

Supplement:

Post-session Survey

Thank you for participating in our study!	I thought the questionnaires were easy to understand.
	1 2 3 4 5
The following questionnaire will ask you about your experience during your time with us. Please select the response that most closely matches your opinion. A section will be provided at the end to include any other feedback you would like to provide	Strongly disagree O O O O Strongly agree
any other recuback you would like to provide.	I felt the EEG cap was comfortable, not too itchy, and not too tight.
	1 2 3 4 5
It was easy for me to travel to the lab, including clear directions.	Strongly disagree O O O O Strongly agree
1 2 3 4 5	
	I felt it was easy to follow along with the deep breathing.
Subligity disagree 0 0 0 0 0 Strongly agree	1 2 3 4 5
	Strongly disagree 🔿 🔿 🔿 🔿 Strongly agree
It was easy for me to adhere to the pre-appointment guidelines for 24 hours and 4 hours prior.	
	I felt it was easy to hold my grip steady for 2 minutes without any issues (i.e., hand cramps or
1 2 3 4 5	sweaty paints).
Strongly disagree 🔘 🔘 🔘 🔘 Strongly agree	
	Strongly usagree O O O O Strongly agree
	I the weeks the second staff was beliefed and becaused as also when I had supportions as concerns
I understood the processes and procedures of this study before providing my informed	I mought the research start was helpful and knowledgeable when I had questions or concerns.
consent.	I Z 3 4 5
1 2 3 4 5	Strongly usagree 0 0 0 0 Strongly agree
Strongly disagree	take weltake environmenter werdele envitedelen ake terratik of ake etwalu
	I thought the compensation was fair considering the length of the study.
	$1 \ z \ 3 \ 4 \ 5$
I felt comfortable going through each of the tests.	Strongly usagree O O O O Strongly agree
1 2 2 4 5	I would provide the set of an and an and all the set of a set in the second study of the Oraber
1 2 5 4 5	for Chiropractic Research.
Strongly disagree 🔘 🔘 🔘 🔘 Strongly agree	1 2 3 4 5
	Strongly disagree 🔿 🔿 🔿 🔿 Strongly agree
I felt confident about what I was supposed to do for each test.	I thought there was enough availability to schedule an appointment that worked for me.
1 2 3 4 5	1 2 3 4 5
Strongly disagree 0 0 0 0 Strongly agree	Strongly disagree 🔿 🔿 🔿 Strongly agree
Shongh alaughee O O O O Shongh ughee	
I felt the tests did not require a lot of effort from me.	
1 2 2 4 5	2
1 2 3 4 3	Create your own automated PDFs with Jotform PDF Editor- It's free Software Softwa
Strongly disagree 🔿 🔿 🔿 Strongly agree	

Create your own automated PDFs with Jotform PDF Editor- It's free

% Jotform

Is there anything else you would like to tell us about your experience with this study?

Article Supplement Page 1 of 7



RELAX Parameter Setting							- 🗆 🗙	
Raw data folder:	D:\DATA_TO_BE_P	REPROCESSED\	File to clean (le	ave blank to clean >1):				
Cap Location File:		Electro	des to exclude:	REF TRIGGER EK	G EM Downsample Data?	yes V Downsample to:	500	
Bandpass Filter [highpass, lowpass]:	1 80	Line Noise Frequency [eg. 50 or 60]:	60 Lowpa	ss filter before MWF?	no 😽 Bandpass Filter Type:	Butterw V Clean Line Noise With	Butterw 👻	
Max Proportion of electrodes that can be dele	Max Proportion of electrodes that can be deleted as bad: 0.25 Extreme noise proportio			tion electrode deletion threshold: 0.05 Muscle noise proportion electrode deletion threshold:				
Extreme outlier detection thresholds, app	plied to each 1s period:							
Absolute voltage shift:	500 Improbable	voltage value distributions (SD):		8 Single channe	l kurtosis: 8	All channel kurtosis:	8	
MAD from median voltage shift:	20	MAD from median voltage shift in blink affe	cted epochs:	8	Log-frequency Log-power slope for	r detecting drift threshold:	-4	
MWF Delay Period:	16 Use MWF t	to clean: 🔽 Muscle	🗹 Blir	iks 🔽 HE)G/drift			
Clean Artifacts with ICA?		Reduce ICA artifacts with wICA	~	ICA method:	amica		~	
Does the data contain blinks?	data might not have blinks	Blink affected electrodes:	FP1 FPZ FP2	AF3 AF4 F3 F1 FZ F2 F4	6Hz low pass filter before blink dete	ction? no - default (works in the vas	st majority of ca 🗸	
Left sided HEOG affected electrodes:		AF7 F7 FT7 F5 T7 FC5 C5 TP7	AF3	Right sided HEOG affected elec	trodes	AF8 F8 FT8 F6 T8 FC6 C6 TF	P8 AF4	
Log-frequency Log-power slope muscle artifa	act threshold for MWF clean	ing:	-0.5	9 Max	proportion marked as muscle for MWF clear	ning:	0.5	
Single electrode drift threshold for MWF clear	ning:	10	Max proportio	n marked as drift for MWF clea	ning:		0.3	
Horizontal eye movement threshold (MAD fro	m median) for MWF cleanin	g: 2		Interpolate	rejected electrodes back into data after clea	ning?	no 👻	
File numbers to process this session (from s	start file # to finish file # and f	iles in between):	1 10	Compute Metrics?	Raw metrics	Cleaned metrics		
Save Intermediate Steps?	After electrode reje	ction/extreme period marking	Af	er 1st MWF cleaning	After 2nd MWF cleaning	After 3rd MWF cleanin	g	
Help						Cancel	Ok	

Figure 1S: RELAX phase 1 parameter settings for resting-state EEG.

RELAX Parameter Setting								-	o ×
Cleaned data folder:	D:\DATA_TO_BE_P	REPROCESSED\RELAXProc	:essed\Cleaned_Data\		Interpo	late Rejected Channels?		yes	~
Data Type?	Resting	~ #	resting data, how long b	etween inserted triggers	s? (s)			2	
Triggers to epoch around:							Period to epoch (s):	-1	1
Remove other triggers? (necessary for regre	ession BL correction method)							yes	~
Baseline Correction Method:	none	~	Baseline Correction W	indow (ms):		-200 0			
Regression BL correction design:	Number of Factors (max = 2):	2		(if triggers are r	ot listed below at Level 1, th	ney are included in Level 2 for that	factor)	
Triggers to include in Factor 1, Level 1:				Triggers to include in	Factor 2, Level 1:				
Epoch Rejection Thresholds:									
Single Channel Improbable Data Threshold (SD): 5	All Channel Improba	ble Data Threshold (SD)		3	Absolute voltage amplitu	ide threshold (microvolts):		80
Single Channel Kurtosis Threshold (SD):			5	All Channel Kurtosis	Threshold (SD):				3
Reject Muscle Contaminated Epochs?							yes		~
Log-Frequency Log-Power Slope Threshold	for detecting muscle activity:		-0.31	Maximum Proportion	of epochs can be rem	oved because of muscle:		C).5
File numbers to process this session (from s	start file # to finish file # and files in betwe	en):						1 10	
Holp							Canad	Ok	
пеір							Cancer	OK	

Figure 2S: RELAX phase 2 parameter settings for resting-state EEG.



RELAX Parameter Setting										- 🗆 X
Raw data folder: C.IUs	sers\electrodx.LIFE\OneDriv	e - Life University/CCR Data	Weural	File to clean (leav	ve blank to clean >1):		_			
Cap Location File:			Electrodes t	o exclude:	VEOG HEOG	TRIGGER	Downsample Data?	yes 👻	Downsample to:	256
Bandpass Filter [highpass, lowpass]:	0.25	0 Line Noise Frequer	ncy [eg. 50 or 60];	60 Lowpas	s filter before MWF?	no 🛩	Bandpass Filter Type:	Butterw 🖌	Clean Line Noise W	ith: Butterw
Max Proportion of electrodes that can be deleted as bad: 025 Extreme noise proportion			Extreme noise proportion	on electrode deletion	n threshold:	0.05	5 Muscle noise	proportion electrode	deletion threshold:	0.05
Extreme outlier detection thresholds, a	pplied to each 1s period:									
Absolute voltage shift:	500 Improba	ble voltage value distribution	s (SD)	C	8 Single cl	hannel kurtosis:	8	All channel	kurtosis:	8
MAD from median voltage shift:	20	MAD from median w	oltage shift in blink affected	epochs:		8 Log	g-frequency Log-power slope fo	r detecting drift thresh	nold:	-4
MWF Delay Period:	16 Use MW	F to clean:	Muscle	Blink	is E	HEOG/drift				
Clean Artifacts with ICA?		Reduce ICA artifacts with	WICA	~	ICA method:		amica			×
Does the data contain blinks?	data might not have blir	iks 🗸 Blink	affected electrodes:	FP1 FPZ FP2	AF3 AF4 F3 F1 FZ F2 F4	6Hz lov	v pass filter before blink det	ection? no	- default (works in the	vast majority of ca 🖌
Left sided HEOG affected electrodes:		AF7 F7 FT	7 F5 T7 FC5 C5 TP7 AF3	Ri	ight sided HEOG affecte	d electrodes:		AF8	F8 FT8 F6 T8 FC6 C6	TP8 AF4
Log-frequency Log-power slope muscle an	tifact threshold for MWF cle	aning:		-0.59		Max proportion m	narked as muscle for MWF clea	ning:		0.5
Single electrode drift threshold for MWF cle	saning:		10	Max proportion	marked as drift for MWF	cleaning:				0.3
Horizontal eye movement threshold (MAD f	from median) for MWF clear	ning:	2		Interp	olate rejected elec	ctrodes back into data after clea	aning?		yes 👻
File numbers to process this session (from	n start file # to finish file # an	d files in between):		19	Compute Metrics?		Raw metrics		Cleaned metrics	
Save Intermediate Steps?	After electrode n	ejection/extreme period mark	king	Afte	r 1st MWF cleaning		After 2nd MWF cleaning		After 3rd MWF clear	ning
Help									Cancel	Ok

Figure 3S: RELAX phase 1 parameter settings for ERP data.







Figure 5S: ECG signal with detected R-peaks.





Figure 6S: dZ/dt waveform batch plot (left) and ensemble-average (right) for a 30-second data segment.



Figure 7S: EDA time-series with detected non-specific skin conduction responses (NSFs).



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Table 1S: EEG data quality checks performed following phases 1 and 2 of RELAX. Metrics to check after RELAX Phase 1

Metric	Metric Location	Threshold	Action		
*PREP rejected too	RELAX_issues_to_check.mat	Value > 0	>25% of electrodes were rejected. Reject the		
many electrodes	(column 2)		file!		
**Electrode Rejection	RELAX_issues_to_check.mat	Value > 0	**Evaluate the raw data file and the cleaned		
Recommendations Met	(column 3)		(not epoched) data file		
or Exceeded Threshold					
MWF eigenvector	RELAX_issues_to_check.mat	Value > 0	Potential issues with the ability to clean the		
deficiency R3	(column 8)		data using MWF. Compare the raw data file		
			against the cleaned data file to determine if there is no usable EEG activity.		
Metrics to check after	RELAX Phase 2 (Resting-state EEG only)				
Metric	Metric Location	Threshold	Action		
EpochsRemaining	EpochRejections.mat	Value < 112 for 5-	>25% of the original epochs were rejected.		
	(column 3)	min resting state	Reject the file!		
***Amplitude (voltage)	OutlierParticipantsToManuallyCheck.mat	Value other than 0	Inspect epoched (not cleaned) data files in		
above or below	(columns 2 & 3)		case they show corrupted data that should be		
threshold			excluded		
*Can see the exact elect	trodes that PREP rejected by looking at colum	in 2 of RELAXProces	ssingExtremeRejectionsAllParticipants.mat		
**If the raw data seems	to show noise such that you suspect the MWF	* & wICA will mostly j	ust be detecting noise components, & thus		
will be rejecting clean da	ata as well as the noise (because separation o	f noise & signal is m	essier when the data is extremely noisy),		
then the file should be e	xcluded. Similarly, if the cleaned data shows n	ioisy electrodes all th	he way through (which can't be addressed		
by excluding epochs price	or to analysis), then the file should be exclude	d from analyses.			
***Which participants sh	ow logged median voltages that are outliers c	ompared to the othe	r participants		

Signal	Variable/Landmark	Threshold	Action
Respiration	Respiration rate	RR <7 (0.12 hz) or >30 (0.5 hz) within a segment	Reject file
сВР	Systolic/Diastolic peak	>10% peaks interpolated	Reject file
ECG	IBI	<375 ms or >1400 ms	Inspect raw files to ensure normal sinus rhythm. Small IBI suggests ectopic beat or misidentified R-peak; High IBI suggests missed R-peak. Interpolate if necessary.
	R-peak	>10% R-peaks interpolated	Reject file
ICG	dZ/dt	<15 valid beats in a segment	Reject segment
	B-point	Invalid/missing B-point	Reject segment
EDA	SCL	<1 µS	Reject file

Table 2S: ANS data quality checks



NSF	>3 µS	Inspect raw EDA & respiration signals to ensure a valid NSF
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