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Experiencer-Specific Emotion and Appraisal Prediction

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(1) Motivation

- Emotion classification methods assign emotions to text.
- Typically, either the perspective of the writer or the perspective of the reader is considered.
- Emotion role labeling considers different perspectives but focuses on cause extraction ("who feels what and why")
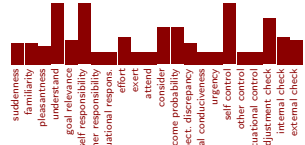- No entity-specific appraisal analysis exists.

(2) Contribution
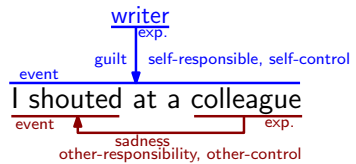
Research Question:
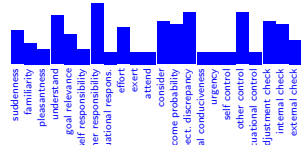Does entity-specific modeling outperform text-level approaches in the emotion classification task?

(3) Training Data

- Troiano, Wegge, Oberländer & Klinger (LREC, 2022): x-enVENT corpus
- Short event reports, annotated for entity and writer-specific emotions and 22 appraisal dimensions.

(4) Modeling

Model	Input instance	Annotation	
		Emotion	Appraisal
EXP	⟨exp⟩WRITER⟨/exp⟩ I felt bad … for him	{guilt}	(5, 1, 1, …)
	WRITER I felt bad … for ⟨exp⟩him⟨/exp⟩	{sadness}	(1, 3, 1, …)
TEXT	WRITER I felt bad … for him	{guilt, sadness}	(3, 2, 1, …)

- Train two models:
  - TEXT-only
    - disjunction of all emotion labels
    - average of appraisal values
  - EXPeriencer-specific
    - each entity in a text constitutes one separate training instance
- Evaluate both models specifically on entity-level

(5) Emotion Results

Emotion Class	TEXT			EXP			ΔF₁
	P	R	F₁	P	R	F₁	
anger	40	82	54	60	80	68	+14
disgust	50	93	65	60	80	69	+4
fear	44	86	58	53	71	61	+3
joy	55	70	62	61	77	68	+6
no emotion	29	80	42	51	80	62	+20
other	11	10	10	14	10	12	+2
sadness	47	90	62	62	93	74	+12
shame	34	89	49	48	85	61	+12
Macro avg.	39	75	51	51	72	60	+9
Micro avg.	40	79	53	55	78	64	+11

(6) Appraisal Results

Appraisal Dimension	TEXT ρ	EXP ρ	Δρ	Appraisal Dimension	TEXT ρ	EXP ρ	Δρ
Suddenness	0.32	0.54	+0.22	Consider	0.55	0.62	+0.07
Familiarity	0.17	0.37	+0.20	Outcome probability	0.14	0.38	+0.24
Pleasantness	0.34	0.60	+0.26	Expect. discrepancy	0.43	0.54	+0.11
Understand	0.24	0.30	+0.06	Goal conduciveness	0.47	0.65	+0.18
Goal relevance	0.15	0.33	+0.18	Urgency	0.20	0.25	+0.05
Self responsibility	0.31	0.68	+0.37	Self control	0.36	0.64	+0.28
Other responsibility	0.33	0.68	+0.35	Other control	0.41	0.69	+0.28
Situational respons.	0.59	0.68	+0.09	Situational control	0.63	0.67	+0.04
Effort	0.33	0.54	+0.21	Adjustment check	0.39	0.56	+0.17
Exert	0.97	0.25	−0.72	Internal check	0.47	0.58	+0.11
Attend	0.27	0.41	+0.14	External check	0.66	0.54	−0.12

(7) Examples

ID	Text
1	I felt … working in the street seeing faeces of dogs. The owners should take care of them but are being so lazy and neglected, that is terrible.
2	I felt … when I remember being part of a group of children at school who verbally bullied another child.
3	I felt … when I lost my sister's necklace that I had borrowed.
4	I felt … when my ex husband was hateful towards our children.
5	I felt … when my son was born.

(a) Example Texts

ID	Experiencer Text	Gold Emotion	Gold Appraisal	TEXT Emotion	TEXT Appraisal	EXP Emotion	EXP Appraisal
1	Writer	a d		a d no sa		a d sa	
	The owners	no		a d no sa		no	
2	Writer	sh		a no sa sh		sh	
	a group of children	j sh		a no sa sh		a j no sh	
	another child	sa		a no sa sh		a f sa	
3	Writer	sa sh		sa sh		sa sh	
	my sister	sa no		sa sh		sa no	
4	Writer	a sa		a f j no sa sh		a sa	
	my ex husband	a sh		a f j no sa sh		a j sh	
	our children	sa		a f j no sa sh		a f sa	
5	Writer	j		j o no		j	
	my son	no		j o no		j no	

(b) Annotations

(8) Conclusion

- Text-level emotion annotation is a simplification for entity-specific modeling.
- Emotion information: emotions are inadvertently assigned to all entities.