

Supplementary Material

1 Supplementary Figures and Tables

1.1 Supplementary Tables

For Studies 1 and 2, the values of the three dimensions of color were adapted from Hagtvedt and Brasel (2017) and Wang et al. (2020). In addition, we used Adobe Photoshop to manufacture all the stimuli following the HSV model. All the stimuli and their color specification are presented in Table 1 and Table 2, respectively.

Supplementary Table 1. Color specifications for all stimuli in Study 1

	Hue	Saturation	H	S	V	R	G	B
	Red	Color patch	0	60	90	229.5	91.8	91.8
		Desaturated	0	30	90	229.5	160.65	160.65
		Saturated	0	90	90	229.5	22.95	22.95
	Orange	Color patch	22	75	90	229.5	120.49	57.38
		Desaturated	22	50	90	229.5	156.82	114.75
		Saturated	22	100	90	229.5	84.15	0
	Yellow	Color patch	42	80	90	229.5	174.42	45.9
		Desaturated	42	60	90	229.5	188.19	91.8
		Saturated	42	100	90	229.5	160.65	0
	Green	Color patch	117	60	90	98.69	229.5	91.8
		Desaturated	117	30	90	164.09	229.5	160.65
		Saturated	117	90	90	33.28	229.5	22.95

(continues)

Supplementary Table 1. (continued)

	Hue	Saturation	H	S	V	R	G	B
	Blue	Color patch	200	75	90	57.38	172.13	229.5
		Desaturated	200	50	90	114.75	191.25	229.5
		Saturated	200	100	90	0	153	229.5
	Purple	Color patch	280	80	90	168.3	45.9	229.5
		Desaturated	280	60	90	183.6	91.8	229.5
		Saturated	280	100	90	153	0	229.5

Supplementary Table 2. Color specifications for all S2 stimuli in Study 2

		Hue	Saturation	H	S	V	R	G	B
Laundry detergent									
 	Red	Product		0	60	90	229.5	91.8	91.8
		Desaturated		0	20	90	229.5	183.6	183.6
		Saturated		0	100	90	229.5	0	0
 	Orange	Product		22	60	90	229.5	142.29	91.8
		Desaturated		22	20	90	229.5	200.43	183.6
		Saturated		22	100	90	229.5	84.15	0
 	Yellow	Product		42	60	90	229.5	188.19	91.8
		Desaturated		42	20	90	229.5	215.73	183.6
		Saturated		42	100	90	229.5	160.65	0
 	Green	Product		142	60	90	91.8	229.5	142.29
		Desaturated		142	20	90	183.6	229.5	200.43
		Saturated		142	100	90	0	229.5	84.15
 	Blue	Product		200	60	90	91.8	183.6	229.5
		Desaturated		200	20	90	183.6	214.2	229.5
		Saturated		200	100	90	0	153	229.5
 	Purple	Product		280	60	90	183.6	91.8	229.5
		Desaturated		280	20	90	214.2	183.6	229.5
		Saturated		280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Shampoo									
	Red		Product	0	60	90	229.5	91.8	91.8
			Desaturated	0	20	90	229.5	183.6	183.6
			Saturated	0	100	90	229.5	0	0
	Orange		Product	22	60	90	229.5	142.29	91.8
			Desaturated	22	20	90	229.5	200.43	183.6
			Saturated	22	100	90	229.5	84.15	0
	Yellow		Product	42	60	90	229.5	188.19	91.8
			Desaturated	42	20	90	229.5	215.73	183.6
			Saturated	42	100	90	229.5	160.65	0
	Green		Product	142	60	90	91.8	229.5	142.29
			Desaturated	142	20	90	183.6	229.5	200.43
			Saturated	142	100	90	0	229.5	84.15
	Blue		Product	200	60	90	91.8	183.6	229.5
			Desaturated	200	20	90	183.6	214.2	229.5
			Saturated	200	100	90	0	153	229.5
	Purple		Product	280	60	90	183.6	91.8	229.5
			Desaturated	280	20	90	214.2	183.6	229.5
			Saturated	280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Beverage									
		Red	Product	0	60	90	229.5	91.8	91.8
			Desaturated	0	20	90	229.5	183.6	183.6
			Saturated	0	100	90	229.5	0	0
		Orange	Product	22	60	90	229.5	142.29	91.8
			Desaturated	22	20	90	229.5	200.43	183.6
			Saturated	22	100	90	229.5	84.15	0
		Yellow	Product	42	60	90	229.5	188.19	91.8
			Desaturated	42	20	90	229.5	215.73	183.6
			Saturated	42	100	90	229.5	160.65	0
		Green	Product	142	60	90	91.8	229.5	142.29
			Desaturated	142	20	90	183.6	229.5	200.43
			Saturated	142	100	90	0	229.5	84.15
		Blue	Product	200	60	90	91.8	183.6	229.5
			Desaturated	200	20	90	183.6	214.2	229.5
			Saturated	200	100	90	0	153	229.5
		Purple	Product	280	60	90	183.6	91.8	229.5
			Desaturated	280	20	90	214.2	183.6	229.5
			Saturated	280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Potato chips									
	Red		Product	0	60	90	229.5	91.8	91.8
			Desaturated	0	20	90	229.5	183.6	183.6
			Saturated	0	100	90	229.5	0	0
	Orange		Product	22	60	90	229.5	142.29	91.8
			Desaturated	22	20	90	229.5	200.43	183.6
			Saturated	22	100	90	229.5	84.15	0
	Yellow		Product	42	60	90	229.5	188.19	91.8
			Desaturated	42	20	90	229.5	215.73	183.6
			Saturated	42	100	90	229.5	160.65	0
	Green		Product	142	60	90	91.8	229.5	142.29
			Desaturated	142	20	90	183.6	229.5	200.43
			Saturated	142	100	90	0	229.5	84.15
	Blue		Product	200	60	90	91.8	183.6	229.5
			Desaturated	200	20	90	183.6	214.2	229.5
			Saturated	200	100	90	0	153	229.5
	Purple		Product	280	60	90	183.6	91.8	229.5
			Desaturated	280	20	90	214.2	183.6	229.5
			Saturated	280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Suitcase									
		Red	Product	0	60	90	229.5	91.8	91.8
			Desaturated	0	20	90	229.5	183.6	183.6
			Saturated	0	100	90	229.5	0	0
		Orange	Product	22	60	90	229.5	142.29	91.8
			Desaturated	22	20	90	229.5	200.43	183.6
			Saturated	22	100	90	229.5	84.15	0
		Yellow	Product	42	60	90	229.5	188.19	91.8
			Desaturated	42	20	90	229.5	215.73	183.6
			Saturated	42	100	90	229.5	160.65	0
		Green	Product	142	60	90	91.8	229.5	142.29
			Desaturated	142	20	90	183.6	229.5	200.43
			Saturated	142	100	90	0	229.5	84.15
		Blue	Product	200	60	90	91.8	183.6	229.5
			Desaturated	200	20	90	183.6	214.2	229.5
			Saturated	200	100	90	0	153	229.5
		Purple	Product	280	60	90	183.6	91.8	229.5
			Desaturated	280	20	90	214.2	183.6	229.5
			Saturated	280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Washing machine									
 	Red	Product		0	60	90	229.5	91.8	91.8
		Desaturated		0	20	90	229.5	183.6	183.6
		Saturated		0	100	90	229.5	0	0
 	Orange	Product		22	60	90	229.5	142.29	91.8
		Desaturated		22	20	90	229.5	200.43	183.6
		Saturated		22	100	90	229.5	84.15	0
 	Yellow	Product		42	60	90	229.5	188.19	91.8
		Desaturated		42	20	90	229.5	215.73	183.6
		Saturated		42	100	90	229.5	160.65	0
 	Green	Product		142	60	90	91.8	229.5	142.29
		Desaturated		142	20	90	183.6	229.5	200.43
		Saturated		142	100	90	0	229.5	84.15
 	Blue	Product		200	60	90	91.8	183.6	229.5
		Desaturated		200	20	90	183.6	214.2	229.5
		Saturated		200	100	90	0	153	229.5
 	Purple	Product		280	60	90	183.6	91.8	229.5
		Desaturated		280	20	90	214.2	183.6	229.5
		Saturated		280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Kettle									
		Red	Product	0	60	90	229.5	91.8	91.8
			Desaturated	0	20	90	229.5	183.6	183.6
			Saturated	0	100	90	229.5	0	0
		Orange	Product	22	60	90	229.5	142.29	91.8
			Desaturated	22	20	90	229.5	200.43	183.6
			Saturated	22	100	90	229.5	84.15	0
		Yellow	Product	42	60	90	229.5	188.19	91.8
			Desaturated	42	20	90	229.5	215.73	183.6
			Saturated	42	100	90	229.5	160.65	0
		Green	Product	142	60	90	91.8	229.5	142.29
			Desaturated	142	20	90	183.6	229.5	200.43
			Saturated	142	100	90	0	229.5	84.15
		Blue	Product	200	60	90	91.8	183.6	229.5
			Desaturated	200	20	90	183.6	214.2	229.5
			Saturated	200	100	90	0	153	229.5
		Purple	Product	280	60	90	183.6	91.8	229.5
			Desaturated	280	20	90	214.2	183.6	229.5
			Saturated	280	100	90	153	0	229.5

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Lamps									
		Red	Product	0	60	90	229.5	91.8	91.8
			Desaturated	0	20	90	229.5	183.6	183.6
			Saturated	0	100	90	229.5	0	0
		Orange	Product	22	60	90	229.5	142.29	91.8
			Desaturated	22	20	90	229.5	200.43	183.6
			Saturated	22	100	90	229.5	84.15	0
		Yellow	Product	42	60	90	229.5	188.19	91.8
			Desaturated	42	20	90	229.5	215.73	183.6
			Saturated	42	100	90	229.5	160.65	0
		Green	Product	142	60	90	91.8	229.5	142.29
			Desaturated	142	20	90	183.6	229.5	200.43
			Saturated	142	100	90	0	229.5	84.15
		Blue	Product	200	60	90	91.8	183.6	229.5
			Desaturated	200	20	90	183.6	214.2	229.5
			Saturated	200	100	90	0	153	229.5
		Purple	Product	280	60	90	183.6	91.8	229.5
			Desaturated	280	20	90	214.2	183.6	229.5
			Saturated	280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Laptop									
		Red	Product	0	60	90	229.5	91.8	91.8
			Desaturated	0	20	90	229.5	183.6	183.6
			Saturated	0	100	90	229.5	0	0
		Orange	Product	22	60	90	229.5	142.29	91.8
			Desaturated	22	20	90	229.5	200.43	183.6
			Saturated	22	100	90	229.5	84.15	0
		Yellow	Product	42	60	90	229.5	188.19	91.8
			Desaturated	42	20	90	229.5	215.73	183.6
			Saturated	42	100	90	229.5	160.65	0
		Green	Product	142	60	90	91.8	229.5	142.29
			Desaturated	142	20	90	183.6	229.5	200.43
			Saturated	142	100	90	0	229.5	84.15
		Blue	Product	200	60	90	91.8	183.6	229.5
			Desaturated	200	20	90	183.6	214.2	229.5
			Saturated	200	100	90	0	153	229.5
		Purple	Product	280	60	90	183.6	91.8	229.5
			Desaturated	280	20	90	214.2	183.6	229.5
			Saturated	280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Speaker									
 	Red	Product		0	60	90	229.5	91.8	91.8
		Desaturated		0	20	90	229.5	183.6	183.6
		Saturated		0	100	90	229.5	0	0
 	Orange	Product		22	60	90	229.5	142.29	91.8
		Desaturated		22	20	90	229.5	200.43	183.6
		Saturated		22	100	90	229.5	84.15	0
 	Yellow	Product		42	60	90	229.5	188.19	91.8
		Desaturated		42	20	90	229.5	215.73	183.6
		Saturated		42	100	90	229.5	160.65	0
 	Green	Product		142	60	90	91.8	229.5	142.29
		Desaturated		142	20	90	183.6	229.5	200.43
		Saturated		142	100	90	0	229.5	84.15
 	Blue	Product		200	60	90	91.8	183.6	229.5
		Desaturated		200	20	90	183.6	214.2	229.5
		Saturated		200	100	90	0	153	229.5
 	Purple	Product		280	60	90	183.6	91.8	229.5
		Desaturated		280	20	90	214.2	183.6	229.5
		Saturated		280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Camera									
 	Red	Product		0	60	90	229.5	91.8	91.8
		Desaturated		0	20	90	229.5	183.6	183.6
		Saturated		0	100	90	229.5	0	0
 	Orange	Product		22	60	90	229.5	142.29	91.8
		Desaturated		22	20	90	229.5	200.43	183.6
		Saturated		22	100	90	229.5	84.15	0
 	Yellow	Product		42	60	90	229.5	188.19	91.8
		Desaturated		42	20	90	229.5	215.73	183.6
		Saturated		42	100	90	229.5	160.65	0
 	Green	Product		142	60	90	91.8	229.5	142.29
		Desaturated		142	20	90	183.6	229.5	200.43
		Saturated		142	100	90	0	229.5	84.15
 	Blue	Product		200	60	90	91.8	183.6	229.5
		Desaturated		200	20	90	183.6	214.2	229.5
		Saturated		200	100	90	0	153	229.5
 	Purple	Product		280	60	90	183.6	91.8	229.5
		Desaturated		280	20	90	214.2	183.6	229.5
		Saturated		280	100	90	153	0	229.5

(continues)

Supplementary Table 2. (continued)

		Hue	Saturation	H	S	V	R	G	B
Rucksack									
 	Red	Product		0	60	90	229.5	91.8	91.8
		Desaturated		0	20	90	229.5	183.6	183.6
		Saturated		0	100	90	229.5	0	0
 	Orange	Product		22	60	90	229.5	142.29	91.8
		Desaturated		22	20	90	229.5	200.43	183.6
		Saturated		22	100	90	229.5	84.15	0
 	Yellow	Product		42	60	90	229.5	188.19	91.8
		Desaturated		42	20	90	229.5	215.73	183.6
		Saturated		42	100	90	229.5	160.65	0
 	Green	Product		142	60	90	91.8	229.5	142.29
		Desaturated		142	20	90	183.6	229.5	200.43
		Saturated		142	100	90	0	229.5	84.15
 	Blue	Product		200	60	90	91.8	183.6	229.5
		Desaturated		200	20	90	183.6	214.2	229.5
		Saturated		200	100	90	0	153	229.5
 	Purple	Product		280	60	90	183.6	91.8	229.5
		Desaturated		280	20	90	214.2	183.6	229.5
		Saturated		280	100	90	153	0	229.5