Concordance in Emotional Processing and Political Attitudes Pre-analysis Plan

Bert N. Bakker[1] and Kevin Arceneaux[2]

[1]Assistant Professor, Amsterdam School of Communication Research, University of Amsterdam
[2]Thomas J. Freaney, Jr. Professor, Department of Political Science, Temple University

Emotions, such as anxiety, fear, and disgust, arise from a multi-level response system that has physiological, experiential, and behavioral components (Darwin, 1872/1998; James, 1884, 1894; Levenson, 2003). Research on anxiety in the 1960s failed to find strong evidence that these three components act in concordance (Lang, 1968). Physiological arousal in response to ostensibly fear-provoking stimuli need not accompany reports of anxiety or vice versa, nor do either of these channels need to align with behavioral responses. At best, physiological reactions to emotional stimuli and self-reports of affective states are loosely correlated (Bradley and Lang, 2000). Researchers have proposed various reasons for the loose concordance of the automatic, cognitive, and behavioral components of emotional processing. One set of explanations contends that because people process emotions on both nonconscious and conscious levels (Evers et al., 2014), people can regulate their emotions by nonconsciously or consciously decoupling self-reports from physiological responses (Butler, Gross and Barnard, 2014*a*). Beyond actively suppressing emotions, concordance may only occur when physiological responses pass a critical threshold that motivates alignment among cognitive and behavioral components (Evers et al., 2014; Schaefer et al., 2014). Finally, some emotion researchers even question whether particular physiological responses are reliable predictors of emotions (Barrett, 2016; LeDoux and Pine, 2016).

The findings from neuroscientific studies of emotion do not fully align with path-breaking research in political science that posits a set of "physiological traits" correlate with political attitudes (Oxley et al., 2008). In this study, researchers found in a sample of 46 Nebraskans that electrodermal activity in response to three "threatening" images out of 33 correlated with socially conservative attitudes on 18 issues — e.g., abortion, gay marriage, military, etc. The same research team found

that among sample of 50 Nebraskans (potentially drawn from the same subject pool as reported in Oxley, et al. 2008) electrodermal responses to five "disgusting" images (of which two were categorized as "threatening" in Oxley, et al. (2008) correlated with social conservative attitudes on 16 of the 18 issues featured in Oxley, et al. (Smith et al., 2011*a*).

From 2014 to 2018, we independently fielded two conceptual replications of Oxley et al. and Smith et al., one in Philadelphia and the other in the Netherlands, that used a different but related set of pictures to measure "threat." Both of these attempts failed to replicate the general finding. We fielded a preregistred replication and extension of Oxley et al in the Spring of 2018 in Philadelphia. The replication consisted of the same images used in Oxley et al. plus the ones each of us had used in the previous conceptual replications along with images that had been used in studies by other scholars to evoke disgust. In addition to measuring electrodermal activity, we also measured the electromyography of facial muscles that tap emotional valence (corrugator supercilii) and disgust (levator labii) (for details, see: `https://osf.io/hu9r3/`). Not only did this study fail to replicate the core finding in Oxley, et al. and Smith, et al. that electrodermal responses to "threatening" and "disgusting" images correlates with social conservatism (measured in several ways), but we also failed to find a reliable correlation between electromyography activity and political attitudes. Moreover, we failed to find evidence of a physiological "trait" for threat or disgust sensitivity: the physiological responses to the different images did not show any sign of an overarching latent trait. In contrast, a great deal of research does find evidence of a positive correlation between social conservatism and self-reported measures of threat sensitivity in western countries (see, Malka et al., 2014) as well as between social conservatism and self-reported measures of disgust sensitivity in both western and non-western countries (Tybur et al., 2016). We interpret the lack of a strong correlation between physiological responses and political attitudes as a confirmation of extant research in neuroscience that finds only a loose concordance between physiological and behavioral responses as well as weak evidence that physiological responses are unambiguous indicators of stable traits in neurotypical adults (see, Schaefer et al., 2014).

In the present study, we seek to explore the implications for emotional concordance and disconcordance for political attitudes. Following the dual-process theories of information processing (e.g., Evers et al., 2014; Evans and Stanovich, 2013, but see Melnikoff and Bargh 2018), people react to stimuli (e.g, images in a controlled experimental setting) on physiological and experien-

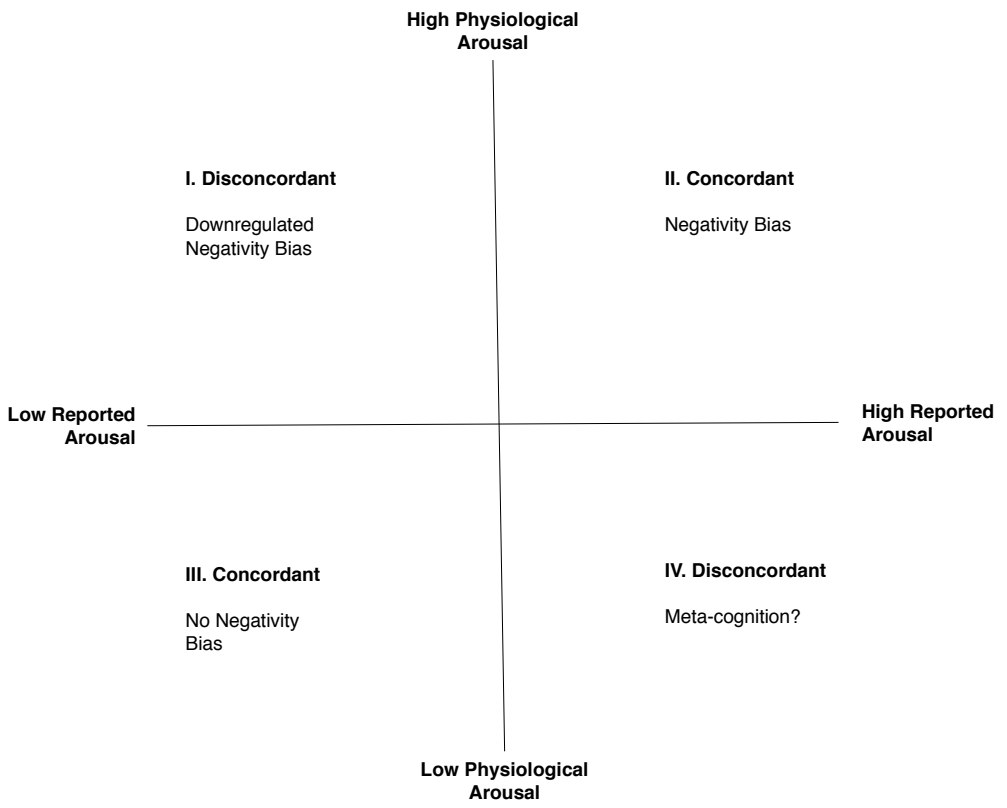

Figure 1: **Theoretical Predictions for Negativity Bias**
The x-axis represents reported emotional arousal in response to negative stimuli. The y-axis represents physiological response to negative stimuli. The predictions in this figure are conditional on the individual expressing negative emotional state in reaction to negative stimuli.

tial levels. Since we are interested in exploring the political effects of negativity bias, Figure 1 displays our expectations for an individual who consciously reports having a negative reaction to negative stimuli (e.g., an image of a snake). The x-axis represents experienced arousal and the y-axis represents physiological arousal (e.g., electrodermal activity). The responses of individuals who fall in quadrants II and III are concordant, while those in quadrants I and IV are disconcordant. We hypothesize that individuals are more likely to bring behavioral responses (i.e, political attitudes) in line with physiological responses when physiological and experiential affective states are concordant. Specifically, we predict that individuals who fall in quadrant II — a) physiologically aroused by negative images and b) report experiencing aroused and negative affect — should be more likely to support "socially protective policies" (Oxley et al., 2008, 1667) than individuals falling in quadrants I, III or IV, albeit for different theoretical reasons.

Individuals who fall in quadrant II are more sensitive to negative stimuli and they know it.

Therefore, they should be more likely to experience negative emotional states when confronted with threats (e.g., anxiety and fear) and, thus, seek protective policies. Individuals who fall in quadrant III show a concordant lack of negativity bias. They are less likely to perceive the environment as threatening (relatively to those in quadrant II) and, thus, less likely to seek protective policies.

Individuals who fall in quadrants I and IV display a disconcordant response pattern. Individuals in quadrant I experience arousal to negative stimuli on a physiological level, but do not report being aroused. These individuals have downregulated their emotional expression (either consciously or nonconciously) (Butler, Gross and Barnard, 2014*b*) and, thus, may be less motivated to seek out protective policies than individuals who fall in quadrant II.

Finally, individuals who fall in quadrant IV express high arousal to negative images, but do not show arousal on a physiological level. Fanselow and Pennington (2018) contend that quadrant IV is not theoretically permissible (and report never observing it empirically). As such it could represent measurement error. It could be a sign of meta-cognition. From our vantagepoint a particularly interesting type of meta-cognition would manifest as an "expressive threat sensitivity hypothesis." Extent research shows that self-reported measures of threat sensitivity are positively associated with conservatism (for overviews Jost et al. 2003; Hibbing et al. 2014). However, conservatives might assign more value to their threat sensitivity and therefore communicate this trait through self reports (Ludeke, Tagar and DeYoung, 2016). More broadly the expressive threat sensitivity hypothesis would hold that conservatives are motivated to express the experience of threat as this fits with their ideological and/or partisan identity (Mason; Huddy). If the expressive threat sensitivity hypothesis is correct, then we should see a positive association between self-reported affective responses and socially conservative policies among individuals who identify as Republican or conservative who fall in quadrant IV.

We will measure socially protective policies in two ways. Following Oxley, et al. (and the tradition of descriptively defined issue dimensions, see Treier and Hillygus 2009), we will measure attitudes on controversies that currently fall on social and economic ideological continua. These measures will be drawn from our previous studies (e.g., Likert-scale measures of attitudes toward abortion, gay rights, taxes, immigration, etc.). In addition, we will supplement this approach with common measures of conservative predispositions (authoritarianism and social principles). Following research by Arceneaux (2012) and Malka et al. (2014), we will also test whether political

rhetoric can shape people's attitudes on novel political issues by making a direct appeal to threats.

Research in neuroscience finds a strong concordance between the physiological responses to stimuli containing spiders or snakes and experiences emotional states among people who are very fearful (phobic) of spider or snakes (Hofmann and Kim, 2006). Consequently, we will explore whether individual differences in phobic fear increases emotional concordance to negative images that are relevant to the domain in which people's phobias manifest (e.g., dogs, snakes) (Schaefer et al., 2014) and, ultimately, support for protective policies (Hatemi et al., 2013). We will also investigate whether individuals who are low in need for affect (Maio and Esses, 2001) are more likely to regulate emotional responses in ways that leads to disconcordance between physiological responses and expressed emotional states.

Protocol

We conduct this study in a laboratory located at a large university in a city on the east of the U.S. We will recruit 200 individuals among students and people living int he broader area of the city. People are invited to participate in the "Affective Regulation Study" (the University approved the study under IRB protocol #25565) in the [Insert Name] Lab. After reading and signing the informed consent form, participants will complete a survey using Qualtrics and complete the image viewing protocol while we record their electrodermal activity. Students will received $10.00 for their participation while residents who come from the greater city area will receive $25.00 for their participation because they must travel further to the lab than students do.

Table 1: Stimulus material

#	Study	Arousal	Valence	Source #
	Threat			
1	Snakes	6.78 (1.68)	3.46 (2.15)	IAPS #1050
2	Snakes	6.93 (1.68)	3.79 (1.93)	IAPS #1120
3	Spiders	78.44 (21.72)	9.52 (16.27)	GAPED #SP136
4	Spiders	78.44 (21.72)	9.52 (16.27)	GAPED #SP136
5	Gun	7.35 (2.01)	2.37 (1.57)	IAPS #6230
6	Gun	6.93 (1.93)	2.44 (1.54)	IAPS #6260
7	Attack	7.29 (1.87)	1.90 (1.29)	IAPS #6350
8	Attack	6.96 (2.09)	2.46 (1.58)	IAPS #6510
	Domain specific			
1	Animal testing	83.04 (21.62)	1.35 (1.81)	GAPED #A041
2	Animal testing	72.23 (17.88)	10.44 (13.85)	GAPED #A125
3	Hunting	80.25 (16.97)	2.95 (5.96)	GAPED #A018
4	Hunting	73.23 (17.88)	10.44 (13.85)	GAPED #A033
5	Homeless	68.79 (15.67)	10.94 (11.60)	GAPED #A099
6	Homeless	60.46 (25.08)	5.10 (6.22)	GAPED #A100
	Neutral			
1	Spoon	2.09(1.75	4.89(0.60)	IAPS #7004
2	Basket	1.55(1.36)	4.95(1.43)	IAPS #7010
3	File cabinets	2.81(1.94)	4.45(1.36)	IAPS #7224
4	Lamp	1.72(1.26)	4.87(1.00)	IAPS #7175
5	Mug	2.66(1.82)	4.98(0.96)	IAPS #7035
6	Lamp	10.19 (14.37)	49.43 (5.84)	GAPED #N061
7	Chairs	13.26 (20.26)	50.17 (9.55)	GAPED #N089
	Positive			
1	Baby seal	7.01(8.46)	95.17(7.01)	GAPED #P097
2	Baby polar bear	16.13(19.67)	94.38(8.92)	GAPED #P095
3	Beautiful scenery	12.20 (28.65)	98.74 (2.27)	GAPED #P067
4	Beautiful scenery	19.13 (20.62)	92.98 (12.04)	GAPED #P072
4	Beautiful scenery	12.97 (23.24)	93.78 (8.77)	GAPED #P064
6	Baby	11.45 (21.65)	98.29 (4.08)	GAPED #P007
7	Baby	21.85 (31.27)	97.23 (6.47)	GAPED #P035

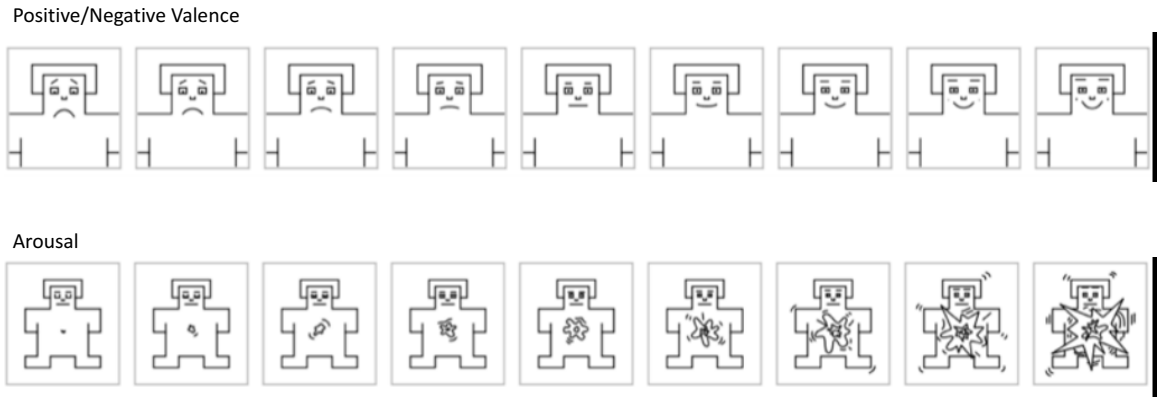

Figure 2: **Self-Assessment Manikin for Measuring Experienced Emotional Valence in Response to Stimuli**

Image Viewing Protocol and Physiological and Experiential Emotion State Measurement

We will expose participants to each of the images in Table 1 for 8 seconds with an 8 second Interstimulus Interval (ISI) between each image. The basket (IAPS #7010 will always be the first image shown and the rest will be randomly rotated afterward. We will record electrodermal responses using a Biopac system running on Windows 7. Biosensors will be connected to the first two distal phalanges of the non-dominant hand, and skin conductance will be recorded in microsiemens every millisecond.

After each image (and before the first ISI) we will ask participants to disclose their emotional state using the Self-Assessment Manikin protocol developed by Bradley and Lang (1994) to measure experienced positive/negative valence (top panel of Figure 2) and arousal (bottom panel of Figure 2). Responses to the Manikins will run from 1 to 9.

Survey Instrument

Participants' responses to the survey instrument will be collected via the Qulatrics platform.

Background Items. The survey will ask standard questions about demographics (age, gender, race, income, education) and partisan identification (the standard 7-category question asked by the American National Election Study). We will include a non-binary option for gender (in addition, to male and female). We will allow participants to select more than one racial identity.

Personality Traits. We will ask participants to complete the short-form questionnaire for need for affect (Appel, Gnambs and Maio, 2012), short-form measures of the Big Five traits Openness, Conscientiousness and Neuroticism from the Big 5 personality traits (Donnellan et al., 2006), social-

phobic fear (Hatemi et al., 2013), and authoritarianism (Feldman, 2003).

Political Knowledge. We will measure political knowledge by asking 10 factual questions that index how much attention participants are paying attention to political news: 1) Who is currently the Chancellor of Germany?, 2) Who is currently the Managing Director of the International Monetary Fund?, 3) What job or political office does John Roberts now hold?, 4) What does the term "Common Core" refer to?, 5) How long is the term of office for a member of the House of Representatives in the United States Senate?, 6) Who is the current prime minister of Canada?, 7) Who is the current United States Secretary of Education?, 8) Who is this? [photo of Justice Clarence Thomas], 9) Which party currently controls the House of Representatives?, 10) On which of the following does the U.S. federal government currently spend the least? Foreign Aid, Medicare, Social Security, National Defense.

Social Principles Index. We include a 14-item Social Principles Index (Smith et al., 2011*b*). The original battery has dichotomous answer categories. We conducted a pre-test to show that using a Likert-type items lead to more desirable measurement properties. Participants were asked: "There are different ways to organize society. We are interested in the ways in which you think society would work best." Next participants read "Where would you place yourself on a scale of 1 to 5, where 1 means that society works best when people live according to traditional values and 5 means that society works best when people adjust their values to fit changing circumstances?" which they answer on a five-point Likert scale.

Social conservatism. Social conservatism will be measured using 15 items: (1) Death penalty, (2) School prayer, (3) Biblical truth, (4) Pre-marital sex, (5) Gay marriage, (6) Legalized abortion, (7) Protect gun rights, (8) Women's equality, (9) Increase military spending, (10) Deport undocumented immigrants, (11) Restrict legal immigration (such as work visas), (12) Warrantless searchers, (13) Patriotism, (14) Separation of church and state and (15) Foreign aid. Participants indicate their answers on a scale from 1 (strongly oppose) to 6 (strongly support).

Economic conservatism. We will measure economic conservatism using six items, namely: (1) Increase banking regulations, (2) Increase spending on public education, (3) Increase environmental regulations, (4) Reduce income inequality, (5) Government-funded health care, (6) Raise Taxes on the Rich. Participants indicate their answers on a scale from 1 (strongly oppose) to 6 (strongly support).

Issue experiments. The issue experiments are designed to test the hypothesis that individuals who have concordant negative and aroused reactions to the negative images are more likely than disconcordant individuals to adopt socially protective policies. Following the logic of bias-congruent persuasion (Arceneaux, 2012), people will adopt either liberal or conservative policy positions (e.g., more or less government influence) if they resonate with their psychological predispositions. To test this proposition, we present participants with XX novel issues and randomly assign them to: 1) pro control group, 2) con control group, 3) a pro threat-based argument, or 4) a con threat-based argument (see Table 4. Participants indicate their answers on a scale from 1 (strongly oppose) to 7 (strongly support). The pro and con control group conditions, based on the "content free" argument conditions used by Jackman and Sniderman (2006), give participants a vague argument for or against the issue stance.

Measures and Tests

Survey Measures

All survey measures will be re-coded so that they run from 0 to 1. For the personality measures, we will recode them in ways that take into account pro- and con-traits as defined in the original publications from which we draw these measures. As a robustness check, we will calculate both summed scales as well as scales that use factor analysis.

Physiology Measures

Following our previous research with Stuart Soroka (work in progress), we will measure electro-dermal response (EDR) in two ways. The first method takes the average of the natural log of Skin Conductance Levels (SCL), which are measured in microsiemens, over the second to the sixth second after the onset of a target image (T) and the subtracts the average of the natural log of the last 500 milliseconds of the SCL in the ISI (i.e., a baseline SCL). The second method subtracts the EDR cacluated with method 1 from the EDR to the neutral basket image (N) calculated using the same method. The second method can be thought of a difference-in-differences measure that corrects the EDR for baseline individual differences in reactions to images popping up on a screen.

$$EDR[1]_i = \frac{\sum_{j=2,000}^{6,000} ln[SCL(T)_{ij}]}{4,000} - \frac{\sum_{j=11,500}^{12,000} ln[SCL(ISI_T)_{ij}]}{500} \quad (1)$$

$$EDR[2]_i = \left(\frac{\sum_{j=2,000}^{6,000} ln[SCL(T)_{ij}]}{4,000} - \frac{\sum_{j=11,500}^{12,000} ln[SCL(ISI_T)_{ij}]}{500} \right) - \left(\frac{\sum_{j=2,000}^{6,000} ln[SCL(N)_{ij}]}{4,000} - \frac{\sum_{j=11,500}^{12,000} ln[SCL(ISI_N)_{ij}]}{500} \right) \quad (2)$$

Response to the Self-Assessment Manikins will be scaled -1 to 1 with 0 as the midpoint on the nine-point scales. For the valence manikin, negative numbers indicate negative valence and positive numbers, positive valence. For the arousal manikin, the scale will run from low to high valence with negative numbers indicate below scale-midpoint arousal and positive numbers indicating above scale-midpoint arousal.

In addition to using the post-target image manikins as a measure of emotional experience, we will also measure as a robustness check valence and arousal manikin responses to the target image, subtracting out the manikin responses to the neutral basket image. This alternative measurement approach will generate negative numbers that set valence and arousal relative to responses to the neutral image.

Manipulation check

Following the procedures outlined by Arceneaux, Dunaway and Soroka (2018), we will test whether the threatening images are indeed more arousing. To do this, we create an index of change in SCL response to each of the XXX images. We have XXX cases for each respondent. We conduct an OLS regression model with with clustered standard errors accordingly. We regress the SCL for dummy variables of 23 images, where the basket is the reference category. If threatening images are indeed more arousing, then we should see positive and significant coefficients for variables capturing the exposure to the six threatening images compared to the basket. Following Arcenaeux et al.'s 2018 procedures, we will run a second model where we present also control for the order in which the 24 images are shown. If we fail the manipulation check this does not mean that the physiological response to the threatening images cannot be meaningfully correlated with political ideology but we will have to discuss the failure of the manipulation check in the discussion.

As a next step, we repeat these models for the self-reported levels of arousal and valence. Our expectations remain the same as for the SCL: there should be more increased self-reported arousal and more negative valence in response to the threatening images compared to the reference category.

Tests

Related to our main hypothesis that concordance increases behaviorally aligned responses, we predict that the intercorrelations of negative images should be higher among individuals who show evidence of being physiologically aroused ($EDR > 0$) and report being aroused (arousal manikin $>$ midpoint).

We will test our main hypothesis in two ways: 1) self-reported measures of conservatism on controversial issues and "bedrock" predispositions (economic conservatism, social conservatism, social principles, and authoritarianism) and 2) self-reported responses to the issue experiments. For the conservatism measures, we will use this base OLS model:

$$\begin{aligned} Conservatism_i = \beta_0 + \beta_1 EDR_i + \beta_2 Concordant_i + \beta_3 EDR_i \times Concordant_i \\ + X\Gamma + \epsilon_i \end{aligned} \tag{3}$$

$Concordant = 1$ if $EDR > 0$, $Arousal > 0$, and $Valence < 0$ and 0 otherwise. X is a matrix of control variables (age, gender, education, income, partisan identification and payment of the participant) and Γ is a vector of regression coefficients. The concordance hypothesis predicts that individuals for whom $EDR > 0$, $Arousal > 0$, and $Valence < 0$ (i.e., $Concordant = 1$), EDR will correlate positively with socially conservative issue attitudes, higher levels of authoritarianism, and higher scores on the social principles index: $\beta_3 > 0$ and $\beta_1 + \beta_3 > 0$. As a robustness check can separate out negativity bias concordant individuals from concordant/discordant individuals who express feeling positive emotions in response to the negative images as well as test a fully interactive model, as shown below. Given sample limitations, we may not have sufficient power and so we reserve the option to dichotomize EDR, $Arousal$, and $Valence$ at above and below 0 on the scale.

$$\begin{aligned} Conservatism_i = \beta_0 + \beta_1 EDR_i + \beta_2 Arousal_i + \beta_3 Valence_i + \beta_3 EDR_i \times Arousal_i \\ + \beta_4 EDR_i \times Valence_i + \beta_5 EDR_i \times Valence_i + \beta_6 Arousal_i \times Valence_i \\ + \beta_7 EDR_i \times Arousal_i \times Valence_i + X\Gamma + \epsilon_i \end{aligned} \tag{4}$$

For the issues experiment, we will recode participants' responses to the issue support question

such that they run in the direction of the argument provided in the experimental condition. Higher values will indicate support for participants assigned to the pro control and pro threat conditions, whereas higher values will indicate opposition to those assigned to the con control and con threat conditions. With this coding scheme, we will be able to conceptualize treatment assignment as a dichotomy: 0 = control group, 1 = threat-based argument.

We will test the concordance hypothesis using this OLS model:

$$\begin{aligned} Attitude_i = \beta_0 &+ \beta_1 Threat_i + \beta_2 EDR_i + \beta_3 Concordant_i + \beta_4 Threat_i \times EDR_i \\ &+ \beta_5 Threat_i \times Concordant_i + \beta_6 EDR_i \times Concordant_i \\ &+ \beta 7 Threat_i \times EDR_i \times Concordant_i + X\Gamma + \epsilon_i \end{aligned} \tag{5}$$

The concordance hypothesis predicts that individuals for whom $EDR > 0$, $Arousal > 0$, and $Valence < 0$ (i.e., $Concordant = 1$), will be more responsive to the threat-based argument as EDR increases. As a robustness check can separate out negativity bias concordant individuals from concordant/discordant individuals who express feeling positive emotions in response to the negative images as well as test a fully interactive model, as shown below. Given sample limitations, we may not have sufficient power and so we reserve the option to dichotomize EDR, $Arousal$, and $Valence$ at above and below 0 on the scale.

$$\begin{aligned} Attitude_i = \beta_0 &+ \beta_1 Threat_i + \beta_2 EDR_i + \beta_3 Arousal_i + \beta_4 Valence_i + \beta_5 EDR_i \times Arousal_i \\ &+ \beta_6 EDR_i \times Valence_i + \beta_7 Arousal_i \times Valence_i + \beta_8 EDR_i \times Arousal_i \times Valence_i \\ &+ \beta_9 EDR_i \times Threat_i + \beta_{10} Arousal_i \times Threat_i + \beta_{11} Valence_i \times Threat_i \\ &+ \beta_{12} EDR_i \times Arousal_i \times Threat_i + \beta_{13} EDR_i \times Valence_i \times Threat_i \\ &+ \beta_{14} Arousal_i \times Valence_i \times Threat_i + \beta_{15} EDR_i \times Arousal_i \times Valence_i \times Threat_i \\ &+ X\Gamma + \epsilon_i \end{aligned} \tag{6}$$

Next, we will investigate whether phobias and need for affect moderate the correlation between EDR_i and political attitudes. We will do so by re-estimating the equations above and substituting in phobic fear and need for affect as moderators. We reserve the option to measure these moderators as dichotomous variables.

Missing Values and Exclusion Criteria

Statistical significance

Throughout this study we use the p-value of 0.05 as the value for statistical significance. In our graphical displays we will also plot the 90% intervals signaling statistical significance at p¡0.10,

Missing data

Throughout the study, participants are encouraged to provide an answer. In the pre-test collected using Qualtrics software. participants received a pop-up screen indicating There are XX unanswered questions on this page. Would you like to continue? and they can choose between Continue without answering and Answer questions. As such we could experience some missing values in the covariates. For the latent moderators that consist of multiple measures disgust sensitivity and partisanship – we choose to recode the missing values to the overall mean on the dimension.

When it comes to missing values in the covariates, we employ the following set of criteria. (A) If 10% or less of the values on the dimension are missing, then we recode the missing values to the overall mean. (B) If 11% or more of the values on the dimension are missing, then we recode the missing values to a constant (for instance 0) and include a dummy variable indicating whether the response on the covariate was missing or not (Gerber and Green, 2012).

We will likely experience some drop-out due to failed readings of the physiological data and people who want to abort the protocol for other reasons. These persons drop-out from the analyses for that specific physiological measure. In these instances, we will test if those participants that drop-out from the analyses differ from the respondents that complete the experiment on a set of covariates, namely sex (logistic regression), age (OLS regression), education (ordered logistic regression), income (OLS regression). We will report these analyses in the appendix. If there are systematic differences between those that complete and those that do not complete the experiment, then we will discuss the limitations in the discussion of the paper.

Control variables in our models

In our statistical analyses we control for the financial compensation of $10 (0) or $25 (1). We control sex, age, education (completed level), income and political sophistication. Our trained lab assistants will also keep a logbook. If any events happen during the study (third person enters

lab, loud noises, participants is distracted), he/she will make a note of this in the logbook. In our models we will include a dummy variable capturing whether the study happened without any meaningful events (0) or not (1). Finally, we also control for the fact if SCL levels were lower than 2 microSiemens which is considered an abnormal low value (Dawson, Schell and Filion, 2007)).

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Table 2: Issue Experiments

Experimental Conditions	Question Text
Food Irradiation	
Control Pro	Do you support or oppose requiring irradiation of raw meat before it can be sold to the public? Many argue that this method could create a lot of benefits.
Control Con	Do you support or oppose requiring irradiation of raw meat before it can be sold to the public? Many argue that this method could create a lot of problems.
Pro	Do you support or oppose requiring irradiation of raw meat before it can be sold to the public? Irradiation involves exposing raw meat to brief doses of gamma rays in the treatment process. Many argue that this is a safe way to kill the deadly bacteria that cause food poisoning outbreaks that cause severe diarrhea, vomiting, and even death.
Con	Do you support or oppose requiring irradiation of raw meat before it can be sold to the public? Irradiation involves exposing raw meat to brief doses of gamma rays in the treatment process. Many argue that this unproven method is unsafe and could cause deadly radiation to leach into food and cause severe diarrhea, vomiting, and even death.
Ebola Vaccine	
Control Pro	Do you support or oppose researchers using genetically modified versions of the Ebola virus in an effort to develop a vaccine? Many argue that developing one could create a lot of benefits.
Control Con	Do you support or oppose researchers using genetically modified versions of the Ebola virus in an effort to develop a vaccine? Many argue that developing one could create a lot of problems.
Pro	Do you support or oppose researchers using genetically modified versions of the Ebola virus in an effort to develop a vaccine? Ebola is a highly contagious viral hemorrhagic fever that causes intense vomiting, diarrhea, and internal bleeding that kills up to 90% of those who get it. Many argue that a genetically modified version is the best chance to develop an effective vaccine to stop the spread of the disease.
Con	Do you support or oppose researchers using genetically modified versions of the Ebola virus in an effort to develop a vaccine? Ebola is a highly contagious viral hemorrhagic fever that causes intense vomiting, diarrhea, and internal bleeding that kills up to 90% of those who get it. Many worry that developing a genetically modified version as a vaccine could backfire and end up spreading of the disease instead of stopping it.

Table 3: Issue Experiments

Experimental Conditions	Question Text
Drilling	
Control Pro	Do you support or oppose drilling for oil and gas off the Atlantic Coast and in the eastern Gulf of Mexico? Many argue that this could create a lot of benefits.
Control Con	Do you support or oppose drilling for oil and gas off the Atlantic Coast and in the eastern Gulf of Mexico? Many argue that this could create a lot of problems.
Pro	Do you support or oppose drilling for oil and gas off the Atlantic Coast and in the eastern Gulf of Mexico? Drilling would make the US independent from unreliable and corrupt oil sheikhs from the Middle East. Drilling therefore secures the US oil supply in short and distant the future.
Con	Do you support or oppose drilling for oil and gas off the Atlantic Coast and in the eastern Gulf of Mexico? Drilling threatens the long-term survival of our planet. Biodiversity on the US coasts and essential marine life will not survive in the face of site construction and drilling.
TTIP	
Control Pro	Do you support or oppose the Transatlantic Trade and Investment Partnership (TTIP), a proposed trade agreement between the United States and the European Union. Many argue that the trade agreement benefits the US economy.
Control Con	Do you support or oppose the Transatlantic Trade and Investment Partnership (TTIP), a proposed trade agreement between the United States and the European Union. Many argue that the trade agreement hurts the US economy.
Pro	Do you support or oppose the Transatlantic Trade and Investment Partnership (TTIP), a proposed trade agreement between the United States and the European Union. Proponents of TTIP say it will benefit American workers and small businesses. With the TTIP, the U.S. will not loose its leading position in the world economy. TTIP will drastically decrease the risk of recession and economic downturn. TTIP guarantees a safe and prosperous future for all Americans.
Con	Do you support or oppose the Transatlantic Trade and Investment Partnership (TTIP), a proposed trade agreement between the United States and the European Union. Opponents of TTIP say it will harm American workers and small businesses. With the TTIP, the U.S. will loose its leading position in the world economy. TTIP will drastically increase the risk of recession and economic downturn in the long run. TTIP threatens the safe and prosperous future of all Americans.

Table 4: Issue Experiments

Experimental Conditions	Question Text
Terrorism	
Control Pro	Do you support or oppose sending military aid to Tanzania to help them fight a new group loyal to the Islamic state, the Islamic State in Somalia, Kenya, Tanzania, and Uganda (Jahba East Africa)? Many argue that sending military aid to Tanzania could solve lots of problems.
Control Con	Do you support or oppose sending military aid to Tanzania to help them fight a new group loyal to the Islamic state, the Islamic State in Somalia, Kenya, Tanzania, and Uganda (Jahba East Africa)? Many argue that sending military aid to Tanzania could create lots of problems.
Pro	Do you support or oppose sending military aid to Tanzania to help them fight a new group loyal to the Islamic state, the Islamic State in Somalia, Kenya, Tanzania, and Uganda (Jahba East Africa)? Jabba East Africa is a serious threat for the safety of American citizens abroad and in the U.S. Its leader Abdulqadr Mumin called upon his followers to attack American citizens whenever possible. A recent CIA report documented that Jabba East Africa is training suicide bombers from all over the world in their camps. Many argue that sending military aid to Tanzania could solve lots of problems.
Con	Do you support or oppose sending military aid to Tanzania to help them fight a new group loyal to the Islamic state, the Islamic State in Somalia, Kenya, Tanzania, and Uganda (Jahba East Africa)? The deployment of US troops is very risky. The rural areas of Kenya and Tanzania are rogue and dangerous. The success of this mission are highly uncertain. It will put the lives of many American soldiers at risk. Moreover, putting boots on the grounds will backfire: it will only increase the popularity of Jabba East Africa. Many argue that sending military aid to Tanzania could create lots of problems.
Food poisoning	
Control Pro	What do you think about Food Control Act proposal in Congress? Many support it because they say it will have a lot of benefits.
Control Con	What do you think about Food Control Act proposal in Congress? Many oppose it because they say it will cost too much.
Pro	What do you think about Food Control Act proposal in Congress? Many support it because they say it will prevent food related illnesses that cause nearly 48 million Americans to have projectile vomiting, watery and bloody diarrhea, and severe cramping every year. They say this is the strongest legislation we could have. 21
Con	What do you think about Food Control Act proposal in Congress? Many oppose it because they say it will not do enough