SUPPLEMENTARY MATERIALS

to

Disgust as a Mechanism of Decision Making Under Risk

Table of Contents

Study 2 Scale Validation

In Study 2, we employed the pathogen disgust measure introduced by Curtis et al. (2004). This measure uses seven matched pairs of images. Each pair consists of a pathogen-relevant stimulus and a similar, but pathogen-irrelevant stimuli. Replicating Curtis et al (2004), we found that for each pair, the pathogen-relevant image was rated as more disgusting (Table S1). Thus in the main text, our analyses were based on a composite of the ratings of the pathogen-relevant images.

Table S1.

Paired t tests of disgust items

	Raw effect	*p* value	*df*
pair a	1.62	3.18E-66	469
pair b	1.46	2.29E-68	470
pair c	0.44	2.32E-22	469
pair d	2.92	2.99E-138	467
pair e	1.55	9.51E-85	468
pair f	0.51	3.54E-09	466
pair g	1.66	1.41E-56	471

Note: Raw effect is difference (on 7-point scale) in disgust rating for pathogen-relevant and paired pathogen-irrelevant image. Pairs are labeled as in Curtis et al. (1994). *p* values and degrees of freedom (*df*) are from directional Welsh's *t* tests.

Harm Avoidance Items

Below are the lists of items used in each study.

Study 1

Please rate how often, in your daily life, you tend to do the following

[1 = *Very Rarely or Never*; 5 = *Extremely Often*]

1. Ride in a car without using a seatbelt

2. Check that the door is locked before going to bed

3. Jaywalk in light traffic

Study 2

1. You are going to drive a short distance through a residential neighborhood. The drive will take 3 minutes and your speed will be under 25 mph. Would you use your seatbelt? (Assume the car does not automatically make an annoying noise that stops when the seatbelt is buckled.)

   [1 = *Definitely not use seatbelt*; 5 = *Definitely would use seatbelt*]

1a. Do you have a driver's license?

2. You are spending three months away from home in a large city for a special opportunity (e.g. temporary project for your employer, taking courses towards a degree). The city has some crime problems, but the apartment building where you are living seems fairly safe. Some of your neighbors lock their doors when they leave, and some do not. How often would you lock your door?

   [1 = *never lock door*; 5 = *always lock door*]

3.   While staying in the large city (as above), your daily commute is a walk from your apartment to work/class. It takes 15 minutes if you walk through a poorer neighborhood, or 30 minutes to take a longer route through a wealthier neighborhood. How often would you take the longer route?

[1 = *never take the long route*; 5 = *always take the long route*]

4.   You accept a new job that offers you an increased income and the option to buy elite health insurance that will give you access to the best medical care available at a reasonable market price. If you decline the elite insurance, your new income will be 50% more than your current income. If you accept the elite insurance, your new income will be 40% more than your current income. How likely are you to accept the elite insurance?

[1 = *would definitely decline*; 5 = *would definitely accept*]

5.   Do you try to keep emergency supplies on hand? Examples include

- first aid kits in your home, car, office, athletic bags, camping gear, etc.
- fire extinguishers in home, office, etc.
- water, blankets, jumper cables in your vehicle
- matches, candles, batteries, etc in places where electrical power might be disrupted
- other supplies specific to your location/situation

[1 = *I always try to keep emergency supplies*; 5 = *I never try to keep emergency supplies*]

6.   Some people wear helmets when they ride a bike; others don't. Even if you don't ever ride a bike, would you say that you are a helmet person or a no-helmet person?

[1 = *definitely no helmet*; 5 = *definitely helmet*]

7.   A nearby pharmacy is offering free flu shots. It will take you about 30 minutes to go get a shot. You're busy but you could rearrange your schedule without major problems. Would you go get the flu shot?

[1 = *definitely would not*; 5 = *definitely would*]

8.   Today you hear that a few people became ill last week after eating at your favorite restaurant. You call the restaurant to ask about the situation, but you only get the standard recorded message stating the usual hours of operation. You had made plans to eat there tonight. Would you cancel your plans?

[1 = *definitely would not cancel*; 5 = *definitely would cancel*]

9.   Yesterday there was a violent terrorist attack at an entertainment event (e.g., sports match, music concert) in a large European city, killing 30 people and injuring many more. The group that organized the attack claims it will soon attack more events, including in the U.S. Today you happen to win a raffle for free tickets to a big event next weekend that you think you'd enjoy. Would you go to the event?

[1 = *definitely would not go*; 5 = *definitely would go*]

10.   Some people put a lot of effort into learning about healthy eating. For example,

        they read articles and books on the subject, or they consult with experts (e.g.,

        medical doctors, professors, etc.), or they keep careful records of their own eating.

        Other people put their efforts into other things and don't go out of their way to

        learn about healthy eating. Do you put much effort into learning about healthy

        eating?

        [1 = *definitely do not*; 5 = *definitely do*]

11.   New neighbors move in next door to you. Every morning, they let out their dog, a

        pit bull, into their front yard. You've read that pit bulls can be dangerous, but they

        say that their dog is friendly. The dog pokes his nose through the fence as you

        walk by. Would you reach your hand over the fence and pat his head?

        [1 = *definitely not*; 5 = *definitely yes*]

11a.   Would you pat a dog with a friendlier reputation, like a golden retriever?

        [1 = *definitely not*; 5 = *definitely yes*]

Supplemental Analyses

As reported in the main text, our harm avoidance scales showed low internal reliability.

We nevertheless reported analyses based on composites of these scales and interpreted the results

with caution. For completeness, we report item-by-item analyses here that correspond to the

scale-based analyses in the main text.

Table S2 shows a trend towards more female harm avoidance in both studies, consistent

with our hypotheses. Tables S3 and S4 reports item-by-item correlations between harm

avoidance items and our risk and disgust measures. Many of the items significantly correlate as expected, and no correlations are significantly reversed from our predictions. We also predicted that the harm avoidance correlations with disgust would be stronger than the correlations between risk and disgust. This hypothesis was not supported. On an item-by-item basis, some of the harm avoidance correlations with disgust are of a similar magnitude to the risk-disgust correlations.

Table S2

Trends towards more female harm avoidance

		95% CI	
item	*d*	LL	UL
Study 1			
lock door	0.17	0.04	0.29
jaywalk	0.16	0.03	0.29
seatbelt	0.12	0.00	0.25
Study 2			
skip event	0.23	0.05	0.41
healthy eating	0.17	-0.01	0.36
elite insurance	0.17	-0.01	0.35
long route	0.16	-0.02	0.34
cancel dinner	0.13	-0.05	0.31
emergency			
supplies	0.10	-0.09	0.28
seatbelt	0.06	-0.13	0.24
bike helmet	0.06	-0.13	0.24
pitbull	0.03	-0.16	0.21
lock doors	-0.02	-0.20	0.16
flu shot	-0.14	-0.32	0.05

Note: LL: Lower limit; UL: Upper limit Positive d indicates greater female harm avoidance.

Table S3

Study 1 Correlations between Harm Avoidance Items, Risk Propensity, and Disgust

Item	df	DOSPERT r	DOSPERT p	TDDS-Sexual r	TDDS-Sexual p	TDDS-Moral r	TDDS-Moral p	TDDS-Pathogen r	TDDS-Pathogen p
jaywalk	938	-0.33	<0.00001	0.18	<0.00001	0.07	0.01495	0.06	0.03394
seatbelt lock	939	-0.29	<0.00001	0.08	0.00846	0.07	0.01174	0.02	0.22910
door	938	-0.17	<0.00001	0.07	0.02128	0.05	0.06962	0.09	0.00178

Note: TDDS: Three domain disgust sensitivity (Tybur et al., 2009); DOSPERT: Domain Specific

Risk Taking Scale (Blais & Weber, 2006; Weber et al., 2002).

Table S4

Study 2 Correlations between Harm Avoidance Items, Risk Propensity, and Disgust

item	df	DOSPERT		TDDS-Sexual		TDDS-Moral		TDDS-Pathogen		Curtis Pathogen	
		r	p	r	p	r	p	r	p	r	p
seatbelt	467	-0.26	<0.00001	0.01	0.43744	0.10	0.01593	-0.02	0.68548	-0.05	0.84337
skip event	470	-0.25	<0.00001	0.28	0.00000	0.04	0.18623	0.26	<0.00001	0.23	<0.00001
pet pitbull	471	-0.25	<0.00001	0.23	0.00000	0.10	0.01471	0.19	0.00002	0.12	0.00517
cancel dinner	470	-0.16	0.00023	0.20	0.00001	0.15	0.00079	0.34	<0.00001	0.24	<0.00001
lock doors	471	-0.15	0.00048	-0.05	0.84546	0.05	0.16197	0.08	0.05075	0.01	0.40106
bike helmet	470	-0.14	0.00080	0.10	0.01833	0.09	0.02977	0.00	0.47666	0.06	0.10939
long route	470	-0.12	0.00483	0.17	0.00009	0.11	0.00634	0.23	<0.00001	0.16	0.00027
flu shot emergency	470	-0.09	0.02785	0.01	0.41635	0.10	0.01548	0.07	0.06645	0.06	0.08715
supplies	470	-0.02	0.36575	0.04	0.21667	0.10	0.01951	0.10	0.01196	0.06	0.11310
healthy eating	469	0.04	0.77711	0.08	0.03967	0.13	0.00239	0.05	0.12527	0.12	0.00454
elite insurance	471	0.05	0.87912	0.01	0.39736	0.00	0.51052	0.07	0.07364	-0.01	0.54800

Note: TDDS: Three domain disgust sensitivity (Tybur et al., 2009); DOSPERT: Domain Specific

Risk Taking Scale (Blais & Weber, 2006; Weber et al., 2002); Curtis Pathogen scale (Curtis et

al., 2004).

Finally, in the main text we reported observed correlations between disgust measures and the DOSPERT and between disgust measures and harm avoidance. Tables S5 and S6 show the same correlations within each sex. The patterns of correlations are similar for men and women, indicating that the overall correlations are not simply caused by sex differences.

Table S5

Sex –split correlations between measures of disgust and risk propensity

	Study 1				Study 2		
		95% CI				95% CI	
WOMEN	*r*	LL	UL	*r*	LL	UL	
TDDS index	-0.28	-0.37	-0.18	-0.31	-0.42	-0.18	
sexual	-0.31	-0.39	-0.22	-0.34	-0.44	-0.22	
moral	-0.20	-0.30	-0.11	-0.20	-0.32	-0.07	
pathogen	-0.13	-0.23	-0.03	-0.18	-0.31	-0.03	
Curtis							
Pathogen				-0.13	-0.25	0.00	
MEN							
TDDS index	-0.20	-0.28	-0.10	-0.13	-0.26	0.01	
sexual	-0.23	-0.30	-0.14	-0.12	-0.26	0.02	
moral	-0.12	-0.20	-0.02	-0.10	-0.22	0.02	
pathogen	-0.11	-0.20	-0.02	-0.05	-0.18	0.07	
Curtis							
Pathogen				0.00	-0.12	0.12	

Note: TDDS: Three domain disgust sensitivity (Tybur et al., 2009); DOSPERT: Domain Specific Risk Taking Scale (Blais & Weber, 2006; Weber et al., 2002); Curtis Pathogen scale (Curtis et al., 2004).

Table S6

Sex –split correlations between measures of disgust and harm avoidance

	Study 1			Study 2		
		95% CI			95% CI	
WOMEN	*r*	LL	UL	*r*	LL	UL
TDDS index	0.17	0.08	0.27	0.33	0.22	0.44
sexual	0.19	0.10	0.28	0.23	0.10	0.35
moral	0.12	0.03	0.21	0.24	0.12	0.35
pathogen	0.09	-0.01	0.20	0.29	0.17	0.41
Curtis						
Pathogen				0.26	0.14	0.38
MEN						
TDDS index	0.10	0.01	0.17	0.31	0.20	0.43
sexual	0.09	-0.01	0.18	0.21	0.09	0.35
moral	0.07	-0.02	0.14	0.18	0.04	0.32
pathogen	0.06	-0.02	0.14	0.32	0.18	0.44
Curtis						
Pathogen				0.19	0.05	0.33

Note: TDDS: Three domain disgust sensitivity (Tybur et al., 2009); Curtis Pathogen scale (Curtis et al., 2004).

References

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