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### **Supplemental Material**

#### **Personal Care Product Use during Puberty and Incident Breast Cancer among Black, Hispanic/Latina, and White Women in a Prospective US-Wide Cohort**

Mandy Goldberg, Che-Jung Chang, Kemi Ogunshina, Katie M. O'Brien, Kyla W. Taylor, Alexandra J. White, and Dale P. Sandler

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**Additional File-** Excel Document

**Table S1. Indicators of fit for race and ethnicity-specific latent class models of self-reported beauty, hair, and skincare/hygiene product use during the ages of 10 to 13 years in the Sister Study**

Model by racial and ethnic group, product type, and number of classes	AIC	BIC	Entropy	Smallest Gamma estimate (class membership probability)	Products included in LCA
<i>Black or African American women (n=4,049)</i>					
Beauty product classes					
2	7069.65	7290.37	0.90	0.36	Mascara <sup>b</sup> , Eye shadow <sup>b</sup> , Eye liner <sup>b</sup> , Lipstick, Lip moisturizer, Foundation <sup>b</sup> , Blush <sup>b</sup> , Makeup remover <sup>b</sup> , Nail polish, Nail polish remover, Cuticle cream <sup>b</sup> , Perfume
3	4257.34	4591.57	0.90	0.10	
<b>4</b>	<b>3261.14</b>	<b>3708.88</b>	<b>0.91</b>	<b>0.07</b>	
5 <sup>a</sup>	3048.37	3609.63	0.91	0.03	
6 <sup>a</sup>	2901.73	3576.50	0.91	0.02	
Hair product classes <sup>c</sup>					
2	1036.16	1168.53	0.69	0.50	
<b>3</b>	<b>696.88</b>	<b>898.58</b>	<b>0.62</b>	<b>0.23</b>	Shampoo, conditioner, hair spray <sup>b</sup> , hair gel <sup>b</sup> , pomade, hair food
4 <sup>a</sup>	456.87	727.91	0.62	0.18	
5 <sup>a</sup>	402.82	743.19	0.67	0.05	
Skincare/hygiene product classes					
2	30278.92	30676.21	0.70	0.48	Body lotion, hand lotion, foot cream, baby oil, petroleum jelly, skin lightener <sup>b</sup> , bath gel, shaving cream <sup>b</sup> , deodorant, face cream, cleansing cream, face mask <sup>b</sup> , acne product, mouthwash, talcum powder under arms, talcum powder on genital area, talcum powder on other areas
3	29019.20	29618.29	0.71	0.28	
<b>4</b>	<b>28184.17</b>	<b>28985.06</b>	<b>0.69</b>	<b>0.19</b>	
5	27564.36	28567.05	0.69	0.14	
6 <sup>a</sup>	27233.38	28437.87	0.69	0.09	
<i>Non-Black Hispanic/Latina women (n=2,104)</i>					
Beauty product classes					
2	6957.16	7211.48	0.92	0.24	Mascara, Eye shadow, Eye liner, Lipstick, Lip moisturizer, Foundation, Blush, Makeup remover <sup>b</sup> , Nail polish, Nail polish remover, Cuticle cream <sup>b</sup> , Perfume
3 <sup>a</sup>	6502.03	6886.34	0.93	0.07	
<b>4<sup>a</sup></b>	<b>4784.70</b>	<b>5298.99</b>	<b>0.92</b>	<b>0.06</b>	
5 <sup>a</sup>	4501.92	5146.20	0.92	0.04	
6 <sup>a</sup>	4242.71	5016.98	0.91	0.04	
Hair product classes <sup>d</sup>					
2 <sup>a</sup>	895.64	1025.53	0.71	0.40	
<b>3<sup>a</sup></b>	<b>711.86</b>	<b>909.52</b>	<b>0.62</b>	<b>0.24</b>	Shampoo, conditioner, hair spray, hair gel, pomade, hair food <sup>b</sup>
4 <sup>a</sup>	545.90	811.33	0.66	0.13	
5 <sup>a</sup>	420.44	753.63	0.69	0.06	
Skincare/hygiene product classes <sup>e</sup>					
2	14941.32	15308.58	0.79	0.44	Body lotion, hand lotion, foot cream, baby oil, petroleum jelly, self-tanning products <sup>b</sup> , bath gel, shaving cream, deodorant, face cream, cleansing cream, face mask <sup>b</sup> , acne product, mouthwash, talcum powder under arms, talcum powder
3	14302.45	14856.16	0.76	0.23	
<b>4</b>	<b>13794.19</b>	<b>14534.36</b>	<b>0.77</b>	<b>0.19</b>	
5	13523.62	14450.25	0.77	0.13	



6 <sup>a</sup>	13367.56	14480.65	0.78	0.09	on genital area, talcum powder on other areas
<i>Non-Hispanic White women (n=39,312)</i>					
Beauty product classes <sup>f</sup>					
2	81896.05	82247.80	0.91	0.25	Mascara, Eye shadow, Eye liner <sup>b</sup> ,
<b>3</b>	<b>42683.60</b>	<b>43215.51</b>	<b>0.92</b>	<b>0.21</b>	Lipstick, Lip moisturizer,
4	36420.27	37132.34	0.93	0.03	Foundation <sup>b</sup> , Blush, Makeup
5 <sup>a</sup>	30056.89	30949.12	0.92	0.03	remover <sup>b</sup> , Nail polish, Nail polish
6 <sup>a</sup>	26271.45	27343.84	0.94	0.02	remover, Cuticle cream <sup>b</sup> , Perfume
Hair product classes <sup>g</sup>					
2	3121.16	3249.82	0.58	0.32	Shampoo <sup>h</sup> , conditioner, hair spray,
3	2105.46	2302.75	0.61	0.07	hair gel
<b>4<sup>a</sup></b>	<b>427.53</b>	<b>693.44</b>	<b>0.70</b>	<b>0.08</b>	
Skincare/hygiene product classes <sup>i</sup>					
2	132428.55	132934.72	0.76	0.47	Body lotion, hand lotion, foot
3	121377.70	122141.25	0.71	0.20	cream <sup>b</sup> , baby oil, petroleum jelly <sup>b</sup> ,
<b>4</b>	<b>112412.36</b>	<b>113433.28</b>	<b>0.73</b>	<b>0.16</b>	self-tanning products <sup>b</sup> , bath gel <sup>b</sup> ,
5 <sup>a</sup>	107992.02	109270.32	0.74	0.08	shaving cream, deodorant, face
6 <sup>a</sup>	104230.12	105765.79	0.72	0.08	cream, cleansing cream, face
					mask <sup>b</sup> , acne product, mouthwash,
					talcum powder under arms, talcum
					powder on genital area, talcum
					powder on other areas

AIC: Akaike Information Criterion; BIC: Bayesian Information Criterion; LCA: Latent Class Analysis

**Bold font** indicates final model selected for use as primary exposure construct for breast cancer incidence analysis

<sup>a</sup>A data-derived prior was applied to model estimation of rho parameters to help avoid parameter estimates on the boundary of zero and one

<sup>b</sup>3-category variable was dichotomized for LCA into ever use (frequently or sometimes use) vs. did not use

<sup>c</sup>12 Black women missing data on all included hair products were excluded from LCA and breast cancer analyses

<sup>d</sup>9 Latina women missing data on all included hair products were excluded from LCA and breast cancer analyses

<sup>e</sup>3 Latina women missing data on all included skincare/hygiene products were excluded from LCA and breast cancer analyses

<sup>f</sup>7 White women missing data on all included beauty products were excluded from LCA and breast cancer analyses

<sup>g</sup>60 White women missing data on all included hair products were excluded from LCA and breast cancer analyses

<sup>h</sup>3-category variable was dichotomized for LCA into frequently used vs. infrequently used (sometimes or did not use)

<sup>i</sup>5 White women missing data on all included skincare/hygiene products were excluded from LCA and breast cancer analyses

**Table S2. Missing data on self-reported use of each personal care product during the ages of 10 to 13 years among Black or African American, non-Black Hispanic/Latina, and non-Hispanic White women in the Sister Study**

Product	Black or African American (n=4,049) n (%) missing	Non-Black Hispanic/Latina (n=2,104) n (%) missing	Non-Hispanic White (n=39,312) n (%) missing
<i>Beauty products</i>			
Mascara	42 (1.0)	33 (1.6)	467 (1.2)
Eye shadow	29 (0.7)	26 (1.2)	383 (1.0)
Eye liner	48 (1.2)	20 (1.0)	518 (1.3)
Lipstick	72 (1.8)	32 (1.5)	710 (1.8)
Lip moisturizer	162 (4.0)	65 (3.1)	1959 (5.0)
Foundation	47 (1.2)	23 (1.1)	542 (1.4)
Blush or rouge	57 (1.4)	29 (1.4)	675 (1.7)
Makeup remover	32 (0.8)	33 (1.6)	474 (1.2)
Nail polish	217 (5.4)	114 (5.4)	2006 (5.1)
Nail polish remover	233 (5.8)	119 (5.7)	2154 (5.5)
Cuticle cream	123 (3.0)	81 (3.9)	994 (2.5)
Artificial nails or fill-ins	46 (1.1)	30 (1.4)	125 (0.3)
Perfume or cologne	182 (4.5)	108 (5.1)	1993 (5.1)
Missing data on all beauty products included in latent class analysis <sup>a</sup>	0 (0)	0 (0)	7 (0.02)
<i>Hair products</i>			
Shampoo	171 (4.2)	71 (3.4)	726 (1.9)
Conditioner or rinse	239 (5.9)	104 (4.9)	2057 (5.2)
Hair spray	117 (2.9)	104 (4.9)	1619 (4.1)
Hair styling gel or mousse	85 (2.1)	70 (3.3)	1143 (2.9)
Pomade or hair grease	83 (2.1)	77 (3.7)	358 (0.9)
Hair food	219 (5.4)	74 (3.5)	476 (1.2)
Missing data on all hair products included in latent class analysis <sup>a</sup>	12 (0.3)	9 (0.4)	60 (0.2)
<i>Skincare/hygiene products</i>			
Body lotions or creams	133 (3.3)	93 (4.4)	2168 (5.5)
Hand lotions or creams	181 (4.5)	106 (5.0)	2287 (5.8)
Foot lotions or creams	168 (4.2)	86 (4.1)	962 (2.5)
Baby oil or mineral-based oils	205 (5.1)	86 (4.1)	1615 (4.1)
Petroleum jelly	141 (3.5)	92 (4.4)	1845 (4.7)
Skin lighteners	44 (1.1)	19 (0.9)	131 (0.3)
Self-tanning products	32 (0.8)	22 (1.1)	291 (0.7)
Bath or shower gel	103 (2.5)	84 (4.0)	730 (1.9)
Shaving cream or gel	116 (2.9)	76 (3.6)	1805 (4.6)
Deodorant and/or antiperspirant	131 (3.2)	121 (5.8)	2591 (6.6)
Face cream or moisturizer	63 (1.6)	36 (1.7)	875 (2.2)
Cleansing cream	40 (1.0)	36 (1.7)	843 (2.1)
Face masks	25 (0.6)	34 (1.6)	366 (0.9)
Blemish or acne products	66 (1.6)	41 (2.0)	960 (2.4)

Mouthwash or rinse	228 (5.6)	150 (7.1)	2326 (5.9)
Talcum powder under arms	235 (5.8)	134 (6.4)	2549 (6.5)
Talcum powder on genital area	205 (5.1)	67 (3.2)	1527 (3.9)
Talcum powder on other areas	222 (5.5)	131 (6.2)	2798 (7.1)

Missing data on all skincare/hygiene products included in latent class analysis<sup>a</sup>

0 (0)

3 (0.1)

5 (0.01)

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<sup>a</sup>These women were not included in the latent class analysis for this product group and excluded from all subsequent analyses with breast cancer

**Table S3. Participant characteristics among eligible Black or African American, non-Black Hispanic/Latina, and non-Hispanic White participants and those excluded from the analyses in the Sister Study**

	Black participants (n=4,600)		Latina participants (n=2,377)		White participants (n=42,558)	
	Included n (%)	Excluded n (%)	Included n (%)	Excluded n (%)	Included n (%)	Excluded n (%)
Number of participants (% of total)	4,049 (88)	551 (12)	2,104 (89)	273 (11)	39,312 (92)	3246 (8)
Age at baseline, years (mean±SD)	53.6 ± 8.3	53.5 ± 8.4	53.2 ± 9.0	52.9 ± 8.8	56.1 ± 8.9	55.7 ± 9.4
Birth cohort						
1928-1939	191 (5)	36 (7)	120 (6)	15 (5)	4,982 (13)	591 (18)
1940-1949	1,065 (26)	126 (23)	529 (25)	73 (27)	13,333 (34)	1,073 (33)
1950-1959	1,709 (42)	240 (44)	820 (39)	104 (38)	14,451 (37)	1,101 (34)
1960-1974	1,084 (27)	148 (27)	635 (30)	81 (30)	6,546 (17)	479 (15)
Missing	0	1	0	0	0	2
Family income level growing up						
Well off	118 (3)	14 (3)	108 (5)	13 (5)	2,711 (7)	204 (6)
Middle income	1,683 (42)	230 (44)	847 (40)	114 (43)	24,789 (63)	1,933 (61)
Low income	1,488 (37)	187 (36)	702 (33)	73 (27)	9,553 (24)	798 (25)
Poor	760 (19)	93 (18)	447 (21)	68 (25)	2,259 (6)	228 (7)
Missing	0	27	0	5	0	83
Highest level of education in household at age 13 years						
Less than high school degree	1,513 (37)	127 (31)	1,196 (57)	107 (49)	5,549 (14)	498 (17)
High school degree or equivalent	1,437 (35)	160 (39)	394 (19)	53 (24)	14,460 (37)	1,041 (36)
Some college or technical degree	637 (16)	88 (21)	215 (10)	28 (13)	7,714 (20)	591 (21)
4-year college degree or higher	462 (11)	36 (9)	299 (14)	30 (14)	11,589 (29)	748 (26)
Missing	0	140	0	55	0	368
Age at thelarche						
<10 years	266 (7)	43 (8)	123 (6)	16 (6)	1,193 (3)	85 (3)
10-13 years	2,910 (73)	378 (71)	1,601 (77)	201 (75)	31,108 (80)	2,553 (80)
>13 years	810 (20)	113 (21)	346 (17)	51 (19)	6,572 (17)	564 (18)
Missing	63	17	34	5	439	44
Weight relative to peers at age 10						
Lighter	1,696 (42)	219 (40)	869 (42)	112 (42)	13,189 (34)	1,170 (36)
Same weight	1,705 (42)	245 (45)	978 (47)	127 (48)	18,597 (47)	1,491 (46)
Heavier	626 (16)	80 (15)	245 (12)	28 (11)	7,430 (19)	572 (18)
Missing	22	7	12	6	96	13

*Note: Column percentages are displayed, except where noted in first row. Missing data are not included in calculation of percentages. Participants with missing data on family income level growing up and highest level of education in household at age 13 years were excluded (see Figure S1).*

**Table S4. Associations between latent classes of self-reported personal care product use during the ages of 10 to 13 years and incident breast cancer among Black or African American, non-Black Hispanic/Latina, and non-Hispanic White women in the Sister Study with additional adjustment for age at thelarche and weight relative to peers at age 10 years**

	Person-years	N cases	Age-adjusted HR (95% CI)	Multivariable-adjusted HR (95% CI) <sup>a</sup>	Additionally adjusted for age at thelarche and relative weight at age 10 years HR (95% CI) <sup>b</sup>
<i>Black or African American women (n=3,966)<sup>c</sup></i>					
Latent classes of beauty product use from 10-13 years					
Any makeup, nail product & perfume use	3,610	24	1.03 (0.66, 1.60)	1.06 (0.68, 1.65)	1.07 (0.68, 1.68)
Frequent nail product & perfume use	2,521	22	1.33 (0.84, 2.13)	1.34 (0.84, 2.15)	1.33 (0.83, 2.13)
Some nail product & perfume use	19,655	125	0.92 (0.70, 1.19)	0.92 (0.71, 1.19)	0.92 (0.70, 1.19)
Some use of perfume & lip moisturizer	13,637	101	1 (Referent)	1 (Referent)	1 (Referent)
Latent classes of hair product use from 10-13 years					
Frequent shampoo, conditioner & pomade, some hair spray, hair gel & hair food	7,224	51	1.26 (0.90, 1.77)	1.29 (0.92, 1.83)	1.29 (0.91, 1.83)
Frequent shampoo, conditioner & pomade	14,926	104	1.24 (0.94, 1.63)	1.26 (0.95, 1.67)	1.25 (0.94, 1.65)
Frequent pomade & some shampoo	17,140	117	1 (Referent)	1 (Referent)	1 (Referent)
Latent classes of skincare/hygiene product use from 10-13 years <sup>d</sup>					
Frequent moisturizers, including lotions, oil & petroleum jelly, some cleanser, hygiene products & talc use	10,613	69	1.05 (0.72, 1.51)	1.08 (0.74, 1.56)	1.07 (0.74, 1.56)
Frequent lotions, some use of other moisturizers & little talc use	10,370	75	1.18 (0.83, 1.69)	1.21 (0.84, 1.74)	1.21 (0.84, 1.74)
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	11,245	78	1.00 (0.71, 1.43)	1.01 (0.71, 1.44)	1.01 (0.70, 1.44)
Some use of lotions & petroleum jelly	7,196	50	1 (Referent)	1 (Referent)	1 (Referent)
<i>Non-Black Hispanic/Latina women (n=2,059)<sup>e</sup></i>					
Latent classes of beauty product use from 10-13 years					
Frequent nail product & perfume, any makeup use	1,201	8	1.18 (0.56, 2.51)	1.20 (0.56, 2.58)	1.17 (0.54, 2.53)
Some nail product & perfume, any makeup use	3,259	16	0.85 (0.48, 1.50)	0.87 (0.49, 1.53)	0.87 (0.49, 1.54)
Some nail product & perfume, little makeup use	7,082	51	1.24 (0.84, 1.82)	1.26 (0.85, 1.87)	1.27 (0.84, 1.90)
Some use of perfume & lip moisturizer	8,824	51	1 (Referent)	1 (Referent)	1 (Referent)
Latent classes of hair product use from 10-13 years					
Frequent shampoo & conditioner, some hair spray, hair food, hair gel & pomade	7,362	44	1.35 (0.78, 2.35)	1.37 (0.78, 2.41)	1.36 (0.77, 2.41)

Frequent shampoo & conditioner	8,799	63	1.58 (0.94, 2.68)	1.58 (0.93, 2.69)	1.60 (0.94, 2.71)
Some shampoo	4,134	19	1 (Referent)	1 (Referent)	1 (Referent)
Latent classes of skincare/hygiene product use from 10-13 years					
Frequent lotions & some oil, petroleum jelly, cleanser, hygiene products & talc use	3,991	20	0.74 (0.43, 1.27)	0.73 (0.41, 1.29)	0.73 (0.41, 1.29)
Frequent lotions, some use of other moisturizers & little talc use	6,240	48	1.12 (0.74, 1.70)	1.12 (0.74, 1.71)	1.12 (0.74, 1.71)
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	3,935	15	0.54 (0.30, 0.98)	0.54 (0.30, 0.98)	0.54 (0.30, 0.98)
Little use of any products	6,175	43	1 (Referent)	1 (Referent)	1 (Referent)
<i>Non-Hispanic White women (n=38,789)<sup>f</sup></i>					
Latent classes of beauty product use from 10-13 years					
Any makeup, nail product & perfume use	89,861	599	1.01 (0.91, 1.12)	1.01 (0.91, 1.12)	1.00 (0.90, 1.11)
Nail product & perfume, little makeup use	178,506	1,312	1.01 (0.93, 1.09)	1.00 (0.93, 1.09)	1.00 (0.92, 1.08)
Some use of perfume & lip moisturizer	157,799	1,181	1 (Referent)	1 (Referent)	1 (Referent)
Latent classes of hair product use from 10-13 years <sup>d</sup>					
Frequent shampoo, conditioner & hair spray & some hair gel	25,236	174	1.04 (0.88, 1.22)	1.04 (0.88, 1.22)	1.04 (0.88, 1.22)
Frequent shampoo & conditioner, some hair spray use	112,962	810	1.05 (0.96, 1.43)	1.04 (0.95, 1.14)	1.04 (0.95, 1.14)
Frequent shampoo & conditioner use	68,260	441	1.00 (0.89, 1.12)	1.00 (0.89, 1.12)	1.00 (0.90, 1.12)
Frequent shampoo & some conditioner	219,177	1,664	1 (Referent)	1 (Referent)	1 (Referent)
Latent classes of skincare/hygiene product use from 10-13 years					
Frequent moisturizers, including lotions & oil, some petroleum jelly, cleanser, hygiene products & talc use	66,526	443	0.96 (0.85, 1.07)	0.95 (0.85, 1.07)	0.95 (0.85, 1.07)
Some moisturizers, including lotions & oil, & talc use	80,731	576	0.94 (0.85, 1.04)	0.94 (0.85, 1.04)	0.94 (0.85, 1.04)
Some moisturizers, including lotions & oil, little talc use	145,050	1,036	0.98 (0.90, 1.07)	0.98 (0.90, 1.07)	0.98 (0.89, 1.07)
Little use of any products	133,884	1,037	1 (Referent)	1 (Referent)	1 (Referent)

CI: Confidence Interval; HR: Hazard Ratio

<sup>a</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), and maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher) in addition to age as the time scale

<sup>b</sup>Adjusted for all covariates in <sup>a</sup> plus age at thelarche (<10 years, 10-13 years, >13 years) and weight relative to peers at age 10 years (lighter, same heavier)

<sup>c</sup>83 Black women missing data on age at thelarche or weight relative to peers at age 10 years are excluded from these analyses.

<sup>d</sup>Proportional hazards assumption violated for exposure in multivariable models (p<0.05)

<sup>e</sup>45 Latina women missing data on age at thelarche or weight relative to peers at age 10 years are excluded from these analyses.

<sup>f</sup>523 White women missing data on age at thelarche or weight relative to peers at age 10 years are excluded from these analyses.

**Table S5. Associations between race- and ethnicity-specific latent classes of self-reported personal care product use during the ages of 10 to 13 years and incident breast cancer by menopausal status in the Sister Study**

	Pre-menopausal		Post-menopausal		P-het <sup>b</sup>
	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>	
<i>Black or African American women (n=4,046)<sup>c</sup></i>					
Latent classes of beauty product use from 10-13 years					0.40
Any makeup, nail product & perfume use	8	1.07 (0.45, 2.54)	16	0.95 (0.56, 1.62)	
Frequent nail product & perfume use	5	0.78 (0.29, 2.11)	18	1.51 (0.91, 2.52)	
Some nail product & perfume use	21	0.61 (0.31, 1.18)	106	0.95 (0.72, 1.25)	
Some use of perfume & lip moisturizer	17	1 (Referent)	89	1 (Referent)	
Latent classes of hair product use from 10-13 years					0.90
Frequent shampoo, conditioner & pomade, some hair spray, hair gel & hair food	14	1.07 (0.49, 2.31)	38	1.33 (0.91, 1.95)	
Frequent shampoo, conditioner & pomade	25	1.11 (0.55, 2.26)	81	1.25 (0.93, 1.69)	
Frequent pomade & some shampoo	12	1 (Referent)	110	1 (Referent)	
Latent classes of skincare/hygiene product use from 10-13 years					0.08
Frequent moisturizers, including lotions, oil & petroleum jelly, some cleanser, hygiene products & talc use	7	0.41 (0.15, 1.16)	62	1.22 (0.82, 1.81)	
Frequent lotions, some use of other moisturizers & little talc use	24	1.24 (0.55, 2.82)	54	1.14 (0.77, 1.70)	
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	12	1.07 (0.44, 2.62)	69	1.00 (0.68, 1.45)	
Some use of lotions & petroleum jelly	8	1 (Referent)	44	1 (Referent)	
<i>Non-Black Hispanic/Latina women (n=2,104)</i>					
Latent classes of beauty product use from 10-13 years					NE <sup>d</sup>
Frequent nail product & perfume, any makeup use	<5 <sup>d</sup>	NE <sup>d</sup>	5	1.11 (0.43, 2.90)	
Some nail product & perfume, any makeup use	<5 <sup>d</sup>	NE <sup>d</sup>	14	1.17 (0.64, 2.14)	
Some nail product & perfume, little makeup use	14	NE <sup>d</sup>	38	1.19 (0.76, 1.87)	
Some use of perfume & lip moisturizer	11	NE <sup>d</sup>	41	1 (Referent)	
Latent classes of hair product use from 10-13 years					NE <sup>d</sup>
Frequent shampoo & conditioner, some hair spray, hair food, hair gel & pomade	13	NE <sup>d</sup>	32	1.54 (0.82, 2.89)	
Frequent shampoo & conditioner	14	NE <sup>d</sup>	50	1.76 (0.99, 3.14)	
Some shampoo	<5 <sup>d</sup>	NE <sup>d</sup>	16	1 (Referent)	
Latent classes of skincare/hygiene product use from 10-13 years					NE <sup>d</sup>
Frequent lotions & some oil, petroleum jelly, cleanser, hygiene products & talc use	7	NE <sup>d</sup>	13	0.71 (0.36, 1.39)	
Frequent lotions, some use of other moisturizers & little talc use	13	NE <sup>d</sup>	35	1.11 (0.69, 1.79)	
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	<5 <sup>d</sup>	NE <sup>d</sup>	13	0.55 (0.29, 1.05)	
Little use of any products	7	NE <sup>d</sup>	37	1 (Referent)	
<i>Non-Hispanic White women (n=39,310)<sup>e</sup></i>					
Latent classes of beauty product use from 10-13 years					0.74
Any makeup, nail product & perfume use	174	1.05 (0.84, 1.32)	429	0.99 (0.88, 1.12)	

Nail product & perfume, little makeup use	181	0.97 (0.77, 1.21)	1,144	1.00 (0.92, 1.09)	
Some use of perfume & lip moisturizer	134	1 (Referent)	1,075	1 (Referent)	
Latent classes of hair product use from 10-13 years <sup>f</sup>					0.58
Frequent shampoo, conditioner & hair spray & some hair gel	40	1.14 (0.78, 1.65)	139	1.06 (0.89, 1.26)	
Frequent shampoo & conditioner, some hair spray use	155	1.18 (0.93, 1.49)	659	1.02 (0.93, 1.12)	
Frequent shampoo & conditioner use	150	1.14 (0.90, 1.45)	293	0.96 (0.84, 1.10)	
Frequent shampoo & some conditioner	142	1 (Referent)	1,555	1 (Referent)	
Latent classes of skincare/hygiene product use from 10-13 years					0.34
Frequent moisturizers, including lotions & oil, some petroleum jelly, cleanser, hygiene products & talc use	127	1.09 (0.84, 1.42)	319	0.91 (0.80, 1.04)	
Some moisturizers, including lotions & oil, & talc use	59	0.84 (0.61, 1.16)	522	0.95 (0.85, 1.05)	
Some moisturizers, including lotions & oil, little talc use	196	0.97 (0.77, 1.24)	854	0.98 (0.90, 1.08)	
Little use of any products	107	1 (Referent)	953	1 (Referent)	

CI: Confidence Interval; HR: Hazard Ratio; NE: Not Estimated; p-het: P-value for test of heterogeneity

<sup>a</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), and maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher) in addition to age as the time scale

<sup>b</sup>P-het from a Wald or joint Wald test of exposure\*modifier interaction term(s)

<sup>c</sup>3 Black women who reported never having a menstrual period were excluded from this analysis

<sup>d</sup>We did not estimate associations with pre-menopausal cancer or test for heterogeneity by menopausal status if there were less than 5 exposed cases in at least one latent class. To protect participant confidentiality, we do not report exact case numbers if less than 5.

<sup>e</sup>2 White women who reported never having a menstrual period were excluded from this analysis

<sup>f</sup>Proportional hazards assumption violated for exposure in multivariable model of pre-menopausal cancer (p<0.05)



**Table S6. Associations between race- and ethnicity-specific latent classes of self-reported personal care product use during the ages of 10 to 13 years and incident breast cancer by estrogen receptor (ER) status in the Sister Study**

	ER+		ER-		Relative HR for ER- vs. ER+ HR (95% CI)	P-het <sup>b</sup>
	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>		
<i>Black or African American women (n=4,049)</i>						
Latent classes of beauty product use from 10-13 years						NE <sup>c</sup>
Any makeup, nail product & perfume use	10	0.85 (0.44, 1.66)	<5 <sup>c</sup>	NE <sup>c</sup>	NE <sup>c</sup>	
Frequent nail product & perfume use	13	1.49 (0.80, 2.75)	6	NE <sup>c</sup>	NE <sup>c</sup>	
Some nail product & perfume use	81	1.09 (0.77, 1.53)	18	NE <sup>c</sup>	NE <sup>c</sup>	
Some use of perfume & lip moisturizer	57	1 (Referent)	17	NE <sup>c</sup>	NE <sup>c</sup>	
Latent classes of hair product use from 10-13 years <sup>d</sup>						0.80
Frequent shampoo, conditioner & pomade, some hair spray, hair gel & hair food	28	1.22 (0.78, 1.91)	9	1.49 (0.63, 3.48)	1.22 (0.47, 3.18)	
Frequent shampoo, conditioner & pomade	59	1.22 (0.84, 1.77)	20	1.58 (0.82, 3.03)	1.29 (0.61, 2.73)	
Frequent pomade & some shampoo	74	1 (Referent)	16	1 (Referent)	1 (Referent)	
Latent classes of skincare/hygiene product use from 10-13 years						0.62
Frequent moisturizers, including lotions, oil & petroleum jelly, some cleanser, hygiene products & talc use	44	1.17 (0.73, 1.87)	9	0.87 (0.32, 2.39)	0.75 (0.25, 2.26)	
Frequent lotions, some use of other moisturizers & little talc use	40	1.10 (0.69, 1.77)	14	1.39 (0.55, 3.52)	1.26 (0.45, 3.57)	
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	46	0.96 (0.61, 1.52)	15	1.31 (0.54, 3.16)	1.36 (0.50, 3.68)	
Some use of lotions & petroleum jelly	31	1 (Referent)	7	1 (Referent)	1 (Referent)	
<i>Non-Black Hispanic/Latina women (n=2,104)</i>						
Latent classes of beauty product use from 10-13 years <sup>d</sup>						NE <sup>c</sup>
Frequent nail product & perfume, any makeup use	6	1.30 (0.54, 3.10)	<5 <sup>c</sup>	NE <sup>c</sup>	NE <sup>c</sup>	
Some nail product & perfume, any makeup use	14	1.13 (0.61, 2.09)	<5 <sup>c</sup>	NE <sup>c</sup>	NE <sup>c</sup>	
Some nail product & perfume, little makeup use	35	1.27 (0.79, 2.04)	5	NE <sup>c</sup>	NE <sup>c</sup>	
Some use of perfume & lip moisturizer	35	1 (Referent)	5	NE <sup>c</sup>	NE <sup>c</sup>	
Latent classes of hair product use from 10-13 years						NE <sup>c</sup>
Frequent shampoo & conditioner, some hair spray, hair food, hair gel & pomade	31	1.12 (0.61, 2.07)	<5 <sup>c</sup>	NE <sup>c</sup>	NE <sup>c</sup>	
Frequent shampoo & conditioner	43	1.28 (0.71, 2.29)	7	NE <sup>c</sup>	NE <sup>c</sup>	
Some shampoo	16	1 (Referent)	<5 <sup>c</sup>	NE <sup>c</sup>	NE <sup>c</sup>	

Latent classes of skincare/hygiene product use from 10-13 years							NE <sup>c</sup>
Frequent lotions & some oil, petroleum jelly, cleanser, hygiene products & talc use	15	0.75 (0.39, 1.44)	<5 <sup>c</sup>	NE <sup>c</sup>			NE <sup>c</sup>
Frequent lotions, some use of other moisturizers & little talc use	32	1.01 (0.62, 1.65)	7	NE <sup>c</sup>			NE <sup>c</sup>
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	12	0.61 (0.31, 1.20)	<5 <sup>c</sup>	NE <sup>c</sup>			NE <sup>c</sup>
Little use of any products	31	1 (Referent)	<5 <sup>c</sup>	NE <sup>c</sup>			NE <sup>c</sup>
<i>Non-Hispanic White women (n=39,312)</i>							
Latent classes of beauty product use from 10-13 years							0.86
Any makeup, nail product & perfume use	452	1.01 (0.90, 1.14)	77	0.95 (0.71, 1.27)	0.94 (0.69, 1.28)		
Nail product & perfume, little makeup use	1,007	1.01 (0.93, 1.11)	169	1.03 (0.83, 1.29)	1.02 (0.80, 1.29)		
Some use of perfume & lip moisturizer	903	1 (Referent)	146	1 (Referent)	1 (Referent)		
Latent classes of hair product use from 10-13 years							0.62
Frequent shampoo, conditioner & hair spray & some hair gel	131	1.02 (0.85, 1.23)	25	1.17 (0.76, 1.80)	1.14 (0.72, 1.83)		
Frequent shampoo & conditioner, some hair spray use	617	1.05 (0.95, 1.16)	99	0.97 (0.76, 1.25)	0.93 (0.71, 1.22)		
Frequent shampoo & conditioner use	332	0.99 (0.87, 1.13)	68	1.14 (0.85, 1.53)	1.15 (0.83, 1.59)		
Frequent shampoo & some conditioner	1,278	1 (Referent)	200	1 (Referent)	1 (Referent)		
Latent classes of skincare/hygiene product use from 10-13 years							0.50
Frequent moisturizers, including lotions & oil, some petroleum jelly, cleanser, hygiene products & talc use	343	1.00 (0.88, 1.14)	55	0.85 (0.62, 1.17)	0.85 (0.60, 1.20)		
Some moisturizers, including lotions & oil, & talc use	449	0.98 (0.87, 1.10)	64	0.78 (0.58, 1.05)	0.80 (0.58, 1.09)		
Some moisturizers, including lotions & oil, little talc use	791	1.00 (0.91, 1.11)	137	0.95 (0.75, 1.21)	0.95 (0.73, 1.23)		
Little use of any products	779	1 (Referent)	136	1 (Referent)	1 (Referent)		

CI: Confidence Interval; ER: Estrogen Receptor; HR: Hazard Ratio; NE: Not Estimated; p-het: P-value for test of heterogeneity

<sup>a</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), and maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher) in addition to age as the time scale

<sup>b</sup>P-het from a Wald or joint Wald test of exposure\*modifier interaction term(s)

<sup>c</sup>We did not estimate associations with ER- or test for heterogeneity by ER status if there were less than 5 exposed cases in at least one latent class. To protect participant confidentiality, we do not report exact case numbers if less than 5.

<sup>d</sup>Proportional hazards assumption violated for exposure in multivariable model of ER+ cancer (p<0.05)

**Table S7. Associations between race- and ethnicity-specific latent classes of self-reported personal care product use during the ages of 10 to 13 years and incident breast cancer by tumor invasiveness in the Sister Study**

	Invasive		DCIS		Relative HR for Invasive vs DCIS HR (95% CI)	P-het <sup>b</sup>
	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>		
<i>Black or African American women (n=4,049)</i>						
Latent classes of beauty product use from 10-13 years						0.52
Any makeup, nail product & perfume use	19	1.18 (0.71, 1.96)	5	0.70 (0.27, 1.78)	1.69 (0.58, 4.94)	
Frequent nail product & perfume use	18	1.53 (0.90, 2.59)	5	0.92 (0.35, 2.38)	1.66 (0.56, 4.93)	
Some nail product & perfume use	97	0.98 (0.72, 1.33)	30	0.68 (0.41, 1.12)	1.44 (0.80, 2.59)	
Some use of perfume & lip moisturizer	73	1 (Referent)	33	1 (Referent)	1 (Referent)	
Latent classes of hair product use from 10-13 years						0.12
Frequent shampoo, conditioner & pomade, some hair spray, hair gel & hair food	44	1.52 (1.04, 2.23)	8	0.68 (0.32, 1.46)	2.24 (0.95, 5.28)	
Frequent shampoo, conditioner & pomade	75	1.22 (0.88, 1.68)	31	1.29 (0.76, 2.19)	0.95 (0.51, 1.76)	
Frequent pomade & some shampoo	88	1 (Referent)	34	1 (Referent)	1 (Referent)	
Latent classes of skincare/hygiene product use from 10-13 years						0.99
Frequent moisturizers, including lotions, oil & petroleum jelly, some cleanser, hygiene products & talc use	50	1.02 (0.66, 1.58)	19	1.13 (0.55, 2.34)	0.90 (0.39, 2.09)	
Frequent lotions, some use of other moisturizers & little talc use	59	1.22 (0.81, 1.83)	19	1.20 (0.58, 2.48)	1.02 (0.44, 2.34)	
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	59	0.99 (0.66, 1.49)	22	1.08 (0.54, 2.16)	0.92 (0.41, 2.04)	
Some use of lotions & petroleum jelly	39	1 (Referent)	13	1 (Referent)	1 (Referent)	
<i>Non-Black Hispanic/Latina women (n=2,104)</i>						
Latent classes of beauty product use from 10-13 years <sup>c</sup>						NE <sup>d</sup>
Frequent nail product & perfume, any makeup use	8	1.56 (0.72, 3.35)	<5 <sup>d</sup>	NE <sup>d</sup>	NE <sup>d</sup>	
Some nail product & perfume, any makeup use	15	1.03 (0.57, 1.86)	<5 <sup>d</sup>	NE <sup>d</sup>	NE <sup>d</sup>	
Some nail product & perfume, little makeup use	40	1.20 (0.77, 1.87)	12	NE <sup>d</sup>	NE <sup>d</sup>	
Some use of perfume & lip moisturizer	43	1 (Referent)	8	NE <sup>d</sup>	NE <sup>d</sup>	
Latent classes of hair product use from 10-13 years						NE <sup>d</sup>
Frequent shampoo & conditioner, some hair spray, hair food, hair gel & pomade	36	1.35 (0.74, 2.45)	9	NE <sup>d</sup>	NE <sup>d</sup>	
Frequent shampoo & conditioner	53	1.58 (0.90, 2.76)	10	NE <sup>d</sup>	NE <sup>d</sup>	

Some shampoo	17	1 (Referent)	<5 <sup>d</sup>	NE <sup>d</sup>	NE <sup>d</sup>	
Latent classes of skincare/hygiene product use from 10-13 years						NE <sup>d</sup>
Frequent lotions & some oil, petroleum jelly, cleanser, hygiene products & talc use	17	0.80 (0.43, 1.47)	<5 <sup>d</sup>	NE <sup>d</sup>	NE <sup>d</sup>	
Frequent lotions, some use of other moisturizers & little talc use	40	1.16 (0.73, 1.84)	8	NE <sup>d</sup>	NE <sup>d</sup>	
Some moisturizers, including lotions, oil & petroleum jelly, & talc use	13	0.57 (0.30, 1.09)	<5 <sup>d</sup>	NE <sup>d</sup>	NE <sup>d</sup>	
Little use of any products	36	1 (Referent)	7	NE <sup>d</sup>	NE <sup>d</sup>	
<i>Non-Hispanic White women (n=39,312)</i>						0.98
Latent classes of beauty product use from 10-13 years <sup>c</sup>						
Any makeup, nail product & perfume use	467	1.02 (0.90, 1.14)	134	0.99 (0.80, 1.23)	1.03 (0.80, 1.31)	
Nail product & perfume, little makeup use	1,041	1.00 (0.91, 1.09)	281	1.00 (0.84, 1.18)	1.00 (0.83, 1.22)	
Some use of perfume & lip moisturizer	952	1 (Referent)	252	1 (Referent)	1 (Referent)	
Latent classes of hair product use from 10-13 years <sup>e</sup>						0.01
Frequent shampoo, conditioner & hair spray & some hair gel	149	1.17 (0.98, 1.39)	30	0.72 (0.49, 1.06)	1.62 (1.06, 2.47)	
Frequent shampoo & conditioner, some hair spray use	645	1.09 (0.99, 1.20)	166	0.86 (0.71, 1.04)	1.27 (1.02, 1.57)	
Frequent shampoo & conditioner use	353	1.08 (0.95, 1.22)	89	0.76 (0.59, 0.97)	1.42 (1.07, 1.88)	
Frequent shampoo & some conditioner	1,310	1 (Referent)	381	1 (Referent)	1 (Referent)	
Latent classes of skincare/hygiene product use from 10-13 years						0.13
Frequent moisturizers, including lotions & oil, some petroleum jelly, cleanser, hygiene products & talc use	361	1.01 (0.89, 1.15)	84	0.76 (0.59, 0.98)	1.33 (1.00, 1.77)	
Some moisturizers, including lotions & oil, & talc use	445	0.92 (0.82, 1.03)	134	0.97 (0.78, 1.20)	0.95 (0.74, 1.21)	
Some moisturizers, including lotions & oil, little talc use	826	1.00 (0.91, 1.10)	220	0.89 (0.74, 1.08)	1.12 (0.91, 1.39)	
Little use of any products	828	1 (Referent)	229	1 (Referent)	1 (Referent)	

CI: Confidence Interval; DCIS: Ductal Carcinoma *In Situ*; HR: Hazard Ratio; NE: Not Estimated; p-het: P-value for test of heterogeneity

<sup>a</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), and maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher) in addition to age as the time scale

<sup>b</sup>P-het from a Wald or joint Wald test of exposure\*modifier interaction term(s)

<sup>c</sup>Proportional hazards assumption violated for strata of DCIS ( $p < 0.05$ )

<sup>d</sup>We did not estimate associations with DCIS or test for heterogeneity by invasiveness if there were less than 5 exposed cases in at least one latent class. To protect participant confidentiality, we do not report exact case numbers if less than 5.

<sup>e</sup>Proportional hazards assumption violated for strata of invasive ( $p < 0.05$ )

**Table S8. Associations between latent classes of self-reported personal care product use during the ages of 10 to 13 years and incident breast cancer by timing of thelarche among non-Hispanic White women in the Sister Study**

	Early thelarche (<10 years)		Average thelarche (10-13 years)		Late thelarche (>13 years)		p-het <sup>b</sup>
	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>	N cases	Multivariable-adjusted HR (95% CI) <sup>a</sup>	
<i>Non-Hispanic White women (n=38,873)<sup>c</sup></i>							
Latent classes of beauty product use from 10-13 years							0.58
Any makeup, nail product & perfume use	31	1.03 (0.62, 1.73)	500	0.98 (0.87, 1.10)	68	1.13 (0.85, 1.51)	
Nail product & perfume, little makeup use	57	1.29 (0.83, 2.02)	1061	0.98 (0.90, 1.07)	196	1.03 (0.84, 1.25)	
Some use of perfume & lip moisturizer	31	1 (Referent)	946	1 (Referent)	207	1 (Referent)	
Latent classes of hair product use from 10-13 years <sup>d</sup>							0.38
Frequent shampoo, conditioner & hair spray & some hair gel	10	0.90 (0.46, 1.77)	138	0.98 (0.82, 1.18)	26	1.38 (0.91, 2.09)	
Frequent shampoo & conditioner, some hair spray use	37	0.95 (0.61, 1.48)	654	1.00 (0.91, 1.11)	119	1.24 (0.98, 1.56)	
Frequent shampoo & conditioner use	14	0.72 (0.39, 1.24)	358	1.02 (0.90, 1.16)	69	0.97 (0.73, 1.30)	
Frequent shampoo & some conditioner	58	1 (Referent)	1,354	1 (Referent)	257	1 (Referent)	
Latent classes of skincare/hygiene product use from 10-13 years							0.49
Frequent moisturizers, including lotions & oil, some petroleum jelly, cleanser, hygiene products & talc use	30	1.07 (0.65, 1.77)	358	0.91 (0.80, 1.03)	55	1.05 (0.77, 1.44)	
Some moisturizers, including lotions & oil, & talc use	21	0.64 (0.37, 1.12)	484	0.92 (0.82, 1.03)	72	1.05 (0.80, 1.39)	
Some moisturizers, including lotions & oil, little talc use	34	0.82 (0.50, 1.33)	840	0.95 (0.86, 1.05)	164	1.12 (0.89, 1.39)	
Little use of any products	34	1 (Referent)	825	1 (Referent)	180	1 (Referent)	

CI: Confidence Interval; HR: Hazard Ratio; p-het: P-value for test of heterogeneity

<sup>a</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), and maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher) in addition to age as the time scale

<sup>b</sup>P-heterogeneity from a Wald test of exposure\*timing of thelarche interaction terms

<sup>c</sup>439 women missing age at thelarche were excluded from this analysis

<sup>d</sup>Proportional hazards assumption violated for exposure in strata of average thelarche (p<0.05)

**Table S9. Associations between self-reported use of single beauty products during the ages of 10 to 13 years and incident breast cancer by race and ethnicity in the Sister Study, additionally adjusted for number of beauty products used during the ages of 10 to 13 years to address confounding by co-exposure to other products**

Product	Black or African American (n=4,049) <sup>a</sup>			Non-Black Hispanic/Latina (n=2,104) <sup>a</sup>			Non-Hispanic White (n=39,312) <sup>a</sup>		
	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>
Mascara	Frequently or sometimes	13	0.77 (0.42, 1.43)	Frequently	5	0.70 (0.27, 1.80)	Frequently	109	0.94 (0.75, 1.17)
	Did not use	264	1 (Referent)	Sometimes	16	0.64 (0.33, 1.22)	Sometimes	447	0.89 (0.78, 1.01)
				Did not use	107	1 (Referent)	Did not use	2,550	1 (Referent)
Eye shadow	Frequently or sometimes <sup>c</sup>	17	1.06 (0.59, 1.89)	Frequently or sometimes	20	0.50 (0.25, 1.01)	Frequently	62	0.86 (0.65, 1.13)
	Did not use <sup>c</sup>	260	1 (Referent)	Did not use	108	1 (Referent)	Sometimes	443	0.94 (0.82, 1.07)
							Did not use	2,610	1 (Referent)
Eye liner	Frequently or sometimes	14	0.79 (0.41, 1.49)	Frequently	5	1.24 (0.45, 3.43)	Frequently	55	1.20 (0.91, 1.59)
	Did not use	262	1 (Referent)	Sometimes	15	1.04 (0.55, 1.98)	Sometimes	216	0.99 (0.84, 1.17)
				Did not use	108	1 (Referent)	Did not use	2,833	1 (Referent)
Lipstick	Frequently	13	1.88 (1.02, 3.45)	Frequently	8	1.03 (0.44, 2.43)	Frequently	163	1.25 (1.05, 1.50)
	Sometimes	34	0.98 (0.63, 1.52)	Sometimes	24	0.74 (0.41, 1.34)	Sometimes	886	1.07 (0.97, 1.18)
	Did not use	229	1 (Referent)	Did not use	96	1 (Referent)	Did not use	2,039	1 (Referent)
Lip moisturizer	Frequently	31	1.22 (0.78, 1.91)	Frequently	7	0.67 (0.29, 1.54)	Frequently	305	0.92 (0.79, 1.06)
	Sometimes	96	1.04 (0.78, 1.39)	Sometimes	43	1.13 (0.75, 1.69)	Sometimes	1,302	0.94 (0.86, 1.03)
	Did not use	144	1 (Referent)	Did not use	75	1 (Referent)	Did not use	1,391	1 (Referent)
Foundation	Frequently or sometimes	14	1.42 (0.78, 2.58)	Frequently or sometimes	15	0.99 (0.54, 1.80)	Frequently	47	0.88 (0.65, 1.19)
	Did not use	262	1 (Referent)	Did not use	113	1 (Referent)	Sometimes	293	1.07 (0.93, 1.23)
							Did not use	2,758	1 (Referent)
Blush or rouge	Frequently or sometimes	17	1.02 (0.58, 1.80)	Frequently	6	1.36 (0.55, 3.36)	Frequently	71	0.99 (0.76, 1.28)
	Did not use	258	1 (Referent)	Sometimes	19	0.66 (0.35, 1.24)	Sometimes	526	1.04 (0.91, 1.17)
				Did not use	103	1 (Referent)	Did not use	2,489	1 (Referent)
Makeup remover	Frequently or sometimes	<5 <sup>d</sup>	NE <sup>d</sup>	Frequently or sometimes <sup>c</sup>	13	1.50 (0.74, 3.05)	Frequently	28	1.57 (1.07, 2.31)
	Did not use	275	NE <sup>d</sup>	Did not use <sup>c</sup>	113	1 (Referent)	Sometimes	125	1.01 (0.83, 1.23)
							Did not use	2,958	1 (Referent)
Nail polish	Frequently	30	1.08 (0.63, 1.83)	Frequently	11	1.34 (0.66, 2.71)	Frequently	177	0.86 (0.72, 1.03)
	Sometimes	138	0.86 (0.61, 1.21)	Sometimes	60	1.28 (0.78, 2.12)	Sometimes	1,616	0.95 (0.86, 1.05)
	Did not use	96	1 (Referent)	Did not use	51	1 (Referent)	Did not use	1,199	1 (Referent)
Nail polish remover	Frequently	27	1.20 (0.70, 2.04)	Frequently	9	1.13 (0.55, 2.30)	Frequently	142	0.80 (0.65, 0.97)
	Sometimes	135	0.92 (0.66, 1.29)	Sometimes	61	1.26 (0.76, 2.08)	Sometimes	1,569	0.94 (0.85, 1.03)
	Did not use	104	1 (Referent)	Did not use	53	1 (Referent)	Did not use	1,270	1 (Referent)
Cuticle cream	Frequently <sup>c</sup>	5	2.75 (1.17, 6.44)	Frequently or sometimes	9	0.67 (0.33, 1.38)	Frequently	8	0.71 (0.35, 1.41)
	Sometimes <sup>c</sup>	20	0.89 (0.54, 1.45)	Did not use	115	1 (Referent)	Sometimes	225	1.03 (0.89, 1.19)
	Did not use <sup>c</sup>	248	1 (Referent)				Did not use	2,830	1 (Referent)

Artificial nails or fill- ins	Frequently or sometimes	<5 <sup>d</sup>	NE <sup>d</sup>	Frequently or sometimes	5	2.84 (1.15, 7.03)	Frequently or sometimes	19	1.07 (0.68, 1.67)
	Did not use	274	NE <sup>d</sup>	Did not use	123	1 (Referent)	Did not use	3,109	1 (Referent)
Perfume or cologne	Frequently	17	0.85 (0.48, 1.50)	Frequently	16	0.88 (0.45, 1.74)	Frequently	203	1.20 (1.01, 1.42)
	Sometimes	147	1.11 (0.82, 1.48)	Sometimes	65	1.13 (0.71, 1.80)	Sometimes	1,626	1.07 (0.98, 1.18)
	Did not use	106	1 (Referent)	Did not use	38	1 (Referent)	Did not use	1,159	1 (Referent)

CI: Confidence Interval; HR: Hazard Ratio; NE: Not Estimated

<sup>a</sup>Participants with missing data on the product of interest are excluded from respective single product model.

<sup>b</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher), and total number of beauty products used during ages 10-13 years (continuous) in addition to age as the time scale

<sup>c</sup>Proportional hazards assumption violated for product use variable ( $p < 0.05$ )

<sup>d</sup>We did not estimate associations for products with less than 5 exposed cases. To protect participant confidentiality, we do not report exact case numbers if less than 5.

**Table S10. Associations between self-reported use of single hair products during the ages of 10 to 13 years and incident breast cancer by race and ethnicity in the Sister Study, additionally adjusted for number of hair products used during the ages of 10 to 13 years to address confounding by co-exposure to other products**

Product	Black or African American (n=4,049) <sup>a</sup>			Non-Black Hispanic/Latina (n=2,104) <sup>a</sup>			Non-Hispanic White (n=39,312) <sup>a</sup>		
	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>
Shampoo	Frequently <sup>c</sup>	194	1.40 (0.72, 2.75)	Frequently	104	1 (Referent)	Frequently	2,756	1.02 (0.67, 1.56)
	Sometimes <sup>c</sup>	64	1.11 (0.56, 2.21)	Sometimes	11	0.64 (0.34, 1.21)	Sometimes	300	1.03 (0.67, 1.59)
	Did not use <sup>c</sup>	10	1 (Referent)	Did not use	6	0.67 (0.27, 1.64)	Did not use	23	1 (Referent)
Conditioner or rinse	Frequently	74	0.97 (0.62, 1.51)	Frequently	53	1.44 (0.79, 2.62)	Frequently	920	0.99 (0.87, 1.12)
	Sometimes	93	1.21 (0.84, 1.76)	Sometimes	33	1.34 (0.74, 2.43)	Sometimes	896	1.00 (0.89, 1.12)
	Did not use	93	1 (Referent)	Did not use	33	1 (Referent)	Did not use	1,167	1 (Referent)
Hair spray	Frequently or sometimes	49	1.02 (0.70, 1.49)	Frequently	6	0.87 (0.34, 2.19)	Frequently <sup>c</sup>	260	1.08 (0.91, 1.27)
	Did not use	226	1 (Referent)	Sometimes	38	0.95 (0.57, 1.56)	Sometimes <sup>c</sup>	969	1.03 (0.92, 1.16)
				Did not use	80	1 (Referent)	Did not use <sup>c</sup>	1,784	1 (Referent)
Hair styling gel or mousse	Frequently or sometimes	27	0.84 (0.52, 1.36)	Frequently or sometimes	15	0.67 (0.35, 1.28)	Frequently <sup>c</sup>	79	1.02 (0.80, 1.30)
	Did not use	246	1 (Referent)	Did not use	113	1 (Referent)	Sometimes <sup>c</sup>	371	0.93 (0.81, 1.07)
							Did not use <sup>c</sup>	2,605	1 (Referent)
Pomade or hair grease	Frequently	214	1.50 (0.77, 2.92)	Frequently	11	2.40 (1.24, 4.67)	Frequently	6	1.61 (0.72, 3.56)
	Sometimes	50	1.72 (0.85, 3.48)	Sometimes	11	0.78 (0.39, 1.52)	Sometimes	52	0.96 (0.72, 1.27)
	Did not use	10	1 (Referent)	Did not use	103	1 (Referent)	Did not use	3,056	1 (Referent)
Hair food	Frequently	16	1.03 (0.53, 1.82)	Frequently or sometimes	10	0.85 (0.42, 1.73)	Frequently or sometimes	9	1.12 (0.58, 2.16)
	Sometimes	46	0.80 (0.53, 1.18)	Did not use	117	1 (Referent)	Did not use	3,082	1 (Referent)
	Did not use	207	1 (Referent)						

CI: Confidence Interval; HR: Hazard Ratio

<sup>a</sup>Participants with missing data on the product of interest are excluded from respective single product model.

<sup>b</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher), and total number of hair products used during ages 10-13 years (continuous), in addition to age as the time scale

<sup>c</sup>Proportional hazards assumption violated for product use variable (p<0.05)



**Table S11. Associations between self-reported use of single skincare/hygiene products during the ages of 10 to 13 years and incident breast cancer by race and ethnicity in the Sister Study, additionally adjusted for number of skincare/hygiene products used during the ages of 10 to 13 years to address confounding by co-exposure to other products**

Product	Use	Black or African American (n=4,049) <sup>a</sup>		Non-Black Hispanic/Latina (n=2,104) <sup>a</sup>		Non-Hispanic White (n=39,312) <sup>a</sup>			
		N cases	Adjusted HR (95% CI) <sup>b</sup>	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>	Use	N cases	Adjusted HR (95% CI) <sup>b</sup>
Body lotions or creams	Frequently	157	1.18 (0.75, 1.86)	Frequently	28	1.55 (0.88, 2.75)	Frequently	250	0.93 (0.79, 1.09)
	Sometimes	81	1.26 (0.80, 1.97)	Sometimes	41	1.21 (0.72, 2.04)	Sometimes	1,305	0.97 (0.88, 1.07)
	Did not use	34	1 (Referent)	Did not use	53	1 (Referent)	Did not use	1,415	1 (Referent)
Hand lotions or creams	Frequently	124	0.98 (0.65, 1.47)	Frequently	22	1.22 (0.67, 2.24)	Frequently	283	0.85 (0.73, 0.98)
	Sometimes	105	1.14 (0.77, 1.68)	Sometimes	50	1.25 (0.77, 2.03)	Sometimes	1,577	0.93 (0.85, 1.02)
	Did not use	38	1 (Referent)	Did not use	49	1 (Referent)	Did not use	1,100	1 (Referent)
Foot lotions or creams	Frequently	25	0.90 (0.58, 1.39)	Frequently or sometimes	21	1.43 (0.85, 2.41)	Frequently	12	0.67 (0.38, 1.17)
	Sometimes	35	0.77 (0.52, 1.15)	Did not use	102	1 (Referent)	Sometimes	144	0.86 (0.72, 1.03)
	Did not use	213	1 (Referent)	Did not use	102	1 (Referent)	Did not use	2,919	1 (Referent)
Baby oil or mineral-based oils	Frequently <sup>c</sup>	55	1.27 (0.87, 1.86)	Frequently	7	1.26 (0.55, 2.93)	Frequently	172	0.99 (0.84, 1.17)
	Sometimes <sup>c</sup>	113	1.27 (0.92, 1.75)	Sometimes	36	0.90 (0.55, 1.48)	Sometimes	1,253	0.99 (0.91, 1.08)
	Did not use <sup>c</sup>	101	1 (Referent)	Did not use	79	1 (Referent)	Did not use	1,589	1 (Referent)
Petroleum jelly	Frequently	139	1.12 (0.78, 1.62)	Frequently or sometimes	24	0.98 (0.61, 1.58)	Frequently	48	0.95 (0.71, 1.26)
	Sometimes	94	0.97 (0.66, 1.42)	Did not use	100	1 (Referent)	Sometimes	599	0.98 (0.89, 1.08)
	Did not use	42	1 (Referent)	Did not use	100	1 (Referent)	Did not use	2,352	1 (Referent)
Skin lighteners	Frequently or sometimes	17	1.15 (0.69, 1.92)	Frequently or sometimes	<5 <sup>d</sup>	NE <sup>d</sup>	Frequently or sometimes	5	0.99 (0.41, 2.40)
	Did not use	261	1 (Referent)	Did not use	128	NE <sup>d</sup>	Did not use	3,129	1 (Referent)
Self-tanning products	Frequently or sometimes	<5 <sup>d</sup>	NE <sup>d</sup>	Frequently or sometimes	6	1.11 (0.47, 2.61)	Frequently	9	0.97 (0.50, 1.84)
	Did not use	276	NE <sup>d</sup>	Did not use	121	1 (Referent)	Sometimes	147	0.95 (0.80, 1.13)
	Did not use	276	NE <sup>d</sup>	Did not use	121	1 (Referent)	Did not use	2,965	1 (Referent)
Bath or shower gel	Frequently	19	1.03 (0.63, 1.69)	Frequently or sometimes	8	0.71 (0.33, 1.54)	Frequently	44	1.16 (0.86, 1.57)
	Sometimes	26	0.95 (0.61, 1.47)	Did not use	115	1 (Referent)	Sometimes	121	0.95 (0.79, 1.15)
	Did not use	231	1 (Referent)	Did not use	115	1 (Referent)	Did not use	2,919	1 (Referent)
Shaving cream or gel	Frequently or sometimes	20	0.84 (0.52, 1.36)	Frequently or sometimes	25	1.05 (0.64, 1.74)	Frequently	130	1.17 (0.97, 1.41)
	Did not use	253	1 (Referent)	Did not use	99	1 (Referent)	Sometimes	669	1.04 (0.95, 1.15)
Deodorant and/or antiperspirant	Frequently	224	1.46 (0.85, 2.51)	Frequently	60	0.94 (0.55, 1.59)	Frequently	1,336	1.05 (0.95, 1.17)
	Sometimes	31	0.91 (0.49, 1.69)	Sometimes	24	0.87 (0.50, 1.54)	Sometimes	861	0.97 (0.87, 1.08)
	Did not use	16	1 (Referent)	Did not use	31	1 (Referent)	Did not use	740	1 (Referent)
Face cream or moisturizer	Frequently	24	0.88 (0.57, 1.37)	Frequently	6	0.71 (0.30, 1.66)	Frequently <sup>c</sup>	107	0.97 (0.80, 1.19)
	Sometimes	40	0.84 (0.57, 1.23)	Sometimes	15	1.04 (0.57, 1.91)	Sometimes <sup>c</sup>	438	1.04 (0.93, 1.16)
	Did not use	210	1 (Referent)	Did not use	106	1 (Referent)	Did not use <sup>c</sup>	2,522	1 (Referent)

Cleansing cream	Frequently	8	0.50 (0.24, 1.04)	Frequently	5	0.95 (0.37, 2.43)	Frequently	117	0.99 (0.82, 1.20)
	Sometimes	23	0.52 (0.33, 0.83)	Sometimes	17	1.09 (0.62, 1.93)	Sometimes	456	1.08 (0.97, 1.20)
	Did not use	245	1 (Referent)	Did not use	105	1 (Referent)	Did not use	2,498	1 (Referent)
Face masks	Frequently or sometimes	13	1.21 (0.67, 2.17)	Frequently or sometimes	12	1.39 (0.69, 2.81)	Frequently or sometimes	190	1.18 (1.00, 1.38)
	Did not use	265	1 (Referent)	Did not use	115	1 (Referent)	Did not use	2,927	1 (Referent)
Blemish or acne products	Frequently	20	1.10 (0.67, 1.81)	Frequently	8	0.77 (0.35, 1.72)	Frequently	473	1.23 (1.09, 1.37)
	Sometimes	60	0.99 (0.72, 1.37)	Sometimes	33	1.04 (0.63, 1.69)	Sometimes	1,094	1.12 (1.03, 1.23)
	Did not use	196	1 (Referent)	Did not use	85	1 (Referent)	Did not use	1,500	1 (Referent)
Mouthwash or rinse	Frequently	71	1.11 (0.79, 1.57)	Frequently	7	0.66 (0.29, 1.51)	Frequently	129	1.12 (0.93, 1.34)
	Sometimes	100	0.99 (0.73, 1.34)	Sometimes	32	0.94 (0.58, 1.50)	Sometimes	762	0.98 (0.89, 1.08)
	Did not use	99	1 (Referent)	Did not use	77	1 (Referent)	Did not use	2,065	1 (Referent)
Talcum powder under arms	Frequently	24	1.14 (0.73, 1.80)	Frequently	6	1.14 (0.47, 2.76)	Frequently	89	0.97 (0.78, 1.21)
	Sometimes	93	1.05 (0.79, 1.40)	Sometimes	27	0.97 (0.61, 1.56)	Sometimes	609	0.94 (0.85, 1.04)
	Did not use	149	1 (Referent)	Did not use	89	1 (Referent)	Did not use	2,239	1 (Referent)
Talcum powder on vaginal area	Frequently	25	1.09 (0.69, 1.72)	Frequently or sometimes	16	0.85 (0.50, 1.46)	Frequently	73	1.01 (0.80, 1.28)
	Sometimes	72	0.88 (0.65, 1.19)	Did not use	111	1 (Referent)	Sometimes	429	0.93 (0.83, 1.04)
	Did not use	177	1 (Referent)	Did not use	111	1 (Referent)	Did not use	2,511	1 (Referent)
Talcum powder on other areas	Frequently	36	0.91 (0.59, 1.38)	Frequently	7	0.81 (0.36, 1.83)	Frequently	121	0.94 (0.77, 1.14)
	Sometimes	127	0.96 (0.71, 1.29)	Sometimes	41	0.86 (0.55, 1.35)	Sometimes	1,074	0.92 (0.84, 1.01)
	Did not use	105	1 (Referent)	Did not use	69	1 (Referent)	Did not use	1,717	1 (Referent)

CI: Confidence Interval; HR: Hazard Ratio; NE: Not Estimated

<sup>a</sup>Participants with missing data on the product of interest are excluded from respective single product model.

<sup>b</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher), and total number of skincare/hygiene products used during ages 10-13 years (continuous), in addition to age as the time scale

<sup>c</sup>Proportional hazards assumption violated for product use variable ( $p < 0.05$ )

<sup>d</sup>We did not estimate associations for products with less than 5 exposed cases. To protect participant confidentiality, we do not report exact case numbers if less than 5.

**Table S12. Sensitivity analyses for the associations between self-reported latent classes of product use and use of individual products during the ages of 10 to 13 years with incident breast cancer among Black or African American participants in the Sister Study, restricted to participants who identify as monoracial and non-Latina (n=3,697)**

Beauty products				Hair products				Skincare/hygiene products			
Latent class		N cases	Adjusted HR (95% CI) <sup>a</sup>	Latent class		N cases	Adjusted HR (95% CI) <sup>a</sup>	Latent class <sup>b</sup>		N cases	Adjusted HR (95% CI) <sup>a</sup>
Any makeup, nail product & perfume use		23	1.17 (0.74, 1.85)	Frequent shampoo, conditioner & pomade, some hair spray, hair gel & hair food		47	1.34 (0.94, 1.92)	Frequent moisturizers, including lotions, oil & petroleum jelly, some cleanser, hygiene products & talc use		64	1.10 (0.74, 1.63)
Frequent nail product & perfume use		22	1.37 (0.86, 2.18)	Frequent shampoo, conditioner & pomade		95	1.20 (0.90, 1.61)	Frequent lotions, some use of other moisturizers & little talc use		72	1.22 (0.84, 1.78)
Some nail product & perfume use		111	0.83 (0.63, 1.09)	Frequent pomade & some shampoo		112	1 (Referent)	Some moisturizers, including lotions, oil & petroleum jelly, & talc use		75	1.06 (0.73, 1.54)
Some use of perfume & lip moisturizer		98	1 (Referent)					Some use of lotions & petroleum jelly		43	1 (Referent)
Product	Use	N cases	Adjusted HR (95% CI) <sup>a,c</sup>	Product	Use	N cases	Adjusted HR (95% CI) <sup>a,c</sup>	Product	Use	N cases	Adjusted HR (95% CI) <sup>a,c</sup>
Mascara	Frequently or sometimes	13	1.06 (0.61, 1.85)	Shampoo	Frequently <sup>c</sup>	173	1.30 (0.69, 2.43)	Body lotions or creams	Frequently	146	1.32 (0.84, 2.07)
	Did not use	238	1 (Referent)		Sometimes <sup>c</sup>	60	1.07 (0.55, 2.07)		Sometimes	75	1.47 (0.92, 2.34)
Eye shadow	Frequently or sometimes	16	1.30 (0.77, 2.18)	Conditioner or rinse	Did not use <sup>c</sup>	10	1 (Referent)	Hand lotions or creams	Did not use	25	1 (Referent)
	Did not use	235	1 (Referent)		Frequently	66	1.07 (0.75, 1.53)		Frequently	113	1.04 (0.70, 1.55)
Eye liner	Frequently or sometimes	13	0.98 (0.56, 1.73)	Hair spray	Sometimes	86	1.35 (0.99, 1.85)	Foot lotions or creams	Sometimes	97	1.25 (0.83, 1.87)
	Did not use	237	1 (Referent)		Did not use	83	1 (Referent)		Did not use	31	1 (Referent)
Lipstick	Frequently	12	2.31 (1.30, 4.11)	Hair styling gel or mousse	Frequently or sometimes	43	1.15 (0.83, 1.60)	Baby oil or mineral-based oils	Frequently <sup>b</sup>	51	1.25 (0.88, 1.77)
	Sometimes	31	1.03 (0.71, 1.50)		Did not use	206	1 (Referent)		Sometimes <sup>b</sup>	105	1.27 (0.95, 1.69)
Lip moisturizer	Did not use	207	1 (Referent)	Pomade or hair grease	Did not use	224	1 (Referent)	Petroleum jelly	Did not use <sup>b</sup>	90	1 (Referent)
	Frequently	30	1.35 (0.90, 2.03)		Frequently	199	1.58 (0.69, 3.62)		Frequently <sup>b</sup>	130	1.26 (0.85, 1.88)
Foundation	Sometimes	88	1.09 (0.82, 1.44)	Hair food	Sometimes	45	1.89 (0.80, 4.47)	Skin lighteners	Sometimes <sup>b</sup>	90	1.14 (0.76, 1.73)
	Did not use	128	1 (Referent)		Did not use	6	1 (Referent)		Did not use <sup>b</sup>	29	1 (Referent)
	Frequently or sometimes	14	1.85 (1.07, 3.17)		Frequently	15	1.21 (0.69, 2.13)		Frequently or sometimes	17	1.30 (0.80, 2.14)
					Sometimes	42	0.92 (0.64, 1.32)				

	Did not use	236	1 (Referent)	Did not use	187	1 (Referent)	Did not use	235	1 (Referent)	
Blush or rouge	Frequently or sometimes	16	1.27 (0.76, 2.10)				Self-tanning products	Frequently or sometimes	<5 <sup>d</sup>	NE <sup>d</sup>
	Did not use	233	1 (Referent)					Did not use	250	NE <sup>d</sup>
Makeup remover	Frequently or sometimes	<5 <sup>d</sup>	NE <sup>d</sup>				Bath or shower gel	Frequently	17	1.01 (0.62, 1.67)
	Did not use	249	NE <sup>d</sup>					Sometimes	23	0.97 (0.62, 1.50)
Nail polish	Did not use	249	NE <sup>d</sup>				Shaving cream or gel	Did not use	210	1 (Referent)
	Frequently	29	1.27 (0.83, 1.95)					Frequently or sometimes	19	0.99 (0.61, 1.60)
	Sometimes	122	0.91 (0.69, 1.20)					Did not use	229	1 (Referent)
Nail polish remover	Did not use	88	1 (Referent)				Deodorant and/or antiperspirant	Did not use	229	1 (Referent)
	Frequently	26	1.34 (0.87, 2.08)					Frequently	204	1.50 (0.85, 2.66)
	Sometimes	119	0.93 (0.71, 1.22)					Sometimes	29	1.01 (0.52, 1.97)
Cuticle cream	Did not use	96	1 (Referent)				Face cream or moisturizer	Did not use	13	1 (Referent)
	Frequently	<5 <sup>d</sup>	NE <sup>d</sup>					Frequently	23	1.03 (0.67, 1.59)
	Sometimes	18	NE <sup>d</sup>					Sometimes	39	1.00 (0.71, 1.41)
Artificial nails or fill-ins	Did not use	226	NE <sup>d</sup>				Cleansing cream	Did not use	186	1 (Referent)
	Frequently or sometimes	<5 <sup>d</sup>	NE <sup>d</sup>					Frequently	8	0.63 (0.31, 1.29)
	Did not use	250	NE <sup>d</sup>					Sometimes	21	0.63 (0.40, 0.99)
Perfume or cologne	Did not use	250	NE <sup>d</sup>				Face masks	Did not use	221	1 (Referent)
	Frequently	17	0.93 (0.55, 1.56)					Frequently or sometimes	13	1.54 (0.87, 2.72)
	Sometimes	129	1.05 (0.80, 1.36)					Did not use	239	1 (Referent)
							Blemish or acne products	Did not use	179	1 (Referent)
								Frequently	18	1.16 (0.82, 1.87)
								Sometimes	53	1.01 (0.74, 1.37)
							Mouthwash or rinse	Did not use	179	1 (Referent)
								Frequently	63	1.11 (0.80, 1.54)
								Sometimes	95	1.06 (0.79, 1.42)
							Talcum powder under arms	Did not use	87	1 (Referent)
								Frequently	23	1.22 (0.78, 1.90)
								Sometimes	85	1.05 (0.80, 1.38)
							Talcum powder on vaginal area	Did not use	135	1 (Referent)
								Frequently	23	1.12 (0.72, 1.75)
								Sometimes	66	0.90 (0.68, 1.20)
							Talcum powder on other areas	Did not use	159	1 (Referent)
								Frequently	30	0.88 (0.59, 1.33)
								Sometimes	118	1.01 (0.77, 1.33)
							Did not use	96	1 (Referent)	

CI: Confidence Interval; HR: Hazard Ratio; NE: Not Estimated

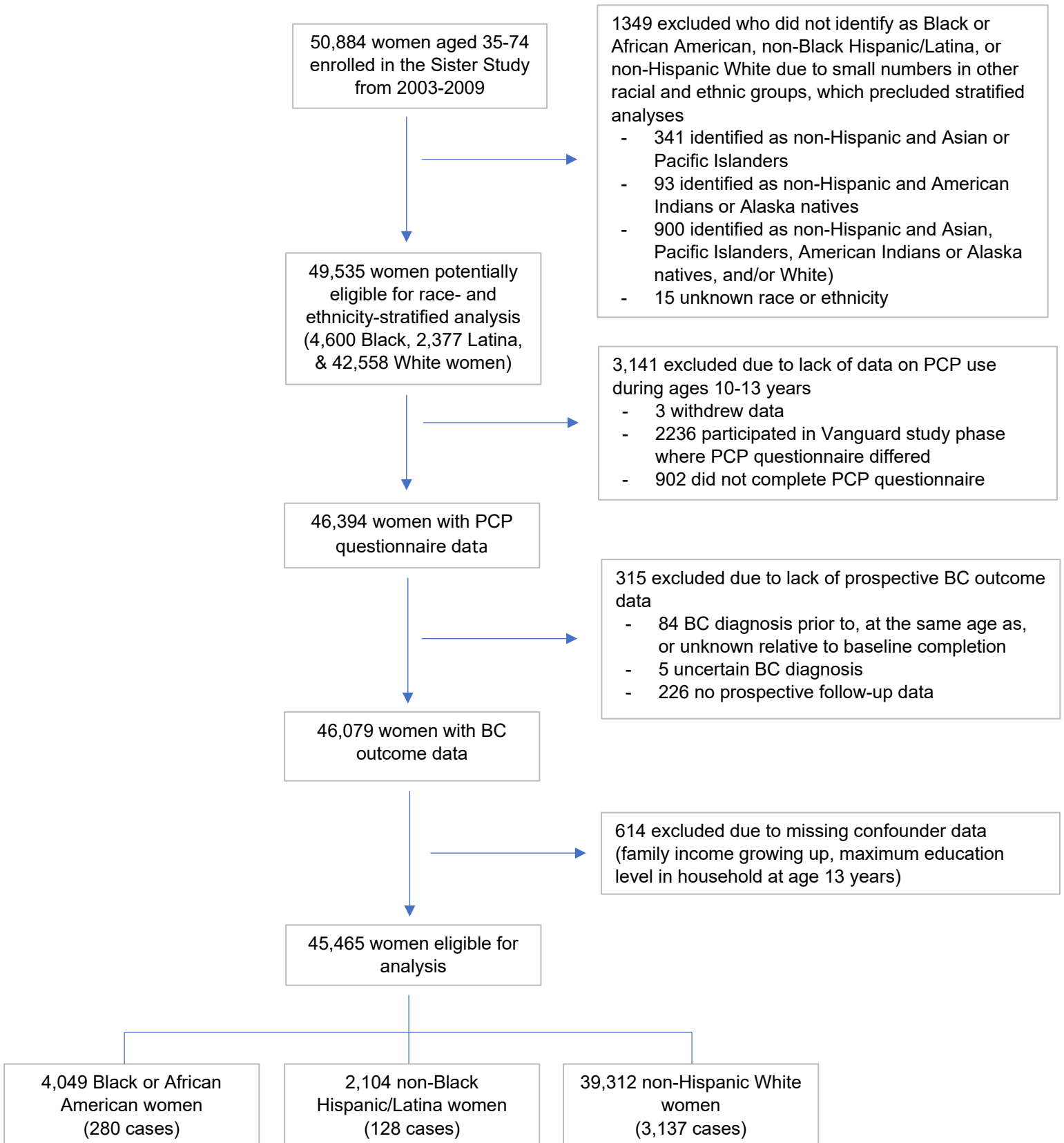
<sup>a</sup>Adjusted for birth cohort in ~10-year intervals, family income level growing up (well-off, middle income, low income, poor), and maximum household education level at age 13 (less than high school, high school graduate or equivalent, some college or technical school, 4-year degree or higher), plus age as the time scale

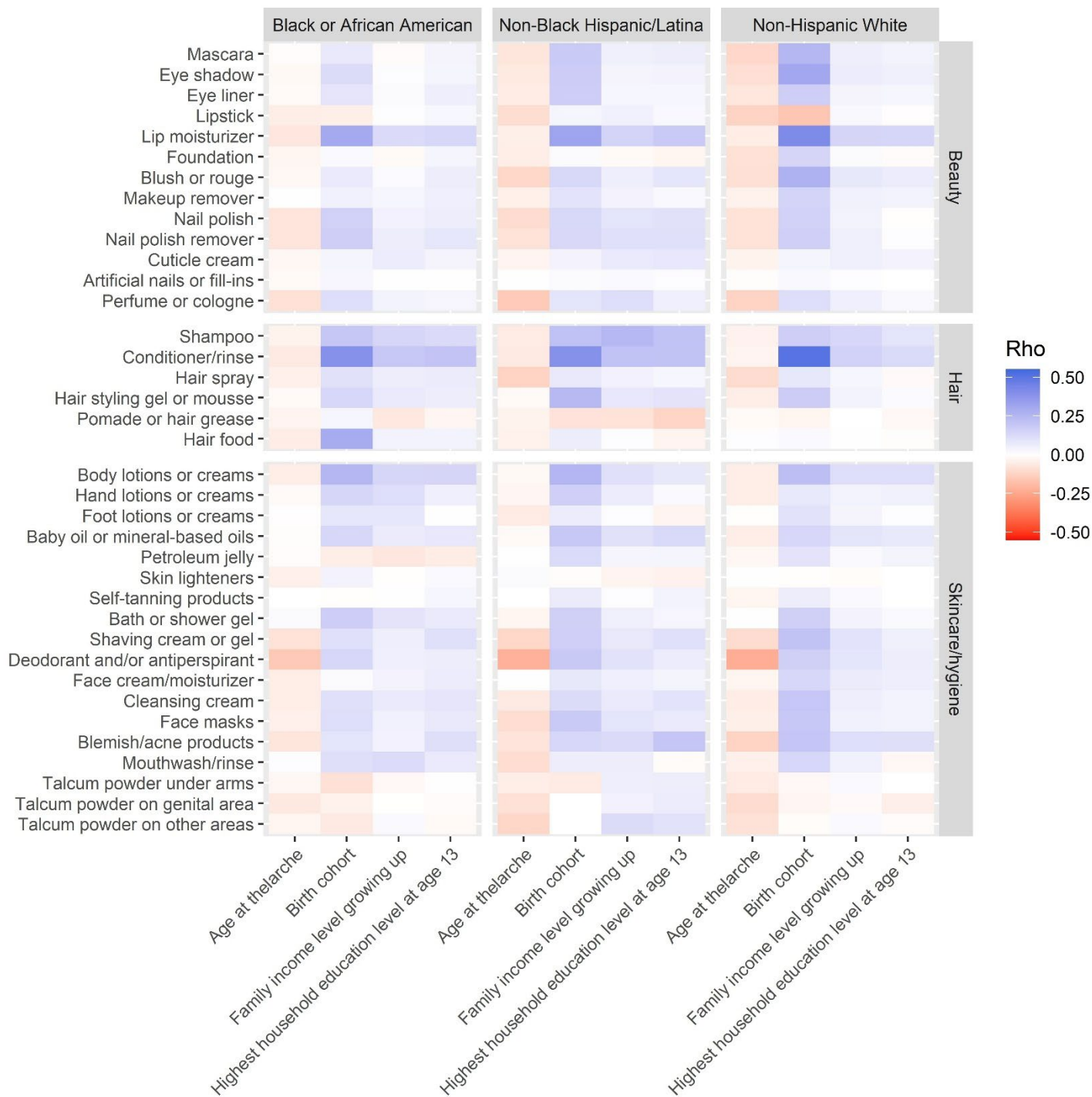
<sup>b</sup>Proportional hazards assumption violated for product use variable (p<0.05)

<sup>c</sup>Participants with missing data on the product of interest are excluded from respective single product model.

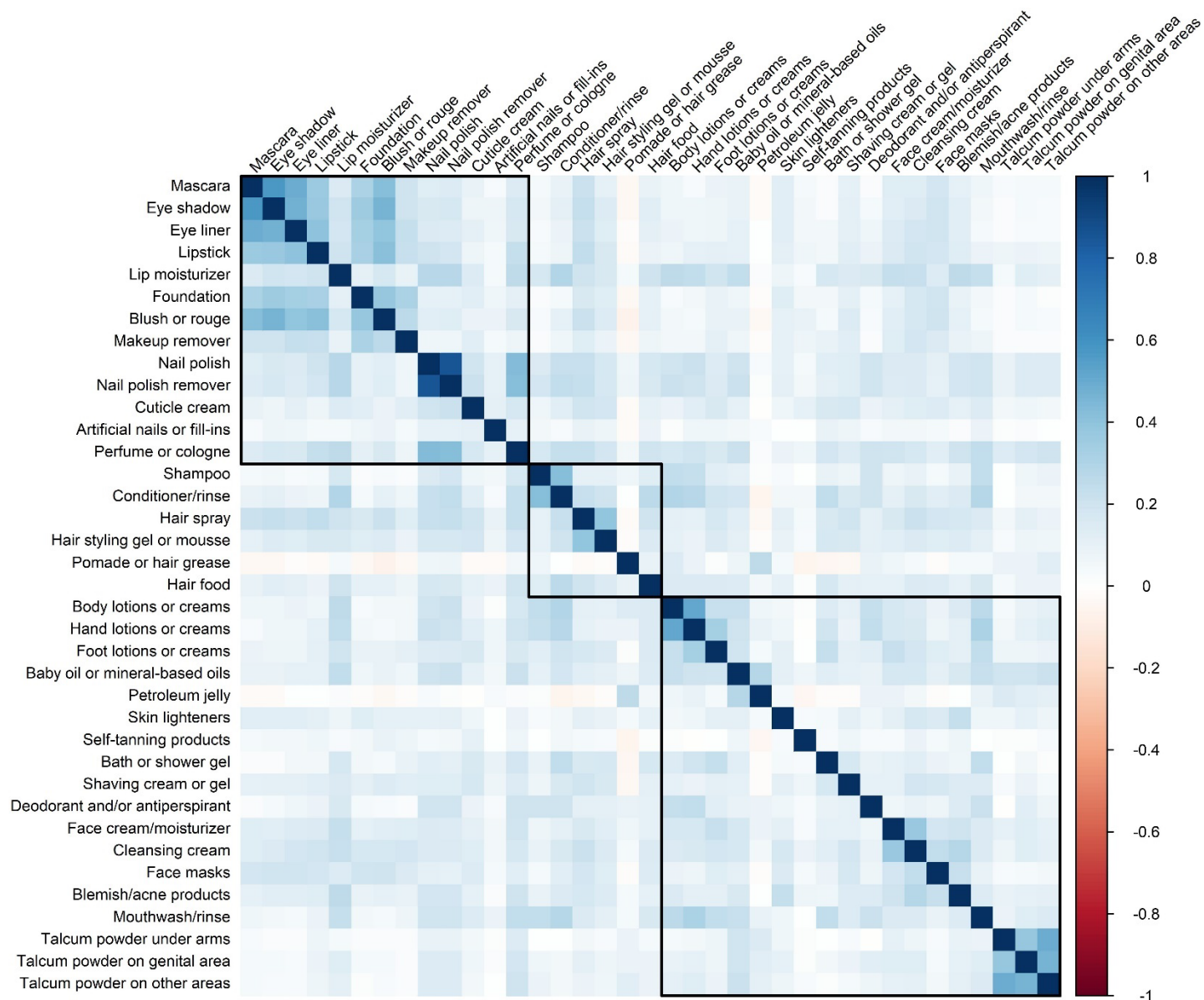
<sup>d</sup>We did not estimate associations for products with less than 5 exposed cases. To protect participant confidentiality, we do not report exact case numbers if less than 5.

**Figure S1. Flow chart of eligible Sister Study participants for this analysis**



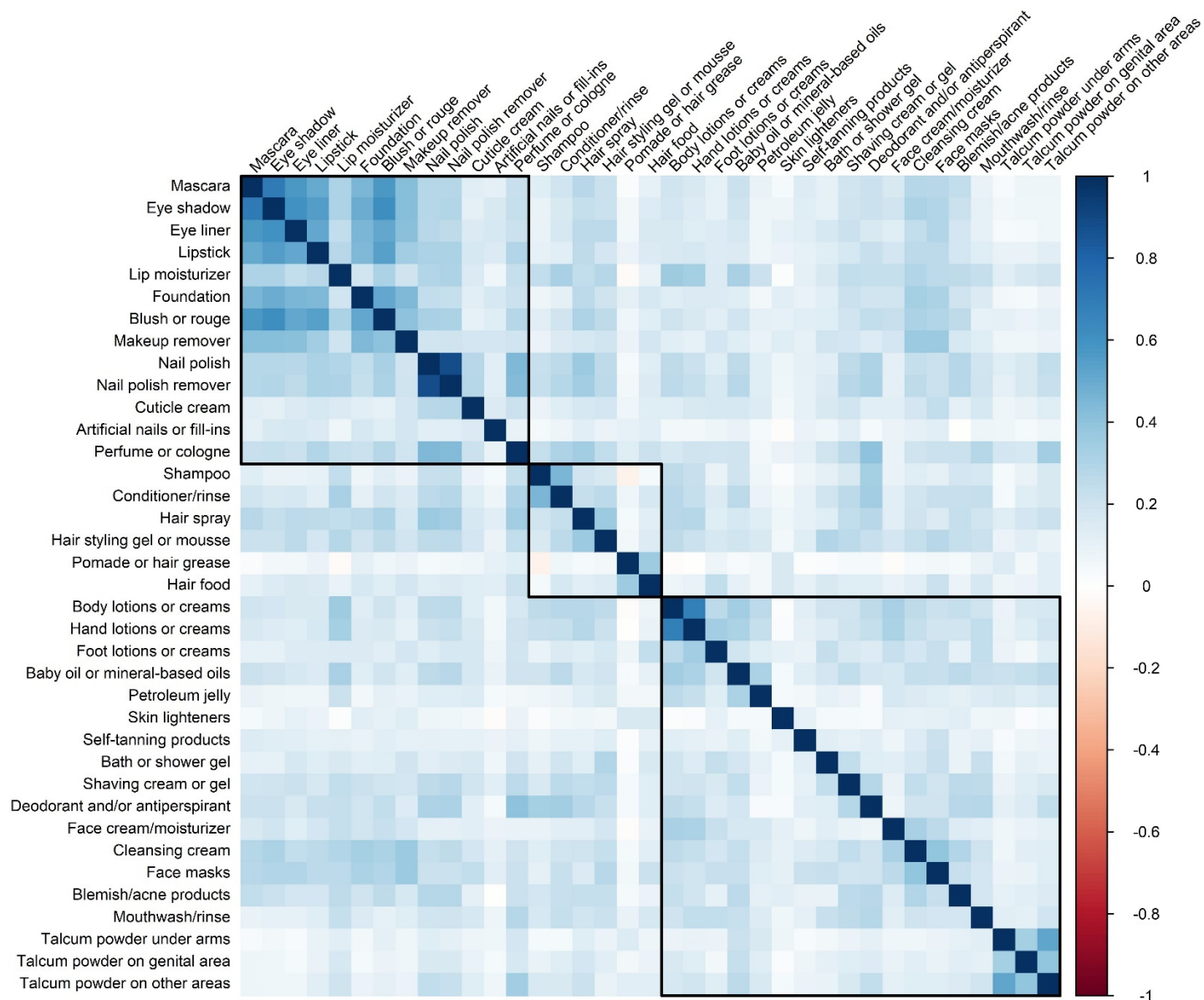


**Figure S2. Heatmap of Spearman correlation coefficients (rho) between self-reported frequency of personal care product use during the ages of 10 to 13 years and covariates by race and ethnicity in the Sister Study.** Product use frequency (did not use, sometimes used, frequently used) coded as an ordinal variable. Covariates are coded as follows: age at thelarche in years (continuous), birth cohort in ~10-year intervals (ordinal, higher values indicating later birth cohorts), family income level growing up (ordinal, higher values indicating higher income levels), highest household education level at age 13 (ordinal, higher values indicating higher education). Numeric data used to generate this figure can be found in Excel Table S1.

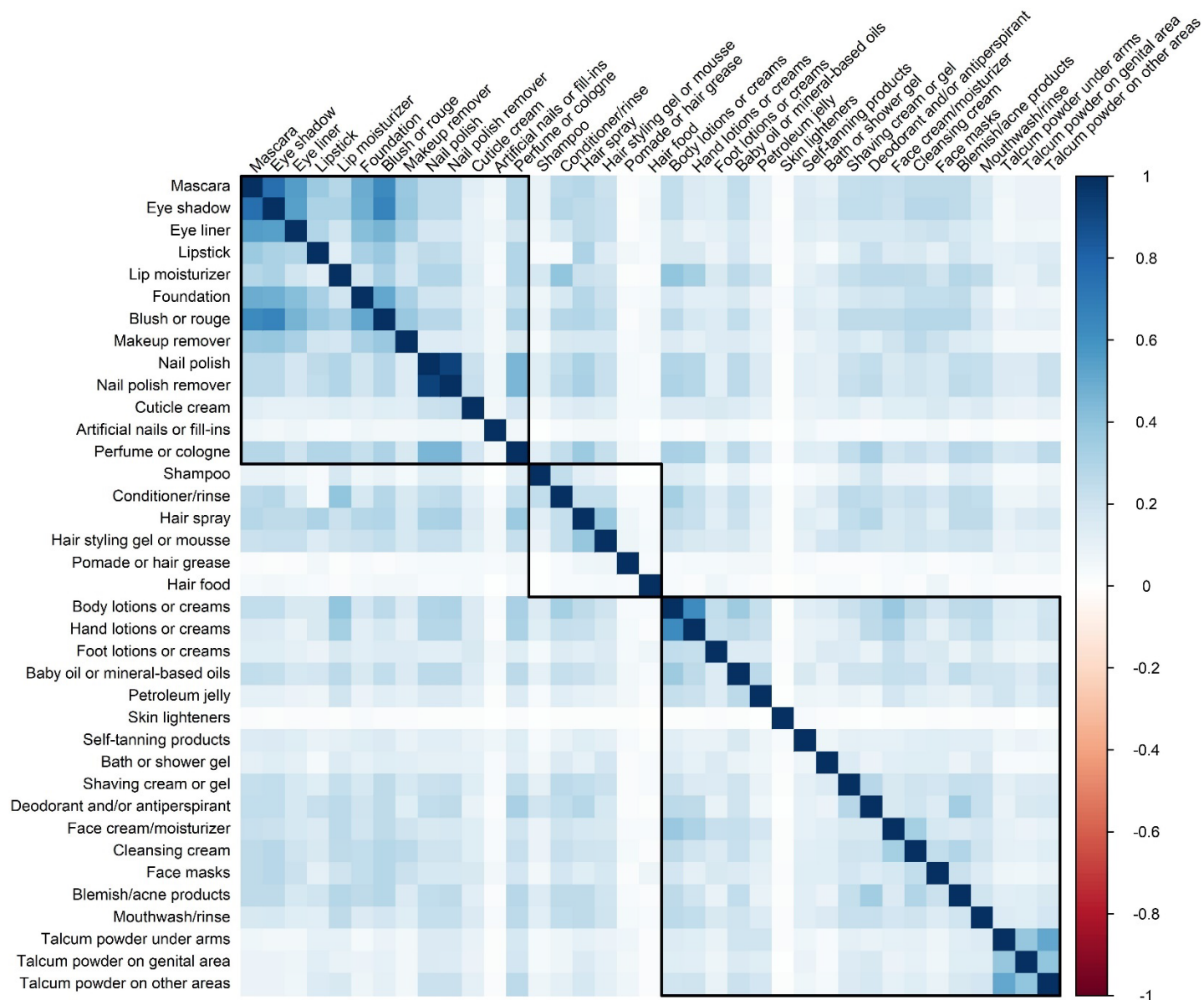


**Figure S3. Spearman correlation coefficient matrix for self-reported frequency of personal care product use during the ages of 10 to 13 years among Black or African American Sister Study participants (n=4,049).** Numeric data used to generate this figure can be found in Excel Table S2.

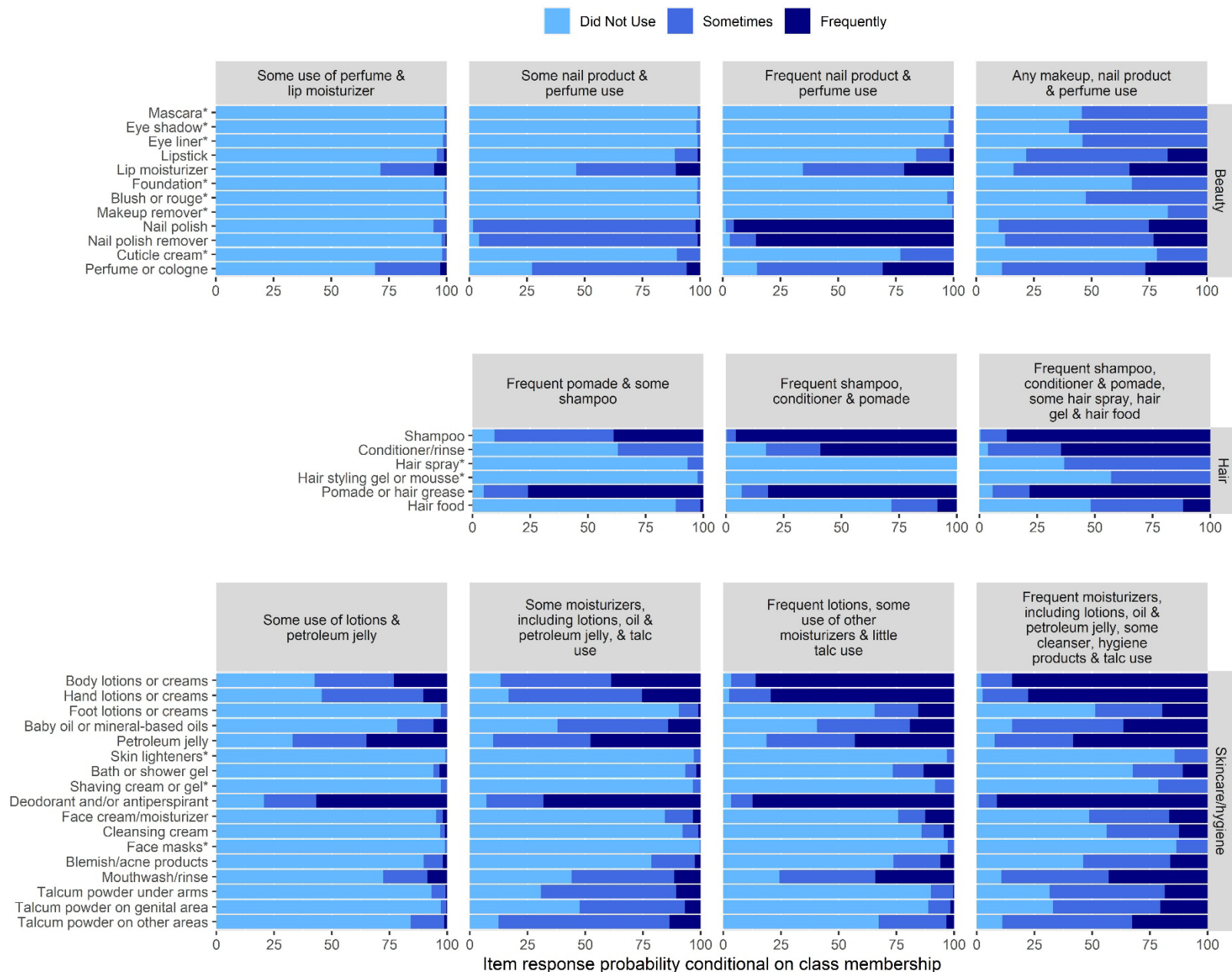




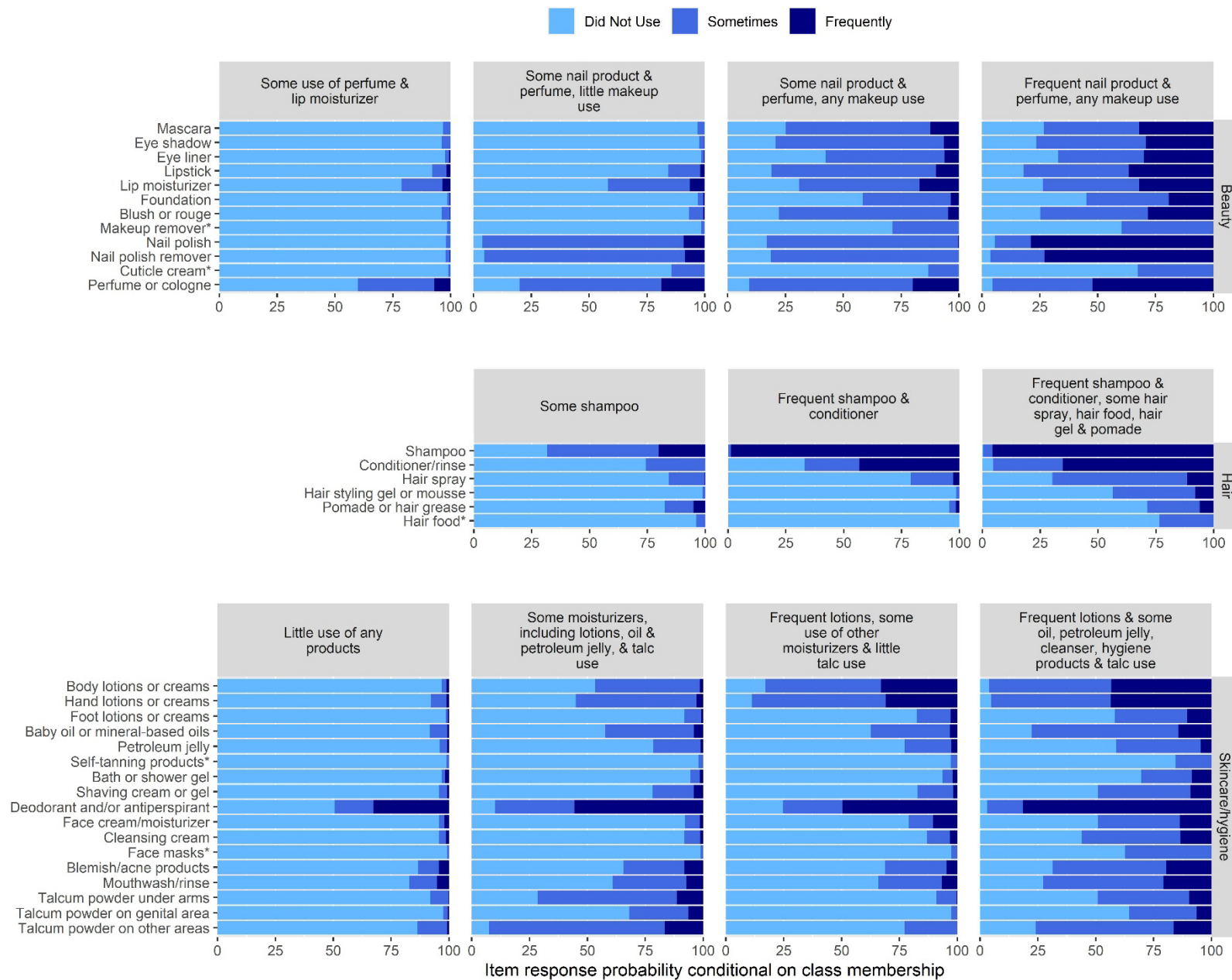
**Figure S4. Spearman correlation coefficient matrix for self-reported frequency of personal care product use during the ages of 10 to 13 years among non-Black Hispanic/Latina Sister Study participants (n=2,104).** Numeric data used to generate this figure can be found in Excel Table S3.



**Figure S5. Spearman correlation coefficient matrix for self-reported frequency of personal care product use during the ages of 10 to 13 years among non-Hispanic White Sister Study participants (n=39,312).** Numeric data used to generate this figure can be found in Excel Table S4.

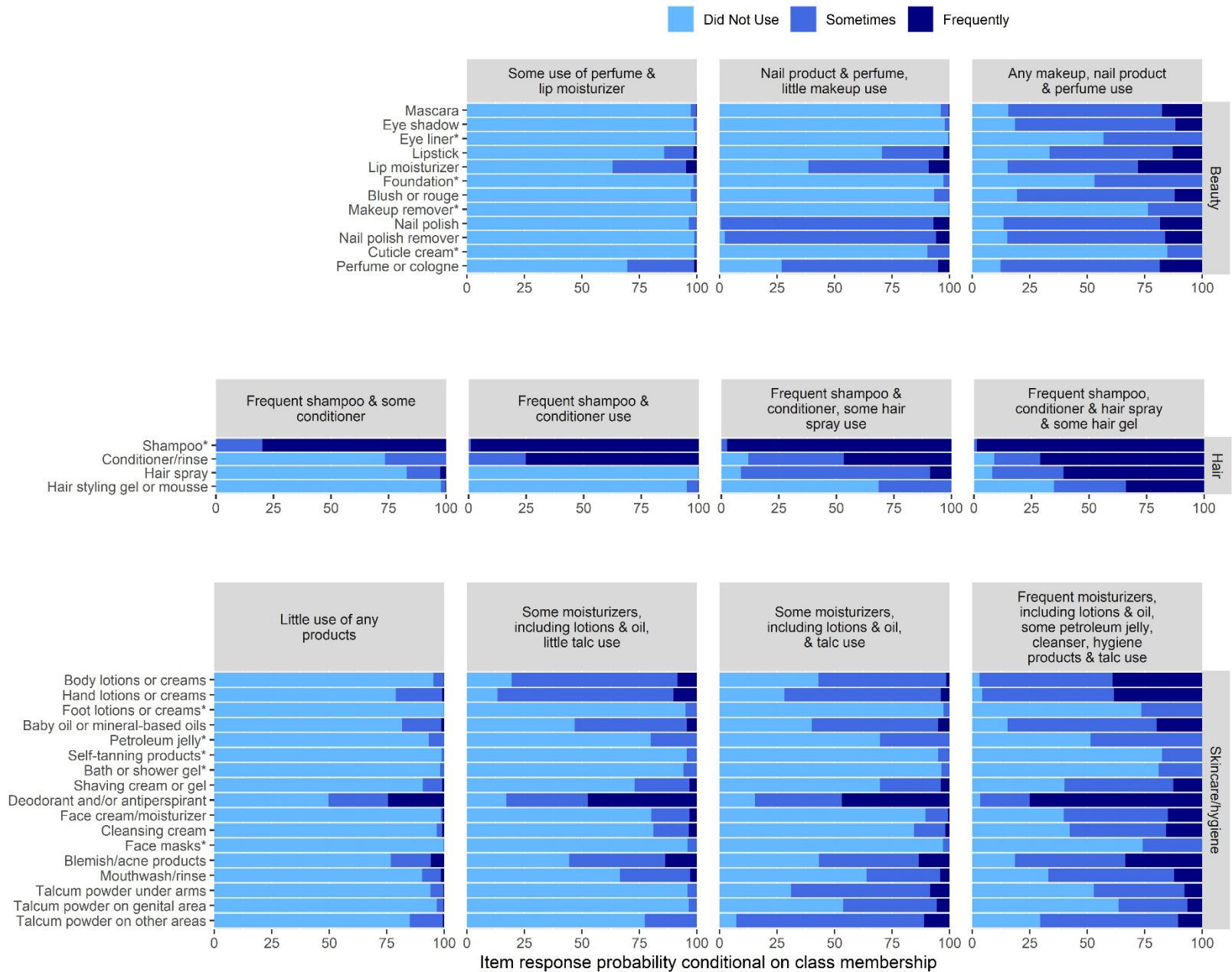


**Figure S6. Item response probabilities from selected latent class models of self-reported beauty, hair, and skincare/hygiene product use during the ages of 10 to 13 years among Black or African American Sister Study participants (n=4,049).** \* indicates 3-category product use variable was dichotomized for latent class analysis and response category labelled as “sometimes” in figure also includes “frequent” users (see Methods and Table S1 for more details). Numeric data used to generate this figure can be found in Excel Table S5.



**Figure S7. Item response probabilities from selected latent class models of self-reported beauty, hair, and skincare/hygiene product use during the ages of 10 to 13 years among non-Black Hispanic/Latina Sister Study participants (n=2,104).** \* indicates 3-category product use variable was dichotomized for latent class analysis and response category labelled as “sometimes” in figure also includes “frequent” users (see Methods and Table S1 for more details). Numeric data used to generate this figure can be found in Excel Table S6.





**Figure S8. Item response probabilities from selected latent class models of self-reported beauty, hair, and skincare/hygiene product use during the ages of 10 to 13 years among non-Hispanic White Sister Study participants (n=39,312).** \* indicates 3-category product use variable was dichotomized for latent class analysis and response category labelled as “sometimes” in figure also includes “frequent” users. For shampoo, “sometimes” category in figure includes those that did not use (see Methods and Table S1 for more details). Numeric data used to generate this figure can be found in Excel Table S7.