & R., M. (2003). Impact of Ambient Odors on Mall Shoppers' Emotions, Cognition, and Spending: A Test of Competitive Causal Theories. *Journal of Business Research* , 529-539.
- Wysocki, C. J. (1992). Individual Differences in Olfactory Ability. *The Psychology and Biology of Perfume* .

- Betterman, J. R. (1998). Constructive consumer choice processes. *Journal of Consumer Research* , 187-217.
- Landers, G. J. (1991). The effect of social economic changes and trends in fashion and their effects on international perfumery marketing. *Fragrance: The Psychology and Biology of Perfume*.
- Mitchell, D. J. (1995). There's something in the air: Effects of congruent or incongruent ambient odour on consumer decision making. *Journal of Consumer Research* , 229-238.
- Krishna, A. L. (2010). Product scent and memory. *The Journal of Consumer Research* , 57-67.
- Docksai, R. (2008). The Scent of the Future. *The Futurist* .
- Knoblich H., S. B. (1989). Le rôle des arômes dans le marketing : une potentialité évidente, Actes de la Conférence de l'Association Française du Marketing. *Association Française du Marketing* .
- Bone, P. a. (1999). Scents in the marketplace: explaining a fraction of olfaction. *Journal of Retailing* , 243-262.
- McKinsey. (2013). *The Evolving Indonesian Consumer*. McKinsey.
- Rotton, J. (1983). Affective and cognitive consequences of malodorous pollution. *Basic Applied Social Psychology* , 171-191.
- Rotton, J., Barry, T., & Frey, J. a. (1978). Air pollution and interpersonal attraction. *Journal of Applied Social Psychology* , 213-228.
- Schiffman, S. S. (1992). Aging and the sense of smell; potential benefits of fragrance enhancement. *Fragrance: The Psychology and Biology of Perfume* .
- Warren, C., & Warrenburg, S. (1993). Mood benefits of fragrance. *Perfumer and florist* , 9.16.
- Nezlek, J. a. (1990). Social Interaction and personal fragrance use: a summary of research conducted for the Fragrance Research Fund. *Perfumer and Flavorist* , 43-45.
- Nezlek, J. a. (1995). Fragrance use and social interaction. In: Olfactory Research Fund, Ltd., Compendium of Olfactory Research 1982-1994, . 73-79.
- R.A., B. (1981). Olfaction and human social behaviour: effect of a pleasant scent on attraction and social perception. *Personality and Social Psychology Bulletin* , 611-616.
- Warrenburg, S. (2005). Effects of Fragrance on Emotions: Moods and Physiology. *Chem senses* , 248-249.