

Supplementary Information for

Cross-National Evidence of a Negativity Bias in Psychophysiological Reactions to News

Stuart Soroka, Patrick Fournier, and Lilach Nir

Corresponding author: Stuart Soroka Email: <u>ssoroka@umich.edu</u>

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Supplementary Information

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A. Experimental Protocol. The experiment used here unfolded as follows. Participants watch a news program on their own, on a computer monitor in a quiet room, wearing noise-canceling headphones. They are connected to three biosensors, on the first to third fingers of their non-dominant hand.

The news content lasts roughly 25 minutes, during which participants view seven randomlyordered news stories, selected on a variety of topics, political as well as general news, and across a range of tone, from very positive to very negative. Stories are preceded by a two-minute gray screen, and then separated by 40 seconds of gray screen thereafter. Of the seven stories presented to each participant, one is domestic and negative, and one is domestic and positive – all US respondents see the same two US stories, all Japanese participants see the same two Japanese stories, and so on. The remaining five stories are drawn from a sample of eight stories, four positive and four negative, all international. The domestic stories obviously vary across countries; the international stories do not. Our objective in this instance is to reap the benefits of both using identical stimuli across countries. Our results rely on the international stories only, although results change very little when domestic stories are included. Table S1 offers details on the randomization of the international stories across all participants. A brief description of the stories is as follows:

- International Negative: Peru: The small town of Chimbote burns down; May Day: Describes May Day protests following economic downturn; Niger: Describes current food shortages in Niger; Sri Lanka: Describes UN investigations of war crimes in Sri Lanka
- International Positive: Gorillas: Gorillas from a zoo are released into the wild; Folding Car: A new electric, folding car intended to reduce congestion; Young Director: An 11-yr old makes stop-motion films; Cured Liver Disease: A young child recovers from liver disease
- Local Negative: Brazil, a fire in a nightclub; Canada, the arrest of a serial killer; Chile, protestors in Santiago; China, a report on ongoing problems with smog; Denmark, a shooting in a café holding a meeting about free expression; France, a woman is killed and her daughter hides under her; Ghana, problems with coastal erosion; India, conflict between India and Pakistan in Kashmir; Israel, ultra-orthodox Jews prevent girls from walking to school; Italy, a shipwreck in Genova; Japan, ongoing problems from nuclear fallout; New Zealand, a hot air balloon accident; Sweden, riots in Stockholm; Russia, a plane crashes into the Black Sea; Senegal, a draught creates problems for farmers; UK, a story about foreigners sold into slavery; US, a story about homelessness in the US.
- Local Positive: Brazil, a ballet company for impaired dancers; Canada, a group of factory workers win the lottery; Chile, fossils discovered in northern Chile; China, the world's tallest power pylon, Denmark, about the Copenhagen little mermaid statue; France, a very old man participates in bike race; Ghana, a child's successful surgery; Israel, a television station that keeps dogs company when owners are out; India, a company makes useful items from recycled goods; Italy, a mayor declares that no one in town can die since the graveyard is full; Japan, an island full of cats; New Zealand, a group that teaches dogs to drive cars; Senegal, a youth soccer camp; Sweden, the ongoing popularity of ABBA; Russia, exploring for pieces of a recently-fallen meteorite; UK, a story about a fancy suit store; US, a man who makes bagpipes.

News stories are a carefully selected (non-random) sample of real news stories from BBC World News. The advantage of this news source is that it is aimed at a worldwide audience; stories accordingly focus on themes that are of relevance across the countries we examine. BBC World News is regularly aired in many the countries we study — it is as close as we can come to "regular" news across a wide range of countries.

There are nevertheless some complications arising from using BBC World News across all countries. One is that the news source is in English. Our participants must thus understand English, or we must translate the content. (Note that BBC broadcasts news in other languages, but the stories are not the same.) We address this issue using a two-pronged approach. First, we gather data from multiple countries where we can conduct the entire experiment in English – not just multiple Anglo-American countries, but multiple Scandinavian countries as well. Second, we use subtitles in countries where most participants do not speak English. This requires that we explore directly the impact that subtitles have on physiological and attitudinal reactions to news content. Table S5 offers two analyses confirming that subtitling has no marked impact on our findings in the pooled sample; though note that the interaction between negativity and subtitles narrowly misses statistical significance for the model of RMSSD.

There will of course be differences between the style and substance of BBC news and the domestic news in each of the countries in our sample. Fig. S4 reports responses to the question, "Do you think that [domestic country, i.e., 'Canadian'] news stories are similar to the BBC content you have just watched?" Japanese respondents see the largest difference between their

domestic news and the BBC, but in no country does a sizeable number of respondents see BBC news as "not at all similar" to domestic news. (Also see discussion in the concluding section of the paper.)

Subtitles are used in the following countries: Brazil, Canada (with French sample, randomized), Chile, China, France, India, Israel (with Jewish sample, randomized, and with Palestinian sample), Italy, Japan, Russia, and Senegal. Hebrew and French subtitles were translated by the authors; Russian translations were done by research assistants. All other subtitles were translated by an academic translation service in Chicago, with Hindi subtitles edited by local research assistants to avoid uncommon words. All subtitles are embedded in videos by the authors, and available as plain-text (.srt) files upon request.

After the physiology data are gathered, participants complete a roughly 10- to 15-minute survey on the premises. The survey captures basic sociodemographic information, media use, interest in politics, political participation, vote choice, party identification, political ideology, personality traits, and risk preferences. The survey also asks respondents whether they remember seeing each video (including questions about the videos they did not see), and asks for ratings for the videos on several dimensions, including tone (see Fig. S3).

The survey was designed in English, but fielded in the local language in Brazil, Canada (with French sample), Chile, China, France, India, Israel, Italy, Japan, Russia and Senegal. In India, the survey and subtitles are in Hindi rather than Marathi; this meant that some respondents had difficulties, but research assistants aided respondents when necessary. In China, a scaled-down survey was used that omitted questions about partisanship (but retained policy preference questions). Survey translations were handled in the same way as subtitles, by a combination of the investigators, research assistants and a paid translation firm, as discussed above. The entire survey, in all languages, is available upon request.

B. Script. All participants are guided through the protocol using a relatively simple script. There are of course small variations, based on language, and on questions from participants. But the script which we use, and with which we train local research assistants (where necessary), is as follows:

- Hello, you must be NAME. I'm NAME. It is a pleasure to meet you. First, thank you very much for participating in our study. We really appreciate your help. This is where everything will happen. You will be seated at this computer for the next 45 minutes.
- Before we begin, I would like you to read this document that describes the study [hand over the consent form]. Let me know if you have questions. [Note that we can describe the general goal of the study (understanding reactions to news content), but we do not talk about the hypothesis we are examining before the experiment (comparing reactions to positive and negative stimuli).]
- If everything is clear and you don't have any question, then I would like you to sign this consent form, which is typical for university studies. Here is your payment [hand over the money]. Can you please sign this document to confirm that you received the payment [hand over the confirmation sheet]?
- Can you please mute your phone so you will not be disturbed? Please have a seat. Are you right-handed or left-handed? Ok, we will put the equipment on your non-dominant hand. First, this sensor will measure your heart rate. It goes on your middle finger. The velcro should not be loose, but it should not be too tight, let me know if this is not comfortable. The next two sensors will measure your skin conductance. One goes on your index finger, the other goes on your ring finger. Are they too tight? We can check whether the sensors are working well by starting the software. The top line is heart rate. The bottom line is skin conductance.

If you move too much, the sensors are affected, so please find a position where you can stay immobile during the experiment. Some people prefer to put their hand on the chair's armrest,

some prefer to put it on their leg, some prefer to put it on the table. Chose the position you like best. Is the computer screen correctly inclined?

The first experiment will show television news reports. You simply need to watch them. There will be seven stories altogether. The stories are separated by a long blank screen. The first blank screen is really long. Two minutes! It will look like the longest two minutes of your life! It will look like the system is not working, but it is. It simply needs to calibrate for a while before beginning.

When the screen says thank you it is over, just let me know because I won't see what is happening. You can now put on the headphones. You can adjust their volume by clicking on these two buttons.

[After the video experiment is over.] The second experiment will show images. The images are again separated by a blank screen. The first blank screen will be longer, but less than two minutes. Again, when the screen says thank you it is over, just let me know. The headphones are noise cancelling, so it is best to put them on again to avoid distractions.

[After the photo experiment is over.] We can now take off the headphones and the sensors. All that remains is a survey. It is done on the same computer. You can use the mouse, the trackpad and the keyboard. Simply let me know when it is over. It will return to the start screen.

[After the survey is complete.] Thank you once again for your participation. We are very grateful. Do you have any questions?

C. Informed Consent. We sought and received written informed consent from all participants using text approved by the Comité d'Éthique de la Recherche de la Faculté des Arts et des Sciences at the Université de Montréal. Forms varied slightly by location, based on local consent rules and translation where necessary. The most essential parts of the consent form were as follows:

- WHO IS CONDUCTING THIS RESEARCH? This research is being conducted by Stuart Soroka at the University of Michigan, Patrick Fournier at the Université de Montréal, and Lilach Nir at the Hebrew University. All data collected in this research will be archived and password-protected, and available only to these researchers. If you have any questions or concerns regarding your rights or welfare as a participant in this research study, please contact Stuart Soroka (ssoroka@umich.edu).
- WHY ARE WE DOING THIS RESEARCH? Our goal is to establish basic scientific knowledge about the ways in which people react to network news. This is a study of the functioning of the normal human brain. It has nothing to do with your personality or motivations or intelligence.
- PRIVACY. In this type of research, we are interested in the effects of different types of information. We know that you value your privacy. You will not be identified as an individual in any scientific report of this research, and your name will not be linked to your responses in this study.
- DISCUSSION OF THE RESEARCH IDEAS. We cannot discuss our ideas with you before the experiment takes place, but we will be happy to talk with you about our hypotheses and theories afterwards.
- WHAT WILL HAPPEN DURING THE EXPERIMENT? You will be seated in a room, and you will watch a selection of news stories, drawn from BBC evening newscasts. While you watch, we will monitor some vital signs using small transducers attached to your finger, and your cheek and forehead. After viewing about 20 minutes' worth of video, we will repeat the process with a series of photos commonly used in psychology studies. Finally, you will be asked to complete a brief survey. The experiment will last less than one hour in total. You will be free to discontinue your participation at any time without penalty. If you are currently

taking prescription drugs, over-the-counter drugs (such as antihistamines, cold or flu remedies, sleeping aids), or recreational drugs (such as marijuana, etc.), please don't participate in the experiment.

D. Sampling. We selected the 17 countries in this study based on several factors. In part, selections had to consider the availability of labs, respondents, and local help. We also sought to maximize geographic, economic, cultural and political variation. We thus selected countries on each of 6 continents, taking into consideration country scores on measures of media systems, economic development, culture, and political institutions, including the following: Media freedom, based on a media freedoms index produced by the Freedom House (available at https://freedomhouse.org); Economic development, based on national GDP per capita in USD from the World Bank (available at https://data.wordbank.org); Uncertainty avoidance, based on Hofstede's cultural dimensions, primarily 'uncertainty avoidance' (from Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). Cultures and Organizations: Software of the Mind, Third Edition. New York: McGraw-Hill Education); and Electoral systems, to capture variation in both electoral competition and party systems across authoritarian as well as within democratic regimes.

Our goal was to maximize variance on each of these dimensions. Where electoral systems are concerned, we include one non-democratic regime (China) alongside a combination of proportional, majoritarian two-round, and single-member-plurality systems. Fig. S5 shows the distribution for the three interval-level measures, across all countries for which data are available, as well as for the countries (shown as circles) included in our sample. The figure makes clear that our sample includes a good deal of variation.

Just as there are concerns about US-only samples in most psychological research, there are serious questions about the generalizability of student-based samples. We consequently sought access to non-student samples whenever possible. That said, there are several countries for which only student samples were available to us. Sample differences across countries raise some difficulties, since we want to be sure that cross-national differences are not fueled by simple differences in sampling. We deal with this by having some countries in which we have both student and non-student samples (esp. the US); and by running preliminary diagnostic analyses confirming that country-level differences are not the product of differences in age and education. (In the end, as the paper notes, there is very little country-level variation to account for.)

Our objective in each country is to find a sample of 40+ participants, evenly divided by gender, and roughly representative of the population at large. This is difficult with a sample of only 40, of course; often, our aim was simply to seek variation in age, education, income and political ideology. In some cases, this was straightforward; in others, we had no information about respondents until they arrived for the experiment.

Experiments were typically conducted in a room – often but not necessarily a purpose-built lab – at a local university. In Brazil, Russia and Senegal, we used a hotel conference room; in India, some experiments were run in a shed in a nearby housing complex. In every instance, we sought out quiet locations, in rooms where nothing was happening except for our experiment. We always place respondents towards a wall or blank space, so that there are no distractions during the experiment. We also always use noise-cancelling headphones to reduce the impact of noise outside the lab. We provide details on the fielding of each experiment below.

Brazil: A diverse sample was recruited by local research assistants among their acquaintances, aiming for diversity in terms of age, education, and ideology. Experiments were run in a hotel meeting room in Brasilia in 2016.

Canada: Our primarily English-language sample, students recruited through posters and emails at McGill University, was collected in 2013, in a purpose-built lab at the Centre for the Study of Democratic Citizenship at McGill University in Montréal. Our primarily French-language sample, recruited among participants in two non-student online studies, was collected in 2015, in a faculty office at the Université de Montréal.

- Chile: A representative (non-student) sample was provided by the Centre for Experimental Social Science (CESS) Santiago, and conducted in their purpose-built lab in Santiago in 2016.
- China: A diverse (non-student) sample was provided by the lab at Nankai University in Tianjin, based on (a) a respondent pool at the university, and (b) access to workers at a local IT firm. Experiments were run at either a purpose-build lab at Nankai University, or offices at the IT firm in 2018.
- Denmark: A diverse (non-student) sample was recruited by local research assistants among their acquaintances, aiming for diversity in terms of age, education, and ideology. Experiments were run in faculty offices at Aarhus University in 2016.
- France: We rely on a sample built through posters and snowball sampling, at the Sciences Po in Paris. Experiments were run in faculty offices at that university in 2015. A second round of experiments was completed in 2017 to diversify the sample in particular, we sought to recruit participants from the right side of the political spectrum, and from a more diversified age range and educational background.
- Ghana: A diverse (non-student) sample was provided in collaboration with the Centre for Experimental Social Science (CESS), working with Central University, Accra. Experiments were run in classrooms at Central University in 2017.
- India: A representative (non-student) sample was provided by the Centre for Experimental Social Science (CESS) at FLAME University, and conducted in their purpose-built lab in Pune in 2017.
- Israel: Our primarily Jewish sample relies on a student participant pool at the Hebrew University in Jerusalem. Experiments were run in a purpose-built lab at that university in 2013. Our primarily Palestinian sample relies on a student participant pool, supplemented with snowball sampling, at the University of Haifa. Experiments were run in a purpose-built lab at that university in 2016.
- Italy: We rely on a student sample, built through posters and emails at the University of Milan. Experiments were run in a small quiet room at that university in 2016.
- Japan: We rely on a student sample, built through an existing participant pool as well as emails at Waseda University in Tokyo. Experiments were run in two small quiet rooms at that university in 2016.
- New Zealand: A representative (non-student) sample was provided by the Vote Compass. Experiments were run in a quiet conference room at the Victoria University of Wellington in 2016.
- Russia: A diverse (non-student) sample was recruited by a local research assistant among acquaintances, aiming for diversity in terms of age, education, and ideology. Experiments were run in a hotel meeting room in St-Petersburg in 2017.
- Senegal: A diverse (non-student) sample was gathered in collaboration with local research assistants, aiming for diversity in terms of age, education, and ideology. Experiments were run in a hotel conference room in Dakar in 2017.
- Sweden: A representative (non-student) sample was provided by the Citizen Panel. Experiments were run in a quiet conference room at the University of Gothenburg in 2015.
- UK: A representative (non-student) sample was provided by the Centre for Experimental Social Science (CESS) at Nuffield College, and conducted in their purpose-built lab in Oxford. Experiments occurred in two rounds, first in 2015, and then in 2017.
- US: Most US experiments were conducted in a purpose-build lab at the University of Michigan in Ann Arbor in 2015-2016. We collected three different samples: one student sample based on an existing participant pool, another student sample based on posters and snowball sampling, and a representative sample built through quota sampling from an existing

medical-experimental pool. Additional US experiments were conducted in a lab at Texas A&M, in conjunction with ongoing work with Johanna Dunaway.

E. Gathering and Processing Physiological Data. Our research requires that we are able to conduct experiments in various locations, and not necessarily in a traditional lab environment. It is for this reason that we rely on a portable encoder from Thought Technologies (http://thoughttechnology.com); specifically, we rely on either a FlexComp or ProComp5 Infiniti system, alongside a Skin Conductance Sensor and a BVP (Blood Volume Pulse) Sensor. This system is connected to a computer via USB cable.

We record the raw signal (at 256/second), and process the resulting data in R. The processing of galvanic skin levels is relatively straightforward: we smooth the raw signal using a rolling average, with slightly larger weights attributed to the middle three values. In R, the script is as follows: scl <- filter(scl, filter = c(1/8, 1/4, 1/4, 1/4, 1/8), sides=2). This serves to remove much of the noise in the series, although it does not entirely erase the impact of outlying values. This is by design; but note that a series in which we entirely remove outlying values has no significant impact on our results. (We are not focusing on the millisecond-by-millisecond reactions to brief stimuli, after all, but rather on SCL over rather long intervals.) Most of our analyses rely on a down-sampled version of this smoothed signal, by one-second intervals, or by stimulus (video, or photo).

The processing of heart rate is more complex. We begin by applying the same filter as for SCL, in order to reduce noise in the time series. We then identify peaks in the QRS complex using a script that tags any moment during which the signal is greater in amplitude than the surrounding 20 moments (10 forward, and 10 backward). Some respondents show a relatively high T wave; in order to reduce the likelihood that these are mistakenly tagged as R waves, we remove any tagged moments for which the amplitude does not exceed the 75th percentile for the entire data series. Counting the seconds (really, 256ths of seconds) between each tagged moment then produces heart rate, and inter-beat interval (IBI). Remaining outliers, due to mis-measurement, are removed by dropping moments in which measured heart rate is below 40 bpm or above 130 bpm.

As is typical in physiological experimentation, there are respondents for whom physiological measures were not captured reliably. For this reason, results are based on somewhat less than the full 1,156 participants. Exclusion from either the RMSSD or nSCL analyses was based on looking at diagnostic figures and summary data for each respondent. This was done by the authors, first after each country-sample was collected; it was then checked and slightly revised by the authors and research assistants not involved in the analysis once all experiments were completed.

Exclusion from RMSSD analyses is the product of mis-measured heart rate resulting in either no heartrate, or a very inconsistent signal (i.e., missing data for most of the experiment). This is typically (indeed, to our knowledge exclusively) a function of equipment failure (i.e., loose sensors). Exclusion from nSCL analyses can be a function of equipment failure (i.e., loose sensors or disconnected cables) or the results of non-response/hypo-responsiveness. These two reasons are often indistinguishable in diagnostic charts, in which respondents show either very low levels of skin conductance (well below the typical human range), or no variation over time, and typically both. Fig S6 shows examples of the diagnostic graphics used to evaluate the reliability of the heartrate and skin conductance signals.

F. Alternative Estimation Strategies. We have confirmed the results based on psychophysiological data using a number of alternative estimation strategies. Figs. 1 and 2 rely on models in Tables S2 and S4. Note that Table S3 confirms that results hold when we add weights that equalize the impact of each country sample; and Table S2 confirms that the results in Table S4 hold when using nSCL at higher levels of aggregation.

The coefficients plotted in Figs. 3 and 4 highlight individual-level variability, as well as variation in the average country-level effect. This does not change when we rely on alternatives to by-participant OLS regression coefficients, i.e., when we rely on raw differences in mean RMSSD or nSCL across negative and positive stories.

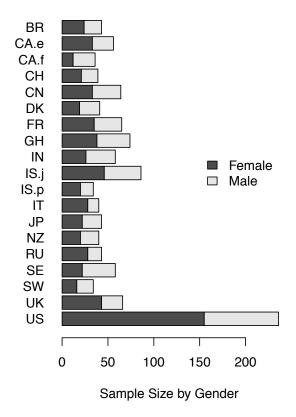


Fig. S1. Number of respondents by country and gender.

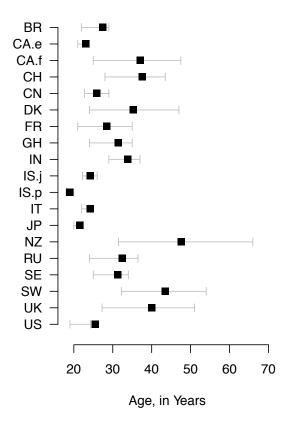


Fig. S2. Respondent age by country.

Squares indicate means, whiskers indicate the inter-quartile range.

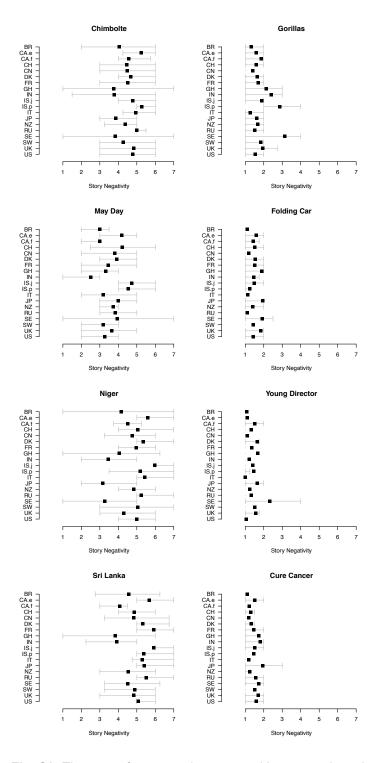
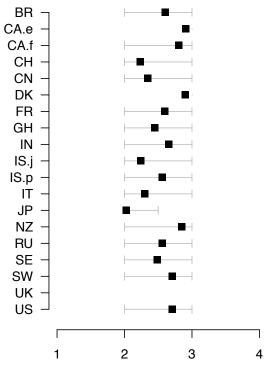


Fig. S3. The tone of news stories, as rated by respondents in each country.

Squares indicate means, whiskers indicate the inter-quartile range.



Similarity to Domestic News Stories

Fig. S4. Similarity between BBC and Domestic News.

Squares indicate means, whiskers indicate the inter-quartile range. Based on the following survey question: Do you think that [domestic country, i.e., "Canadian"] news stories are similar to the BBC content you have just watched? Yes, very similar; Yes, somewhat similar; No, not very similar; No, not at all similar. Scored from 1 (not at all similar) to 4 (very similar).

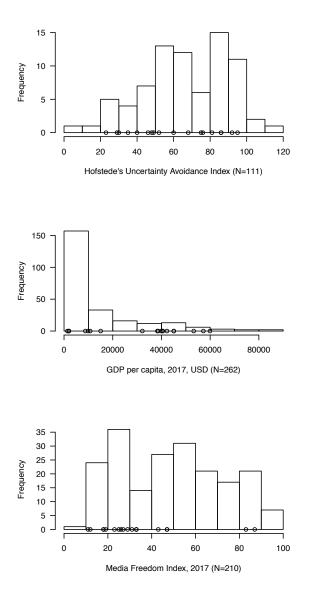


Fig. S5. Cross-National Scores on Indices of Culture, Economics, and Media Freedoms.

Bars indicate the distribution of all countries available in each dataset, circles indicate the placement of countries included in the experiment. Data sources are as follows: (a) Hofstede, G., Hofstede J.G., Minkov, M. 2010, *Cultures and Organizations: Software of the Mind*, McGraw-Hill (b) World Bank Open Data, (c) Freedom House, *Freedom of the Press* 2017.

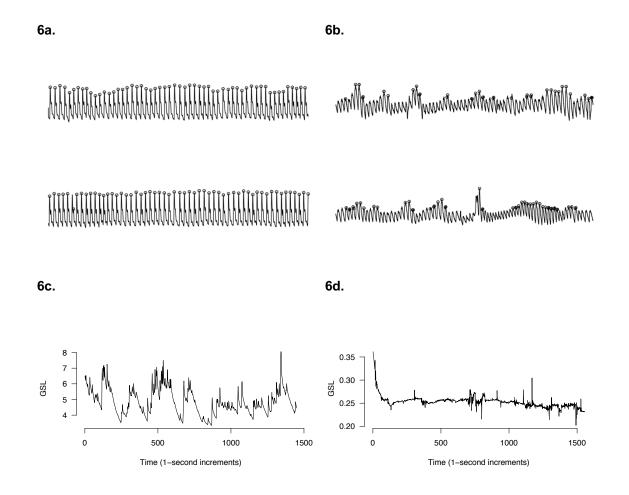


Fig. S6. Examples of Diagnostic Figures Used to Confirm Data Reliability

Panel 6a shows heartrate successfully captured, with peaks in the QRS complex properly identified by our algorithm. Panel 6b shows an instance in which loose sensors result in a less reliable signal. (The figures used here show heartbeat over a relatively short time period, but note that the full figures show heartrate over the entire experiment.) Panel 6c shows a typical trajectory for normalized skin conductance levels over the course of the video experiment. Panel 6d shows an instance of non-response and/or equipment failure.

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Story Name			Ste	ory Orde	er			
	1	2	3	4	5	6	7	Total
Chimbolte	97	116	99	95	100	99	94	700
May Day	111	90	110	120	99	115	82	727
Niger	119	90	97	109	114	118	98	745
Sri Lanka	106	114	101	94	96	113	96	720
Gorillas	98	89	127	115	95	111	108	743
Folding Car	93	105	103	98	105	87	103	694
Young Director	85	106	106	93	97	88	94	669
Cure Cancer	101	112	80	111	85	111	117	717
Total	810	822	823	835	791	842	792	

Table S1. Randomization check

Cells contain the number of cases, across all respondents, in which each story appears in order 1 through 7. Total presentations vary based on (a) excluded respondents, and (b) randomized selection of stores (see Section A).

		DV:	
	RMSSD	nSCL	
Negativity	1.551**	0.034**	
	(0.465)	(0.011)	
Story Order	0.942***	-0.073***	
	(0.217)	(0.005)	
Constant	114.469***	0.241***	
	(0.966)	(0.024)	
N (cases)	5412	4450	
N (participants)	1083	890	

Table S2. Regression models of RMSSD and nSCL, based on the respondent-stimulus-level dataset

Cells contain coefficients from a fixed-effects panel estimation, with standard errors in parentheses. * p < .05; ** p < .01; *** p < .001.

	DV:		
	RMSSD	nSCL	
Negativity	1.777**	0.028*	
	(0.469	(0.011)	
Story Order	0.545*	-0.074***	
	(0.220)	(0.005)	
Constant	112.376***	0.255***	
	(0.981)	(0.023)	
N (cases)	5412	4450	
N (participants)	1083	890	

Table S3. Regression models of RMSSD and nSCL, based on the respondent-stimulus-level dataset, with weights so that countries are equally weighted

Cells contain coefficients from a fixed-effects panel estimation, with standard errors in parentheses. * p < .05; ** p < .01; *** p < .001.

	DV:	
	Changes in nSCL	
Negativity	0.006***	
	(0.001)	
Time (seconds, logged)	-0.001**	
	(0.000)	
interaction with negativity	-0.001***	
	(0.000)	
Lagged DV	-0.011***	
	(0.000)	
Story Order	-0.001***	
-	(0.000)	
Constant	0.004***	
	(0.001)	
N (cases)	641,287	
N (participants)	898	

Table S4. Regression models of nSCL, based on the time-series dataset

Cells contain coefficients from a fixed-effects panel estimation, with standard errors in parentheses. * p < .05; ** p < .01; *** p < .001.

	ים	V:			
	RMS	SSD	nSCL		
Negativity	1.519***	0.840	0.036**	0.029*	
	(0.463)	(0.006)	(0.011)	(0.015)	
Subtitles (1=yes)	-2.315	-2.608	-0.003	-0.006	
	(3.350)	(3.356)	(0.023)	(0.024)	
interaction	. ,	1.635	. ,	0.016	
		(0.940)		(0.022)	
Story Order	0.937***	0.0954***	-0.076***	-0.076***	
-	(0.216)	(0.217)	(0.005)	(0.005)	
Constant	115.429***	115.490***	0.255***	0.265***	
	(2.326)	(2.327)	(0.026)	(0.026)	
N (cases)	5412	5412	4450	4450	
N (participants)	1083	1083	886	886	

Table S5. Regression models of RMSSD and nSCL, based on the respondent-stimulus-level dataset, testing the direct and moderating impact of subtitles

Cells contain coefficients from a random-effects panel estimation, with standard errors in parentheses. * p < .05; ** p < .01; *** p < .001.

Table S6. Correlations between Individual-Level Negativity Coefficients and Cross-National

 Indices Used in Sample Selection

	Media Freedom	GDPpc	Uncertainty
			Avoidance
Negativity coefficient, RMSSD	-0.010 (N=1134)	0.007 (N=1134)	0.030 (N=1060)
Negativity coefficient, nSCL	0.006 (N=934)	-0.017 (N=934)	0.060 (N=873)

Cells contain Pearson's r coefficients, with sample sizes in parentheses. Sample size varies based on the availability of measures. * p < .05; ** p < .01; *** p < .001.