pragmaP600

pippo

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This file aims at aiding the digitalization of ERP papers on figurative language. A number of ERPs papers on figurative language processing are considered by looking at contrasts between figurative and literal/control condtitions. Papers often contain multiple experiments, please add an element array for each experiment, in this case the field expname becomes required.

Description of the annotation schema

Annotators can add further information they think require some attention by adding further fields. These extra fields should start with "note".

Basic elements

paperid *[type= string]*: paperid **(required)**

The id of the annotated paper, should be [last author family name][year of publication][first page].

Examples:

"KUTAS1984161"

expname *[type= string]*: Name of the experiment **(required)**

A label of the form exp[N], where N is an integer. We suggest to keep the original paper number, otherwise add a field "note on name".

content *[type= string]*: Experiment description **(required)**

A very brief description of the experiment aims.

phenomenon *[type= string]*: Pragmatic phenomenon **(required)**

What the experiment is about.

name of figures *[type= string]*: name of figures **(required)**

Make a comma separated list "FIG1, FIG2" describing the number of figures to be digitized. This is not the name of the figures in the paper, but is FIG%d.

eeg *[type= object]*: EEG Section **(required)**

A collection of information about EEG recording and the analysis pipeline for ERPs extraction.

subjects *[type= array of object]*: Subject Groups Section **(required)**

An array with information about the groups of subjects tested.

procedure *[type= object]*: Experimental Procedure Section **(required)**

A collection of information about the experimental procedure, including stimuli and behavioural tasks.

statistics *[type= object]*: Statistics section **(required)**

An array of entries corresponding to the reported statistics of the simple effects. If simple effects are described on different levels of topography or different clusters, we just need one statistic: the one where t or F are largest.

EEG section

An object with the following fields:

recording reference *[type= string]*: Recording reference **(required)**

The EEG site used for reference electrode during recording (typical values may be mastoids (M1 OR M2), FCz).

analysis reference *[type= string]*: Analysis reference

Describe the analysis reference after rereferencing was done.

Possible values: "left mastoid", "right mastoid", "linked/averaged mastoids", "average", "vertex/Cz", "other"

sampling rate *[type= number]*: Sampling rate **(required)**

Sampling rate of the EEG recording in Hz (number of EEG points per second).

low pass *[type= number]*: Low Pass filter **(required)**

The cutoff frequency in Hz of the more severe low pass filter applied to the data for preprocessing

high pass *[type= number]*: High Pass filter **(required)**

The cutoff frequency in Hz of the more severe high pass filter applied to the data for preprocessing

steepness *[type= number]*: Filter steepness

Values describing the filters' steepness (db/oct). If order is give, please transform it in db/oct. Fill -1 if info is not given (this may often happen)

plot final low pass *[type= number]*: Plot Low Pass filter

The cutoff frequency in Hz of the additional low pass filter that may be further applied and declared for plotting. Fill -1 if info is not given

plot final high pass *[type= number]*: Plot High Pass filter

The cutoff frequency in Hz of the additional high pass filter that may be further applied and declared for plotting. Fill -1 if info is not given

epoch rejection *[type= string]*: Epoch rejection method **(required)**

A verbal description of the way the epoch rejection was performed: can be any of "manual", "automatic"or "semiautomatic". It can be also a more in depth description including the specific parameters used in the procedure.

mean rejected *[type= string]*: Mean rejected

The proportion of trials removed by the artifact rejection procedure: annotate average across conditions, or for each condition "0.08, 0.13" when available. Its should be a number (or a set of numbers) between 0 and 1. Fill -1 if info is not given

n_sites *[type= number]*: Number of electrodes

Number of electrodes placed on the scalp (EOG and reference excluded)

sites nomenclature *[type= string]*: Sites nomenclature **(required)**

A description of the standard used to label the channel/sites. In case of non standard sites put "custom". The main types may be "International 10-20" or EGI.

sites *[type= array of string]*: Recorded Sites **(required)**

One or more array of strings with the labels used in the paper figures of the recorded EEG sites/channels. For each eligible figure list the channels like "Fz, F1, F2", if a cluster is shown report nalme of the cluster followed by electrodes in parentheses like "CP_ch (Cz,C1,C2)"

> **sites elements:** *[type= string]*: Channel/site label
>
> Label of the channel/site.

baseline *[type= string]*: Baseline **(required)**

The interval used for the baseline of the ERPs with reference to the onset of the critical word. It should in the form "MIN, MAX" in ms. If different baselines are used for different conditions or target words please add a field "note on baseline".

epoch *[type= string]*: ERP epoch

the time range of the ERP epoch on which rejection has been done. It should in the form "MIN, MAX" in ms.

plotted epoch *[type= string]*: Plotted interval **(required)**

the plotted time range with reference to the onset of the critical word. It should in the form "MIN, MAX" in ms.

hardware *[type= string]*: Hardware

A description of the EEG system used (recording device and optionally recording software). Main manufacturers are Brain products, Neuroscan, Biosemi, AntNeuro, EGI

active electrodes *[type= boolean]*: Active electrodes

Active electrodes were used (true/false)

lab_env *[type= boolean]*: Faraday cage

Electrical shielding was used (true/false)

Subjects section

An array of objects with the following fields:

groupname *[type= string]*: A label for this group **(required)**

A short and possibly informative label of the group of subjects. Most typically it will be "adults".

n *[type= integer]*: Number of subjects **(required)**

An integer: the number of subject recruited in the study. Put -1 if the information is not provided. If different subjects were used for different conditions or target words please add a field "note on n"

finaln *[type= integer]*: Final number of subjects

An integer: the number of subject included in the final analysis (subtract exclusions from the initial sample, due to preprocessing or further criteria). Put -1 if the information can not be retrieved.

mean age *[type= number]*: Mean age

Mean age of this group of subject in years. Put -1 if not provided.

age range *[type= string]*: Age range

Age range in the form "MIN, MAX" in years, leave empty if not provided. SD is not very informative here

num of females *[type= integer]*: Number of females

The number of females in the sample, put -1 if the information is not provided.

language(s) spoken *[type= string]*: Language(s) spoken **(required)**

First language of the subjects and possible information about further other language known, when provided.

description *[type= string]*: Group Description **(required)**

Report information about the group, including info especially about handedness, vision, hearing capability, cognitive and neurological state.

handedness *[type= string]*: Handedness

Choose if handedness is assessed by asking or with Edinburgh handedness questionnaire

Possible values: "Declared as Righthanded", "Reference to Edinburgh questionnaire", "Unkown"

Procedure section

An object with the following fields:

language *[type= string]*: Language of the stimuli **(required)**

The language of the sentences or words presented to subjects during the experiment.

modality *[type= string]*: Presentation modality **(required)**

Modality of presentation of the stimuli.

Possible values: "spoken", "written", "other"

typeofmanipulation *[type= string]*: Type of manipulation **(required)**

Choose which type of manipulation was carried out (same prefix, same target, different prefix and target)

Possible values: "same prefix", "same target", "different prefix and target"

task *[type= string]*: Requested task **(required)**

The behavioral task which subjects were requested to perform.

Possible values: "reading/listening with no task", "comprehension questions", "word monitoring", "rating of acceptability or difficulty", "association tasks", "memory", "other"

task persistence *[type= string]*: Requested task

Describe how often participants were requested to perform the task at the end of the trials.

Possible values: "no task", "less than 15%", "from 15% to 50%", "from 50% to 100%"

context *[type= string]*: Sentential context

Info about the context in which expressions are embedded.

Possible values: "two-words paradigm", "single sentence - minimal (<8 words)", "single sentence - non minimal (>8 words)", "dialogue", "mini-discourse", "naturalistic"

wordtype *[type= string]*: critical word type

Info about the type of target word.

Possible values: "noun", "adjective", "verb", "mix"

lists *[type= number]*: Lists

The number of different lists can also be reported. -1 if information is not given explicitly

fillers *[type= number]*: fillers

The proportion of filler sentences in the whole set of materials.

counterbalancement *[type= string]*: Counterbalancement

Type of counterbalancement of material across participants (e.g. latin square design, fully crossed, repetition).

Possible values: "all presented once", "fully counterbalanced", "repetition within participants", "not enough information"

word duration *[type= number]*: Word duration

The time in ms for which the words were presented as a number. In case the duration was variable a textual description of duration estimates (e.g. mean minimum, maximum) can be provided.

woa *[type= number]*: Word Onset Asyncrony

The time in ms that occured between the onset of a word and the onset of the following word (e.g. word duration plus interstimulus interval) as a number. In case it is variable provide a description string.

conditions *[type= array of object]*: Experimental Conditions **(required)**

An array with information about the tested experimental conditions. They should be listed in alphabetical order

conditions elements: *[type= object]*: An Experimental Condition

A collection of informations about a specific experimental condition.

condname *[type= string]*: Condition label **(required)**

Label for the experimental condition, taken from the plot legend (as for the digitized).

items *[type= number]*: Number of items **(required)**

The number of items (words/sentences) which was presented in this condition to each subject. If it is variable add a "note on items" field.

description *[type= string]*: Condition description **(required)**

A textual description of this experimental condition. This is useful especially when labes are not transparent.

example *[type= string]*: Sentence example

If available, provide an example of the sentence used in this experiment and condition by placing the target word between asteriscs (e.g. "He spread the butter with a *sock*").

wp *[type= string]*: Word Position

A description of the structural position of the word in the sentence at which the ERPs were measured.

Possible values: "end of phrase", "end of sentence", "other"

linear position *[type= number]*: Linear Word Position

Target word position in the sentence (in number of words from the beginning). Put -1 if not given

linguisticfeatures: Linguistic features

Additional variables measured on the target word (with values for literal and figurative conditions, following alphabetic order of conditions): e.g., cloze probability "COND_A, COND_B" for cond 0 and cond 1. Several variables should be separated by semicolon ;

Statistics section

An object with the following fields:

framework *[type= string]*: framework

Describe which statistical approach was followed

Possible values: "ANOVA", "mixed models", "other"

N400: timewin *[type= string]*: N400_tw

Time window for the N400 analysis (interval: min max). Fill with -1 if not given.

N400:simpleeffect *[type= boolean]*: SimpleEffect

Is it possible to find a full description of the effect (size in uV, statistic, on a defined scalp location?

N400: statistic test *[type= string]*: which test

choose if F or t test. ONLY IF SIMPLE EFFECT IS TRUE

Possible values: "F test", "t test", "other"

N400: value of test *[type= number]*: value

Value of the test. Fill with -1 if not given.

N400: degrees of freedom *[type= string]*: degrees of freedom

degrees of freedom for F or t test. Fill with -1 if not given.

N400: reported amplitude *[type= number]*: reported amplitude

size of the ERP difference in micro Volts. Fill with 1000 if not given.

N400: subset of electrodes *[type= string]*: sites of the test

Describe which electrodes were used to conduct the simple effect.

P600: timewin *[type= string]*: P600_tw

Time window for the P6 analysis (interval: min max). Fill with -1 if not given.

P600:simpleeffect *[type= boolean]*: SimpleEffect

Is it possible to find a full description of the effect (size in uV, statistic, on a defined scalp location?

P600: statistic test *[type= string]*: which test

choose if F or t test.

Possible values: "F test", "t test", "other"

P600: value of test *[type= number]*: value

Value of the test. Fill with -1 if not given.

P600: degrees of freedom *[type= string]*: degrees of freedom

degrees of freedom for F or t test. Fill with -1 if not given.

P600: reported amplitude *[type= number]*: reported amplitude

size of the ERP difference in micro Volts. Fill with -1 if not given.

P600: subset of electrodes *[type= string]*: sites of the test

Describe which electrodes were used to conduct the simple effect. ## Data section

An array of objects with the following fields

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## Error in if (req) {: missing value where TRUE/FALSE needed
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List of papers to be digitalized

PYNTE1996293: Pynte, J., M. Besson, F. Robichon, et al. (1996). "The time-course of metaphor comprehension: An event-related potential study". In: *Brain and language* 55.3, pp. 293-316. DOI: 10.1006/brln.1996.0107.

BONNAUD2002258: Bonnaud, V., R. Gil, and P. Ingrand (2002). "Metaphorical and non-metaphorical links: a behavioral and ERP study in young and elderly adults". In: *Neurophysiologie Clinique/Clinical Neurophysiology* 32.4, pp. 258-268. DOI: 10.1016/S0987-7053(02)00307-6.

COULSON2002958: Coulson, S. and C. Van Petten (2002). "Conceptual integration and metaphor: An event-related potential study". In: *Memory & cognition* 30.6, pp. 958-968. DOI: 10.3758/BF03195780.

TARTTER2002488: Tartter, V. C., H. Gomes, B. Dubrovsky, et al. (2002). "Novel metaphors appear anomalous at least momentarily: Evidence from N400". In: *Brain and Language* 80.3, pp. 488-509. DOI: 10.1006/brln.2001.2610.

KAZMERSKI2003673: Kazmerski, V. A., D. G. Blasko, and B. G. Dessalegn (2003). "ERP and behavioral evidence of individual differences in metaphor comprehension". In: *Memory & cognition* 31.5, pp. 673-689. DOI: 10.3758/BF03196107.

SOTILLO20045: Sotillo, M., L. Carretié, J. A. Hinojosa, et al. (2004). "Neural activity associated with metaphor comprehension: spatial analysis". In: *Neuroscience letters* 373.1, pp. 5-9. DOI: 10.1016/j.neulet.2004.09.071.

IAKIMOVA2005380: Iakimova, G., C. Passerieux, J. Laurent, et al. (2005). "ERPs of metaphoric, literal, and incongruous semantic processing in schizophrenia". In: *Psychophysiology* 42.4, pp. 380-390. DOI: 10.1111/j.1469-8986.2005.00303.x.

ARZOUAN200769: Arzouan, Y., A. Goldstein, and M. Faust (2007). "Brainwaves are stethoscopes: ERP correlates of novel metaphor comprehension". In: *Brain research* 1160, pp. 69-81. DOI: 10.1016/j.brainres.2007.05.034.

ARZOUAN2007222: Arzouan, Y., A. Goldstein, and M. Faust (2007). "Dynamics of hemispheric activity during metaphor comprehension: Electrophysiological measures". In: *Neuroimage* 36.1, pp. 222-231. DOI: 10.1016/j.neuroimage.2007.02.015.

COULSON2007128: Coulson, S. and C. Van Petten (2007). "A special role for the right hemisphere in metaphor comprehension?: ERP evidence from hemifield presentation". In: *Brain research* 1146, pp. 128-145. DOI: 10.1016/j.brainres.2007.03.008.

LAI2009145: Lai, V. T., T. Curran, and L. Menn (2009). "Comprehending conventional and novel metaphors: An ERP study". In: *Brain research* 1284, pp. 145-155. DOI: 10.1016/j.brainres.2009.05.088.

BALCONI20103246: Balconi, M. and S. Amenta (2010). ""A fighter is a lion". Neuropsychological indexes in comprehending frozen metaphors". In: *Journal of pragmatics* 42.12, pp. 3246-3257. DOI: 10.1016/j.pragma.2010.06.016.

DEGRAUWE20101965: De Grauwe, S., A. Swain, P. J. Holcomb, et al. (2010). "Electro-physiological insights into the processing of nominal metaphors". In: *Neuropsychologia* 48.7, pp. 1965-1984. DOI: 10.1016/j.neuropsychologia.2010.03.017.

GOLD2010124: Gold, R., M. Faust, and A. Goldstein (2010). "Semantic integration during metaphor comprehension in Asperger syndrome". In: *Brain and Language* 113.3, pp. 124-134. DOI: 10.1016/j.bandl.2010.03.002.

DAVENPORT201170: Davenport, T. and S. Coulson (2011). "Predictability and novelty in literal language comprehension: an ERP study". In: *Brain research* 1418, pp. 70-82. DOI: 10.1016/j.brainres.2011.07.039.

GOLDSTEIN2012137: Goldstein, A., Y. Arzouan, and M. Faust (2012). "Killing a novel metaphor and reviving a dead one: ERP correlates of metaphor conventionalization". In: *Brain and language* 123.2, pp. 137-142. DOI: 10.1016/j.bandl.2012.09.008.

LU20121730: Lu, A. and J. X. Zhang (2012). "Event-related potential evidence for the early activation of literal meaning during comprehension of conventional lexical metaphors". In: *Neuropsychologia* 50.8, pp. 1730-1738. DOI: 10.1016/j.neuropsychologia.2012.03.027.

LAI2013484: Lai, V. T. and T. Curran (2013). "ERP evidence for conceptual mappings and comparison processes during the comprehension of conventional and novel metaphors". In: *Brain and Language* 127.3, pp. 484-496. DOI: 10.1016/j.bandl.2013.09.010.

YANG2013312: Yang, F. G., K. Bradley, M. Huq, et al. (2013). "Contextual effects on conceptual blending in metaphors: An event-related potential study". In: *Journal of Neurolinguistics* 26.2, pp. 312-326. DOI: 10.1016/j.jneuroling.2012.10.004.

SCHNEIDER201445: Schneider, S., A. M. Rapp, F. B. Haeußinger, et al. (2014). "Beyond the N400: Complementary access to early neural correlates of novel metaphor comprehension using combined electrophysiological and haemodynamic measurements". In: *Cortex* 53, pp. 45-59. DOI: 10.1016/j.cortex.2014.01.008.

WEILAND2014583: Weiland, H., V. Bambini, and P. B. Schumacher (2014). "The role of literal meaning in figurative language comprehension: Evidence from masked priming ERP". In: *Frontiers in Human Neuroscience* 8, p. 583. DOI: 10.3389/fnhum.2014.00583.

FORGACS201528: Forgács, B., M. D. Bardolph, B. D. Amsel, et al. (2015). "Metaphors are physical and abstract: ERPs to metaphorically modified nouns resemble ERPs to abstract language". In: *Frontiers in human neuroscience* 9, p. 28. DOI: 10.3389/fnhum.2015.00028.

SCHMIDT-SNOEK2015126: Schmidt-Snoek, G. L., A. R. Drew, E. C. Barile, et al. (2015). "Auditory and motion metaphors have different scalp distributions: an ERP study". In: *Frontiers in human neuroscience* 9, p. 126. DOI: 10.3389/fnhum.2015.00126.

SHEN2015615: Shen, Z., Y. Tsai, and C. Lee (2015). "Joint influence of metaphor familiarity and mental imagery ability on action metaphor comprehension: An event-related potential study". In: *Language and Linguistics* 16.4, pp. 615-637. DOI: 10.1177/1606822X15583241.

BAMBINI2016559: Bambini, V., C. Bertini, W. Schaeken, et al. (2016). "Disentangling metaphor from context: an ERP study". In: *Frontiers in psychology* 7, p. 559. DOI: 10.3389/fpsyg.2016.00559.

FONDEVILA2016972: Fondevila, S., S. Aristei, W. Sommer, et al. (2016). "Counterintuitive Religious Ideas and Metaphoric Thinking: An Event-Related Brain Potential Study". In: *Cognitive science* 40.4, pp. 972-991. DOI: 10.1111/cogs.12263.

TANG201733: Tang, X., S. Qi, B. Wang, et al. (2017). "The temporal dynamics underlying the comprehension of scientific metaphors and poetic metaphors". In: *Brain research* 1655, pp. 33-40. DOI: 10.1016/j.brainres.2016.11.005.

RATAJ20181941: Rataj, K., D. S. Nazareth, and F. Van Der Velde (2018). "Use a spoon as a spade?: Changes in the upper and lower alpha bands in evaluating alternate object use". In: *Frontiers in psychology* 9, p. 1941. DOI: 10.3389/fpsyg.2018.01941.

RATAJ2018231: Rataj, K., A. Przekoracka-Krawczyk, and R. H. Van der Lubbe (2018). "On understanding creative language: the late positive complex and novel metaphor comprehension". In: *Brain research* 1678, pp. 231-244. DOI: 10.1016/j.brainres.2017.10.030.

BAMBINI201977: Bambini, V., P. Canal, D. Resta, et al. (2019). "Time course and neurophysiological underpinnings of metaphor in literary context". In: *Discourse Processes* 56.1, pp. 77-97. DOI: 10.1080/0163853X.2017.1401876.

LIU201957: Liu, W., J. Ding, L. Li, et al. (2019). "Metaphorical meaning learning in contexts: An event-related potential study". In: *Journal of Neurolinguistics* 49, pp. 57-70. DOI: 10.1016/j.jneuroling.2018.08.004.

JANKOWIAK201712: Jankowiak, K., K. Rataj, and R. Naskręcki (2017). "To electrify bilingualism: Electrophysiological insights into bilingual metaphor comprehension". In: *PloS one* 12.4. DOI: 10.1371/journal.pone.0175578.

OBERT201859: Obert, A., F. Gierski, and S. Caillies (2018). "He catapulted his words from the dais: An ERP investigation of novel verbal metaphors". In: *Journal of Neurolinguistics* 47, pp. 59-70. DOI: 10.1016/j.jneuroling.2018.02.008.

LAI2019202: Lai, V. T., O. Howerton, and R. H. Desai (2019). "Concrete processing of action metaphors: Evidence from ERP". In: *Brain research* 1714, pp. 202-209. DOI: 10.1016/j.brainres.2019.03.005.