Supplementary Materials

Instructions for Target Subjects (Taken from, and kindly shared by, Haselton & Gildersleeve, 2011).

Scent Samples Task Instructions

Participant ID: _____

Next Lab Session - Date: _____ Time: _____

Important Tasks to Remember:

_____ Shower with unscented products (provided) ONLY, and then put on your scent samples pads. Do not use deodorant or antiperspirant. Avoid foods, behaviors, and environments that might alter your natural body odor. Wear the pads for the next 24 hours.

_____ Take off your scent pads at approximately the same time tomorrow that you put them on today. Do NOT shower with your scent pads on. Place your scent pads in the provided marked ziplocks.

Contents of Scent Samples Kit:

For showering before you put on your pads:

- 2 oz unscented shampoo
- 1 bar unscented Dove soap

For putting on your pads:

- 2 individually-wrapped, sterile 100% cotton gauze pads
- Johnson & Johnson "Hurt-Free" tape
- 2 marked ziplocks for storing your scent samples pads ("Right" and "Left")

It is extremely important to this research that we are able to collect a sample of your natural body odor. Therefore, we ask that you please DO NOT shave your underarms or use any kind of antiperspirant or deodorant the morning you put on your scent pads or at any time during the 24 hour period in which you wear the pads. When you're done, your pads should smell like you!

Once you have removed the pads (after 24 hours), please place them in the appropriate coded ziplocks (marked "Left" and "Right") and bring them with you to the lab where we will pay you for your participation. . Do not submit any gauze pads that have visible blood.

On the morning you put on the gauze pads and during the 24 hours you wear the gauze pads, please AVOID the following:

- Using scented soaps, **deodorant or antiperspirant**, fragrance (perfume/cologne), scented lotions or any other scented hygienic or cosmetic products. Instead, use the unscented soap, shampoo, and conditioner provided by us.
- Eating garlic, onion, chilies, pepperoni, pungent herbs or spices, strong cheeses (feta cheese, blue cheese), cabbage, celery, asparagus, yogurt, lamb, seafood, or other strongly scented foods.
- Drinking alcohol
- Smoking tobacco or using recreational drugs
- Engaging in sexual activity
- Sleeping in the same bed as a pet or another person
- Hanging out in rooms with strong odors (strong cooking smells, smoke, incense)

Post Target Check List:
Subject ID _____

Thank you for participating in our study. Please answer the following questions.

What did you eat between the time that you had the gauze pad applied and when you have it removed?

Did you use any products with fragrances in them in the past 24 hours (shampoo, perfume, conditioner, deodorant, massage oil)?

Were you around any strong aromas (cooking, candles)?

Did you exercise vigorously?

Did you smoke?

Did you drink alcohol?

Did you have sex?

Did you sleep in a bed with a pet or another person?

Were you in a particularly stressful situation for you?

Instructions for Evaluators:

We ask you to make some judgments about some physical characteristics of other subjects. After you have smelled a sample of this person's scent, please rate how you would evaluate this person. Please be sure to write down EXACTLY the ID code of the vial you are using. Circle 1 of the X's for each one without skipping. YOUR ID _____.

How attractive do you find this person?

X----------X----------X----------X----------X----------X----------X
Very Not at all

Table SI-1: Cross-tabulation of gender and ideology

Target Ideology			
Target Sex	Liberal	Conservative	Total
Female	5	6	11
Males	5	5	10
Total	10	11	21

Evaluator Ideology			
Evaluator Sex	Liberal	Conservative	Total
Female	49	17	66
Males	26	26	52
Total	75	43	118

Models using jackknife standard errors

	(1)	(2)	(3)
Same Ideology	0.0853		
	[0.0519]		
-Abs. Ideology Diff.		0.0206	0.0226
		[0.0143]	[0.0158]
Same Gender	-0.144	-0.143	-0.143
	[0.0499]	[0.0500]	[0.0529]
Conservative Eval.	-0.00557		
	[0.0540]		
Conservative Target	0.0196		
	[0.0523]		
Ideology of Eval.		-0.000919	
		[0.0139]	
Ideology of Target		0.00561	
		[0.0120]	
Male Evaluator	-0.0000277	0.000401	
	[0.0519]	[0.0522]	
Male Target	-0.0174	-0.0141	
	[0.0515]	[0.0527]	
Avg. Target Attract	0.999	1.001	
	[0.0422]	[0.0422]	
Avg. Eval. Attract	0.999	0.999	
	[0.0496]	[0.0496]	
Constant	-3.576	-3.506	3.290
	[0.225]	[0.228]	[0.252]
Observations	2195	2195	2195

Standard errors in brackets

To implement two-way clustering, we use the reclus_nway module for Stata provided by Kleinbaum, Stuart and Tushman (2013). We re-estimated the models in the main paper clustering at both the evaluator and target level. Test statistics for the ideology similarity variables were as follows: model 1: 1.5, model 2: 1.19, model 3: 1. The decline in test statistic

values is not surprising given our sample sizes. That is, with 2-way clustering if the number of clusters in each dimension is too small, as is the case with our targets, the estimates will be biased (Cameron, Gelbach and Miller 2011; Maas and Hox 2005). The theory underlying two-way clustering relies on asymptotics in the dimension containing fewer clusters. There is some disagreement on exactly how many clusters are needed to obtain reliable estimates; Wooldridge (2003, 135) for example claims that problems arise if the number of clusters is less than forty, while Arcenaux and Nickerson (2009, 182) state that the rule of thumb in the medical literature is about twenty clusters. In either case however, our target group of 20 produces too few clusters to be asymptotically valid (Thompson 2011).

More importantly, we emphasize that the structure of our design does not imply two way clustering. In principle, the bias from clustered data is a matter of unmodelled group-level error and clustering standard errors are typically used when the standard errors are correlated within groups but not across groups. These conditions do not apply to our study. Rather, targets were separately evaluated, randomly assigned, and interspersed with a cleansing odor.

Mixed Models

Analysis of repeated measures may require special attention to the covariance structure (McCulloch and Searle 2000). The overall variation in the data can be attributed to between subject variation (for the same target) and within subject variation (among different targets). Therefore one way in which ensure that the smell stimuli has a significant influence while addressing the concerns from a repeated measures experiment (20 different smell stimuli per target) is to rely on a type of regression model such as a general linear mixed model (mixed model), that takes into consideration variation that is not generalizable to the independent variables. This approach provides many benefits; two that are important for this study is that mixed models allow for the ability to model nonlinear, individual characteristics. The general linear mixed model models for group means as fixed effects while simultaneously modeling for individual subject variables as random effects. The mixed model is able to characterize individual behavior, that is, it naturally represents individual trajectories in a formal way. Specifically, the need for including covariance parameters arises when the units on which the data are measured can be grouped into clusters, and the data from a common cluster are correlated. In addition, including covariance parameters is necessary when repeated measurements are taken on the same experimental unit, and these repeated measurements are correlated. Thus, many consider it a natural choice for analyzing experimental data. Second, mixed models rely on maximum likelihood estimation and not listwise deletion for missing data. We use a repeated measures design, since there are 20 observations per subject, and we assume that the set of 20 residual errors for each subject is a sample from this multi-dimensional normal distribution with a first-order autoregressive covariance matrix. Residual errors within each

subject are correlated, but are independent across subjects. We use SAS 9.2 MIXED procedure (SAS 1999; Singer 1998), and maximum likelihood to estimate the covariance matrix.

We explore two models using this procedure, but note any number of models depending upon what the researcher wishes to test may be used. In the mixed model, the variation between subjects is specified by random, and within by repeated. Fixed effects can be considered the independent variables the researcher believes is predicting the trait of interest and random effects are the variables that are specific to the data sample. Random effect sets up a common correlation among all observations having the same level of the trait included.

Model 1: Regress the raw attraction score on the difference between target and evaluator ideology and difference between target and evaluator sex. Random effects were estimated for the evaluator's ID, target ID, evaluator's ideology, target ideology, evaluator sex, target sex, interaction between evaluator sex and target sex and interaction between evaluator's ideology and target ideology. The evaluators and targets are classification variables, where dummy variables are created for created for all distinct levels of the class items.

Fit Statistics	
-2 Log Likelihood	7219.0
AIC (smaller is better)	7235.0
AICC (smaller is better)	7235.1
BIC (smaller is better)	7257.2

Solution for Fixed Effects

Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	3.8443	0.1995	104	19.27	<.0001
Difference in Ideology	-0.009827	0.005966	2068	-1.65	0.0997
Difference in Sex	-0.1964	0.1085	2068	-1.81	0.0704

In this model, both the difference between target and evaluator ideology and difference between target and evaluator sex are significant predictors ($p < .10$) of the evaluator finding the body odor of the target attractive.

Model 2: Regress the raw attraction score on the interaction between evaluator sex and target sex and interaction between evaluator's ideology and target ideology. Random effects were estimated for the evaluator's ID, target ID, evaluator's ideology, target ideology, evaluator sex, and target sex. The evaluators and targets are classification variables, where dummy variables are created for created for all distinct levels of the class items.

Fit Statistics	
-2 Log Likelihood	7271.8
AIC (smaller is better)	7285.8
AICC (smaller is better)	7285.9
BIC (smaller is better)	7305.3

Solution for Fixed Effects

Effect	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept	3.3267	0.1675	105	19.86	<.0001
EvalIdeo*TargetIdeo	0.009665	0.004448	2087	2.17	0.0299
EvalSex*TargetSex	0.2134	0.08443	2087	2.53	0.0116

In this model, both the interaction between evaluator sex and target sex and interaction between evaluator's ideology and target ideology are significant predictors of the evaluator finding the body odor of the target attractive.

References

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