

# The effect of emotional valence on nonbelieved memories



Valentine Vanootighem  
University of Liège, Liège, Belgium  
Psychology and Neuroscience of Cognition Research Unit (PsyNCog)



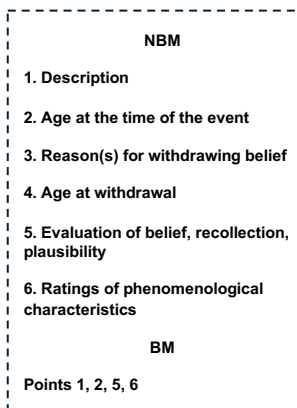
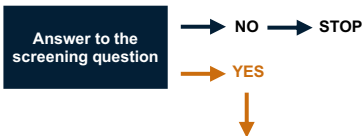
## BACKGROUND

The phenomenon whereby people remember events that they know never happened is called "Nonbelieved memory" (NBM)<sup>2,3</sup>.

Several studies have examined the characteristics of NBMs by comparing them to typical (i.e., believed) memories (BMs). Although some phenomenological differences exist, NBMs are often experienced as "memory-like" despite the change in belief<sup>1,2,4</sup>.

## METHOD

Screened participants: N = 220 (20 - 58 years, 132♀, M = 28.71 years, SD = 11.47 years).



## CONCLUSIONS

- In line with previous findings, NBMs and BMs were rated similarly with regards to some phenomenological characteristics (e.g., arrangement of objects and people) but differed with respect to other features such as auditory and temporal details.
- The present results suggest that phenomenological ratings of NBMs and BMs are minimally influenced by their emotional valence.
- We observe that the fading affect bias previously demonstrated for autobiographical memories<sup>6</sup> was also present with NBMs.

Contact: valentine.vanootighem@uliege.be

## OBJECTIVE

Examining whether the characteristics of NBMs is influenced by the emotional valence of events, as is the case for BMs.

## RESULTS

### FREQUENCY AND GENERAL CHARACTERISTICS OF NBMS

**Frequency:** 93/220 (42.3%)

**Age at the time of the event:**

M = 9.22, SD = 6.02, Median = 8, range = 1-28

**valence of reported events:**

**Age at withdrawal:**

M = 17.9, SD = 7.58, Median = 17, range = 7-52

- Positive: n = 35
- Negative: n = 50
- Neutral: n = 8 (excluded from analyses)

### EFFECT OF EMOTIONAL VALENCE ON PHENOMENOLOGICAL CHARACTERISTICS

Event characteristics	Valence		Event type		Interaction	
	Qa	p-value	Qb	p-value	Qab	p-value
Autobiographical belief	2.02	0.16	1036.56	<.0001	2.02	0.16
Clarity of representation	0.001	0.97	47.92	<.0001	0.81	0.37
Event plausibility	0.10	0.75	78.52	<.0001	0.10	0.75
Personal Importance	2.01	0.16	15.81	<.001	2.87	0.09
Visual details	1.72	0.19	6.73	0.01	1.07	0.31
Sounds	0.03	0.87	19.60	<.0001	1.58	0.21
Smell and taste details	2.00	0.16	5.91	0.02	1.37	0.25
Location details	0.004	0.95	1.15	0.29	1.15	0.29
Arrangement of objects	3.43	0.07	3.76	0.06	0.47	0.49
Arrangement of people	0.13	0.72	0.07	0.79	1.22	0.27
Temporal details	0.57	0.45	18.03	<.0001	1.53	0.22
Representational format	1.53	0.22	10.42	0.002	0.12	0.73
Coherence	0.03	0.87	38.02	<.0001	1.78	0.19
Re-experiencing emotion	11.92	0.001	3.84	0.05	0.11	0.74
Reliving the event	7.45	0.008	2.98	0.09	2.14	0.15
Mental time travel	1.73	0.19	0.08	0.78	0.88	0.35
Similarity	8.18	0.006	15.21	<.001	0.42	0.52
Thoughts	0.77	0.38	0.44	0.51	0.65	0.42
Sharing	0.05	0.83	0.37	0.55	0.23	0.63
Visual perspective	0.52	0.47	0.82	0.37	0.50	0.48
Subjective distance	0.80	0.37	1.73	0.19	0.007	0.93

Table 1. Statistical parameters of the robust mixed ANOVA 2 x (Event type: NBM vs. BM) x 2 (Emotional valence: positive vs. negative) for each event characteristic.

In rare cases where valence affects phenomenological characteristics, these are stronger for positive than for negative events.

When different between memory types, phenomenological characteristics are stronger for BMs than for NBMs.

### EVOLUTION OF EMOTIONAL VALENCE AND INTENSITY RATINGS OVER TIME

A Robust mixed ANOVA 2 x (Event type: NBM vs. BM) x 2 (Emotional valence: positive vs. negative) on difference scores between the time of the original event and the time of retrieval showed that:

- Over time, the emotional valence of both NBMs and BMs fades more strongly for negative events ( $M_{diff} = 1.70$ ) than for positive ones ( $M_{diff} = -0.36$ ).
- Further, the emotional intensity of NBMs and BMs decreases more strongly for negative events ( $M_{diff} = -2.40$ ) than for positive ones ( $M_{diff} = -0.71$ ).

## REFERENCES

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