What's in a Name? Scent Brand Names, Olfactory Imagery, and Purchase Intention
Web Appendix

Pretests

Pretest 1 determined which scent notes consumers were sufficiently familiar with. 127 scent notes were randomly divided into four subsets of approximately 30 notes. Four surveys corresponding to each subset were launched on Amazon Mechanical Turk (MTurk). In each survey (N = 30), participants read a definition of the concept of scent note and then evaluated a list of scent notes on a 7-point familiarity scale. Eighty-five were rated, on average, above 4. They were used in the following studies (see Table A1).

Table A1 Comprehensive list of scent notes.

Almond	Cut Grass	Linen	Powdery notes
Aloe	Daisy	Mandarin	Pumpkin
Apple	Dried fruits	Mango	Raspberry
Apricot	Eucalyptus	Maple	Rose
Avocado	Floral notes	Melon	Rosemary
Banana	Fresh notes	Mint	Sage
Basil	Fruity notes	Musk	Sandalwood
Berry	Gardenia	Nutmeg	Spearmint
Black pepper	Ginger	Nutty	Sunflower
Blackberry	Grapefruit	Olive	Sweet notes
Blueberry	Grape	Orange	Tea
Candied	Hazelnut	Orange flower	Tea tree
Caramel	Honey	Oregano	Tropical
Cedarwood	Jasmine	Parsley	Thyme
Cherry	Kiwi	Peach	Tropical notes
Cinnamon	Lavender	Peanut	Vanilla
Citrus	Lemon	Pear	Watermelon
Clove	Lemon verbena	Peppermint	Wintergreen
Cocoa	Lemongrass	Pine	Woody notes
Coconut	Lilac	Pineapple	
Cranberry	Lily	Plum	
Cucumber	Lime	Pomegranate	

Pretest 2 aimed to identify familiar shampoo scent names. 14 scent names that consumers typically encounter in the shampoo category were selected and tested on MTurk (N = 23, 7 were excluded). Participants rated on familiarity, liking, and appropriateness for shampoo on 7-point

scales. Ratings greater than 5 on each criterion served as cutoff, with scents exhibiting any rating lower than the cutoff being excluded from further analyses, as shown in Table A2, Panel 1.

Seven scent names passed the cutoff on all measures (strawberry, lavender, coconut, fruity, citrus, floral and tropical, Table A2, Panel 2) and were found to be not significantly different from one another on familiarity ($F(6, 154) = .42$, $p = .862$), appropriateness ($F(6, 154) = .81$, $p = .564$), or favorability ($F(6, 154) = .20$, $p = .976$) remaining (Table A2, Panel 3). Citrus was later removed because among the remaining six scent names, floral, fruity, and tropical were three general scent names, and lavender, strawberry, and coconut were three corresponding specific scent names, allowing to form the three name pairs required for Pretest 4.

Table A2 14 familiar shampoo scent names (Pretest 2)

Shampoo Scent Name	Familiarity	Liking	Appropriateness
Panel 1: Scent brand names <u>not</u> retained for further analyses			
These are not used in further analyses because at least <u>one</u> rating is less than 5.			
Berry	5.7	4.7	4.96
Green Apple	5.7	4.3	4.43
Lemon	5.57	4.39	4
Mint	5.43	4.22	3.83
Orange	5.43	4.35	3.91
Wintergreen	5.3	4.35	3.87
Tea Tree	3.83	4.26	4.35
Panel 2: Scent brand names <u>retained</u> for further analyses			
These are used in further analyses because all ratings are above 5.			
Strawberry	5.96	5.35	5.22
Lavender	5.91	5.09	5.78
Coconut	5.87	5.26	5.70
Fruity	5.74	5.00	5.48
Citrus	5.70	5.26	5.17
Tropical	5.67	5.35	5.57
Floral	5.65	5.09	5.22
Panel 3: ANOVA test of mean differences for familiarity/liking/appropriateness			
*Includes <u>only</u> the **seven** scent brand names retained*			
F (6, 154)	.42	.81	.20
p	.862	.564	.976

After the ANOVA test, citrus was removed for further analysis as it was not necessary to form pairs for further analysis.

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In order to more clearly visualize the statistical differences among all retained scent brand names, for each measure of interest, in Pretest 2, Table A3 presents pairwise post-hoc analyses of the mean differences between each pair. P-values are reported. As indicated by these p-values, none of the comparisons resulted in statistically significant differences in either variable of interest.

Table A3 Pairwise post-hoc analyses of mean diff. between name pairs (Pretest 2)

	Familiarity pairwise mean differences tests (p-values)						
Scent brand name	C1	C2	L	S	T	F1	F2
Citrus (C1)	-	0.58	0.49	0.41	0.68	0.89	0.89
Coconut (C2)		-	0.89	0.78	0.34	0.68	0.49
Lavender (L)			-	0.89	0.27	0.58	0.41
Strawberry (S)				-	0.22	0.49	0.34
Tropical (T)					-	0.58	0.78
Fruity (F1)						-	0.78
Floral (F2)							-

	Liking pairwise mean differences tests (p-values)						
Scent brand name	C1	C2	L	S	T	F1	F2
Citrus (C1)	-	1.00	0.69	0.84	0.84	0.55	0.69
Coconut (C2)		-	0.69	0.84	0.84	0.55	0.69
Lavender (L)			-	0.55	0.55	0.84	1.00
Strawberry (S)				-	1.000	0.431	0.554
Tropical (T)					-	0.43	0.55
Fruity (F1)						-	0.84
Floral (F2)							-

	Appropriateness pairwise mean diff. tests (p-values)						
Scent brand name	C1	C2	L	S	T	F1	F2
Citrus (C1)	-	0.18	0.12	0.91	0.32	0.44	0.91
Coconut (C2)		-	0.82	0.22	0.74	0.58	0.22
Lavender (L)			-	0.15	0.58	0.44	0.15
Strawberry (S)				-	0.37	0.50	1.00
Tropical (T)					-	0.82	0.37
Fruity (F1)						-	0.50
Floral (F2)							-

As a parallel to Pretest 2, **Pretest 3** aimed to identify three unfamiliar, specific shampoo scent names corresponding to the floral, fruity, and tropical general scent names (determined in

Pretest 2). 16 scent names were tested on MTurk (N = 80). Each participant was randomly assigned to 8 scent names to evaluate familiarity, liking, appropriateness for shampoo and novelty on 7-point scales.

First, a familiarity rating less than 3 served as a cutoff, with scents exhibiting a familiarity rating lower than the cutoff being excluded from further analyses, as shown in Table A4, Panel 1. As shown in Table A4, Panel 2, six scent names passed the familiarity cutoff (tropical – vetiver, ylang ylang, and yuzu; fruity – neroli; floral – plumeria and verbena). These six scent names were equally unfamiliar ($F(5, 233) = .77$, $p = .573$), liked ($F(5, 233) = .86$, $p = .511$), appropriate ($F(5, 233) = 1.55$, $p = .176$), and novel ($F(5, 233) = .36$, $p = .877$; Table A4, Panel 3).

Table A4 16 unfamiliar shampoo scent name (Pretest 3).

Category	Shampoo Scent Name	Familiarity	Liking	Appropriateness	Novelty
Panel 1: Scent brand names <u>not</u> retained for further analyses					
These are not used in further analyses because <u>the familiarity rating</u> is above 3					
Tropical	Papaya	5.02	5.07	5.61	4.46
Fruity	Melon	6.08	5.25	5.80	2.90
	Kiwi	5.56	5.32	5.80	4.17
	Passion fruit	5.36	5.49	5.67	3.77
	Plum	4.83	4.88	5.02	5.05
	Dragon fruit	4.21	4.85	4.95	5.15
	Bergamot	3.45	4.55	4.45	5.10
Floral	Jasmine	5.30	5.28	5.61	4.08
	Peony	3.90	4.75	4.32	4.88
	Geranium	3.28	4.26	4.37	4.95
Panel 2: Scent brand names <u>retained</u> for further analyses					
These are used in further analyses because <u>the familiarity rating</u> is below 3.					
Tropical	Vetiver	2.41	4.18	4.13	5.46
	Ylang ylang	2.26	4.39	4.32	5.26
	Yuzu	2.12	4.34	4.37	5.15
Fruity	Neroli	2.28	4.18	4.13	5.33
Floral	Plumeria	2.73	4.41	4.56	5.22
	Verbena	2.68	4.54	4.59	5.10

Panel 3: ANOVA test of mean differences for familiarity/liking/appropriateness/novelty *Includes only the **six** scent brand names retained*				
F (5, 233)	.77	.86	1.55	.36
p	.573	.511	.176	.877

Categories are determined by Pretest 2. After the ANOVA test, (1) Verbena was removed from further analysis, as it was differently appropriate from Neroli; (2) Vetiver was removed from further analysis, as it was less appropriate than Plumeria; (3) a random draw resulted in Yuzu being removed from further analysis.

Comparisons were then made to retain scent brand names that were most similar to each other. In order to more clearly visualize the statistical differences among all retained scent brand names, for each measure of interest, in Pretest 3, Table A5 presents pairwise post-hoc analyses of the mean differences between each pair. P-values are reported, with significant ($p < .05$ and $p < .1$) differences highlighted in yellow. Since neroli was the sole scent brand name remaining in the fruity category, we sought to keep the most similar names in the other two categories (floral and tropical) to neroli. Therefore, since verbena (in the floral category, $M = 4.59$) was found to be differently appropriate from neroli ($M = 4.13$, $p < .05$), verbena was excluded from further analyses. Removing verbena resulted in retaining one scent name in the floral category (i.e., plumeria). Further, in the tropical category, vetiver (M= 4.13) was found to be marginally less appropriate than plumeria ($M = 4.56$, $p < .1$); vetiver was thus excluded for later analyses. Note that although neroli ($M = 4.13$) and plumeria ($M = 4.56$) were slightly different in appropriateness ($p < .1$), since neroli was was the only scent name in the fruity category and plumeria in the floral category, both of them were kept.

This process left one remaining floral scent name (plumeria), one fruity (neroli), and two tropical (ylang ylang, and yuzu). Since, statistically, ylang ylang and yuzu were considered identical, we randomly selected one, resulting in the selection of ylang ylang. Thus, Pretest 3 determined three unfamiliar, specific scent names: plumeria, neroli, and ylang ylang.

Table A5 Pairwise post-hoc analyses of mean diff. between name pairs (Pretest 3)

Familiarity pairwise mean differences tests (p-values)

	Plumeria	Verbena	Neroli	Ylang	Vetiver	Yuzu
Plumeria	-	0.90	0.26	0.24	0.42	0.12
Verbena		-	0.31	0.30	0.49	0.15
Neroli			-	0.96	0.75	0.69
Ylang-Ylang				-	0.72	0.72
Vetiver					-	0.47
Yuzu						-

Liking pairwise mean differences tests (p-values)

	Plumeria	Verbena	Neroli	Ylang	Vetiver	Yuzu
Plumeria	-	0.57	0.27	0.93	0.27	0.73
Verbena		-	0.10	0.51	0.10	0.36
Neroli			-	0.33	1.00	0.45
Ylang-Ylang				-	0.33	0.81
Vetiver					-	0.45
Yuzu						-

Appropriateness pairwise mean diff. tests (p-values)

	Plumeria	Verbena	Neroli	Ylang	Vetiver	Yuzu
Plumeria	-	0.91	0.06	0.28	0.06	0.39
Verbena		-	0.05	0.24	0.05	0.33
Neroli			-	0.42	1.00	0.30
Ylang-Ylang				-	0.42	0.83
Vetiver					-	0.30
Yuzu						-

Novelty pairwise mean diff. tests (p-values)

	Plumeria	Verbena	Neroli	Ylang	Vetiver	Yuzu
Plumeria	-	0.69	0.71	0.89	0.44	0.81
Verbena		-	0.45	0.60	0.24	0.87
Neroli			-	0.82	0.68	0.55
Ylang-Ylang				-	0.53	0.71
Vetiver					-	0.31
Yuzu						-

Pretest 4 determined two pairs of scent brand names, which were significantly different on specificity but equally appropriate and liked. More (fewer) representational units suggest a general (specific) scent name. 12 shampoo scent names were created (half general and half specific; see Table A6) for the three scents determined in pretest 2 and tested them on MTurk in

three surveys, each containing four names (N = 35, 32, and 28). For each scent brand name, participants performed two tasks to describe how a shampoo with the given scent name would smell. They first used their own words (i.e., unaided task) and then received a list of scent notes (as determined in pretest 1) from which they could check as many as they wanted (i.e., aided task). In both tasks, the number of scent notes was counted as the representational units. Each name was also evaluated on appropriateness and liking on 7-point scales. Two pairs of scent names were selected. "Lavender Bouquet" (specific name) and "Floral Bouquet" (general name) triggered significantly different numbers of scent notes in both the unaided ($M_{\text{Lavender}} = 3.39$, $M_{\text{Floral}} = 4.11$; $t(27) = -2.26$, $p = .032$) and aided ($M_{\text{Lavender}} = 4.21$, $M_{\text{Floral}} = 7.21$; $t(27) = -6.08$, $p < .001$) tasks. Both were equally appropriate as shampoo scent names ($M_{\text{Lavender}} = 5.61$, $M_{\text{Floral}} = 5.79$; $t(27) = -1.41$, $p = .170$) and equally liked ($M_{\text{Lavender}} = 4.82$, $M_{\text{Floral}} = 4.79$; $t(27) = .16$, $p = .876$). The second pair was "Coconut Breeze" (specific name) and "Tropical Breeze" (general name). Similarly, they differed in the number of scent notes triggered (unaided task: $M_{\text{Coconut}} = 2.74$, $M_{\text{Tropical}} = 3.29$; $t(34) = -1.97$, $p = .057$; aided task: $M_{\text{Coconut}} = 4.09$, $M_{\text{Tropical}} = 7.34$; $t(34) = -5.67$, $p < .001$) but were equally appropriate ($M_{\text{Coconut}} = 5.71$, $M_{\text{Tropical}} = 5.97$; $t(34) = -1.51$, $p = .141$) and equally liked ($M_{\text{Coconut}} = 5.40$, $M_{\text{Tropical}} = 5.57$; $t(34) = -.57$, $p = .571$).

Table A6
Scent brand names tested in pretest 4 and results.

Shampoo scent	Scent name	Scent notes count (unaided task)	Scent notes count (aided task)	Scent name appropriateness	Scent name favorability
Coconut scent (N = 35)	Coconut Sunset	3.06	5.17	5.49	5.29
	Tropical Sunset	3.34	7.31**	5.77	5.26
	Coconut Breeze	2.74	4.09	5.71	5.40
	Tropical Breeze	3.29*	7.34**	5.97	5.57
Strawberry scent (N = 32)	Sweet Strawberry	2.69	3.50	5.47	4.91
	Sweet Fruity	3.44	9.13**	4.47**	3.66**
	Strawberry Passions	2.50	3.75	5.44	4.69
	Fruity Passions	3.19**	8.56**	5.00**	4.34**
Lavender scent (N = 28)	Lavender Kiss	2.54	3.86	5.64	5.18
	Floral Kiss	2.89	6.68**	5.57	5.00
	Lavender Bouquet	2.21	4.21	5.61	4.82
	Floral Bouquet	2.93**	7.21**	5.79	4.79

Statistical significance indicated with ** ($p < .05$) and * ($p < .10$).