



APPReddit: a Corpus of Reddit Posts Annotated for Appraisal

M.A. Stranisci, S. Frenda, E. Ceccaldi, V. Basile, R. Damiano, V. Patti



di.unito.it

DIPARTIMENTO DI INFORMATICA



The first corpus of non-experimental data annotated for appraisal



Presentation structure

1. Motivation
2. Corpus description
3. Experimental mapping between APPReddit and existing resources

1. Motivation



What is appraisal?

The term appraisal refers to a spontaneous and effortless assessment of the environment against a set of features, named **appraisal variables**; this assessment creates an **emotional episode**.



Appraisal variables

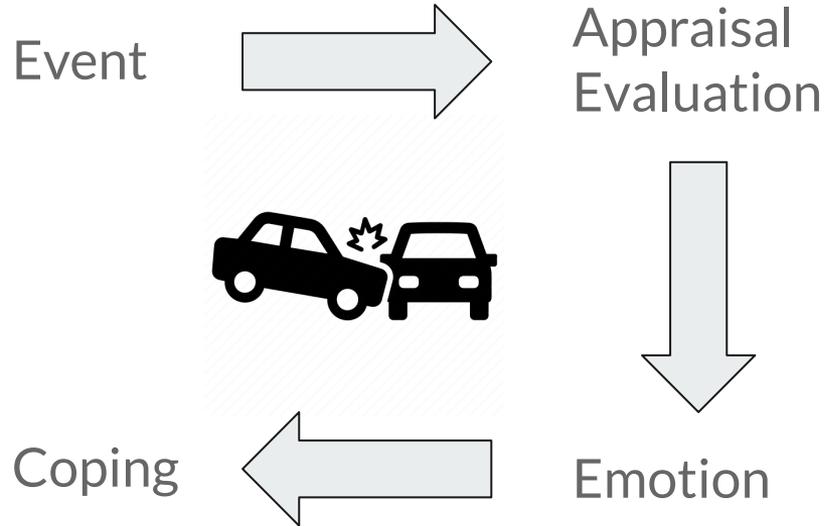
Different appraisal theories result in different sets of appraisal variables.

Examples of variables shared among theories:

agency	who is the responsible of an event?
certainty	How much likely is the event to happen?
control	Does the agent have control over the event?
motive consistency	Is the event consistent with the agent's goal?



Emotional episode



Which appraisal theory for APPReddit?

Roseman's theory, which is a comprehensive model of appraisal, emotions, and coping

Roseman, Ira J (2013). Appraisal in the emotion system: Coherence in strategies for coping.

	Motive-Consistent		Motive-Inconsistent		
	Appetitive Motive (+)	Aversive Motive (-)	Appetitive Motive (+)	Aversive Motive (-)	
(Circumstance-Caused)	SURPRISE				
UNEXPECTED	PHE: unexpectedness; stunned EXP: brows raised, arched; eyes wide; mouth open, oval; gasp BEH: interrupt, inquire EMV: understand <suspend movement>				
Not Unexpected	Slope		Fear		
Uncertain	PHE: potential; focused EXP: brows slightly raised, eyes widened, upward gaze BEH: anticipate, approach EMV: make happen <prepare to move toward or to stop moving away from it>		PHE: danger; cold, heart pounding EXP: brows raised, straight; eyes wide, lips drawn back BEH: vigilance, inhibition or flight (run) EMV: get to safety, prevent <prepare to move away from or to stop moving toward it>		Low Control Potential
Certain	Joy (+)	Relief (-)	Sadness (+)	Distress (-)	
	PHE: attainment; excited, light EXP: smile BEH: jump up, celebrate EMV: sustain <move toward it>	PHE: amelioration; calming EXP: exhalation, sigh BEH: rest, relax EMV: return to normal <stop moving away from it>	PHE: missing; lethargy, throat lump EXP: weep, inner brows raised BEH: inaction EMV: recover <stop moving toward it>	PHE: harm; agitated EXP: cry out BEH: move around, leave EMV: terminate, get away <move away from it>	
Uncertain	Slope		FRUSTRATION	Disgust	
	PHE: potential; focused EXP: brows slightly raised, eyes widened, upward gaze BEH: anticipate, approach EMV: make happen <prepare to move toward or to stop moving away from it>				PHE: obstacle; tense EXP: brows lowered BEH: exert effort EMV: overcome <move against it>
Certain	Joy (+)	Relief (-)			
	PHE: attainment; excited, light EXP: smile BEH: jump up, celebrate EMV: sustain <move toward it>	PHE: amelioration; calming EXP: exhalation, sigh BEH: rest, relax EMV: return to normal <stop moving away from it>			
Other-Caused	Love		Dislike		
Uncertain			PHE: disapproval; cool EXP: refuse eye contact BEH: decrease attention to EMV: dissociate <move away from other>		
Certain	PHE: appreciation; drawn to someone EXP: sustained relaxed eye contact, lean toward BEH: touch, hold EMV: connect <move toward other>				
Uncertain	Pride		ANGER	Contempt	
Certain					PHE: injustice; explosive EXP: brows lowered, square mouth BEH: yell, hit, criticize EMV: hurt, get revenge <move against other>
Self-Caused	Pride		Regret		
Uncertain			PHE: mistake; sick, sinking EXP: eyes closed; lips stretched, pressed together BEH: do over, do differently EMV: correct, improve <move away from self>		
Certain	PHE: self-worth; big, powerful EXP: head back, expanded posture BEH: exhibit, assert EMV: recognition, dominance <move toward self>				
Uncertain	Guilt		Shame		
Certain			PHE: transgression; heavy EXP: shift gaze BEH: reproach, punish self EMV: redress <move against self>		PHE: self unworthy; small EXP: head and gaze down BEH: withdraw, conceal, submit EMV: get self out of sight <move self away>

INSTRUMENTAL PROBLEM **Intrinsic Problem**



Why annotating appraisal?

- It links emotions to events and situations
- It may explain behaviours as an outcome of emotional episodes



Issues

- Few corpora annotated for appraisal
- Different theories of appraisal to choose from



Existing corpora

- ISEAR (Scherer and Wallbott, 1994) is the result of a psychological survey
- enISEAR (Hofman *et al*, 2020) is the first corpus specifically designed for NLP



Both include only **experimental data** and
rely on **different models** of appraisal



Our research objectives

- Creating a corpus for appraisal on non-experimental data
- Mapping shared appraisal variables between different models
- Testing the compatibility with the existing corpus

2. Corpus description



Data Gathering

500 posts and their titles from a list of subreddits focused on emotional events (eg: MMFB, getting_over_it, Anger, DecidingToBeBetter)



36



Postato da [alperhoxa](#) 278 10 anni fa



A kid I babysat for died yesterday

I used to babysit for my neighbors two children about 4 years ago. TIL that one of them OD'd on pills Friday night and died two days later this Sunday. He was 16 and I feel horrible. I feel that somehow this is my fault, and that I didn't spend enough time playing with them, or playing the right games. If I were a better babysitter, I should have made some sort of lasting impression on these kids and this wouldn't have happened.



3 Commenti



Condividi



Salva



Nascondi



Segnala

93% upvotato



Preprocessing

Posts were manually segmented in **1,091 events** according to three criteria:

- time;
- participants;
- diegesis.

1. I used to babysit for my neighbors two children about 4 years ago.
2. TIL that one of them OD'd on pills Friday night and died two days later this Sunday. He was 16 and I feel horrible.
3. I feel that somehow this is my fault, and that I didn't spend enough time playing with them, or playing the right games. If I were a better babysitter, I should have made some sort of lasting impression on these kids and this wouldn't have happened.



Annotation scheme

Appraisal variable	Question	Values
Unexpectedness	Was the event expected?	1-4
Certainty	Was the event certain?	1-4
Consistency	Was the event consistent?	1-4
Control	Does the agent have control on the event?	1-4
Responsibility	Who is responsible for the event?	self, both, others



Inter-Annotator Agreement

Appraisal variable	Krippendorff's Alpha
Unexpectedness	0.36
Certainty	0.44
Consistency	0.48
Control	0.38
Responsibility	0.41



Disagreement resolution

1. The mean was computed for near values (eg: 1.5 if annotations were 1 and 2)
2. A third expert annotator solved disagreement between non-near values
3. Results were converted from scalar to categorical



Results

Appraisal variable	% low values	% high values	% NA
Unexpectedness	.43	.28	.29
Certainty	.10	.79	.11
Consistency	.53	.36	.11
Control	.54	.35	.11
Responsibility	.40	.50	.10

3. Experimental mapping



Mapping appraisal variables

APPReddit Appraisal variable	enISEAR Appraisal variable
Unexpectedness	Attention
Certainty	Certainty
Consistency	Pleasantness
Control	Control
Responsibility	Responsibility
	Circumstance
	Effort



Appraisal variables prediction between corpora

A binary classification task for each appraisal variable based on a SVM classifier with the following settings:

1. Internal consistency
2. Training set from one corpus, test set from the other
3. Training set from both corpora, two test sets
(one from APPReddit, one from enISEAR)



Predicting appraisal in APPReddit (F1-score)

Training	Test	Certainty	Consistency	Control	Responsibility
APPReddit	APPReddit	.832	.675	.688	.507
enISEAR	APPReddit	.844	.450	.318	.455
enISEAR + APPReddit	APPReddit	.832	.646	.689	.510



Predicting appraisal in enISEAR (F1-score)

Training	Test	Certainty	Consistency	Control	Responsibility
enISEAR	enISEAR	.684	.840	.616	.685
APPReddit	enISEAR	.651	.841	.551	.699
enISEAR + APPReddit	enISEAR	.674	.871	.658	.712

Conclusion and Future work



Conclusion

1. A new corpus of 1,091 events gathered from Reddit was developed
2. The corpus was successfully mapped with an existing resource of experimental data.



Future work

1. Multilayer annotation of coping and emotion families
2. Leveraging APPReddit for emotion classification

Thanks for your attention