

Online Appendix to:

The Psychophysiology of Political Ideology: Replications, Reanalysis and Recommendations

Content

1 Meta-analysis	2
1A Full list of research articles in the meta-analysis	2
1B Dependent Measures: Political Ideology	6
1C Independent Measures Images and Psychophysiology	11
1D Meta-Analytical Results	14
2 Laboratory Studies: Denmark and the United States	18
2A General methods	18
2B Dependent Measures	19
2C Independent Measures	21
2D Main Results – Electrodermal Activity and Ideology	25
2E Main Results – Self-report Laboratory Data and Ideology	28
3 Survey Study: Denmark	32
3A Sample Characteristics	32
3B Dependent Measures	32
3C Independent Measures	33
3D Self-Reported Survey Data and Political Ideology	38
4 Main Results – EDA Responses X Self-Reported Reactions	45
4A EDA Responses X Self-Reported Reactions: Laboratory Data	45
4B EDA Responses X Self-Reported Reactions: Survey Data	50
5 Additional analyses	60
5A Area-under-the-Curve	60
5A.1 Area-under-the-Curve: Tonic vs phasic signal	70
5B EMG	73
5C Participants with strong political convictions	78
5D Re-coding of Data From the Danish Laboratory Experiment	82
5E Neutral Images as Baseline	84
5F Analyses with three alternative measures of political ideology	86
5G Random effects analysis	89
References	93

1 Meta-analysis

1A Full list of research articles in the meta-analysis

Assembling studies. To produce the list of relevant studies, we sought all published articles that included data with relevance for the association between skin conductance reactions to negative images, on the one hand, and political attitude variables, on the other, among lay individuals. We focus on published studies because we aim to provide a systematic overview of the publicly available evidence for a link between electrodermal activity (EDA) responses when viewing negative images and political ideology.

To retrieve the list of published studies, we combined manual searches with computer-assisted searches. Based on our own knowledge of the literature and through informal contact with authors within this field of research, we created a start list of potentially relevant studies. We complemented our own list with a Google Scholar search for all studies that cited the original Oxley et al. (2008) article, and included combinations of the words “physiology,” “skin conductance,” “electrodermal activity,” and “political.” Based on our list and the Google Scholar hits that matched our search criteria, we ended up with a final sample seven studies published between 2008 and 2017. After identifying all the relevant papers, we then sought out replication materials by emailing the corresponding authors of the papers. See the table below for an overview of the studies.¹

¹ A number of additional studies within political science use physiological measures. We do not include these studies here, either because they rely on data from some of the sources we already include in our meta-analysis (i.e., Balzer and Jacobs 2011; Gruszczynski *et al.* 2013), or because they measure physiological reactions to other types of stimuli than negative images (i.e., Renshon *et al.* 2014; Wagner *et al.* 2014)

1. Aarøe, L., Petersen, M., & Arceneaux, K. (2017). The Behavioral Immune System Shapes Political Intuitions: Why and How Individual Differences in Disgust Sensitivity Underlie Opposition to Immigration. *American Political Science Review*, 111(2), 277-294.
2. Coe, C., Canelo, K., Vue, K., Hibbing, M., & Nicholson, S. (2017). The Physiology of Framing Effects: Threat Sensitivity and the Persuasiveness of Political Arguments. *The Journal of Politics*, 79(4), 1465-1468.
3. Dodd, M., Balzer, A., Jacobs, C., Gruszczynski, M., Smith, K., & Hibbing, J. (2012). The political left rolls with the good and the political right confronts the bad: connecting physiology and cognition to preferences. *Phil. Trans. R. Soc. B*, 367, 640–649.
4. Knoll, B., O’Daniel, T., & Cusato, B. (2015). Physiological responses and political behavior: Three reproductions using a novel dataset. *Research and Politics*, 1-6
5. Oxley, D., Smith, K., Alford, J., Hibbing, M., & Miller, J. (2008). Political Attitudes Vary with Physiological Traits. *Science* 321(5896), 1667-1670
6. Petersen, M., Giessing, A., & Nielsen, J. (2015). Physiological Responses and Partisan Bias: Beyond Self-Reported Measures of Party Identification. *PLoS ONE* 10(5), e0126922
7. Smith, K., Oxley, D., Hibbing, M., Alford, J., & Hibbing, J. (2011). Disgust Sensitivity and the Neurophysiology of Left-Right Political Orientations. *PLoS ONE* 6(10), e25552

Participants and locations. Three of the seven studies took place at University of Lincoln-Nebraska, Lincoln, US, and two of them (Oxley et al. 2008; Dodd et al. 2012) relied on the same data set. The exceptions were Coe *et al.* (2017), who ran a laboratory study at University of California, Merced, Knoll *et al.* (2015), who conducted a study at Centre College in a south region of the United States, and Aarøe *et al.* (2017) and Petersen *et al.* (2015), both of whom conducted studies outside the US, at Aarhus University in Denmark. In terms of sample sizes, six of the studies included between 42-64 participants in their final samples. The exception was Coe *et al.* (2017) who recovered physiological readings from 182 participants. Four of the studies (Aarøe *et al.* 2017; Coe *et al.* 2017; Knoll *et al.* 2015; Petersen *et al.* 2015) studied university students, while the final three studies from Nebraska relied on two random samples of residents from Lincoln, Nebraska, with “strong political convictions.”

Types of negative images. The majority of images used in the studies came from the International Affective Picture System (IAPS), a large database that pretest and rate valence of various images. All studies included a longer list of both positive, neutral, and negative images (> 30 images in

each of the studies), but the primary focus in all studies was on the subset of images that had been pre-rated as negative. (For details on the images, see section 1B and 1C below.) Two of the studies – Aarøe *et al.* (2017) and Smith *et al.* (2012) – focused on negative images that were strongly associated with the emotion of *disgust* (six and three images, respectively).²³ Coe *et al.* (2017), Knoll *et al.* (2015) and Oxley *et al.* (2008) focused on negative images that were “threatening,” (six, six and three images, respectively). Finally, Dodd *et al.* (2012) included four negative images that either evoked anger, fear or disgust, out of which two were also part of the Oxley *et al.* (2008) analysis. Finally, Petersen *et al.* (2012) selected two images that were negative, but did not relate their images to specific negative emotions.

Procedure. All studies followed a similar template. In all labs, participants took place in front of a computer and had physiological equipment attached to them. They then saw the negative images interspersed among the longer sequences of images. Some of the studies randomized the order of the images once, and then presented the same order to all participants. Other studies randomized the image order for each participant. Depending on the study, participants saw each image for 10-20s. Between images, they viewed a blank screen with a cross-hair in the middle for 10s. This “Inter-Stimulus Interval” (ISI) ensures that skin conductance reactions return to baseline levels before presentation of a new image (Figner & Murphy 2011). In six of the seven studies, subjects viewed the stimuli on computers in isolated rooms. The exception was Knoll *et al.* (2015), where participants were tested in groups of 15-20 in a classroom, and where the stimuli was presented in a timed PowerPoint presentation.

Analytical strategies. There are several approaches to estimate changes in skin conductance levels (SCLs) in response to a stimulus. Knoll *et al.* (2015), Oxley *et al.* (2008), Smith *et al.* (2012), and Coe *et al.* (2017) used the same “log-and-subtract” approach to correct for between-subject baseline variations in skin conductance reactions. They first measured the change in (logged) SCL from that registered during the previous ISI to that recorded over the period that participants watched the stimuli

² Aarøe *et al.* (2017) distinguished between highly disgusting and mildly disgusting images. Here, we focus primarily on images high in disgust.

³ Smith *et al.* (2011) included a total 5 images intended to elicit disgust. But a factor analysis revealed that only three of them loaded on the same factor, and they therefore excluded the two images that did not load well on that factor.

image. They then combined the changes for all the negative images to produce an overall mean SCL response. Dodd *et al.* (2012) follows a similar approach, but measure SCLs for each negative image as the proportion of the SCL recorded while the participant viewed the ISI prior to the image. Finally, Aarøe *et al.* (2017) and Petersen *et al.* (2012) follow a recent recommendation (Figner & Murphy 2011, 167) and calculate the area bounded by a curve, measured between 1 s after stimulus onset to stimuli offset. Because this approach does not rely on ISIs to correct for baseline variations in SCL, the datasets that we recovered from these authors did not include ISI measures. As we discuss in the main text, this limited in some instances the types of analyses we could conduct.

1B Dependent Measures: Political Ideology

In this section, we discuss for each of the seven papers how we operationalized the different political ideology measures used in the meta-analysis. As we discuss in the main text, the studies had different objectives and not all of them examined as their main analysis the relationship between physiological reactions and political conservatism. For some of the studies, we thus had to construct the ideology measures ourselves, based on the available survey questions. We group ideology measures into four categories: Left-Right Self-Placement, Social Conservatism Scale, Economic Conservatism Scale and Wilson-Patterson Social and Economic Issue Batteries. In Table 1B.a, we present an overview of the ideology measures from the different articles. In the following section, we describe them in more detail.

Table 1B.a List of political ideology measures used in the meta-analysis.

Articles	Political ideology measure	Response scale
Aarøe <i>et al.</i> 2017	Social Conservatism Scale (7 items)	0 = Strongly Disagree; 6 = Strongly Agree
Aarøe <i>et al.</i> 2017	Left-Right Self-Placement (1 item)	1 = Extremely Left-Wing; 7 = Extremely Right-Wing
Oxley <i>et al.</i> 2008	Wilson-Patterson Social Issue Battery (18 items)	1 = Agree, 2 = Disagree; 3 = Uncertain
Coe <i>et al.</i> 2017	Left-Right Self-Placement (1 item)	1 = Extremely Liberal; 7 = Extremely Conservative
Dodd <i>et al.</i> 2012	Wilson-Patterson Social Issue Battery (18 items)	1 = Agree, 2 = Disagree; 3 = Uncertain
Dodd <i>et al.</i> 2012	Left-Right Self-Placement (1 item)	1 = Extremely Liberal; 7 = Extremely Conservative
Smith <i>et al.</i> 2012	Wilson-Patterson Social Issue Battery (12 items)	1 = Agree, 2 = Disagree; 3 = Uncertain
Smith <i>et al.</i> 2012	Wilson-Patterson Economic Issue Battery (4 items)	1 = Agree, 2 = Disagree; 3 = Uncertain
Knoll <i>et al.</i> 2015	Social Conservatism Scale (5 items)	1 = Strongly Agree; 5 = Strongly Disagree
Knoll <i>et al.</i> 2015	Economic Conservatism Scale (3 items)	1 = Strongly Agree; 5 = Strongly Disagree
Petersen <i>et al.</i> 2015	Social Conservatism Scale (6 items)	1 = Strongly Disagree; 7 = Strongly Agree
Petersen <i>et al.</i> 2015	Economic Conservatism Scale (9 items)	1 = Strongly Disagree; 7 = Strongly Agree
Petersen <i>et al.</i> 2015	Left-Right Self-Placement (1 item)	1 = Extremely Left-Wing; 11 = Extremely Right-Wing

1. Aarøe *et al.* (2017)

Social Conservatism Scale (translated from Danish) - Scale: 1 = Strongly Agree; 5 = Strongly Disagree

- Violent crime should be punished much harder than is currently the case; We need to protect the Danish way of life; Crime should be combated through prevention rather than harsher sentences; Economic growth should be ensured via industrial growth, even if it conflicts with environmental interests; Homosexuals ought to have the same rights as any other group in society; Taxes on gasoline should be raised; Religious extremists should be allowed to hold public gatherings

Left-Right Self-Placement

- Participants placed themselves on a 7-point scale with end points labeled “Extremely left-wing” and “Extremely right-wing.”

2. Oxley *et al.* (2008)

Wilson-Patterson Social Issue Battery - Scale: 1-Agree, 2-Disagree, 3-Uncertain

Please indicate whether you agree or disagree with the topic listed below:

- School prayer; Warrantless searches; Penalty; Patriot Act; Obedience; Patriotism; Iraq War; School Prayer; Biblical Truth; Pacifism; Illegal Immigration; Gun Control; Foreign Aid; Compromise; Pre-marital Sex; Gay Marriage; Abortion Rights; Pornography

3. Coe *et al.* (2017)

Liberal-Conservative Self-Placement

- Participants placed themselves on a 7-point scale with end points labeled “Extremely Liberal” and “Extremely Conservative.”

4. Dodd *et al.* (2012)

Wilson-Patterson Social Issue Battery - Scale: 1-Agree, 2-Disagree, 3-Uncertain

Please indicate whether you agree or disagree with the topic listed below:

- School prayer; Pacifism; Socialism; Pornography; Illegal immigration; Women's equality; death penalty; patriot act; premarital sex; gay marriage; abortion rights; evolution; patriotism; biblical truth; Iraq; welfare spending; tax cuts; gun control; military spending; warrantless searches; globalization; pollution; control; small government; school standards; foreign aid; free trade; obedience; compromise

Liberal-Conservative Self-Placement

- Participants placed themselves on a 7-point scale with end points labeled “Extremely Liberal” and “Extremely Conservative.”

5. Smith *et al.* (2012)

Wilson-Patterson Social Issue Battery - Scale: 1-Agree, 2-Disagree, 3-Uncertain

Please indicate whether you agree or disagree with the topic listed below:

- Illegal Immigration; Military spending; Foreign aid; Warrantless searches; School prayer; Gun control; Death Penalty; Biblical truth; Pornography; Abortion rights; Premarital Sex; Gay marriage

Wilson-Patterson Economic Issue Battery - Scale: 1-Agree, 2-Disagree, 3-Uncertain

Please indicate whether you agree or disagree with the topic listed below:

- Welfare spending; Tax Cuts; Free trade; Small government

6. Knoll *et al.* (2015)

Social Conservatism Scale - Scale: 1 = Strongly Agree; 5 = Strongly Disagree

- Gays and lesbians should be allowed to marry legally; The growing number of newcomers from other countries threaten traditional American customs and values; Abortion should be illegal in all or most cases; I never doubt the existence of God; One parent can bring up a child as well as two parents together

Economic Conservatism Scale - Scale: 1-Strongly Agree; 5 = Strongly Disagree

- There need to be stricter laws and regulations to protect the environment; The government should help more needy people even if it means going deeper in debt; Business corporations make too much profit.

7. Petersen *et al.* (2015)

Social Conservatism Scale (translated from Danish) - Scale: 1 = Strongly Disagree; 7 = Strongly Agree

- Violent crime should be punished much harder than is currently the case; Economic growth should be ensured via industrial growth, even if it conflicts with environmental interests; Immigrants who are sentenced to jail for crime should be expelled immediately; Foreigners should only be eligible for Danish citizenship once they have learned to behave like Danes; Immigration poses a serious threat to our national identity; Crime should be combated through prevention rather than harsher sentences

Economic Conservatism Scale (translated from Danish) - Scale: 1 = Strongly Disagree; 7 = Strongly Agree

- Politics should strive to ensure that everybody has the same economic conditions regardless of education and employment; High incomes should be taxed harder than is currently the case; Economic equality benefits society; Economic inequality in a society is natural; People with high incomes should be taxed much harder than people with low income; We have to accept some degree

of inequality in order to drive progress and create a dynamic society; The rich should give more money to the poor; Economic equality is not in itself an important goal; The government should have a say in how big business operates

Left-Right Self-Placement

- Participants placed themselves on a 11-point scale with end points labeled “Extremely left-wing” and “Extremely right-wing.”

1C Independent Measures Images and Psychophysiology

All of the seven papers in the meta-analysis recorded skin conductance responses, or electrodermal activity (EDA), to a number of images. In this section, we briefly discuss the images included in the seven articles. For each of the articles, we then conduct simple difference-of-means tests to examine if participants responded with higher EDA to negative images (i.e., threatening or disgusting images) than to the other image types (i.e., neutral or positive images). Many of the seven studies build – explicitly or implicitly – on the notion of a “negativity bias,” i.e., the idea people react stronger to negative stimuli than to other types of stimuli. A basic validity check, then, is to test if the negative images in the seven articles elicited greater EDA responses than the non-threatening images.

1. Aarøe *et al.* (2017) included 28 images that belonged to one of four different image categories:

- Six **highly disgusting** images
- Eight **mildly disgusting** images
- Ten **positive** images
- Four **neutral** images

In their paper, Aarøe *et al.* (2017) focus on the six highly disgusting images, and it is for that reason that we too use these images in our meta-analysis in the main text. (But see Table 1D.a below for regression results where we use the other images instead.)

Negativity Bias Analysis. We found no evidence of a negativity bias in response to the images. Difference-of-means t-tests revealed that participants did not respond with stronger EDA to the highly disgusting images than to neither the neutral images ($p = .66$, two-tailed), the positive images ($p = .96$, two-tailed), or the mildly disgusting images ($p = .64$, two-tailed).

2. Oxley *et al.* (2008) included 33 images in their laboratory experiment, but we only have access to the six images from their main analysis:

- Three **threatening** images (a spider on a person's face, a person with a bloody face, an open wound with maggots in it).
- Three **non-threatening** images (a bunny, a bowl of fruit, a happy child).

Negativity Bias Analysis. We found no evidence of a negativity bias in response to the images. A difference-of-means t-test revealed that participants had stronger EDA responses to threatening images than to non-threatening images, but the difference was statistically insignificant ($p = .15$, two-tailed).

3. Coe et al. (2017) included 40 images, but we only have access to the six images from their main analysis:

- Six **threatening** images (a photograph of a physically abused woman, a gun pointed at the screen, a person carrying another bloody and hurt person, a Doberman (dog) growling with blood, a man with a mask over his face with a knife, and a child left behind in rubble)

Negativity Bias Analysis. Because we only had access to six images from the same image category (i.e., threatening images), we were unable to test the negativity bias hypothesis.

4. Dodd et al. (2012) included the same 33 images as Oxley et al. (2008), but we only have access to the six images from their main analysis:

- Three **negative** images (a spider on a man's face, an open wound with maggots in it, a crowd fighting a man), where two of them were also included in the Oxley et al. (2008) main analysis, cf. above.
- Three **positive** images (a happy child, a bowl of fruit, a cute rabbit)

Negativity Bias Analysis. We found no evidence of a negativity bias in response to the images. A difference-of-means t-test revealed that participants had stronger EDA responses to threatening images than to positive images, although the difference was not statistically significant ($p = .16$, two-tailed).

5. Smith *et al.* (2012) included 38 images, but we only have access to the three images from their main analysis:

- Three **disgusting** images (a man in the process of eating a mouthful of writhing worms, a horribly emaciated but alive body, human excrement floating in a toilet).

Negativity Bias Analysis. Because we only had access to three images from the same image category (i.e., disgusting images), we were unable to test the negativity bias hypothesis.

6. Knoll *et al.* (2015) included a number of images, but we only have access to the nine images from their main analysis:

- Six **threatening** images (a man with an open wound, maggots in a wound, a spider on a man's face, a bloody face, maggots in an open wound, a spider on a woman's face).
- Three **positive** images (A family enjoying a meal together, a mother and daughter with flowers)

Negativity Bias Analysis. A difference-of-means t-test revealed that participants had stronger EDA responses to threatening images than to positive images, although the difference was not statistically significant ($p = .53$, two-tailed)

7. Petersen *et al.* (2015) included eight images that belonged to one of two image categories:

- Two **threatening** images (a man with an open wound on his foot, a big spider).
- Six **non-threatening** images (a man, a woman, a flower, a happy baby, a lightbulb, a tool)

Negativity Bias Analysis. A difference-of-means t-test revealed that participants had stronger EDA responses to threatening images than to non-threatening images, and the difference was statistically significant ($p < .001$, two-tailed).

1D Meta-Analytical Results

In this section, we present the regression results from the seven articles used to construct Figure 3 in the main text.

Aarøe *et al.* (2017)

Table 1D.a Physiological Reactions to Images (EDA) and Political Ideology.

	(1) Left- Right Ideology	(2) Left- Right Ideology	(3) Left- Right Ideology	(4) Left- Right Ideology	(5) Social Conservat ism	(6) Social Conservat ism	(7) Social Conservat ism	(8) Social Conservat ism
High Disgust EDA	0.111 (0.177)				0.277 (0.190)			
Female	-0.721* (0.315)	-0.725* (0.327)	-0.656* (0.315)	-0.708* (0.315)	-0.362 (0.296)	-0.390 (0.309)	-0.330 (0.313)	-0.374 (0.304)
Age	0.118 (0.114)	0.131 (0.122)	0.0785 (0.120)	0.117 (0.116)	0.0593 (0.114)	0.104 (0.122)	0.0546 (0.123)	0.0924 (0.111)
Low Disgust EDA		0.0696 (0.199)				0.209 (0.242)		
Positive EDA			-0.104 (0.171)				0.129 (0.193)	
Neutral EDA				0.0457 (0.165)				0.228 (0.190)
Intercept	-1.997 (2.367)	-2.254 (2.504)	-1.214 (2.462)	-1.992 (2.393)	-1.002 (2.396)	-1.921 (2.537)	-0.925 (2.580)	-1.685 (2.313)
<i>N</i>	42	42	42	42	42	42	42	42

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Oxley *et al.* (2008)

Table 1D.b Physiological Reactions to Images (EDA) and Political Ideology.

	(1) Wilson-Patterson	(2) Wilson-Patterson
Threat EDA	0.545*** (0.144)	
Age	0.0529 (0.0300)	0.0436 (0.0286)
Gender (1=Female)	-0.499 (0.376)	-0.593 (0.398)
Education	-2.194*** (0.571)	-2.087** (0.647)
Income	-0.519 (0.694)	-0.587 (0.810)
Positive EDA		-0.0104 (0.194)
_cons	-101.6 (58.96)	-83.44 (56.28)
<i>N</i>	46	46

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Coe *et al.* (2017)

Table 1D.c Physiological Reactions to Images (EDA) and Political Ideology.

	(1) Left-Right Self-Placement
Threat EDA	-0.00 (0.0889)
Intercept	-0.00 (0.0861)
<i>N</i>	136

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Dodd *et al.* (2012)

Table 1D.d Physiological Reactions to Images (EDA) and Political Ideology.

	(1) Left-Right Self-Placement	(2) Wilson-Patterson
Threat EDA	0.534*** (0.138)	0.680*** (0.167)
Income	0.0693 (0.501)	-0.431 (0.720)
Education	-1.463* (0.636)	-2.405*** (0.549)
Age	-2.364 (1.657)	-2.700 (1.809)
Gender (1=Female)	0.00926 (0.326)	-0.392 (0.403)
Intercept	2.906* (1.428)	4.276** (1.281)
<i>N</i>	46	46

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Smith *et al.* (2012)

Table 1D.e Physiological Reactions to Images (EDA) and Political Ideology.

	(1) Left-Right Self-Placement	(2) Social Conservatism	(3) Economic Conservatism
Disgust EDA	0.288 (0.147)	0.179 (0.156)	-0.125 (0.104)
Age	0.0108 (0.0169)	0.00442 (0.0160)	0.0131 (0.0167)
Gender (1=Female)	-0.230 (0.293)	-0.175 (0.291)	0.112 (0.280)
Education	-0.167 (0.106)	-0.140 (0.108)	0.202 (0.100)
Intercept	-20.45 (33.15)	-8.000 (31.51)	-26.60 (32.81)
<i>N</i>	51	51	51

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Knoll *et al.* (2015)

Table 1D.f Physiological Reactions to Images (EDA) and Political Ideology.

	(1) Social Conservatism	(2) Economic Conservatism	(3) Social Conservatism	(4) Economic Conservatism
Threat EDA	-0.172 (0.127)	0.291* (0.118)		
Gender (1=Female)	0.338 (0.286)	0.175 (0.266)	0.277 (0.284)	0.207 (0.269)
Income	0.0187 (0.0764)	-0.0963 (0.0699)	0.0117 (0.0765)	-0.105 (0.0711)
Positive EDA			0.176 (0.128)	0.246* (0.120)
Intercept	-0.274 (0.647)	0.650 (0.592)	-0.186 (0.648)	0.701 (0.603)
<i>N</i>	59	60	59	60

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Petersen *et al.* (2015)

Table 1D.g Physiological Reactions to Images (EDA) and Political Ideology.

	(1) Left-Right Self-Placement	(2) Social Conservatism	(3) Economic Conservatism
Threat EDA	-0.0923 (0.145)	-0.228 (0.150)	-0.189 (0.145)
Gender (1=Female)	-0.582* (0.257)	-0.247 (0.266)	-0.418 (0.257)
Age	-0.0856 (0.0490)	-0.0465 (0.0507)	-0.100* (0.0489)
Intercept	2.323 (1.182)	1.225 (1.224)	2.584* (1.179)
<i>N</i>	57	57	57

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

2 Laboratory Studies: Denmark and the United States

In this section, we discuss the details of our two laboratory studies in Denmark and the United States.

2A General methods

Electrodermal Activity. Data on electrodermal activity (EDA) was collected from participants using a pair of Ag/AgCl electrodes connected via electrode leads to standard physiological equipment (BIOPAC Systems, MP150). Electrodes were placed on the fingertips of the participant's nondominant hand. An isotonic contact medium was applied to a 1 cm diameter area using a circular adhesive collar on the index finger and middle finger of the non-dominant hand in order to facilitate contact. The skin conductance was transduced using a 0.5 Vrms, 30 Hz sinusoidal excitation signal via an2 Isolated Bioelectric Amplifier. The signal was digitized at 2 kHz. Physiological data acquisition was obtained using AcqKnowledge 4.0.

Images used in the study. In our study, each participant saw 24 different images. We chose images intended to elicit four different types of emotional responses: six were chosen to elicit threat, six were intended to elicit disgust, six had positive content, and six were neutral. We took most of the images from the International Affective Picture System (IAPS) database. As per the IAPS user agreement, we are unable to present the actual images in a printed manuscript, but the IAPS image identifiers are available upon request. Interested readers can then view the images by submitting a request to IAPS and consenting to its user agreement (last accessed at: <http://csea.phhp.ufl.edu/media/iapsmessage.html>). The images we included were:

- **Threatening Images.** (1) A man holding a knife, (2) an attacking snake, (3) a large spider, (4) a man being assaulted, (5) a car accident, and (6) a ship sinking.
- **Disgusting Images.** (1) an ashtray full of cigarettes, (2) a toilet with vomit in it, (3) maggots, (4) a man with worms in his mouth, (5) a child with a tumor, and (6) a man vomiting.

- **Positive/Thrill-seeking.** (1) a skysurfer, (2) a romantic couple, (3) a snowskier, (4) a waterfall, (5) a couple kissing, and (6) a sailboat.
- **Neutral.** (1) a bowl, (2) a coffee mug, (3) a rolling pin, (4) a dustpan, (5) a basket, and (6) an umbrella.

2B Dependent Measures

In the analyses, we focused on four different measures of political ideology: Social Conservatism, Economic Conservatism, a scale consisting of a number of specific policy preferences in the Wilson-Patterson format, and a Left-Right Self-placement measure. (See section 5.6 in the appendix for analyses with additional measures of political ideology.)

Social Conservatism - Scale: 1-Strongly Disagree; 7 = Strongly Agree

- Violent crime should be punished much more harshly than is currently the case; Economic growth should be ensured via industrial growth, even if it conflicts with environmental interests; Immigrants who are sentenced to jail for crime should be expelled immediately; Foreigners should only be eligible for American citizenship once they have learned to behave like Americans; Immigration poses a serious threat to our national identity

Economic Conservatism - Scale: 1-Strongly Disagree; 7 = Strongly Agree

- Politics should strive to ensure that everybody has the same economic conditions regardless of education and employment; High incomes should be taxed harder than is currently the case; Economic equality benefits society; It is natural to have economic inequality in a society; People with high incomes should be taxed much more than people with low incomes; We have to accept some degree of inequality in order to drive progress and create a dynamic society

Wilson-Patterson - Question: "Here is a list of various topics. Please indicate how you feel about each topic." 1 = Strongly Agree; 5 Strongly Disagree

- School prayer; Weakening the United Nations; Less restrictive immigration laws; Death penalty; Government-provided healthcare; Premarital sex; Gay marriage; Legalized abortion; Government action on climate change; Biblical truth; Increase welfare spending; Protect gun rights; Increase military spending; Government regulation of business; Small government; Decrease foreign aid; Lower taxes; Assisted suicide; Abstinence-only sex education; Allow torture of terrorism suspects

Left-Right Self-Placement

- Participants placed themselves on a 11-point scale with end points labeled “Extremely left-wing” (“Most liberal” in the US sample) and “Extremely right-wing” (“Most conservative in the US sample).

We present summary statistics for all dependent measures below. Here, all six measures are scaled to range from 0 to 1, where higher values indicate more conservative responses.

Denmark	Mean	Std. Dev.	Minimum	Maximum
Wilson-Patterson	.29	.13	0	.60
Social Conservatism	.53	.25	0	1
Economic Conservatism	.61	.23	0	1
Left-Right Self-Placement	.48	.24	0	1
United States				
Wilson-Patterson	.48	.23	.04	1
Social Conservatism	.37	.20	0	.85
Economic Conservatism	.52	.19	.05	1
Left-Right Self-Placement	.46	.33	0	1

2C Independent Measures

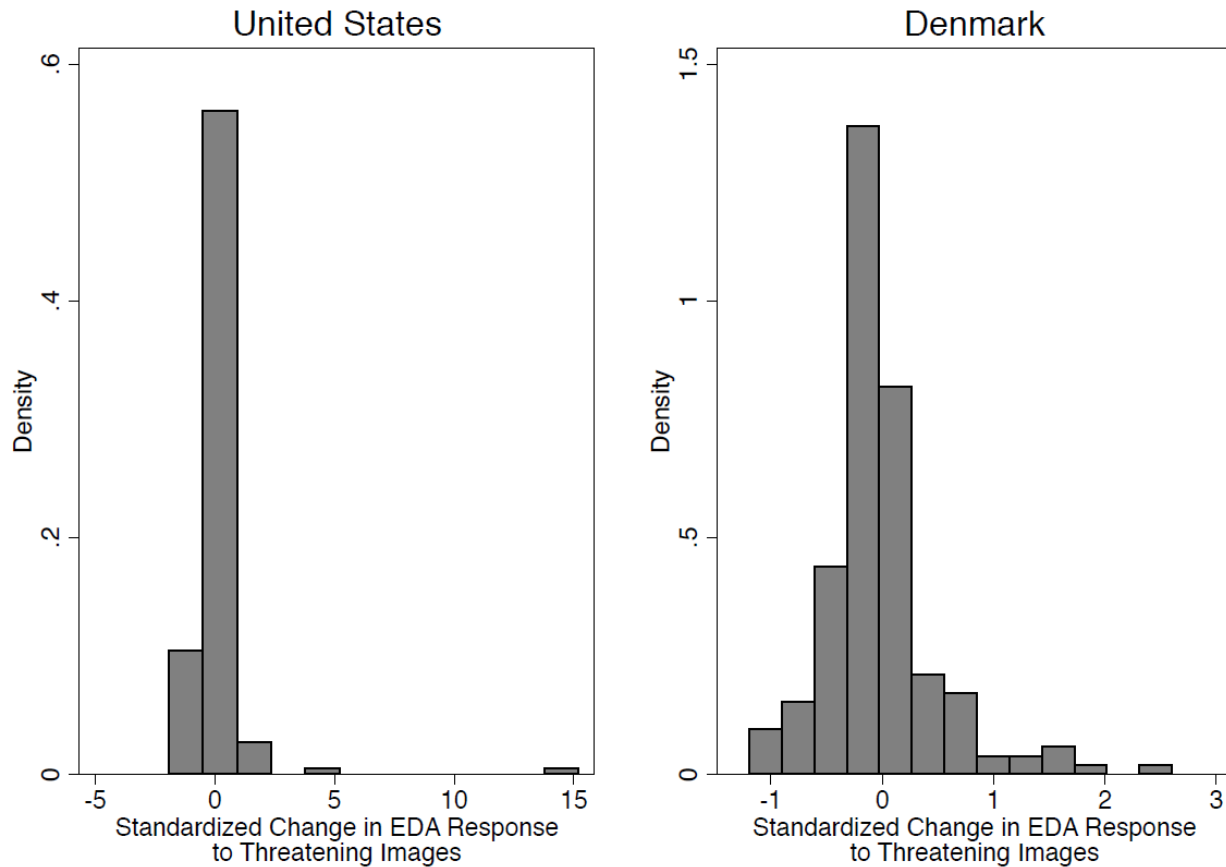
Electrodermal Activity. As explained in the main text, we computed electrodermal activity (EDA) by first taking the average of the natural log of skin conductance levels (SCL) during exposure to the stimulus image (S). We then subtracted from that the average of the natural log of the SCL from the inter-stimulus interval (ISI) that preceded the stimulus image:

$$EDA = Avg[\ln(SCL_S)] - Avg[\ln(SCL_{ISI})]$$

We then averaged EDA responses to the individual images from each of the four image categories to compute our four overall measures: EDA_{Threat} , $EDA_{Disgust}$, $EDA_{Positive}$ and $EDA_{Neutral}$. Finally, we standardized each of our four measures to have a mean of 0 and standard deviation of 1.

Below, Figure 2C.a we show the distribution of EDA responses to the threatening images among our American and Danish participants. As we note in the main text, we observe in the US sample an extreme outlier more than 15 standard deviations above the mean. In the main analysis, we exclude this person. (We note here that results are very similar when we include the participant in the analyses.)

Figure 2C.a Distribution of Skin Conductance Responses in the US (left) and Danish (right) laboratory study.



Self-reported reactions. As we discuss in the main text, we also asked our laboratory participants to rate a subset of the images on two dimensions: (1) Did they have positive or negative reactions when viewing the images (i.e., a measure of *valence*), and (2) how strong emotional reactions they had when viewing the images (i.e., a measure of *arousal*). See the main text for the details. Here, we test the validity and reliability of the self-reported reactions to the images, using the same criteria as used in the main text for EDA responses.

Convergent validity and reliability of self-reported reactions to images: Valence

Here, we show the correlations between participants' responses to the question of how negative their reactions were when watching the two images *within* each image category:

- Correlations between items for threat images (knife, snake): .37, $\alpha = .54$

- Correlations between items for disgust images (worms, tumor): .28, $\alpha = .43$
- Correlations between items for positive images (skydiving, romantic couple): .21, $\alpha = .35$
- Correlations between items for neutral images (plate, mug): .59, $\alpha = .74$

Discriminant validity of self-reported emotional reactions to images: Valence

Here, we show the correlations between participants' responses to the question of how positive or negative their reactions were *across* image categories:

	Threat Images	Disgust Images	Positive Images	Neutral Images
Threat Images	1			
Disgust Images	.52	1		
Positive Images	-.00	-.02	1	
Neutral Images	-.09	-.02	.13	1

Convergent validity and reliability of self-reported reactions to images: Arousal

Here, we show the correlations between participants' responses to the question of how strong their reactions were when watching the two images *within* each image category:

- Correlations between items for threat images (knife, snake): .54, $\alpha = .70$
- Correlations between items for disgust images (worms, tumor): .43, $\alpha = .60$
- Correlations between items for positive images (skydiving, romantic couple): .28, $\alpha = .44$
- Correlations between items for neutral images (plate, mug): .63, $\alpha = .78$

Discriminant validity of self-reported emotional reactions to images: Arousal

Here, we show the correlations between participants' responses to the question of how strong their reactions were *across* image categories:

	Threat Images	Disgust Images	Positive Images	Neutral Images
Threat Images	1			
Disgust Images	.63	1		
Positive Images	.39	.38	1	
Neutral Images	.31	.18	.22	1

Correlations between self-reported valence and arousal. We examined if participants' arousal and valence responses correlated, e.g., did participants who rated threatening images as very negative also report strong emotional reactions to the threatening images. For the threatening and disgusting images, we found strong positive correlations: $r_{\text{threatening}} = .68$; $r_{\text{disgusting}} = .66$. For the positive and neutral images, we found appreciably weaker negative correlations: $r_{\text{positive}} = -.12$; $r_{\text{neutral}} = -.08$.

Correlations between self-reported responses and physiological responses. Lastly, we examined if participants' self-reported valence and arousal ratings correlated with their EDA responses. To this end, we correlated self-reported ratings with EDA responses to the two images from each of the four image categories for which we had self-reported valence and arousal ratings. We display the correlations below for our two countries separately and for the valence ratings before the arousal ratings.

In general, we find weak correlations between EDA responses and self-reported ratings. The strongest correlations are for the threatening images. Here, the correlation between EDA responses and self-reported valence ratings hovers around .16-.30 and are significant in both countries. We obtain the

same pattern of results for correlations between EDA responses and arousal ratings for the threatening images, although the correlations are weaker and insignificant in the United States. We do not detect systematic and significant correlations between EDA responses and self-reported ratings in neither of the two countries and for neither of the other three image categories.

United States - Association between EDA responses and self-reported valence ratings

EDA_{Threat}, Self-report Valence_{Threat}: $r = .16$ ($p = .05$); EDA_{Disgust}, Self-report Valence_{Disgust}: $r = .20$ ($p = .01$); EDA_{Positive}, Self-report Valence_{Positive}: $r = .11$ ($p = .18$); EDA_{Neutral}, Self-report Valence_{Neutral}: $r = -.04$ ($p = .61$)

Denmark - Association between EDA responses and self-reported valence ratings

EDA_{Threat}, Self-report Valence_{Threat}: $r = .31$ ($p < .01$); EDA_{Disgust}, Self-report Valence_{Disgust}: $r = .14$ ($p = .06$); EDA_{Positive}, Self-report Valence_{Positive}: $r = -.08$ ($p = .29$); EDA_{Neutral}, Self-report Valence_{Neutral}: $r = -.10$ ($p = .19$)

United States - Association between EDA responses and self-reported arousal ratings

EDA_{Threat}, Self-report Arousal_{Threat}: $r = .14$ ($p = .09$); EDA_{Disgust}, Self-report Arousal_{Disgust}: $r = .12$ ($p = .15$); EDA_{Positive}, Self-report Arousal_{Positive}: $r = .03$ ($p = .70$); EDA_{Neutral}, Self-report Arousal_{Neutral}: $r = -.06$ ($p = .49$)

Denmark - Association between EDA responses and self-reported arousal ratings

EDA_{Threat}, Self-report Valence_{Threat}: $r = .24$ ($p < .01$); EDA_{Disgust}, Self-report Valence_{Disgust}: $r = .08$ ($p = .31$); EDA_{Positive}, Self-report Valence_{Positive}: $r = .01$ ($p = .90$); EDA_{Neutral}, Self-report Valence_{Neutral}: $r = .16$ ($p = .04$)

2D Main Results – Electrodermal Activity and Ideology

In this section, we present the regression results used to construct Figure 1 in the main text. In the main text, We estimated models for EDA responses to each of the four image categories separately, and we estimated the models for Denmark and the United States separately, as well as for the combined sample. For ease of exposition, the tables presented here combine the Danish and American sample and interact EDA responses with a country indicator (0 = Denmark; 1 = United States). The estimated coefficients in Figure 1 can then be calculated based on the tables, e.g., the correlation between EDA responses to threatening images and the Wilson-Patterson scale in the United States is .317, while the same coefficient in Denmark is $.317 - .480 = -.196$ (cf. Table 2D.a.).

Table 2D.a Association between EDA responses to threatening images and political ideology.

	(1) Wilson-Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Threat	0.320* (0.126)	0.323*** (0.092)	0.124 (0.103)	0.046 (0.031)
Country (1 = DK)	-0.908*** (0.105)	0.736*** (0.106)	0.573*** (0.114)	1.743*** (0.058)
Country X EDA Threat	-0.492** (0.175)	-0.481** (0.174)	-0.350 (0.200)	-0.033 (0.119)
Female (Yes = 1)	-0.199 (0.105)	-0.055 (0.107)	-0.261* (0.113)	-0.168** (0.059)
Age (Years)	0.005 (0.003)	0.006 (0.003)	-0.004 (0.004)	-0.000 (0.002)
Education Level	-0.462** (0.139)	-0.738*** (0.152)	0.143 (0.162)	-0.093 (0.090)
Household Income	-0.061 (0.182)	0.211 (0.203)	0.742*** (0.200)	0.087 (0.111)
Constant	0.680** (0.231)	-0.319 (0.230)	-0.409 (0.236)	-0.825*** (0.120)
Observations	307	307	307	308
R ²	0.254	0.207	0.136	0.765

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2D.b Association between EDA responses to disgusting images and political ideology.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Disgust	0.096 (0.084)	-0.008 (0.065)	0.040 (0.065)	0.028 (0.019)
Country (1=DK)	-0.865*** (0.106)	0.758*** (0.110)	0.597*** (0.114)	1.750*** (0.057)
Country X EDA Disgust	-0.051 (0.123)	-0.045 (0.150)	-0.038 (0.148)	-0.009 (0.084)
Female (Yes = 1)	-0.199 (0.105)	-0.045 (0.109)	-0.249* (0.112)	-0.171** (0.059)
Age (Years)	0.005 (0.003)	0.007* (0.003)	-0.004 (0.004)	-0.000 (0.002)
Education Level	-0.450** (0.140)	-0.733*** (0.150)	0.133 (0.161)	-0.087 (0.089)
Household Income	-0.060 (0.181)	0.202 (0.205)	0.753*** (0.200)	0.086 (0.111)
Constant	0.634**	-0.381	-0.437	-0.827***

	(0.234)	(0.231)	(0.240)	(0.118)
Observations	307	307	307	308
R^2	0.237	0.187	0.128	0.765

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2D.c Association between EDA responses to neutral images and political ideology.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Neutral	-0.043 (0.068)	-0.017 (0.052)	-0.041 (0.049)	-0.016 (0.015)
Country (1=DK)	-0.878*** (0.106)	0.765*** (0.108)	0.595*** (0.114)	1.745*** (0.057)
Country X EDA Neutral	-0.013 (0.094)	-0.037 (0.111)	-0.058 (0.106)	0.016 (0.068)
Female (Yes = 1)	-0.205 (0.108)	-0.059 (0.111)	-0.269* (0.116)	-0.170** (0.059)
Age (Years)	0.006 (0.003)	0.007* (0.003)	-0.003 (0.004)	0.000 (0.002)
Education Level	-0.458** (0.141)	-0.732*** (0.151)	0.125 (0.162)	-0.089 (0.088)
Household Income	-0.072 (0.182)	0.200 (0.205)	0.750*** (0.199)	0.082 (0.110)
Constant	0.622** (0.236)	-0.378 (0.231)	-0.442 (0.240)	-0.830*** (0.119)
Observations	307	307	307	308
R^2	0.234	0.187	0.132	0.765

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2D.e Association between EDA responses to positive images and political ideology.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Positive	-0.002 (0.059)	-0.016 (0.056)	-0.003 (0.060)	-0.010 (0.016)
Denmark	-0.896*** (0.107)	0.759*** (0.110)	0.578*** (0.118)	1.735*** (0.060)
Country X EDA Positive	-0.107 (0.097)	-0.009 (0.148)	-0.093 (0.153)	-0.044 (0.079)
Female (Yes = 1)	-0.202 (0.107)	-0.051 (0.109)	-0.256* (0.114)	-0.176** (0.060)
Age (Years)	0.006 (0.003)	0.007* (0.003)	-0.003 (0.004)	0.000 (0.002)
Education Level	-0.450** (0.140)	-0.722*** (0.153)	0.137 (0.163)	-0.085 (0.089)
Household Income	-0.063 (0.185)	0.203 (0.207)	0.755*** (0.203)	0.091 (0.111)
Constant	0.615** (0.236)	-0.384 (0.231)	-0.448 (0.240)	-0.837*** (0.119)

	(0.237)	(0.233)	(0.243)	(0.120)
Observations	307	307	307	308
R^2	0.234	0.187	0.130	0.766

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

2E Main Results – Self-report Laboratory Data and Ideology

In this section, we examine if participants' self-reported reactions to the images correlated with political ideology. We present the findings in figures 2E.a-b, shown below. Figure 2E.a displays estimated regression coefficients from models where we regress our four measures of political ideology on self-reported *valence* of reactions to the four image categories. (See Figure 2 in the main text.) In the figure, positive coefficients indicate that negative evaluations of the images correlate with higher levels of conservatism. Figure 2E.b displays estimated coefficients from models where we regress political ideology on self-reported *arousal* when watching the images. Here, positive coefficients indicate that higher arousal levels correlate with conservatism. We estimated the models separately for Denmark and the US as well as for the combined sample. In all models, we included the same set of covariates: Gender, age, education, income.

In contrast to physiological responses to threat, participants' self-reported reactions to the threatening images were generally associated in both Denmark and the United States with more conservative beliefs, but only significantly so for the two measures that arguably reflect *social* conservatism: The Wilson-Patterson scale and the Social Conservatism scale. We obtain the same pattern of results, irrespective of whether we focus on self-reported valence of reactions (Figure 2E.a) or self-reported arousal (Figure 2E.b).

Participants' reactions to the disgusting images were also associated with more conservative preferences, but not significantly so for either of the ideology measures. We did not detect a systematic relationship between participants' evaluations of the positive and neutral images, on the one hand, and their ideological orientations, on the other.

Figure 2E.a Association between self-reported valence of emotional reaction to images and political ideology.

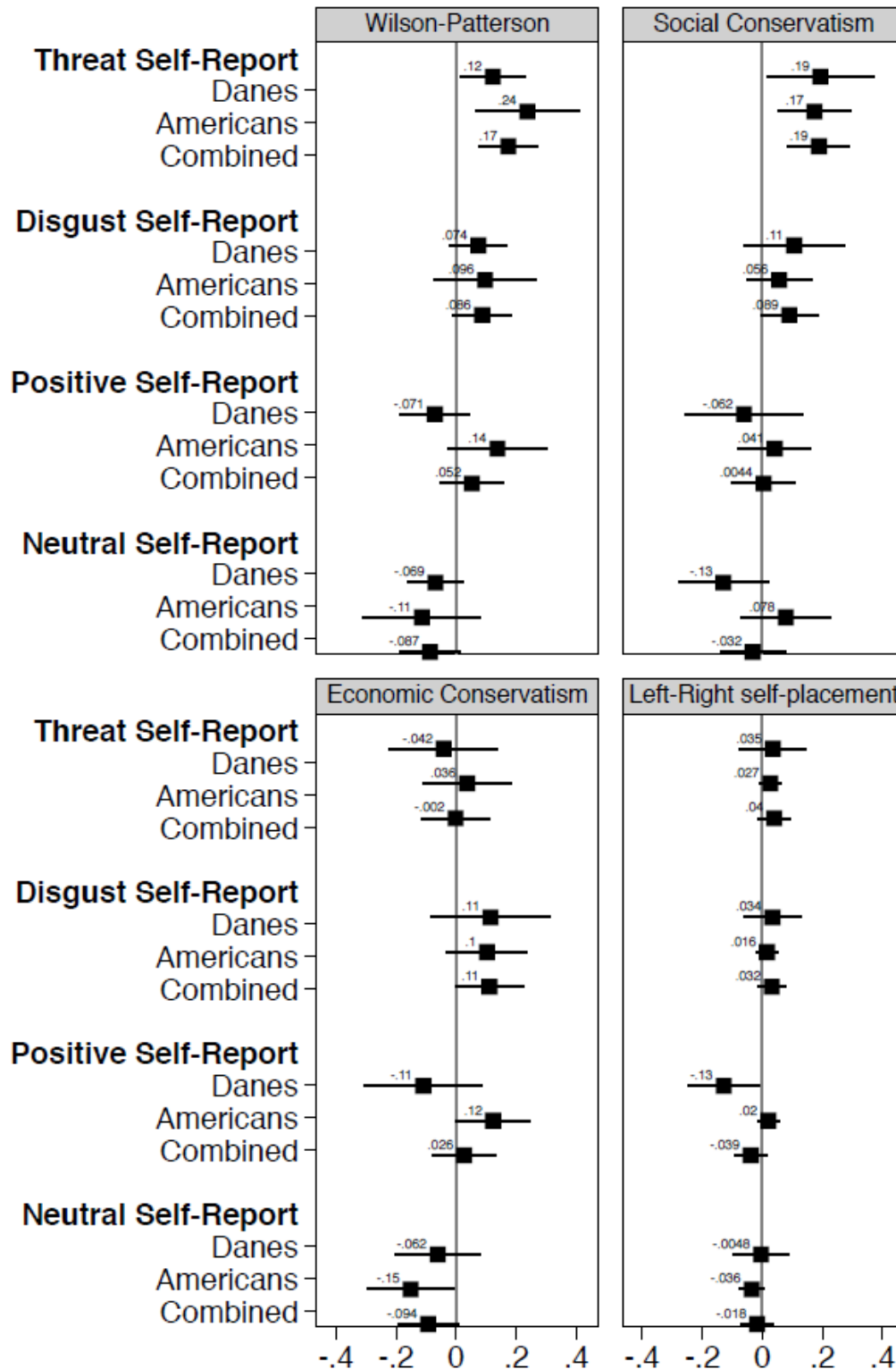
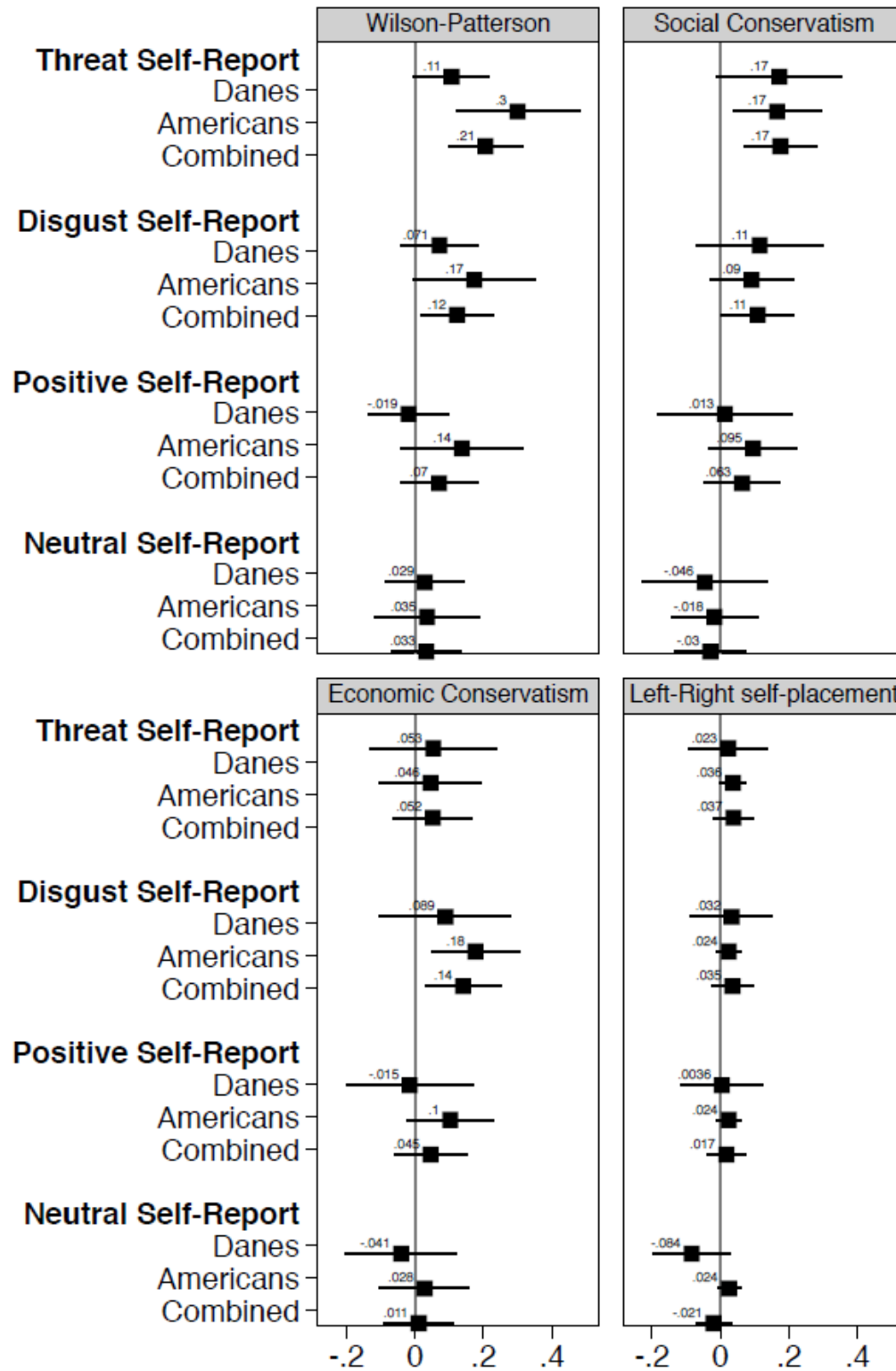


Figure 2E.b Association between self-reported strength of arousal when viewing images and political ideology.



3 Survey Study: Denmark

3A Sample Characteristics

Sample Characteristics. The study was conducted in June 2018. A nationally representative sample of 529 Danes participated. 52% of participants were male and the average age was around 49 years. In terms of education, around 31% of participants had some “some college” as their highest completed degree.

3B Dependent Measures

We included three measures of political ideology: Social Conservatism, Economic Conservatism, and Left-Right Self-placement

1. Social Conservatism - Scale: 1-Strongly Disagree; 7 = Strongly Agree

- Violent crime should be punished much more harshly than is currently the case; Economic growth should be ensured via industrial growth, even if it conflicts with environmental interests; Immigrants who are sentenced to jail for crime should be expelled immediately; Foreigners should only be eligible for American citizenship once they have learned to behave like Americans; Immigration poses a serious threat to our national identity

2. Economic Conservatism - Scale: 1-Strongly Disagree; 7 = Strongly Agree

- Politics should strive to ensure that everybody has the same economic conditions regardless of education and employment; High incomes should be taxed harder than is currently the case; Economic equality benefits society; It is natural to have economic inequality in a society; People with high incomes should be taxed much more than people with low incomes; We have to accept some degree of inequality in order to drive progress and create a dynamic society

3. Left-Right Self-Placement

- Participants placed themselves on a 11-point scale with end points labeled “Extremely left-wing” and “Extremely right-wing.”

3C Independent Measures

We asked participants to rate the 24 images from the laboratory study on four dimensions. For each picture we asked participants, “How does the image below make you feel? Please state the extent to which you disagree or agree with the following statement while you look at the image...”

- I have a strong emotional reaction
- I feel uncomfortable
- I feel happy
- I feel threatened
- I feel disgusted

Response: 1 = Strongly Disagree; 7 = Strongly Agree

Validation of self-reported measures in survey study

In this section, we discuss the validity and reliability of responses to the 24 images in relation to the five dimensions participants were asked to rate the images on.

1. Strong emotional reaction

In this section, we examine if participants’ responses to the question “I have a strong emotional reaction” when watching the images correlate within each of the four image categories (threat images, disgust images, positive images, neutral images, i.e. convergent validity and reliability) and between the four image categories (i.e. discriminant validity).

Convergent validity and reliability

- Correlations between items for threat images: .54, $\alpha = .88$

- Correlations between items for disgust images: .46, $\alpha = .83$
- Correlations between items for positive images: .51, $\alpha = .86$
- Correlations between items for neutral images: .66, $\alpha = .91$

Discriminant validity

	Threat Scale	Disgust Scale	Positive Scale	Neutral Scale
Threat Scale	1			
Disgust Scale	.80	1		
Positive Scale	.68	.60	1	
Neutral Scale	.40	.34	.55	1

2. Uncomfortable

In this section, we examine if participants' responses to the question "I feel uncomfortable" when watching the images correlate within each of the four image categories (threat images, disgust images, positive images, neutral images, i.e. convergent validity and reliability) and between the four image categories (i.e. discriminant validity).

Convergent validity and reliability

- Correlations between items for threat images: .51, $\alpha = .86$
- Correlations between items for disgust images: .46, $\alpha = .84$
- Correlations between items for positive images: .39, $\alpha = .80$
- Correlations between items for neutral images: .61, $\alpha = .88$

Discriminant validity

	Threat Scale	Disgust Scale	Positive Scale	Neutral Scale
Threat Scale	1			
Disgust Scale	.73	1		
Positive Scale	.28	.22	1	
Neutral Scale	.28	.19	.68	1

3. Happy

In this section, we examine if participants' responses to the question "I feel happy" when watching the images correlate within each of the four image categories (threat images, disgust images, positive images, neutral images, i.e. convergent validity and reliability) and between the four image categories (i.e. discriminant validity).

Convergent validity and reliability

- Correlations between items for threat images: .43, $\alpha = .82$
- Correlations between items for disgust images: .44, $\alpha = .83$
- Correlations between items for images: .42, $\alpha = .81$
- Correlations between items for neutral images: .61, $\alpha = .88$

Discriminant validity

	Threat Scale	Disgust Scale	Positive Scale	Neutral Scale
Threat Scale	1			
Disgust Scale	.79	1		
Positive Scale	.16	.12	1	
Neutral Scale	.39	.38	.47	1

4. Threat

In this section, we examine if participants' responses to the question "I feel threatened" when watching the images correlate within each of the four image categories (threat images, disgust images, positive images, neutral images, i.e. convergent validity and reliability) and between the four image categories (i.e. discriminant validity).

Convergent validity and reliability

- Correlations between items for threat images: .43, $\alpha = .82$
- Correlations between items for disgust images: .52, $\alpha = .87$
- Correlations between items for positive images: .46, $\alpha = .84$
- Correlations between items for neutral items: .64, $\alpha = .90$

Discriminant validity

	Threat Scale	Disgust Scale	Positive Scale	Neutral Scale
Threat Scale	1			
Disgust Scale	.63	1		
Positive Scale	.46	.62	1	
Neutral Scale	.41	.57	.77	1

5. Disgust

In this section, we examine if participants' responses to the question "I feel disgusted" when watching the images correlate within each of the four image categories (threat images, disgust images, positive images, neutral images, i.e. convergent validity and reliability) and between the four image categories (i.e. discriminant validity).

Convergent validity and reliability

- Correlations between items for threat images: .43, $\alpha = .82$
- Correlations between items for disgust images: .39, $\alpha = .80$
- Correlations between items for positive images: .46, $\alpha = .83$
- Correlations between items for neutral images: .63, $\alpha = .90$

Discriminant validity

	Threat Scale	Disgust Scale	Positive Scale	Neutral Scale
Threat Scale	1			
Disgust Scale	.64	1		
Positive Scale	.35	.13	1	
Neutral Scale	.37	.13	.74	1

3D Self-Reported Survey Data and Political Ideology

In this section, we examine if participants' self-reported reactions to the images correlated with political ideology. We present the findings in Figure 3D.a, shown below. (See Tables 3D.a-3D.k for the regression models used to construct the figure.) The figure displays associations between social and economic conservatism, on the one hand, and reactions to each of the four image types – labeled *Threat*, *Disgust*, *Positive* and *Neutral* – for each of the five evaluative dimensions, on the other hand.

As the left-hand panel of Figure 3D.a demonstrates, participants who felt either more threatened, disgusted or uncomfortable when watching the images -- irrespective of which image category the image belonged to -- reported more *socially* conservative beliefs. In contrast, as the right-hand panel demonstrates, those same reactions to the images correlated with liberal *economic* beliefs, although the associations were somewhat weaker, and not always statistically significant.

Figure 3D.a Association between self-reported reactions to images and political ideology.

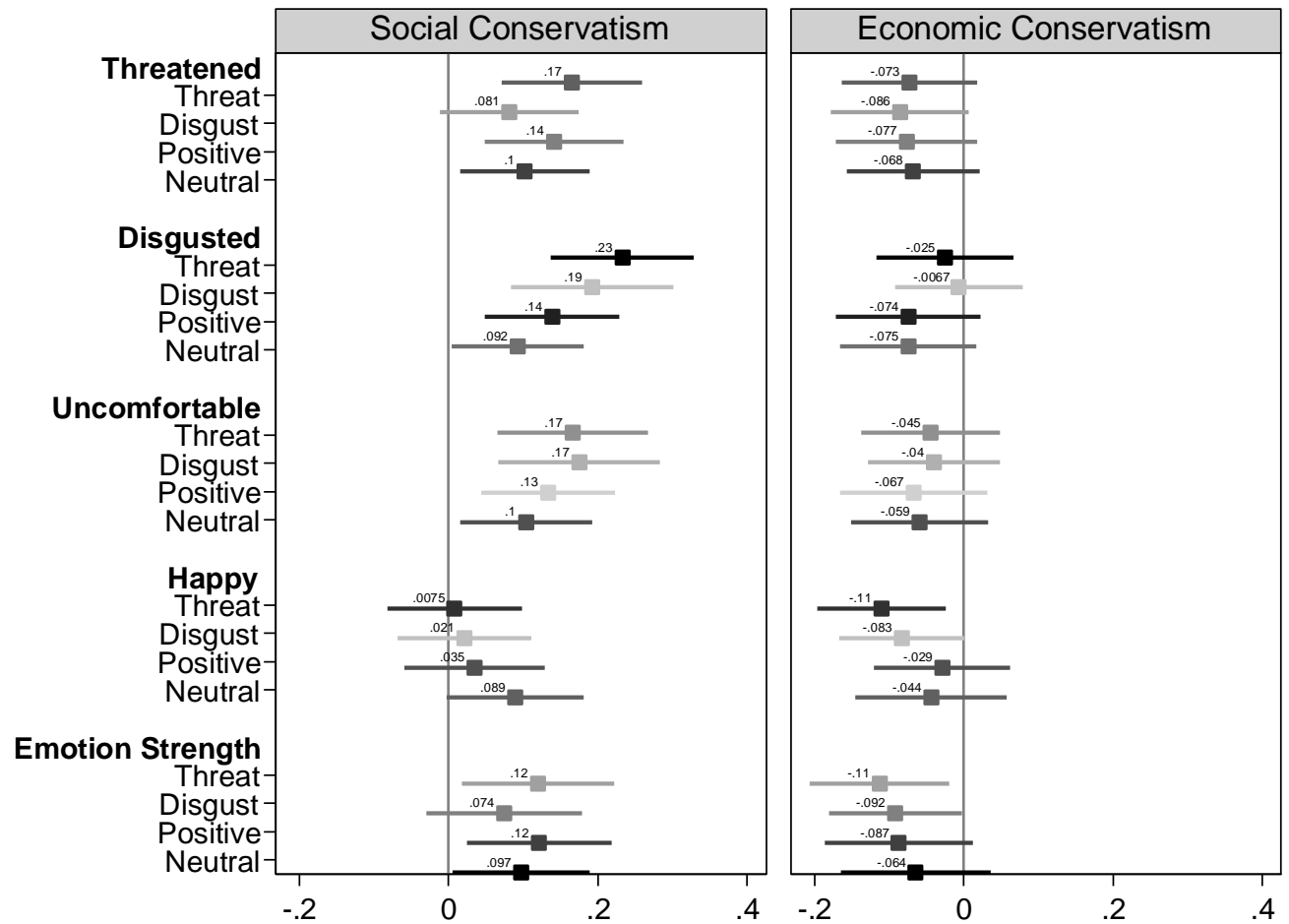


Table 3D.a Association between strength of emotional reaction to the different types of images and social conservatism.

	(1) Social Conservatism	(2) Social Conservatism	(3) Social Conservatism	(4) Social Conservatism
Threat Images	0.119* (0.052)			
Disgust Images		0.074 (0.053)		
Positive Images			0.121* (0.049)	
Neutral Images				0.097* (0.047)
Constant	0.154 (0.230)	0.121 (0.233)	0.207 (0.223)	0.235 (0.230)
Observations	451	451	451	451
R^2	0.114	0.107	0.116	0.110

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.b Association between strength of emotional reaction to the different types of images and economic conservatism.

	(1) Economic Conservatism	(2) Economic Conservatism	(3) Economic Conservatism	(4) Economic Conservatism
Threat Images	-0.113* (0.048)			
Disgust Images		-0.092* (0.045)		
Positive Images			-0.087 (0.051)	
Neutral Images				-0.064 (0.051)
Constant	-0.278 (0.246)	-0.240 (0.246)	-0.311 (0.248)	-0.325 (0.256)
Observations	435	435	435	435
R^2	0.020	0.016	0.016	0.012

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.c Association between feeling uncomfortable when viewing the different types of images and social conservatism.

	(1) Social Conservatism	(2) Social Conservatism	(3) Social Conservatism	(4) Social Conservatism
Threat Images	0.166** (0.051)			
Disgust Images		0.175** (0.055)		
Positive Images			0.133** (0.046)	
Neutral Images				0.104* (0.045)
Constant	0.123 (0.227)	0.059 (0.228)	0.150 (0.227)	0.224 (0.232)
Observations	451	451	451	451
R^2	0.126	0.129	0.119	0.112

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.d Association between feeling uncomfortable when viewing the different types of images and economic conservatism.

	(1) Economic Conservatism	(2) Economic Conservatism	(3) Economic Conservatism	(4) Economic Conservatism
Threat Images	-0.045 (0.047)			
Disgust Images		-0.040 (0.045)		
Positive Images			-0.067 (0.050)	
Neutral Images				-0.059 (0.047)
Constant	-0.251 (0.249)	-0.236 (0.247)	-0.269 (0.248)	-0.308 (0.252)
Observations	435	435	435	435
R^2	0.011	0.010	0.013	0.012

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.e Association between feeling happy when viewing the different types of images and social conservatism.

	(1) Social Conservatism	(2) Social Conservatism	(3) Social Conservatism	(4) Social Conservatism
Threat Images	0.008 (0.046)			
Disgust Images		0.021 (0.045)		
Positive Images			0.035 (0.048)	
Neutral Images				0.089 (0.046)
Constant	0.129 (0.233)	0.132 (0.233)	0.152 (0.232)	0.215 (0.236)
Observations	451	451	451	451
R^2	0.102	0.102	0.103	0.109

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.f Association between feeling happy when viewing the different types of images and economic conservatism.

	(1) Economic Conservatism	(2) Economic Conservatism	(3) Economic Conservatism	(4) Economic Conservatism
Threat Images	-0.110* (0.044)			
Disgust Images		-0.083 (0.043)		
Positive Images			-0.029 (0.046)	
Neutral Images				-0.044 (0.052)
Constant	-0.294 (0.248)	-0.274 (0.248)	-0.274 (0.250)	-0.297 (0.256)
Observations	435	435	435	435
R^2	0.021	0.015	0.010	0.011

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.g Association between feeling threat when viewing the different types of images and social conservatism.

	(1) Social Conservatism	(2) Social Conservatism	(3) Social Conservatism	(4) Social Conservatism
Threat Images	0.165*** (0.048)			
Disgust Images		0.081 (0.047)		
Positive Images			0.141** (0.047)	
Neutral Images				0.102* (0.044)
Constant	0.116 (0.227)	0.165 (0.232)	0.182 (0.229)	0.208 (0.231)
Observations	451	451	451	451
R^2	0.128	0.108	0.121	0.112

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.h Association between feeling threat when viewing the different types of images and economic conservatism.

	(1) Economic Conservatism	(2) Economic Conservatism	(3) Economic Conservatism	(4) Economic Conservatism
Threat Images	-0.073 (0.046)			
Disgust Images		-0.086 (0.047)		
Positive Images			-0.077 (0.048)	
Neutral Images				-0.068 (0.045)
Constant	-0.245 (0.247)	-0.290 (0.249)	-0.285 (0.248)	-0.308 (0.250)
Observations	435	435	435	435
R^2	0.014	0.016	0.014	0.013

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.i Association between feeling disgust when viewing the different types of images and social conservatism.

	(1) Social Conservatism	(2) Social Conservatism	(3) Social Conservatism	(4) Social Conservatism
Threat Images	0.233*** (0.049)			
Disgust Images		0.192*** (0.055)		
Positive Images			0.139** (0.046)	
Neutral Images				0.092* (0.045)
Constant	0.120 (0.226)	-0.008 (0.231)	0.158 (0.229)	0.197 (0.231)
Observations	451	451	451	451
R^2	0.152	0.135	0.121	0.110

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

Table 3D.j Association between feeling disgust when viewing the different types of images and economic conservatism.

	(1) Economic Conservatism	(2) Economic Conservatism	(3) Economic Conservatism	(4) Economic Conservatism
Threat Images	-0.025 (0.047)			
Disgust Images		-0.007 (0.044)		
Positive Images			-0.074 (0.049)	
Neutral Images				-0.075 (0.046)
Constant	-0.252 (0.248)	-0.250 (0.248)	-0.275 (0.248)	-0.312 (0.251)
Observations	435	435	435	435
R^2	0.009	0.009	0.014	0.014

Robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Age, gender, education

4 Main Results – EDA Responses X Self-Reported Reactions

4A EDA Responses X Self-Reported Reactions: Laboratory Data

In this section, we examine if the association between EDA responses to the images and political orientations depend on individuals' self-reported and conscious emotional reactions to the images. (See section "Exploring Possible Methods for Increasing the Measurement Properties of Physiological Reactions" in the main text.) To this end, we first combined the laboratory data on participants' EDA responses with their self-reported reactions to a subset of the same images. (Recall from section C2 in the Appendix that our laboratory participants rated eight of the 24 images in terms of the valence of their emotional reactions as well as the strength of their emotional reactions when watching them.) We then simply estimated a series of models where we regressed our measures of political ideology on EDA responses to the images, the self-report ratings of the images, as well as the interactions between EDA responses and self-reported reactions. To make maximal use of the available data, our key units of analysis are responses to a specific image. Because each of our participants had multiple responses, we clustered the standard errors by subject to correct for within-participant autocorrelation. In addition, we controlled for a set of covariates: Gender, age, education, income.

Table 4A.a-b display regression models where we interact EDA responses to the images with self-reported valence ratings of the images. Table 4.1.c-d display results where we instead interact EDA responses with self-reported arousal when watching the images. The tables show results for the Danish and US sample separately. In the accompanying figures 4A.a and 4A.b, we display the marginal effect of EDA responses on political ideology, conditional on either self-reported valence or arousal evaluations. For brevity, we collapse the Danish and US samples in the figures.

The results from the tables and figures demonstrate that the association between physiology

and political ideology does not depend on participants' self-reported reactions: In neither of the two countries are the interaction terms significant.

Table 4A.a Interaction effect between self-reported valence and physiological reactions to images on political ideology. Denmark.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Response	0.010 (0.037)	0.014 (0.027)	0.014 (0.026)	0.001 (0.008)
Self-report Valence	0.030 (0.024)	0.029 (0.015)	0.004 (0.018)	0.002 (0.005)
EDA Response X Self- report Valence	0.060* (0.030)	0.024 (0.024)	0.050** (0.019)	0.006 (0.007)
Constant	0.617 (0.371)	-0.579* (0.243)	-0.481 (0.301)	-0.917*** (0.075)
Observations	1205	1205	1205	1205
R^2	0.051	0.125	0.129	0.051

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income.

Table 4A.b Interaction effect between self-reported valence and physiological reactions to images on political ideology. United States.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Response	-0.043 (0.032)	-0.051 (0.041)	-0.071 (0.043)	-0.034 (0.030)
Self-report Valence	0.007 (0.012)	0.009 (0.020)	-0.012 (0.022)	-0.002 (0.012)
EDA Response X Self- report Valence	0.007 (0.024)	0.033 (0.042)	0.050 (0.038)	-0.014 (0.021)
Constant	-0.245 (0.220)	0.551 (0.347)	0.310 (0.332)	1.029*** (0.218)
Observations	1239	1239	1239	1247
R^2	0.070	0.062	0.051	0.047

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income.

Table 4A.c Interaction effect between self-reported arousal and physiological reactions to images on political ideology. United States.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Response	0.015 (0.037)	0.016 (0.027)	0.009 (0.027)	0.002 (0.007)
Self-report Arousal	0.066 (0.038)	0.035 (0.027)	0.030 (0.030)	0.010 (0.008)
EDA Response X Self- report Arousal	0.030 (0.036)	0.014 (0.025)	0.046* (0.022)	0.002 (0.007)
Constant	0.628 (0.369)	-0.576* (0.244)	-0.480 (0.301)	-0.914*** (0.074)
Observations	1205	1205	1205	1205
R^2	0.052	0.125	0.131	0.052

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income.

Table 4A.d Interaction effect between self-reported arousal and physiological reactions to images on political ideology. Denmark.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA Response	-0.038 (0.031)	-0.049 (0.043)	-0.061 (0.045)	-0.023 (0.031)
Self-report Arousal	0.035 (0.024)	0.047 (0.041)	0.021 (0.040)	0.003 (0.026)
EDA Response X Self- report Arousal	-0.030 (0.022)	-0.012 (0.037)	-0.021 (0.034)	-0.046* (0.020)
Constant	-0.232 (0.220)	0.567 (0.348)	0.321 (0.332)	1.034*** (0.218)
Observations	1239	1239	1239	1247
R^2	0.073	0.063	0.051	0.049

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income.

Figure 4A.a Marginal effect of EDA Response on political ideology, conditional on self-reported arousal.

The Danish and US sample combined.

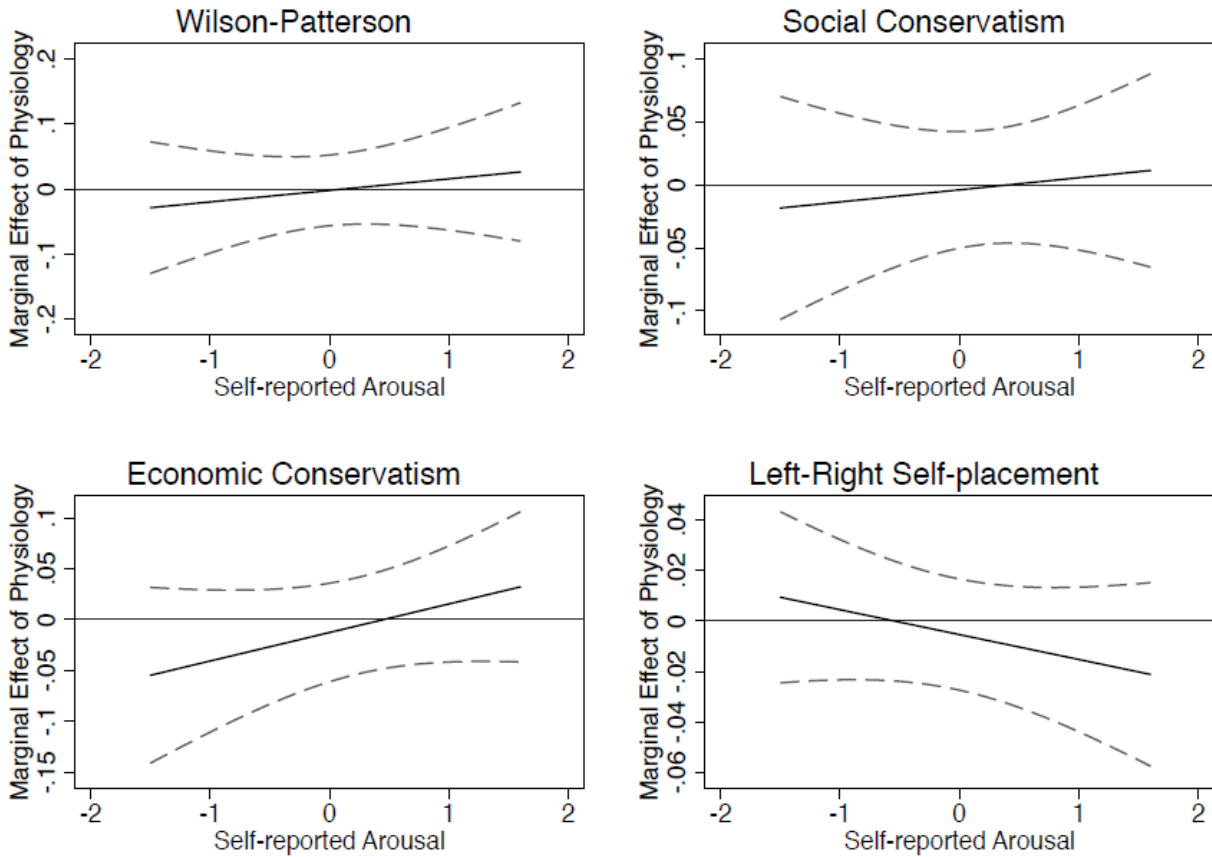
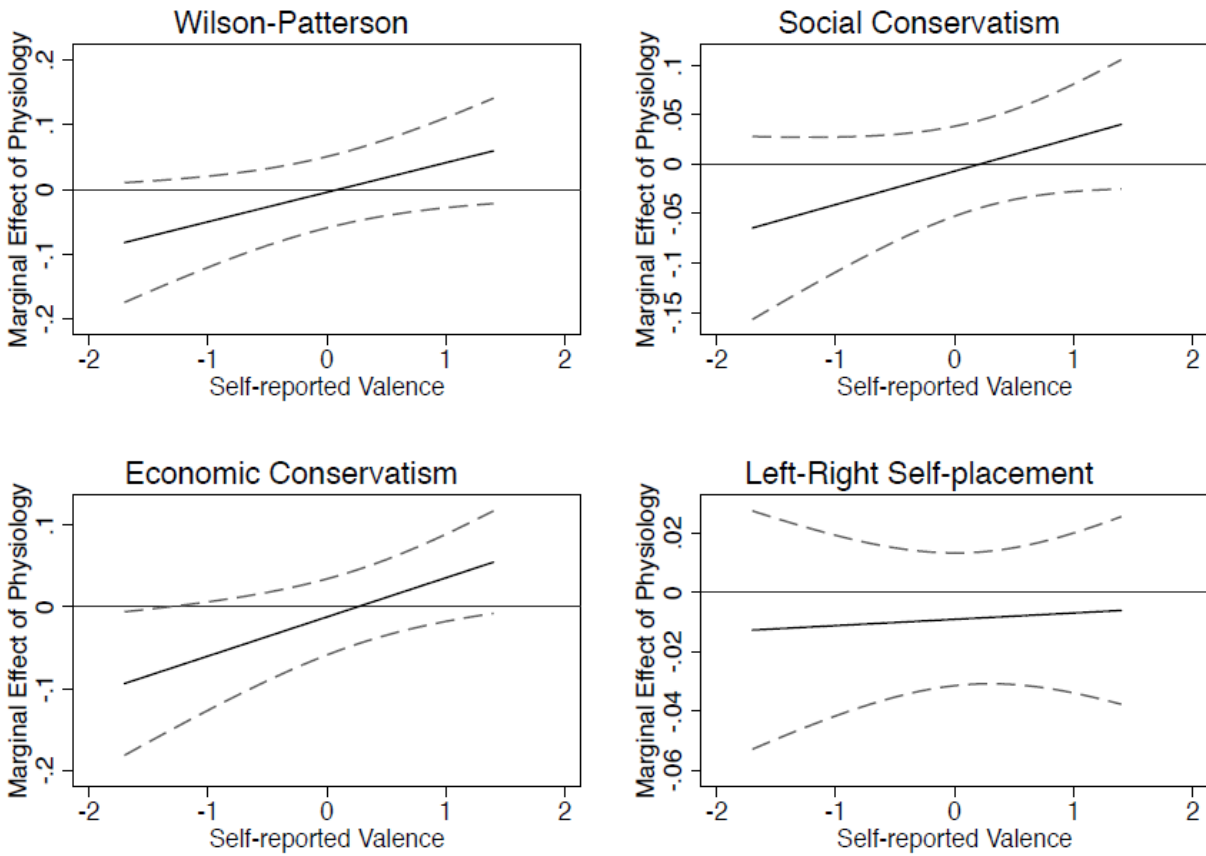


Figure 4A.b Marginal effect of EDA Response on political ideology, conditional on self-reported valence. The Danish and US sample combined.



4B EDA Responses X Self-Reported Reactions: Survey Data

In this section, we examine if the association between EDA responses to the images and political orientations depend on external raters' self-reported emotional reactions to the images. The external raters' rated the images on five dimensions: How threatening the images were (Self-Report Threat), how disgusting the images were (Self-Report Disgust), how uncomfortable the images were (Self-Report Discomfort), how arousing the images were (Self-Report Arousal), and how happy the images made the raters feel (Self-Reported Happy). To examine whether the relationship between our laboratory participants' EDA responses and their political ideology depended on these underlying characteristics of the images, we then estimated a series of models where we regressed our measures of political ideology on EDA responses to the images, the external raters' ratings of the images, as well as the interactions between EDA responses and self-reported reactions. Like before, our key units of analysis are laboratory participants' responses to a specific image. Because each of our participants had multiple responses, we clustered the standard errors by subject to correct for within-participant autocorrelation. In addition, we controlled for a set of covariates: Gender, age, education, income.

Figure 4B.a, shown below, displays the coefficients for *EDA Response X Self-Reported Rating* interactions. Thus, positive coefficients suggest that the strength of relationship between EDA responses and political ideology grows stronger as the self-reported rating on a given dimension increases. Insignificant coefficients suggest that the relationship between EDA responses and ideology does not depend on the underlying image characteristics. As we discuss in the main text, there are occasional hints that in the United States, the relationship between EDA responses and ideology grows stronger as self-reported Threat, Disgust and Discomfort ratings of the images increase (although not always significantly so). In contrast, we find no interactive effects in Denmark. Nor do we find any interaction effects between EDA responses and Self-Reported ratings when we combine data from Denmark and the United States, cf. Table 4B.a-e and Figure 4B.b-d.

Table 4B.a Interaction effect between self-reported threat and EDA responses to images on political ideology. Collapsed across countries.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA response	0.006 (0.018)	-0.003 (0.013)	-0.010 (0.015)	0.000 (0.007)
Self-Reported Threat	-0.001 (0.002)	-0.001 (0.001)	0.000 (0.001)	-0.000 (0.000)
EDA response X Self- Reported Threat	0.027 (0.014)	0.033** (0.012)	0.011 (0.014)	0.009 (0.006)
Constant	0.619** (0.234)	-0.383 (0.229)	-0.445 (0.238)	-0.833*** (0.118)
Observations	7365	7365	7365	7389
R^2	0.232	0.187	0.128	0.765

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income, country.

Table 4B.b Interaction effect between self-reported disgust and EDA responses to images on political ideology. Collapsed across countries.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA response	0.005 (0.018)	-0.001 (0.014)	-0.011 (0.016)	-0.000 (0.007)
Self-Reported Disgust	0.001 (0.001)	0.001 (0.000)	0.001 (0.000)	0.000 (0.000)
EDA response X Self- Reported Disgust	0.033* (0.015)	0.018 (0.013)	0.016 (0.013)	0.011 (0.006)
Constant	0.620** (0.234)	-0.381 (0.229)	-0.445 (0.238)	-0.832*** (0.118)
Observations	7365	7365	7365	7389
R^2	0.232	0.187	0.128	0.765

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income, country.

Table 4B.c Interaction effect between self-reported discomfort and EDA responses to images on political ideology. Collapsed across countries.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA response	0.006 (0.018)	-0.000 (0.014)	-0.011 (0.016)	0.000 (0.007)
Self-Reported Discomfort	0.001 (0.000)	0.001 (0.000)	0.001 (0.000)	0.000 (0.000)
EDA response X Self-Reported Discomfort	0.029 (0.016)	0.015 (0.014)	0.016 (0.014)	0.010 (0.006)
Constant	0.620** (0.234)	-0.381 (0.229)	-0.445 (0.238)	-0.832*** (0.118)
Observations	7365	7365	7365	7389
R^2	0.232	0.187	0.128	0.765

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income, country.

Table 4B.d Interaction effect between self-reported arousal and EDA responses to images on political ideology. Collapsed across countries.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA response	0.009 (0.019)	0.002 (0.014)	-0.010 (0.016)	0.001 (0.007)
Self-Reported Arousal	0.000 (0.000)	0.000 (0.000)	0.001 (0.000)	-0.000 (0.000)
EDA response X Self- Reported Arousal	0.012 (0.017)	0.002 (0.016)	0.014 (0.015)	0.002 (0.007)
Constant	0.620** (0.235)	-0.381 (0.229)	-0.445 (0.238)	-0.832*** (0.118)
Observations	7365	7365	7365	7389
R^2	0.231	0.187	0.128	0.765

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income, country.

Table 4B.e Interaction effect between self-reported joy reactions and EDA responses to images on political ideology. Collapsed across countries.

	(1) Wilson- Patterson	(2) Social Conservatism	(3) Economic Conservatism	(4) Left-Right Self- Placement
EDA response	0.008 (0.019)	0.000 (0.014)	-0.009 (0.016)	0.001 (0.007)
Self-Reported Happy	-0.001 (0.000)	-0.001 (0.000)	-0.000 (0.000)	-0.000 (0.000)
EDA response X Self- Reported Happy	-0.031* (0.014)	-0.019 (0.014)	-0.012 (0.014)	-0.012* (0.006)
Constant	0.620** (0.234)	-0.381 (0.229)	-0.445 (0.238)	-0.833*** (0.118)
Observations	7365	7365	7365	7389
R^2	0.232	0.187	0.128	0.765

Cluster robust standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Covariates: Gender, age, education, income, country.

Figure 4B.a Estimated coefficients from the *EDA Response X Self-Reported Ratings* interactions on four measures of political ideology.

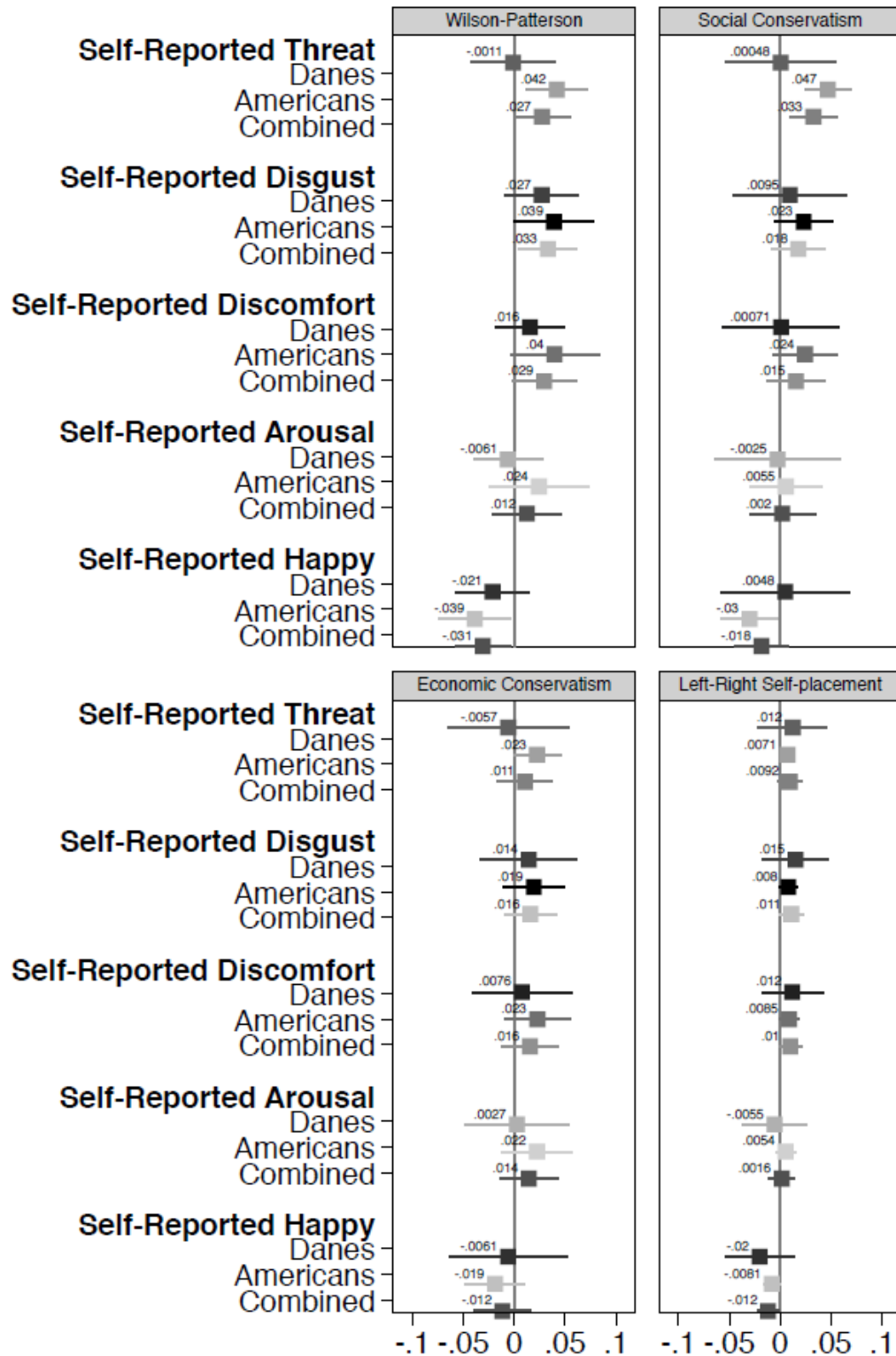


Figure 4B.b Marginal effect of EDA responses on political among, conditional on Self-Reported Threat ratings. Collapsed across the two samples.

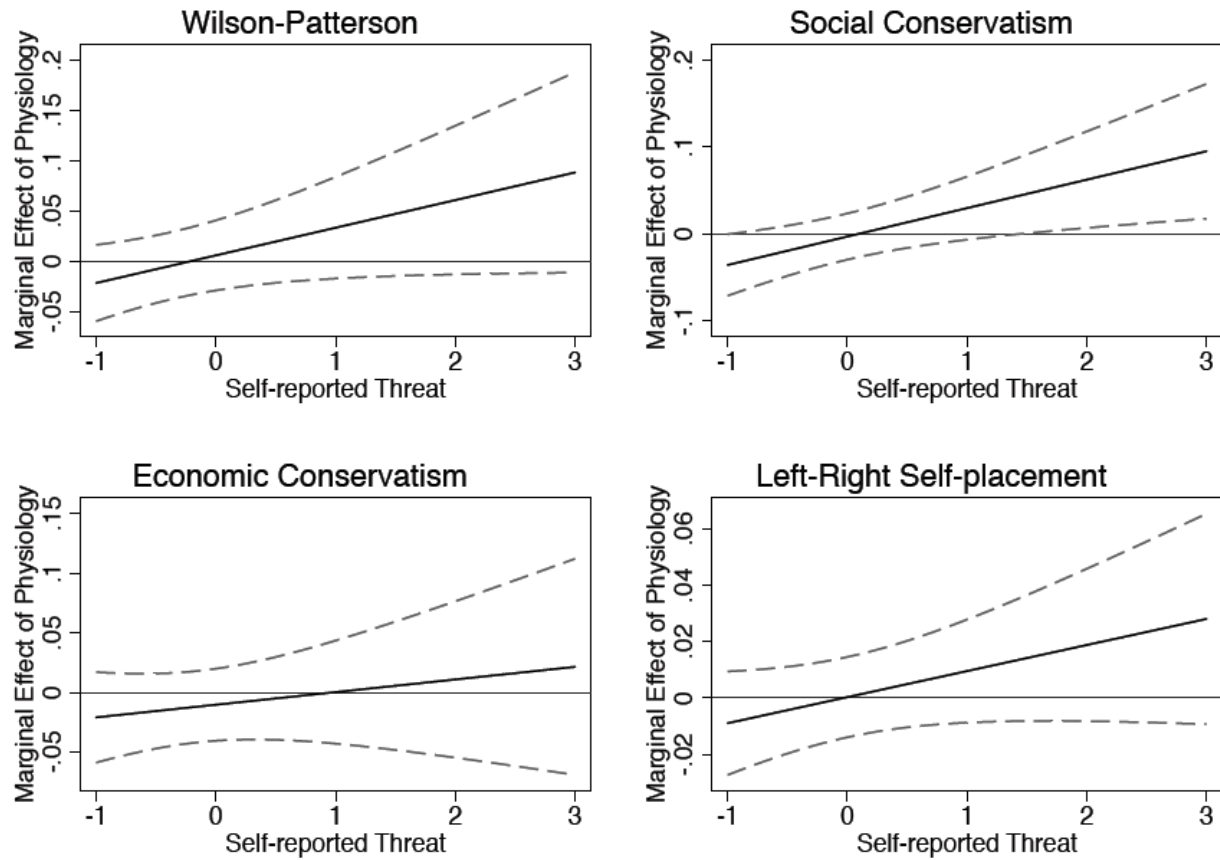


Figure 4B.c Marginal effect of EDA responses on political among, conditional on Self-Reported Disgust ratings. Collapsed across the two samples.

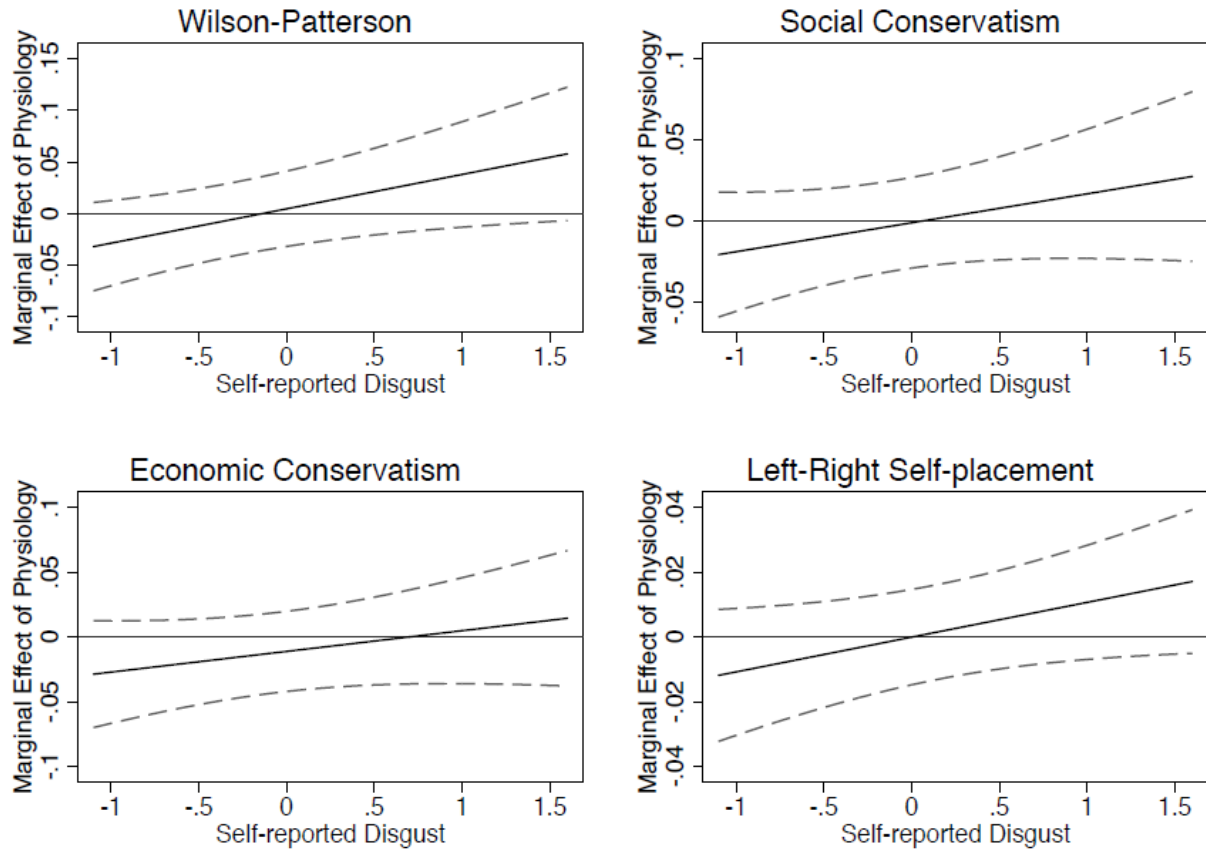


Figure 4B.d Marginal effect of EDA responses on political among, conditional on Self-Reported Discomfort ratings. Collapsed across the two samples.

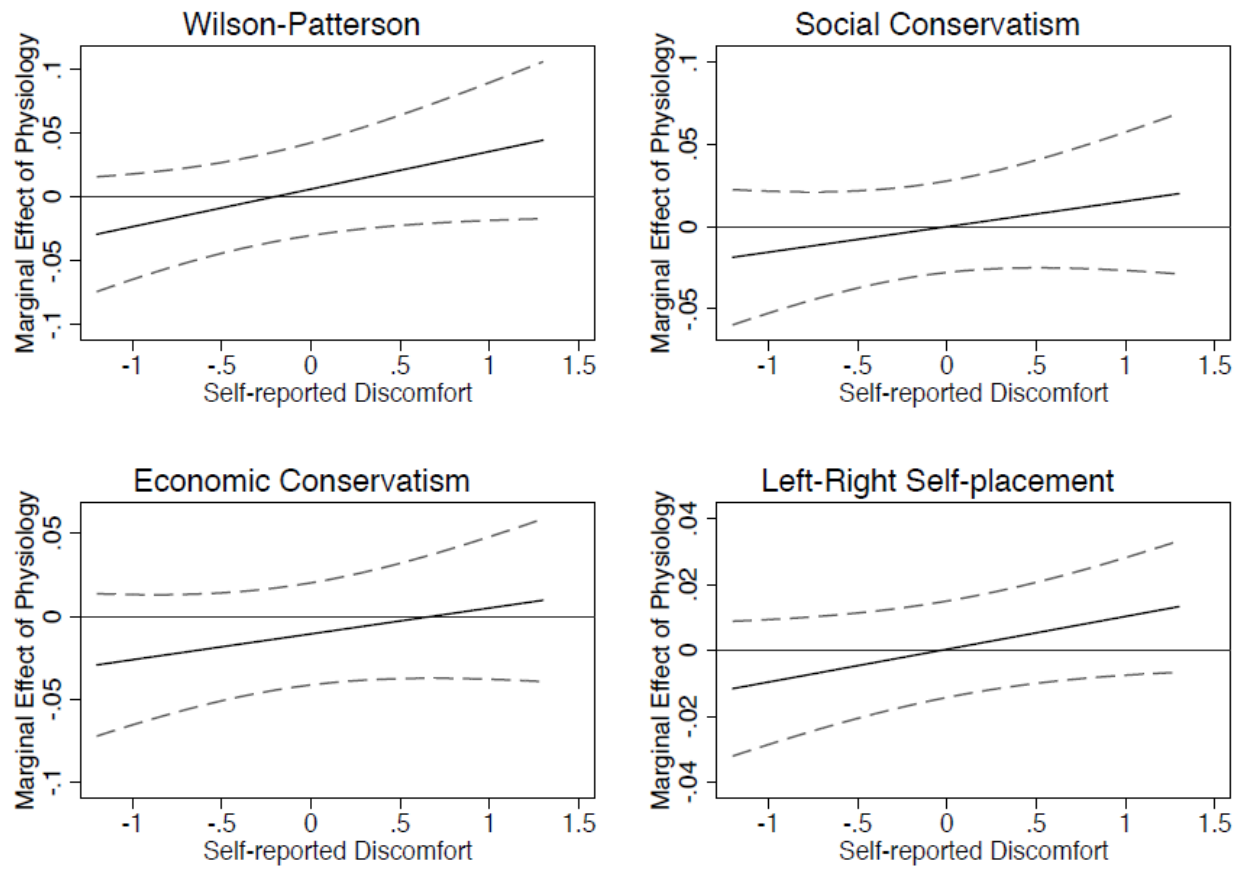


Figure 4B.e Marginal effect of EDA responses on political among, conditional on Self-Reported Happy ratings. Collapsed across the two samples.

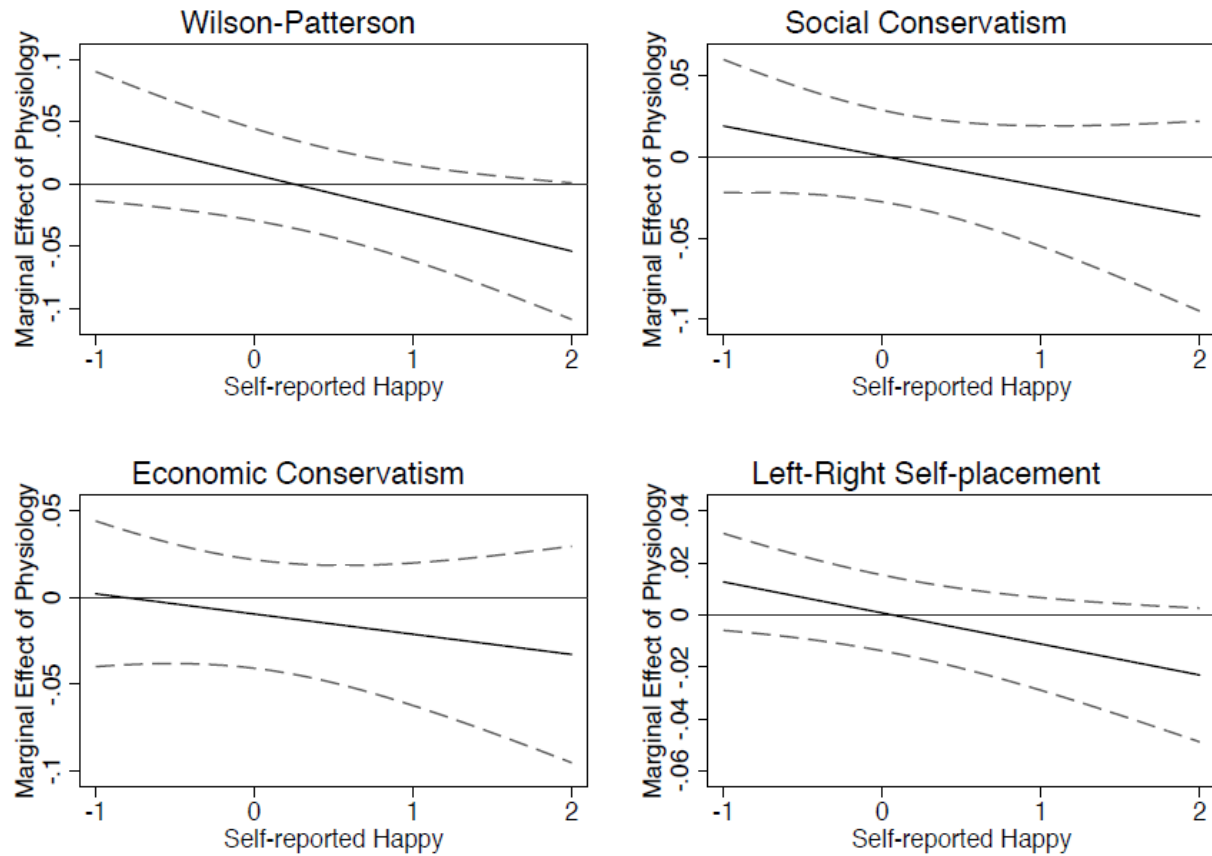
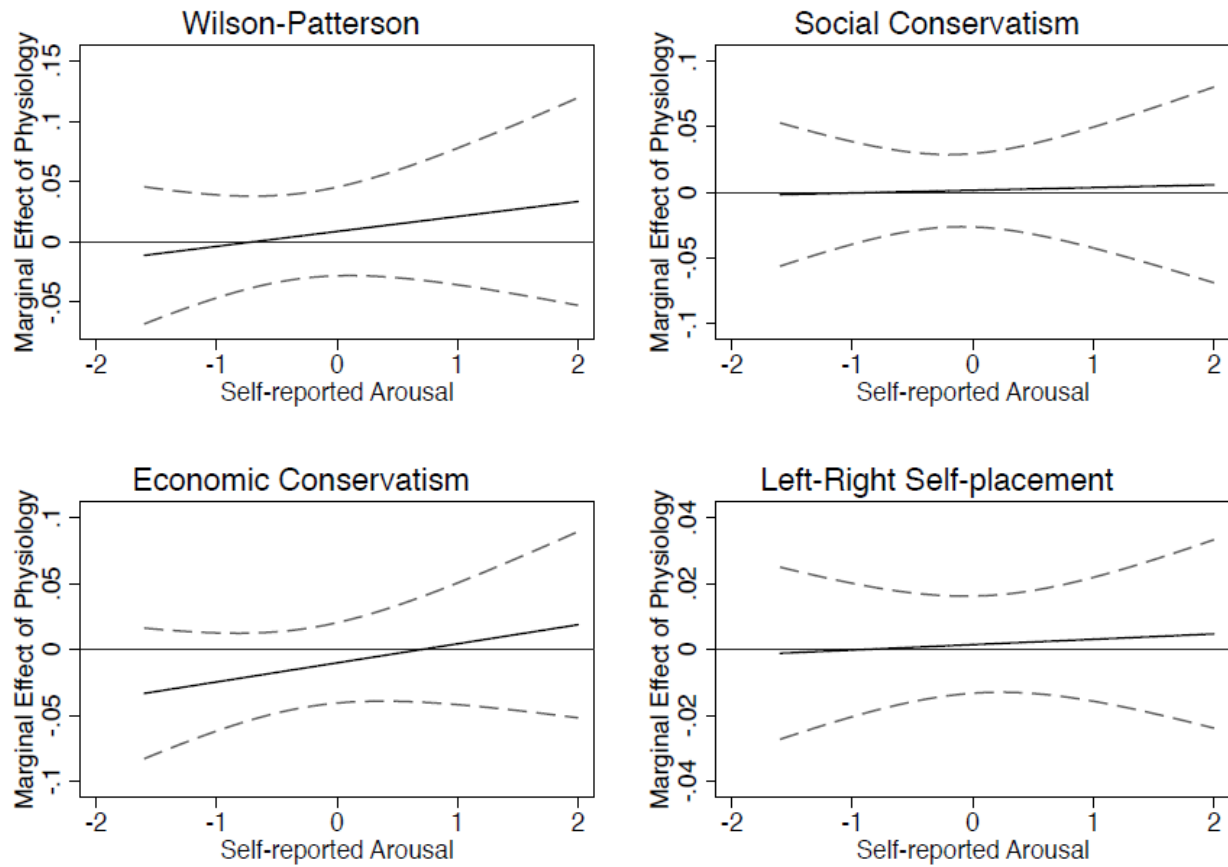


Figure 4B.f Marginal effect of EDA responses on political among, conditional on Self-Reported Arousal ratings. Collapsed across the two samples.



5 Additional analyses

In this section, we conduct a series of additional tests. In the first test, we apply in our laboratory studies another measure of physiological reactions to negative images: The area-bounded-by-the-curve approach. In the second test, we follow the approach laid out in Oxley *et al.* (2008), and only include participants with “strong political convictions.” In the third test, we impose another and more stringent coding scheme on our physiological data. In the fourth test, we rerun the laboratory analyses with a completely different physiological measure: Electromyographic (EMG) reactions to the images. Finally, in the fifth test we rerun the analyses with three alternative measures of political ideology: the Society Works Best scale, Right-Wing Authoritarianism and Social Dominance Orientation.

5A Area-under-the-Curve

To probe the robustness of our findings we ran the laboratory analyses from the main text again, this time using the area-under-the-curve approach (abbreviated AUC, e.g., Aaroe *et al.* 2017; Petersen *et al.* 2015; see Figner & Murphy 2011 for a detailed description of the procedure). To construct our AUC measure, we calculated for each image the log-transformed area defined by the EDA curve and the abscissa. We then summed the AUC measures for all the images within each of the four image categories. We did not subtract from that the log-transformed area during the inter-stimulus period.

The following analyses examine (1) the validity and reliability of our AUC measures, (2) present univariate distributions of the measures, (3) show the correlations between the self-reported survey reactions to the images and the AUC measure, (3) the correlations between our AUC measures and the log-and-subtract methods from the main text, and (4) replicate the results from the main analysis with the AUC measures.

Denmark: Correlations between stimulus and inter-stimulus interval. Threatening and Disgusting Images.

- Average Correlation, Threat Images_{Stimulus vs Inter-Stimulus Intervals}: .77
- Average Correlation, Disgust Images_{Stimulus vs Inter-Stimulus Intervals}: .78

Denmark: Convergent validity and reliability of ABC reactions to images

Here, we show the correlations between participants' AUC responses to the images *within* each of the four image categories:

- Correlations between items for threat images: .46, $\alpha = .84$
- Correlations between items for disgust images: .39, $\alpha = .79$
- Correlations between items for positive images: .40, $\alpha = .80$
- Correlations between items for neutral images: .44, $\alpha = .82$

Denmark: Discriminant validity AUC reactions to images:

Here, we show the correlations between participants' responses to the question of how positive or negative their reactions were *across* image categories

	Threat Images	Disgust Images	Positive Images	Neutral Images
Threat Images	1			
Disgust Images	.76	1		
Positive Images	.81	.78	1	
Neutral Images	.78	.78	.80	1

United States: Correlations between stimulus and inter-stimulus interval. Threatening and Disgusting Images.

- Average Correlation, Threat Images_{Stimulus vs Inter-Stimulus Intervals}: .83
- Average Correlation, Disgust Images_{Stimulus vs Inter-Stimulus Intervals}: .82

United States: Convergent validity and reliability of AUC reactions to images

Here, we show the correlations between participants' AUC responses to the images *within* each of the four image categories:

- Correlations between items for threat images: .60, $\alpha = .90$
- Correlations between items for disgust images: .55, $\alpha = .88$
- Correlations between items for positive images: .40, $\alpha = .80$
- Correlations between items for neutral images: .59, $\alpha = .90$

United States: Discriminant validity AUC reactions to images:

Here, we show the correlations between participants' responses to the question of how positive or negative their reactions were *across* image categories

	Threat Images	Disgust Images	Positive Images	Neutral Images
Threat Images	1			
Disgust Images	.92	1		
Positive Images	.89	.91	1	
Neutral Images	.89	.89	.88	1

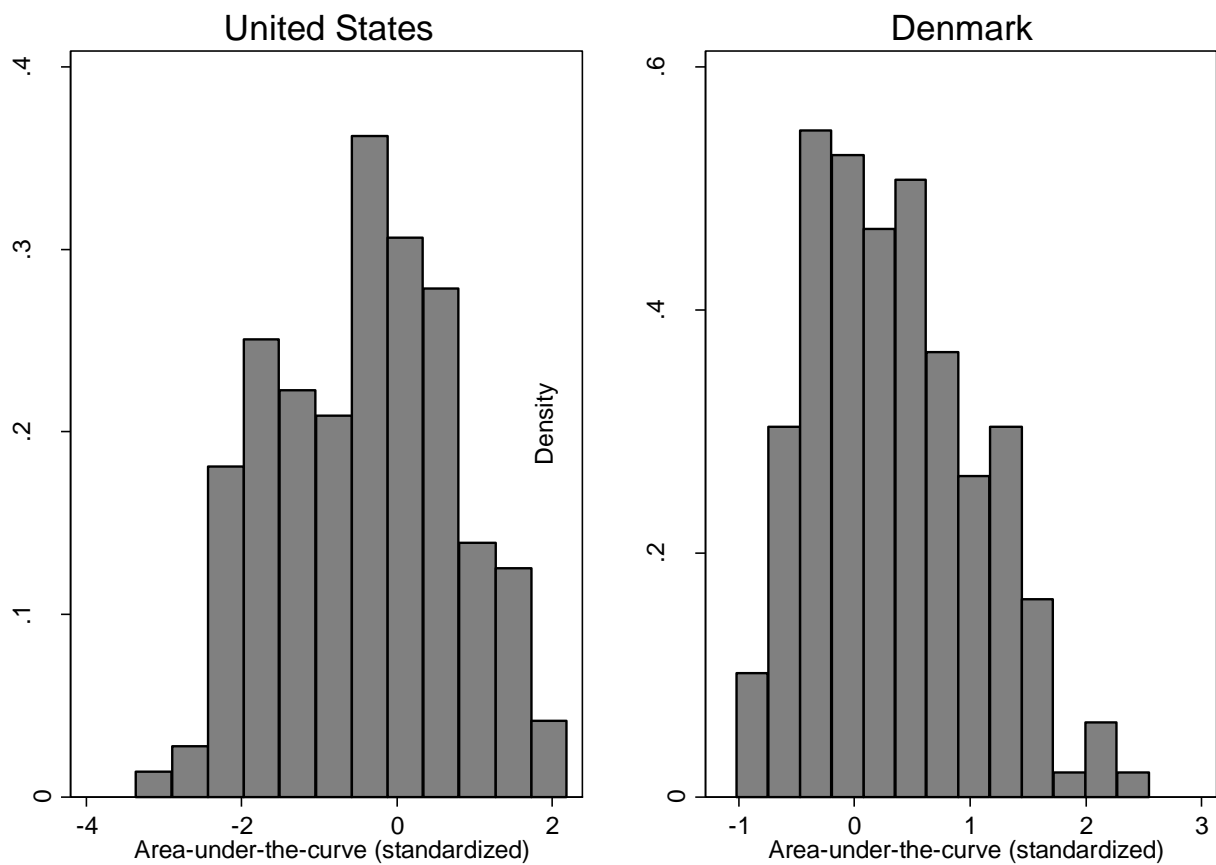


Table 5A.a Correlations between area-under-the-curve (AUC) physiological measures and self-reported emotional reactions to the 24 images from survey data. Denmark.

	AUC Measure	Threat Ratings	Disgust Ratings	Discomfort Ratings	Emotion Strength Ratings	Happy Ratings
AUC Measure	1					
Threat Ratings	.05	1				
Disgust Ratings	.02	.51	1			
Discomfort Ratings	.02	.58	.95	1		
Emotion Strength Ratings	.03	.46	.68	.80	1	
Happy Ratings	-.02	-.55	-.84	-.87	-.46	1

Table 5A.b Correlations between area-under-the-curve (AUC) physiological measures and self-reported emotional reactions to the 24 images from survey data. United States.

	AUC Measure	Threat Ratings	Disgust Ratings	Discomfort Ratings	Emotion Strength Ratings	Happy Ratings
AUC Measure	1					
Threat Ratings	.02	1				
Disgust Ratings	.02	.51	1			
Discomfort Ratings	.02	.58	.95	1		
Emotion Strength Ratings	.03	.46	.68	.80	1	
Happy Ratings	.00	-.55	-.84	-.87	-.46	1

Table 5A.c Correlations between Area-under-the-curve (AUC) and self-reported laboratory images. Denmark

	AUC Threat	AUC Disgust	Self-report Threat images – Valence	Self-report Disgust images – Valence	Self-report Threat images – Arousal	Self-report Disgust images – Arousal
AUC Threat	1					
AUC Disgust	.54	1				
Self-report Threat images – Valence	.04	-.00	1			
Self-report Disgust images – Valence	.10	.08	.46	1		
Self-report Threat images – Arousal	.04	-.01	.64	.35	1	
Self-report Disgust images – Arousal	.06	.06	.43	.70	.59	1

Table 5A.c Correlations between Area-under-the-curve (AUC) and self-reported laboratory images.
United States

	AUC Threat	AUC Disgust	Self-report Threat images – Valence	Self-report Disgust images – Valence	Self-report Threat images – Arousal	Self-report Disgust images – Arousal
AUC Threat	1					
AUC Disgust	.79	1				
Self-report Threat images – Valence	-.01	-.03	1			
Self-report Disgust images – Valence	.04	.04	.58	1		
Self-report Threat images – Arousal	-.03	-.11	.72	.44	1	
Self-report Disgust images – Arousal	-.07	-.10	.50	.65	.64	1

Table 5A.e Correlations between Area-under-the-curve (AUC) and log-and-subtract (LS) method.
Denmark

	AUC Threat	AUC Disgust	Threat LS	Disgust LS
AUC Threat	1			
AUC Disgust	.76	1		
Threat LS	.45	.24	1	
Disgust LS	-.04	.14	-.08	1

Table 5A.f Correlations between Area-under-the-curve (AUC) and log-and-subtract (LS) method. United States

	AUC Threat	AUC Disgust	Threat LS	Disgust LS
AUC Threat	1			
AUC Disgust	.92	1		
Threat LS	.21	.13	1	
Disgust LS	.06	.17	.10	1

Figure 5A.a Correlations between AUC responses to the images and four measures of political ideology. Denmark and United States

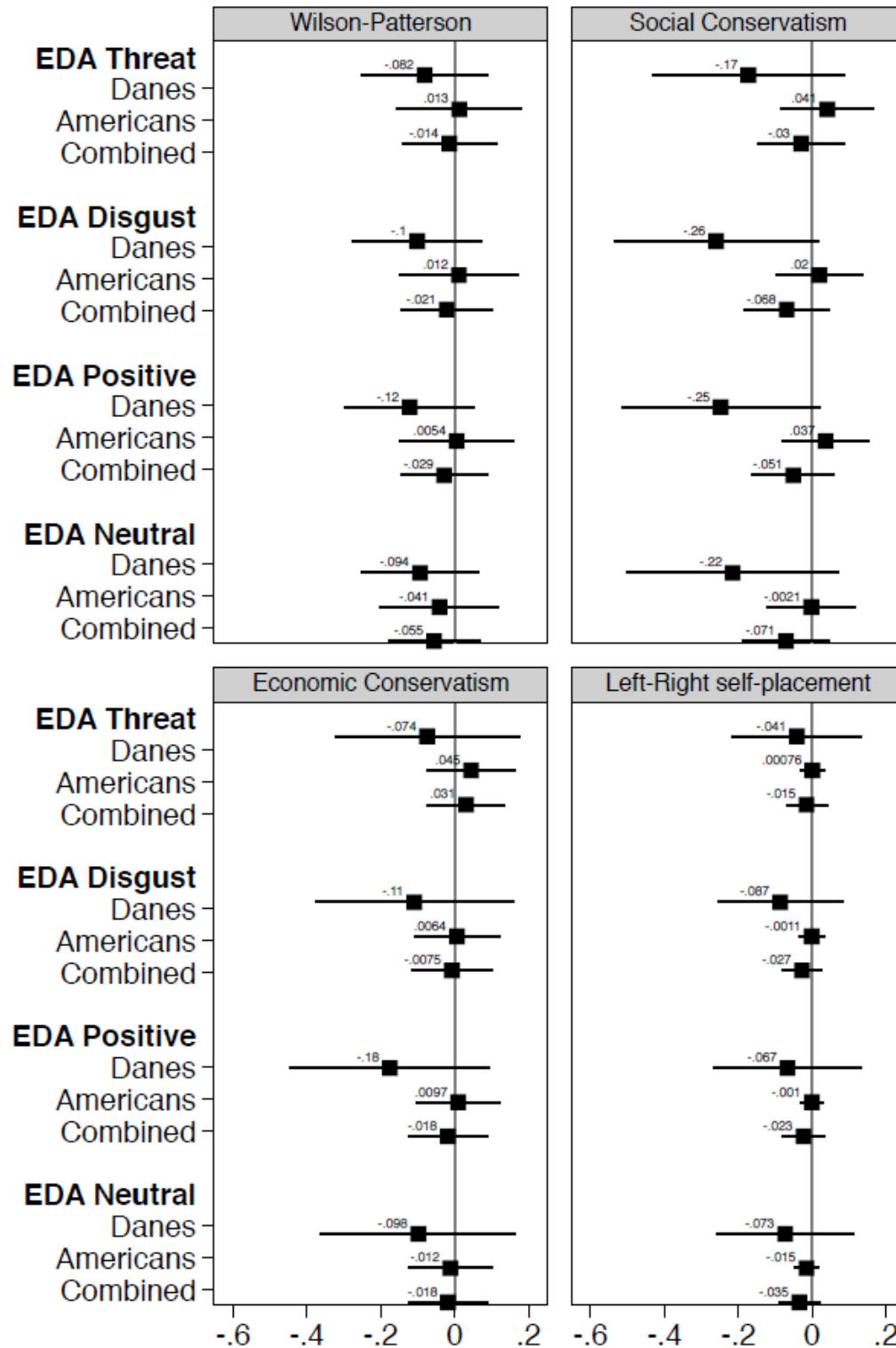
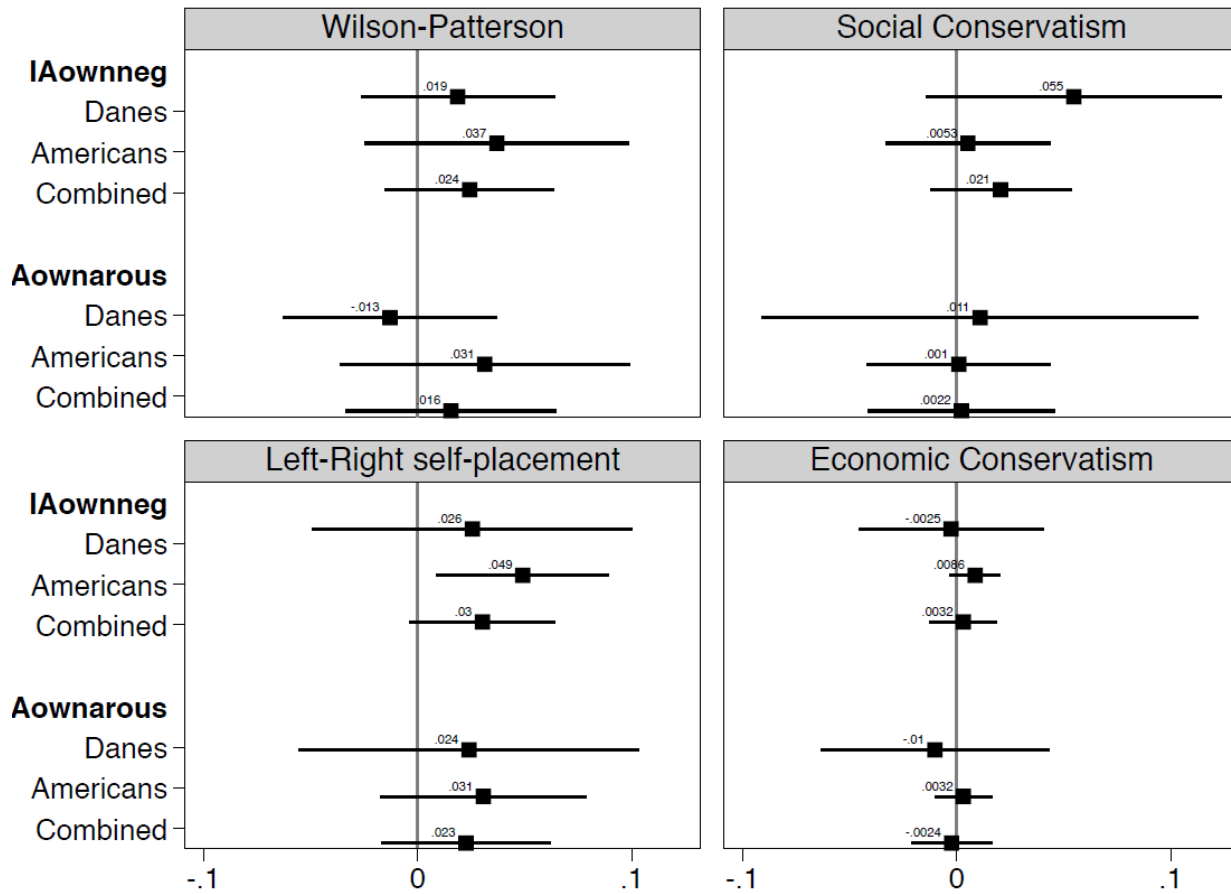
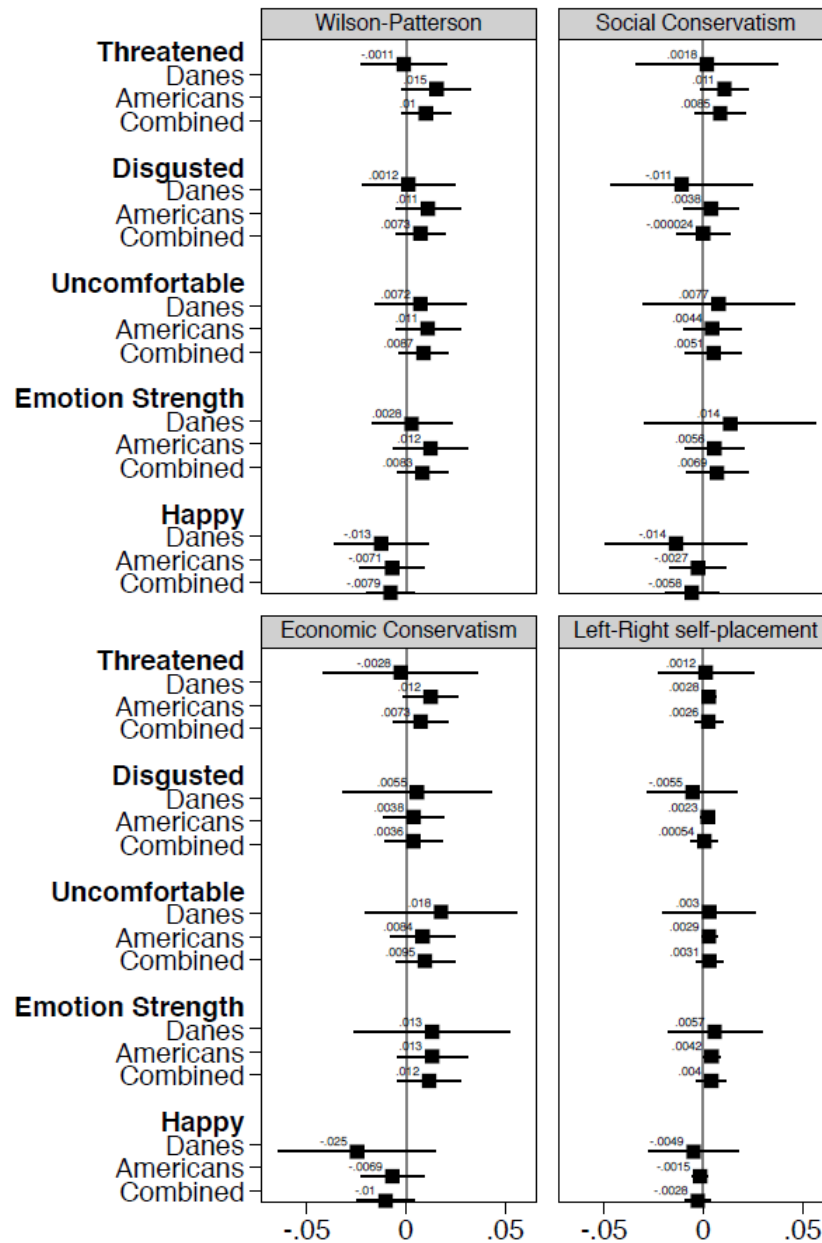


Figure 5A.b Self-reported laboratory ratings X AUC responses to images. Denmark and United States.



Note. *IAownneg*: Coefficient for interaction term between valence ratings of images and EDA responses calculated as area-under-the-curve of phasic signal. *IAownarous*: Coefficient for interaction term between arousal ratings of images and EDA responses calculated as area-under-the-curve of phasic signal.

Figure 5A.c Self-reported survey ratings X AUC responses to negative images. Denmark and the United States.



Note. *Iathreat*: Coefficient for interaction term between threat ratings of images from survey and EDA responses calculated as area-under-the-curve of phasic signal. *Iadisgust*: Coefficient for interaction term between disgust ratings of images from survey and EDA responses calculated as area-under-the-curve of phasic signal. *IAdiscomfort*: Coefficient for interaction term between discomfort ratings of images from survey and EDA responses calculated as area-under-the-curve of phasic signal. *Iastrong*: Coefficient for interaction term between strength of emotional reactions to images from survey and EDA responses calculated as area-under-the-curve of phasic signal. *IAhappy*: Coefficient for interaction term between strength of joy in response to images from survey and EDA responses calculated as area-under-the-curve of phasic signal.

5A.1 Area-under-the-Curve: Tonic vs phasic signal

In the main text, we discuss why our area-under-the-curve measures yield estimates that are more reliable than those we obtain with the log-and-subtract method (e.g., p. 32). We argue that it is the transformation from a *tonic* (i.e., the slow-changing levels of the EDA) signal to a *phasic* (i.e., the rapid changes in the EDA) signal that increases the reliability of our measures rather than the area-under-the-curve method (versus the log-and-subtract method) specifically. When transforming a tonic signal to a phasic signal, we impose a so-called high-pass filter to remove inter-individual differences in EDA reactivity as well as intra-individual drift in the signal. It is this filtering process, we argue, that makes our measure reliable.

We conclude so by examining **Table 5A.1a-b**, shown below. The tables show correlations between measures based on the tonic and phasic signal, respectively. For each of the two signals, we show EDA responses to all the 24 images, calculated either as the area-under-the curve or as the average EDA response ("Average"), which is used to construct the log-and-subtract measure. However, to ease interpretation we compare the raw numbers without first taking the logarithm and subtracting EDA responses to the inter-stimulus materials, as we normally would for the log-and-subtract method. We show the results separately for Denmark and the United States.

The tables clearly illustrate that when the two measures derive from the same signal -- either the tonic or phasic signal -- they correlate perfectly. This is not surprising: It simply reflects how areas and averages are calculated. Instead, we see that the correlation drops appreciably when comparing measures across the tonic and phasic signal. Together, these findings underscore our point. Because measures derived from the same signal are identical, they lead to equally (un-)reliable measures. Thus, the increase in reliability must be due to the data filtering that happens when we move from a tonic to a phasic signal.

Finally, note that while the correlations drop when comparing the tonic and the phasic signals, they remain quite high (r 's > .70). To understand the correlations, we plot the correlations between EDA responses calculated as the area-under-the-curve on the phasic signal and the average EDA response

on the tonic signal in **Figure 5.1a**, shown below. The plots show that a few outliers to some extent drive the high correlations and that for most participants the two measures are relatively independent of each other. This independence reflect that the two measures are conceptually different: the tonic measure is a measure of levels of baseline physiological arousal and the phasic measure is a measure of divergence from this baseline. Nonetheless, the plots also make clear that there is a substantial overlap: people who have high baseline physiological arousal also seems to be more easily aroused further.

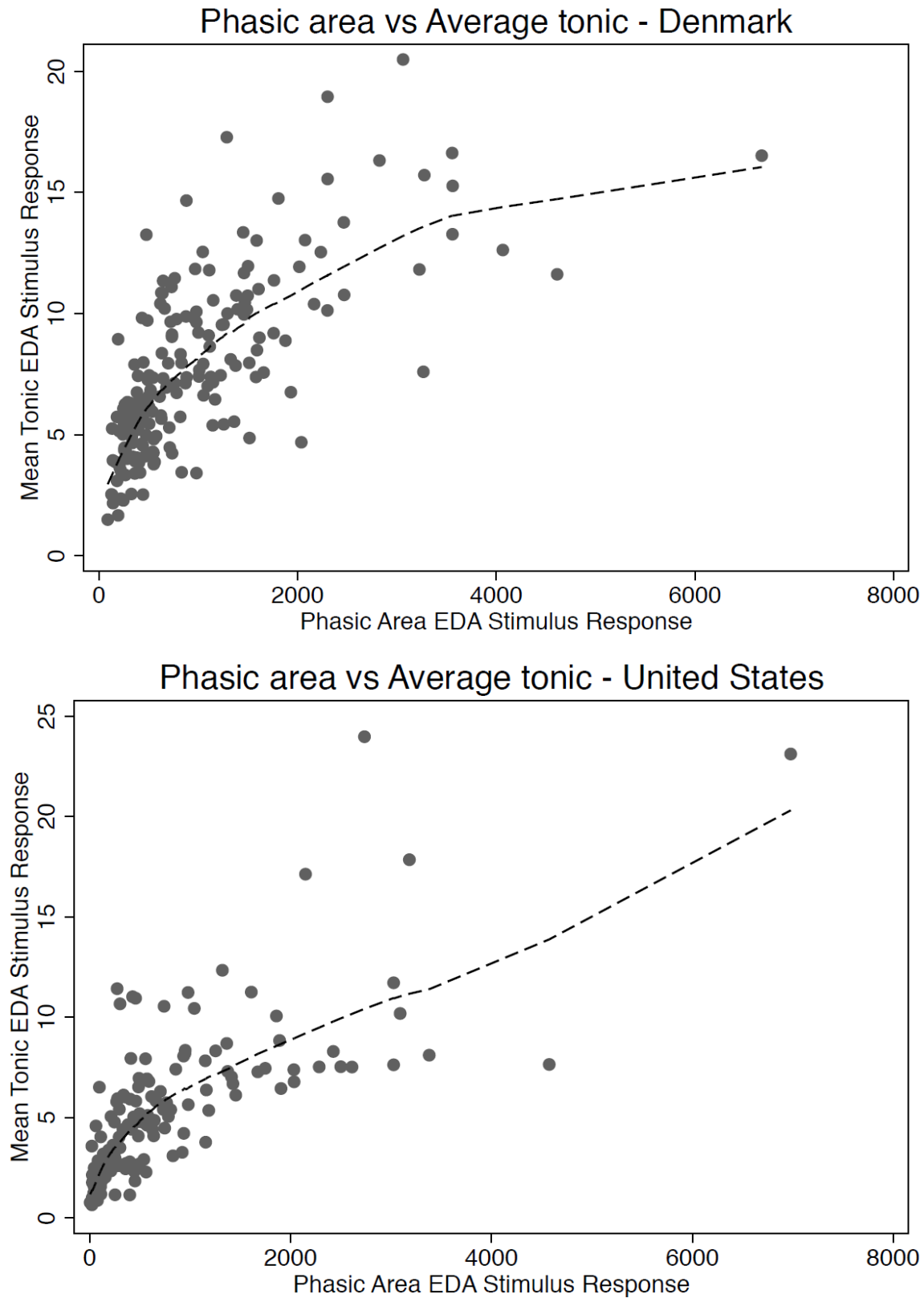
Table 5A.1a Correlations between Area-under-the-curve (AUC) and log-and-subtract (LS) method. Tonic versus phasic signals. Denmark.

	Area_Tonic	Average_Tonic	Area_Phasic	Average
Area_Tonic	1			
Average_Tonic	.99	1		
Area_Phasic	.70	.69	1	
Average_Phasic	.70	.70	.99	1

Table 5A.1b Correlations between Area-under-the-curve (AUC) and log-and-subtract (LS) method. Tonic versus phasic signals. United States

	Area_Tonic	Average_Tonic	Area_Phasic	Average_Phasic
Area_Tonic	1			
Average_Tonic	.99	1		
Area_Phasic	.73	.73	1	
Average_Phasic	.73	.73	.99	1

Figure 5A.1a Correlations between EDA responses calculated as the area-under-the-curve on the phasic signal versus the average EDA response on the tonic signal.



5B EMG

In our Danish and American laboratory studies, we also collected data on participants' electromyographic (EMG) responses to the 24 images. We included an EMG measure because studies have documented that people respond with greater facial EMG activity over the *corrugator supercilii* (i.e., the "frowning muscle") when they process aversive and negative stimuli. In contrast to skin conductance responses, EMG activity thus allows us to specifically gauge physiologically *valenced* reactions to (i.e., negative) stimuli.

Facial Electromyographic Activity, procedure. Data on EMG activity over the corrugator of the left eye was collected from participants using a pair of electrodes filled with gel. Electrodes were connected via electrode leads to standard physiological equipment (BIOPAC Systems, MP150). The two electrodes were spaced approximately 2 cm apart. Before placement of the electrodes, the skin was abraded at the points of contact using skin abrasive gel. The gel was subsequently removed using alcohol and a cotton swab. The raw EMG signals were amplified with frequencies below 90 Hz and above 1,000 Hz being filtered. The raw signal was then rectified and integrated with a nominal time constant of 100 ms. Physiological data acquisition was obtained using AcqKnowledge 4.0.

We followed a recent recommendation, and constructed our measure of facial EMG response by using a square-root transformation on the average EMG responses for each image and each inter-stimulus period (Peterson et al. 2018).⁴ We then subtracted EMG responses during the inter-stimulus period from EMG responses during image exposure before computing the mean change across the six images from each of the four image categories. We note that like for the EDA responses, the correlations between EMG responses to the images and EMG responses during inter-stimulus exposure were extremely highly correlated, all r 's > .99.

⁴ Peterson JC, Jacobs C, Hibbing J, & K Smith. 2018. In your face: Emotional expressivity as a predictor of ideology. *Politics and Life Sciences* 37(1): 1-15.

Results. Figure 5B.a displays estimated regression coefficients from models where we regressed our four measures of political ideology on EMG responses to threatening, disgusting, neutral and positive images. We do not find any significant main effects of EMG responses to any image type in neither Denmark or the United States- Here, we do not find any main effects of EMG reactions to any of the image types in the Danish study. In the United States, however, we find that stronger EMG responses to all four categories of images correlate with *liberal* views on three of our ideology measures: Wilson-Patterson, Economic Conservatism, and Left-Right self-placement. Although these results run counter to those reported in the main text where we rely on EDA response data instead, they are compatible with a recent paper by Peterson *et al.* (2018).⁵

Figure 5B.b display the estimated regression coefficients for the *EMG responses X Self-reported Image Rating*, where the self-reported image evaluations come from the laboratory participants themselves. The results do not indicate that self-reported evaluations of the images condition the association between EMG responses and political ideology, neither in Denmark nor in the United States.

Lastly, we turn to figure 5B.c. The figure shows the estimated regression coefficients for the *EMG responses X Self-Reported Image Rating* interaction terms, where the self-reported image evaluations were from our external raters from our survey study. Again, there does not appear to be a systematic interaction effect between EMG responses and self-reported evaluations of the images.

⁵ Peterson JC, Jacobs C, Hibbing J, & K Smith. 2018. In your face: Emotional expressivity as a predictor of ideology. *Politics and Life Sciences* 37(1): 1-15.

Figure 5B.a Correlations between EMG responses to images and four measures of political ideology.

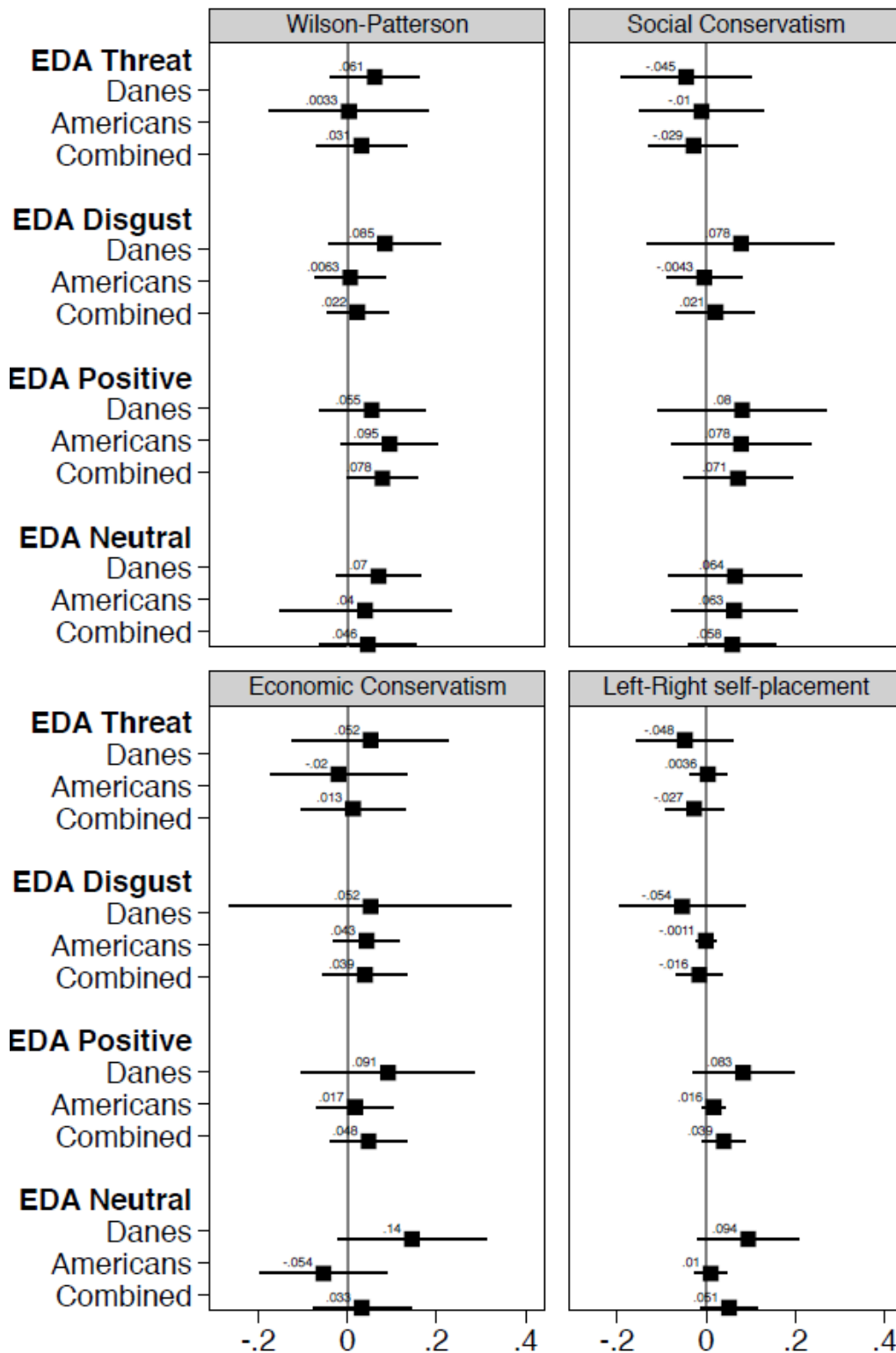


Figure 5B.b Self-reported laboratory ratings X EMG responses to negative images. Denmark and United States.

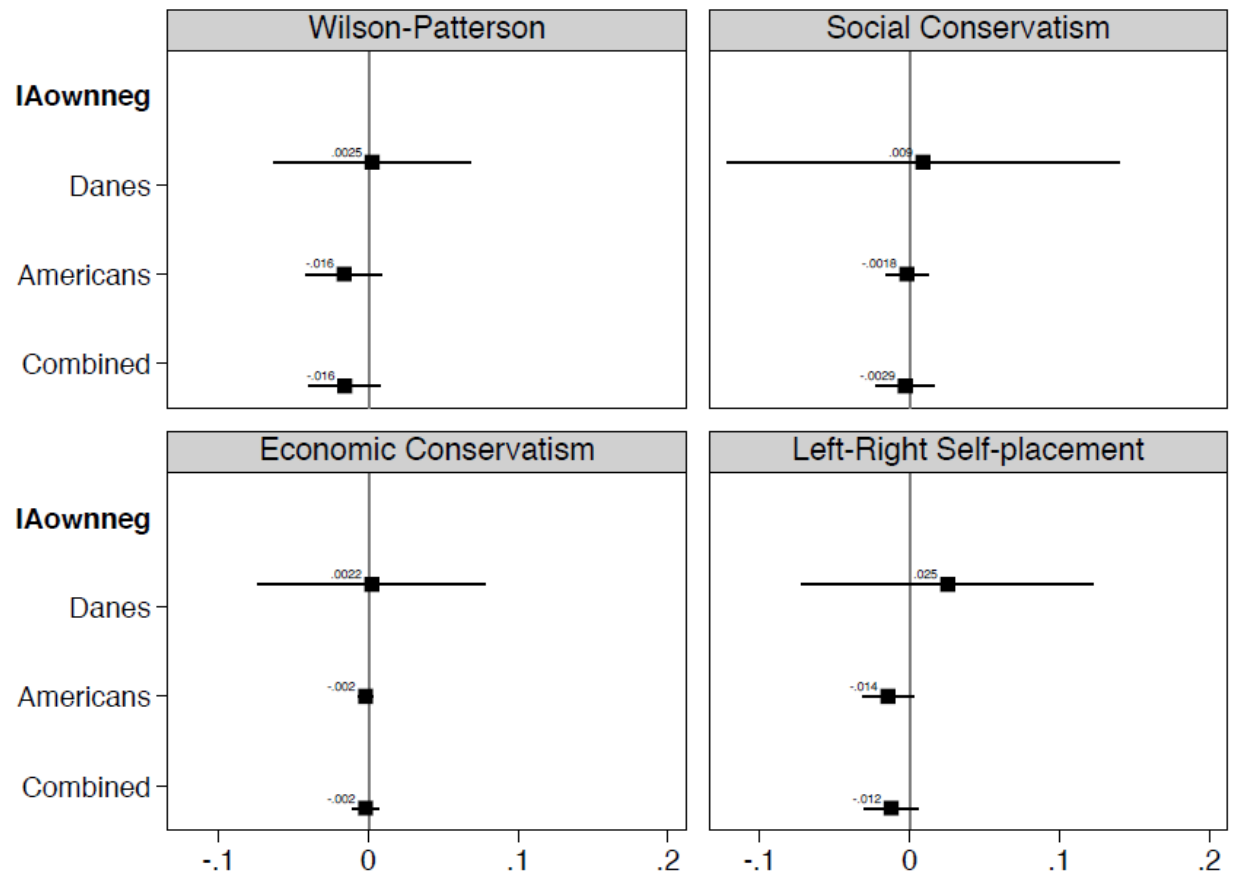
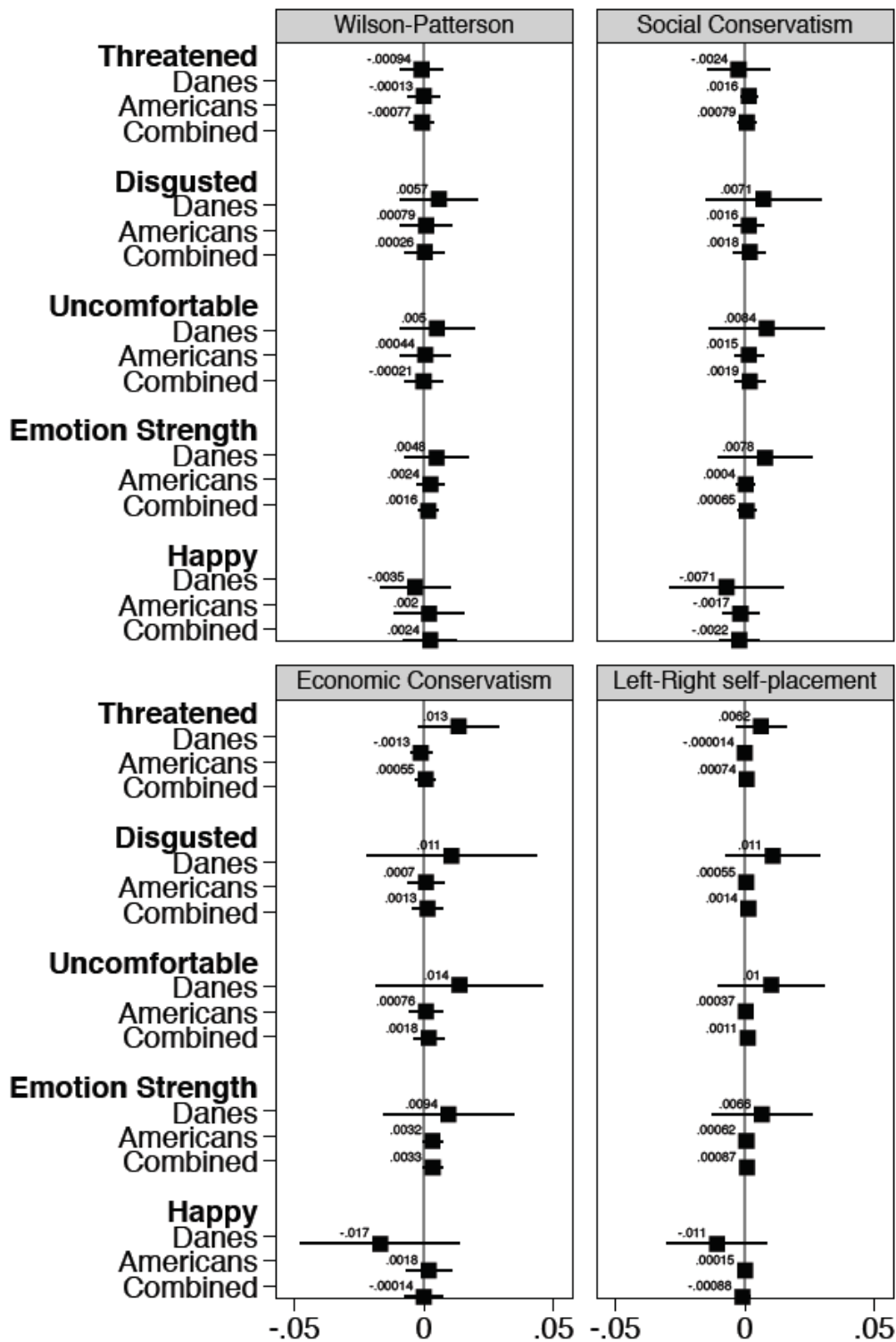


Figure 5B.c Self-reported survey ratings X EMG responses to negative images. Denmark and the United States.



5C Participants with strong political convictions

The original Oxley *et al.* (2008) study screened participants based on the strength of their political convictions. Specifically, they only included participants who responded with “Yes” to the following three questions:

- Do you follow politics or political issues closely?
- Is there a certain political issue or set of political issues you feel strongly about?
- Have you ever supported a particular political issue or cause?

Here, we included two similar questions (we did not include the last question in our survey):

- How interested are you in politics? (Response: 1=Very interested; 4 = Not at all interested)
- How strongly would you say you feel about political issues? (Response: 1 = No feelings at all on political issues; 11 = Intense feelings about political issues)

To mirror closely Oxley *et al.* (2008) we ran the analyses again, this time only with participants who were “Very interested” in politics *and* who had moderate to intense feelings about political issues. This left us with $n = 173$ across our two samples; $n_{US} = 122$, $n_{DK} = 51$.

Results. Figure 5C.a-c (shown below) replicate the main results from our analyses, except here we include only participants with strong political convictions. Figure 5C.a resembles figure 1 from the main text in that stronger EDA responses correlate with conservatism in the United States and with liberalism in Denmark. In terms of the conditioning effect of self-reported image evaluations – i.e., figure 5C.b-c – the overall pattern of results remain essentially the same, although some of the coefficients change slightly. Taken together, these results suggest that participants with strong political convictions react, physiologically speaking, to the images similarly to “ordinary” citizens.

Figure 5C.a Association between skin conductance responses and political ideology among participants with strong political convictions.

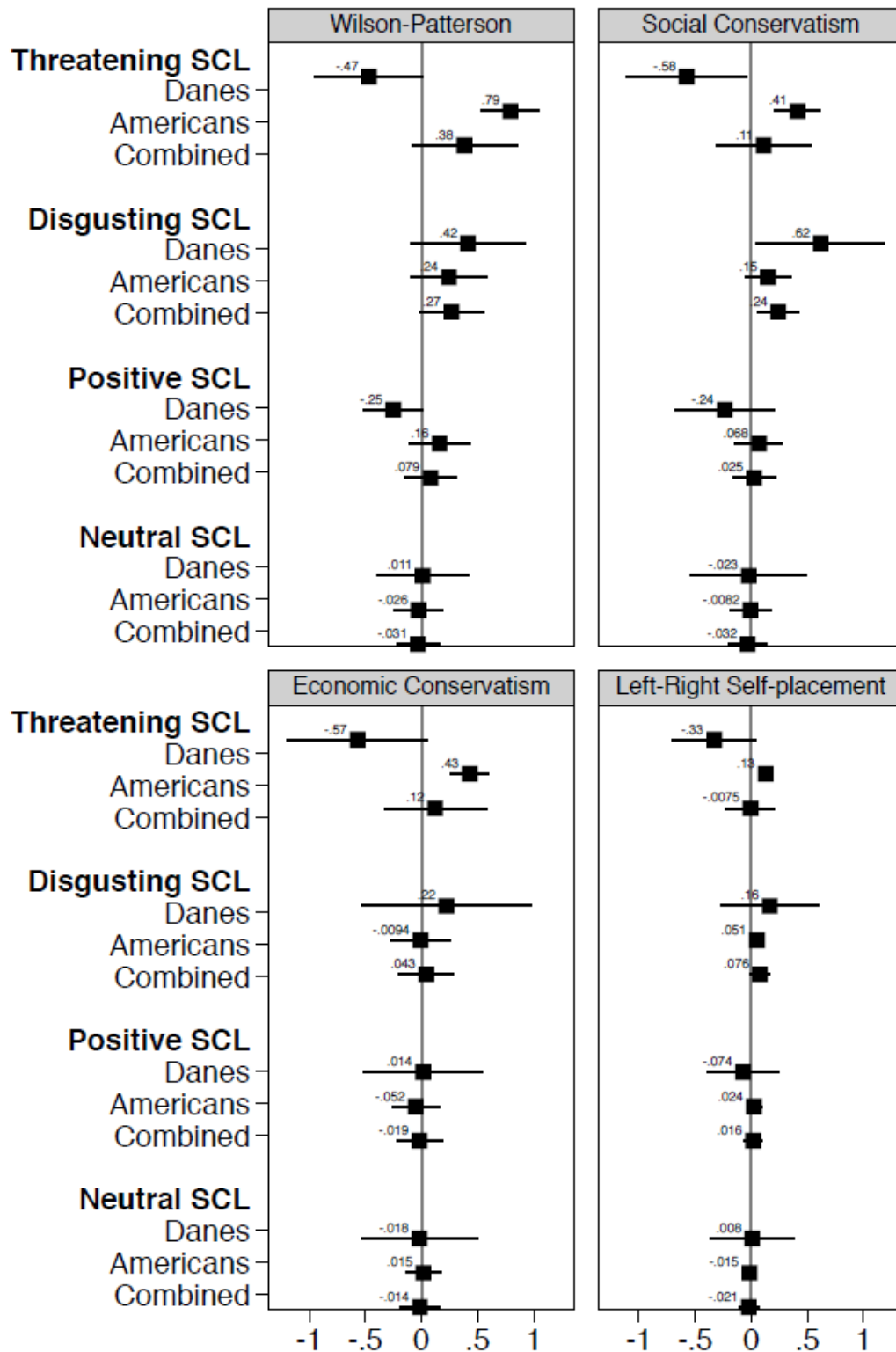


Figure 5C.b Self-reported Lab data X Physiological Reactions to images among participants with strong political convictions.

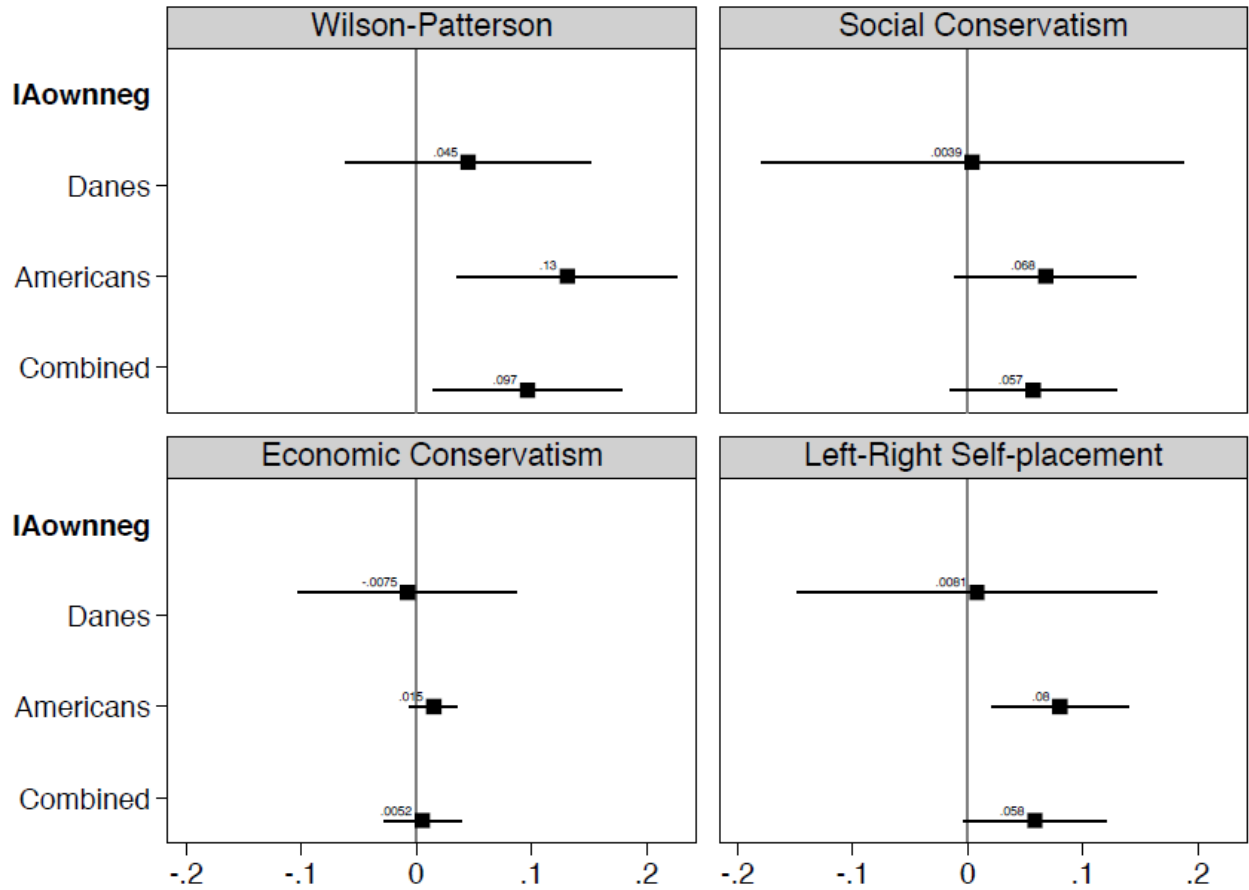
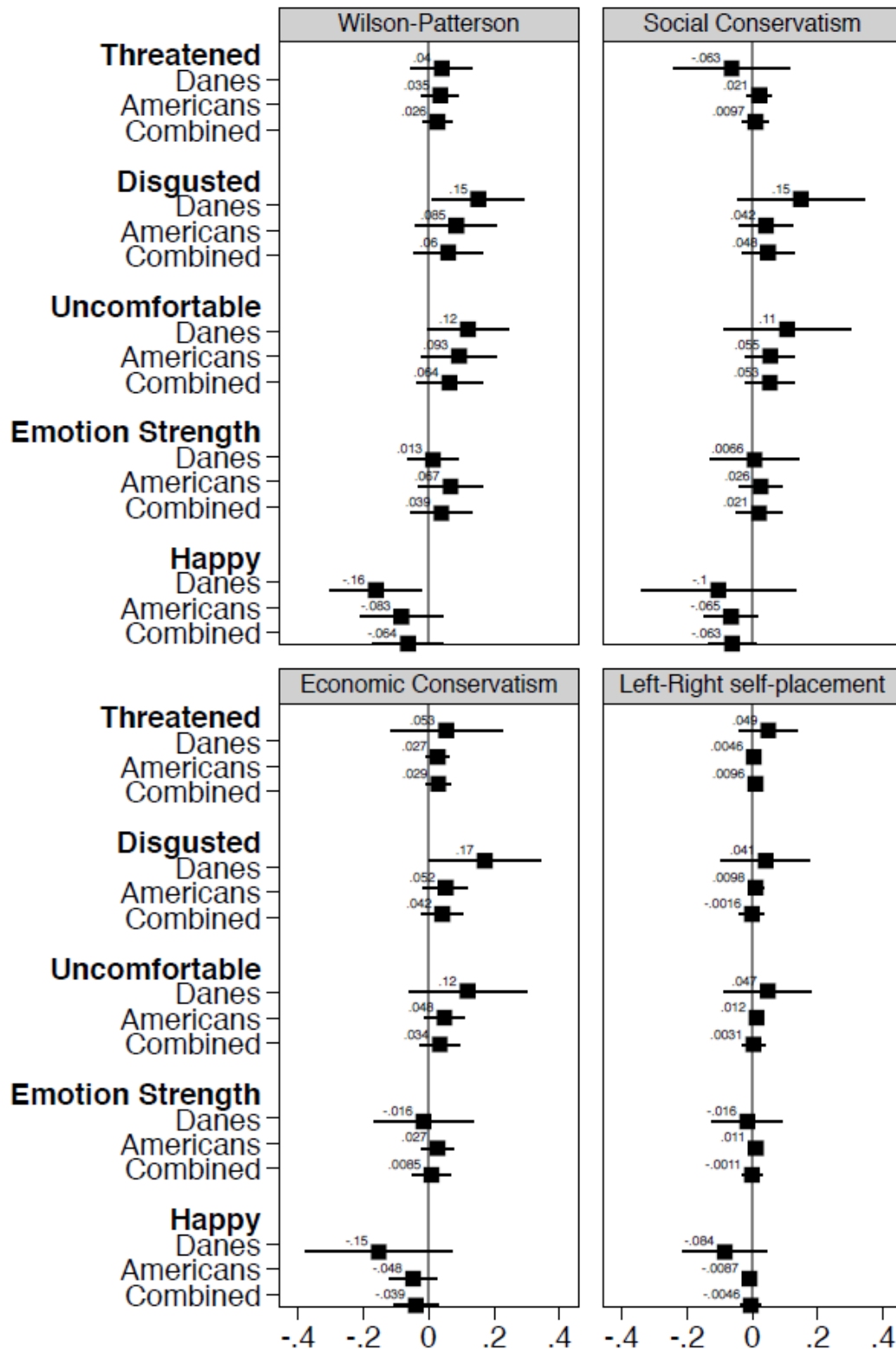


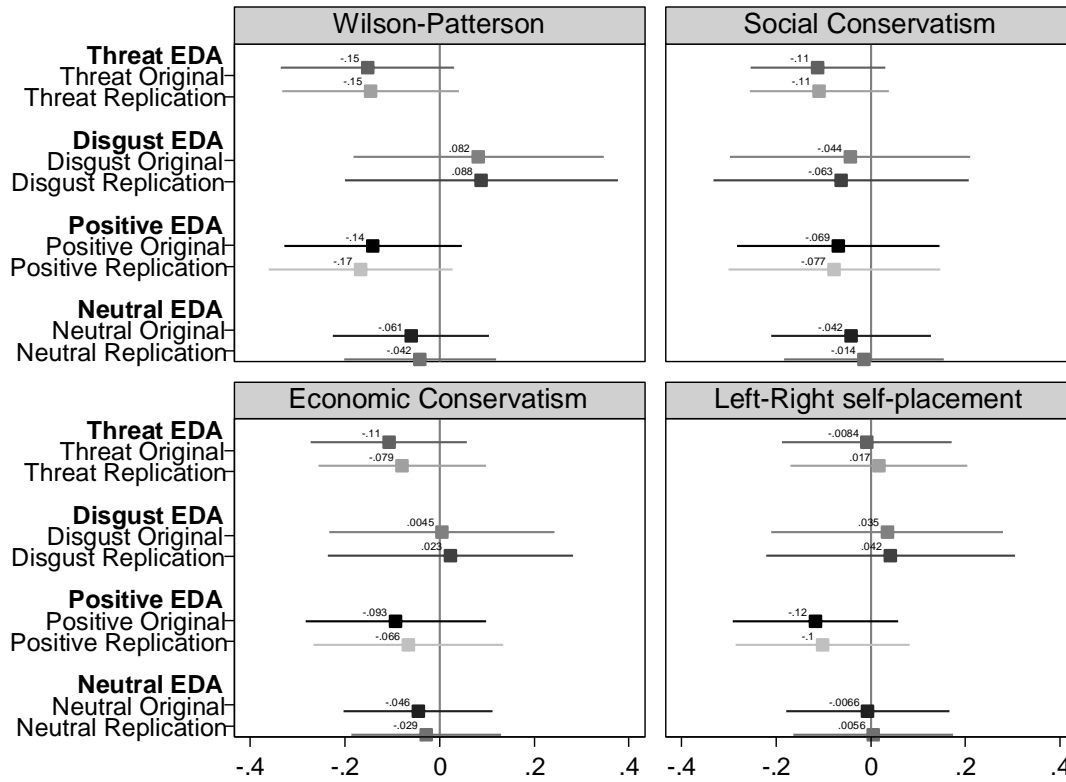
Figure 5C.c Self-reported Survey Data X Physiological Reactions to images among participants with strong political convictions.



5D Re-coding of Data From the Danish Laboratory Experiment

In our next robustness test, we had one of the authors recode manually the physiological data from the Danish laboratory study. (The author had been responsible for the American laboratory experiment, and had not been involved in the collection of the Danish data.) After close inspection, the author identified thirteen participants from the original Danish data that had unreliable physiological readings. We thus removed these participants and ran the analyses again. Figure 5D.a replicates the results from figure 1 in the main text. In the figure, we compare the estimated coefficients for the correlation between EDA responses to the images using our original physiological data to the estimated coefficients when we rely on the manually coded data. As can be seen, the coefficient are very similar, suggesting that coding choices do not drive the results.

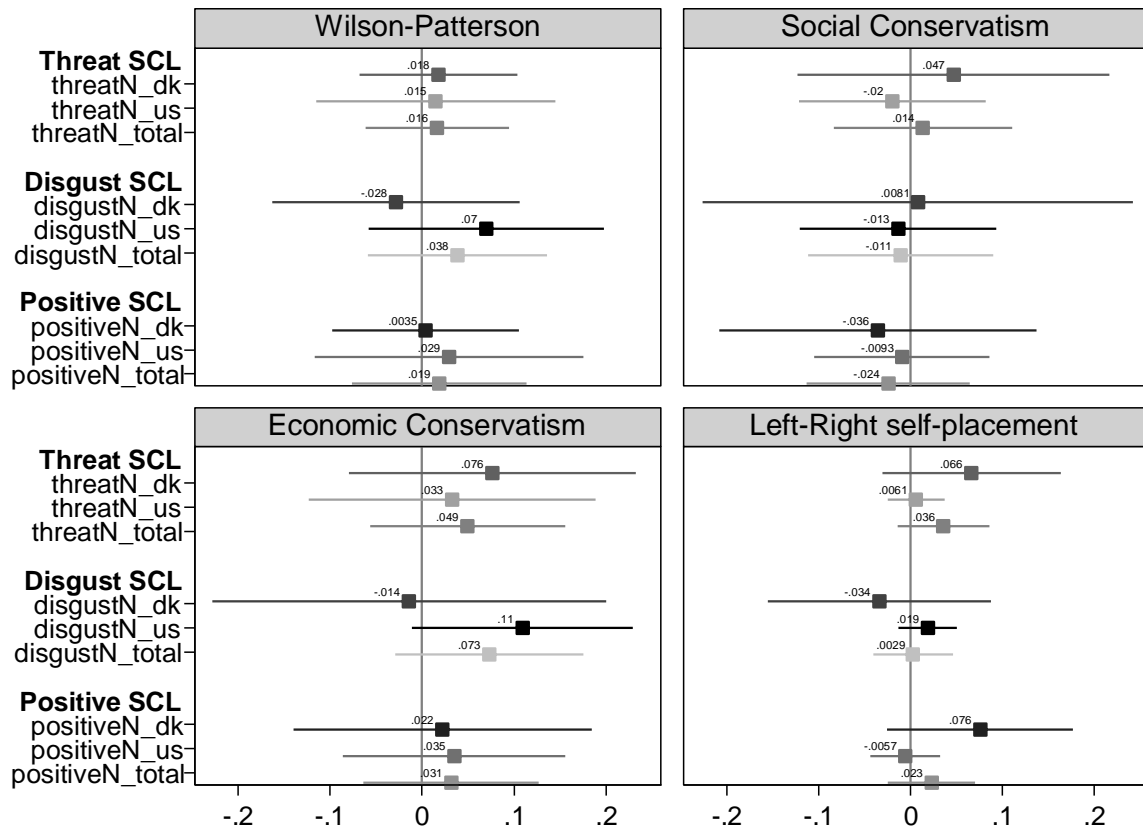
Figure 5D.a Correlations between EDA responses to images and four measures of political ideology. Based on replication data and original data, respectively.



5E Neutral Images as Baseline

In this section, we display results from regression models where we as our measure of EDA responses use EDA responses to the neutral images as our baseline rather than the preceding inter-stimulus interval. To achieve this, we simply subtract participants' reactions to the neutral images from their reactions to the other three image categories: Threatening, disgusting and positive images. We present the results in Figure 5E.a. In general, we do not find significant associations between EDA responses where we use EDA responses to neutral images as our baseline in either Denmark or the United States.

Figure 5E.a Correlation between EDA responses and political ideology with neutral images as baseline.



5F Analyses with three alternative measures of political ideology

We also examined the relationship between EDA responses to the images and three alternative measures of political ideology: the Society Works Best, Social Dominance Orientation and Right-Wing Authoritarianism. Below, we present the question wordings for each of the scales. And in Figure 5F.a, we replicate results from figure 1 in the main text with these alternative measures. As can be seen, the results resemble those from the main text in that stronger EDA responses to threat are generally associated with liberal attitudes in Denmark but conservative attitudes in the United States.

Society Works Best. Question: "For each of the following pairs of statements, select the option that you prefer. Society works best when..."

- People live according to traditional values (1) OR People adjust their values to fit changing circumstances (2); Behavioral expectations are based on an external code (1) OR Behavioral expectations are allowed to evolve over the decades (2); Our leaders stick to their beliefs regardless (1) OR Our leaders change positions whenever situations change (2); People realize the world is dangerous (1) OR People assume all those in far away places are kindly (2); We take care of our own people first (1) OR We realize that people everywhere deserve our help (2); Those who break the rules are punished (1) OR Those who break the rules are forgiven (2); Every member contributes (1) OR More fortunate members sacrifice to help others (2); People are rewarded according to merit (1) OR People are rewarded according to need (2); People take primary responsibility for their welfare (1) OR People join together to help others (2); People are proud they belong to the best society there is (1) OR People realize that no society is better than any other (2); Our leaders are obeyed (1) OR Our leaders are questioned (2); Our leaders call the shots (1) OR Our leaders are forced to listen to others (2); People recognize the unavoidable flaws of human nature (1) OR People recognize that humans can be changed in positive ways (2); Our leaders compromise with

their opponents in order to get things done (1) OR Our leaders adhere to their principles no matter what (2)

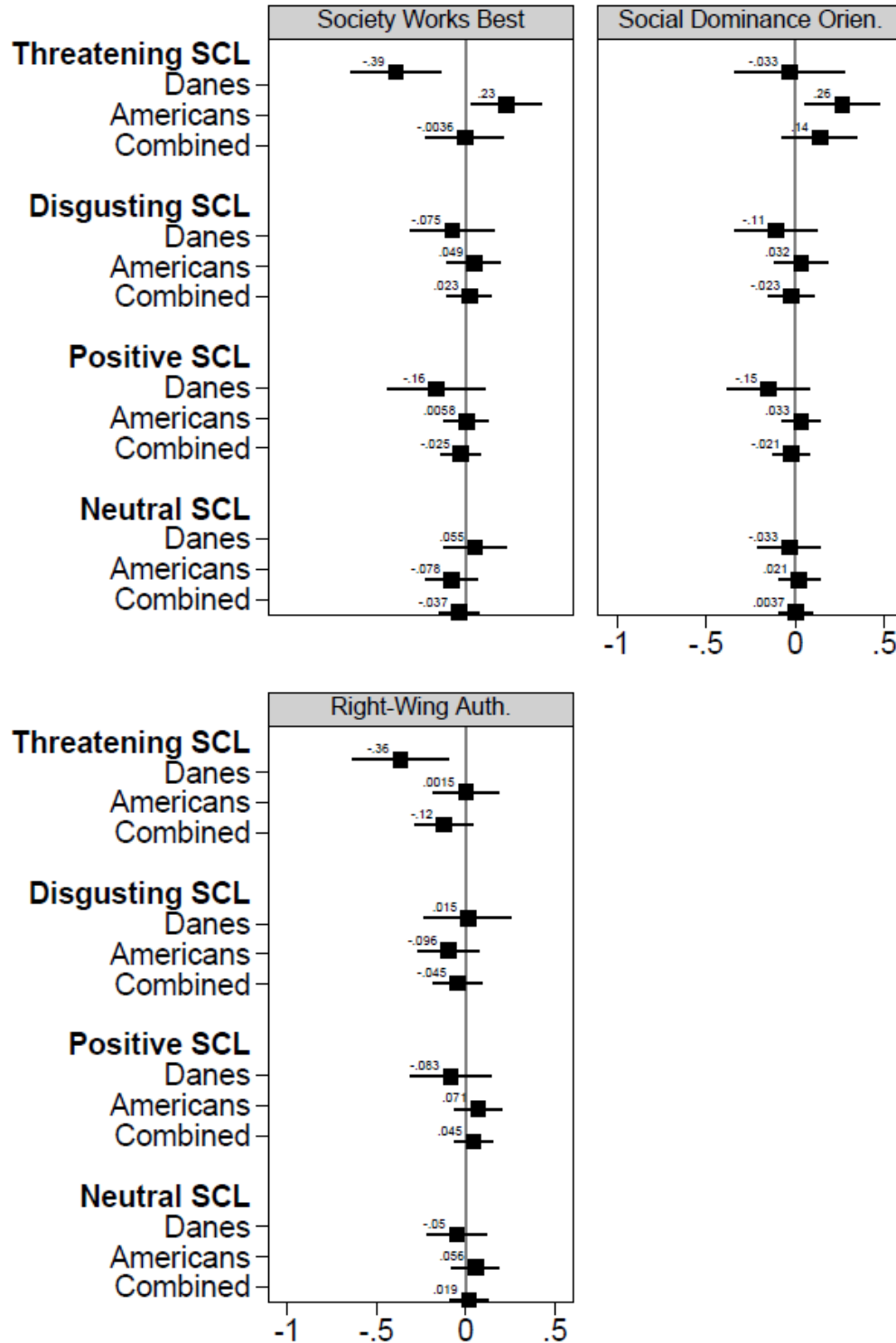
Social Dominance Orientation; 1 = Strongly Disagree; 7 Strongly Agree

- An ideal society requires some groups to be on top and others to be on the bottom; Some groups of people are simply inferior to other groups; No one group should dominate in society; Groups at the bottom are just as deserving as groups at the top; Group equality should not be our primary goal; It is unjust to try to make groups equal; We should do what we can to equalize conditions for different groups; We should work to give all groups an equal chance to succeed

Right-Wing Authoritarianism; 1 = Strongly Disagree; 7 Strongly Agree

- Our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people; Our society would be better off if we showed tolerance and understanding for untraditional values and opinions; It would be best if newspapers were censored so that people would not be able to get a hold of destructive and disgusting material; Our forefathers ought to be honored more for the way they have built our society, at the same time we ought to put an end to those forces destroying it; There are many radical, immoral people trying to ruin things; the society ought to stop them; It is better to accept bad literature than to censor it; If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within

Figure 5F.a Correlation between EDA responses and three alternative measures of political ideology



5G Random effects analysis

We lastly examined the association between physiological reactions to the images and political ideology with random effects models. To this end, we changed our data from a wide to a long structure with 24 observations for each participant, one for each of the images. We then estimated separately in Denmark and the United States four random effects models, one for each of our political ideology measures. In the models, we treated participants' physiological reactions estimated with the log-and-subtract method as our dependent variable and the ideological measures as our main independent variables. We interacted our ideology variables with three dummy variables indicating the different image categories (disgusting images, positive images, or neutral images; we treated threatening images as the reference category), and we controlled for the same set of covariates as in the main text: Gender, age, education and income level. In addition, we added a series of dummy variables for the image order. We present the results in **Figure 5G.a-b**.

As can be seen from **Figure 5G.a**, results from our random effects model estimated among our US participants are very similar to those presented in **Figure 1** in the main text. There is a positive relationship between EDA responses to threatening images (the reference category) and the Wilson-Patterson index in Column (1) and Social Conservatism in Column (2). In contrast, there is no association between EDA responses to threatening images on the one hand, and the Economic Conservatism (Column (3)) or Left-Right Self-placement (Column 4). As witnessed by the interaction effects, there is also not an association between our ideological measures and EDA responses to the other image categories, e.g., all the interaction terms take a negative sign-

Figure 5G.b shows the same results among the Danish participants. Again, the findings resemble those in **Figure 1** in the main text. There is a negative association between EDA responses to threatening images and the Wilson-Patterson scale. In contrast, the coefficients for the remaining ideology variables are insignificant and so are all the interaction terms (except *Disgust X WP* in Column 1).

Figure 5G.a Correlation between EDA and political ideology. Random effects models. United States.

	(1) EDA	(2) EDA	(3) EDA	(4) EDA
Disgust Category	0.015 (0.044)	-0.033 (0.044)	-0.004 (0.042)	-0.036 (0.170)
Neutral Category	-0.047 (0.044)	-0.114** (0.044)	-0.090* (0.042)	-0.294 (0.171)
Positive Category	0.064 (0.044)	-0.011 (0.044)	0.034 (0.042)	-0.165 (0.170)
Wilson-Patterson (WP)	0.059* (0.027)			
Disgust X WP	-0.026 (0.038)			
Neutral X WP	-0.066 (0.038)			
Positive X WP	-0.064 (0.038)			
Social Conservatism (SC)		0.100** (0.036)		
Disgust X SC		-0.095 (0.049)		
Neutral X SC		-0.097* (0.049)		
Positive X SC		-0.121* (0.049)		
Economic Conservatism (EC)			0.022 (0.034)	
Disgust X EC			-0.027 (0.046)	
Neutral X EC			-0.045 (0.046)	
Positive X EC			-0.001 (0.046)	
Left-Right Self-Placement (LR_SP)				0.157 (0.129)
Disgust X LR-SP				-0.041 (0.177)
Neutral X LR-SP				-0.231 (0.177)
Positive X LR-SP				-0.212 (0.177)
Constant	0.395*** (0.098)	0.467*** (0.098)	0.431*** (0.097)	0.572*** (0.154)
Observations	3648	3648	3648	3648
R^2				

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.00$. Covariates not included in table: Image order (dummy variables), gender, education, income.

Figure 5G.b Correlation between EDA and political ideology. Random effects models. Denmark.

(1)	(2)	(3)	(4)
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	EDA	EDA	EDA	EDA
Disgust Category	-0.054 (0.033)	-0.095** (0.029)	-0.092** (0.029)	-0.086 (0.045)
Neutral Category	-0.056 (0.033)	-0.083** (0.030)	-0.080** (0.029)	-0.076 (0.045)
Positive Category	-0.055 (0.033)	-0.078** (0.029)	-0.073* (0.029)	-0.057 (0.045)
Wilson-Patterson (WP)	-0.067* (0.030)			
Disgust X WP	0.083* (0.042)			
Neutral X WP	0.050 (0.042)			
Positive X WP	0.036 (0.042)			
Social Conservatism (SC)		-0.031 (0.019)		
Disgust X SC		0.027 (0.026)		
Neutral X SC		0.021 (0.026)		
Positive X SC		0.027 (0.026)		
Economic Conservatism (EC)			-0.026 (0.019)	
Disgust X EC			0.023 (0.027)	
Neutral X EC			0.014 (0.027)	
Positive X EC			0.017 (0.027)	
Left-Right Self-Placement (LR_SP)				0.000 (0.030)
Disgust X LR-SP				-0.001 (0.043)
Neutral X LR-SP				-0.002 (0.043)
Positive X LR-SP				-0.016 (0.043)
Constant	-0.267*** (0.064)	-0.232*** (0.063)	-0.238*** (0.063)	-0.252*** (0.069)
Observations	3717	3717	3717	3741
R^2				

Standard errors in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.00$. Covariates not included in table: Image order (dummy variables), gender, education, income.

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