

# Increased attention and memory for beloved-related information during infatuation: behavioral and electrophysiological data

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## Introduction

- Emotional information is better attended and remembered [1,2]
- Infatuated individuals have enhanced attention for their beloved [3,4]
- **Research question 1:** Do infatuated individuals have enhanced attention for information that is related to their beloved?
- **Hypothesis 1:** The Late Positive Potential (LPP), reflecting motivated attention [5], will be larger for beloved-related than friend-related or control information
- **Research question 2:** Do infatuated individuals have enhanced memory for information that is related to their beloved?
- **Hypothesis 2:** Beloved-related information will be remembered better than friend-related or control information

## Methods

- 30 beloved-related, 30 friend-related, and 30 control stimuli (Table 1)
- Friend-related condition controls for experience, positive valence, and semantic relatedness
- Control condition controls for semantics (e.g., imagery & concreteness)
- 32-channel EEG registration (Biosemi)
- Surprise free recall task
- Ratings: valence, arousal, applicability-to-beloved, applicability-to-friend

### Study 1

- 20 infatuated participants (18-28 years; 5 men)
- Passive viewing, stimulus duration 250 ms
- LPP amplitude (500-800 ms)

### Study 2

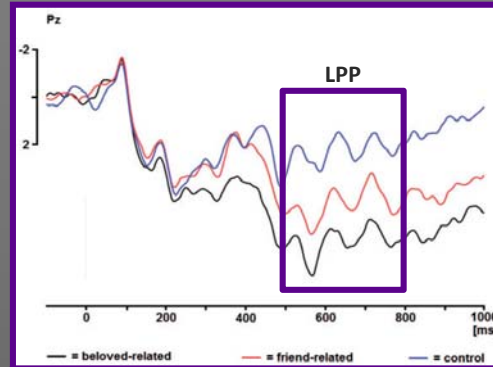
- 18 infatuated participants (18-26 years; 3 men)
- Continuous recognition task, stimulus duration 1000 ms
- Frontal old/new effect (350-450 ms)
- Parietal old/new effect (500-800 ms)

**Table 1** Stimuli examples for each of the three conditions

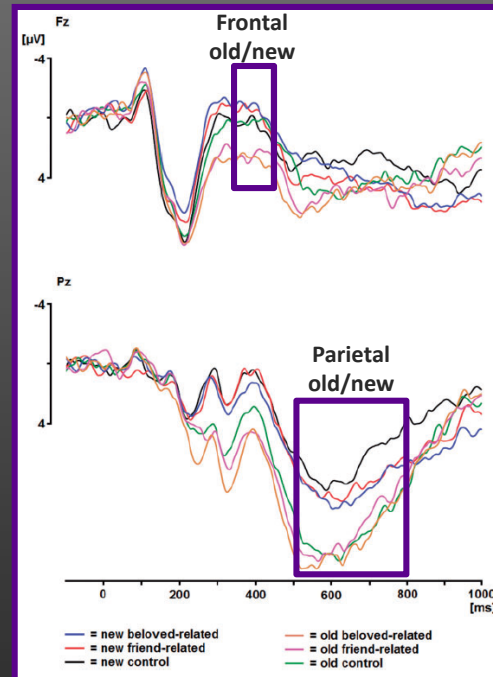
Beloved-related	Friend-related	Control
Brad Pitt	grapefruit	Tom Cruise
purple	chemistry	yellow
pasta	ballet	pizza

## References

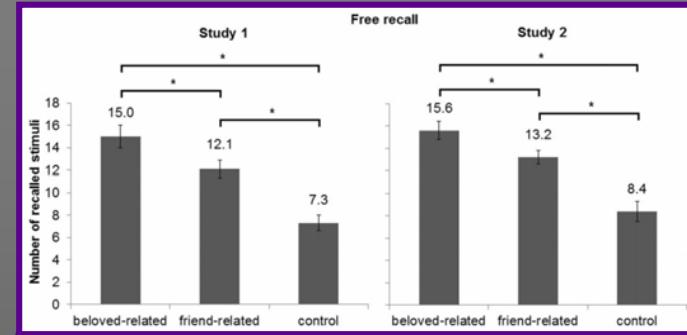
- [1] Compton (2003) *Behavioral and Cognitive Neuroscience Reviews*
- [2] Kensinger (2004) *Reviews in the Neurosciences*
- [3] Langeslag, Jansma, Franken, & Van Strien (2007) *Biological Psychology*
- [4] Langeslag, Franken, & Van Strien (2008) *Neuroscience Letters*
- [5] Schupp, Fleisch, Stockburger, & Junghöfer (2006) *Progress in Brain Research*



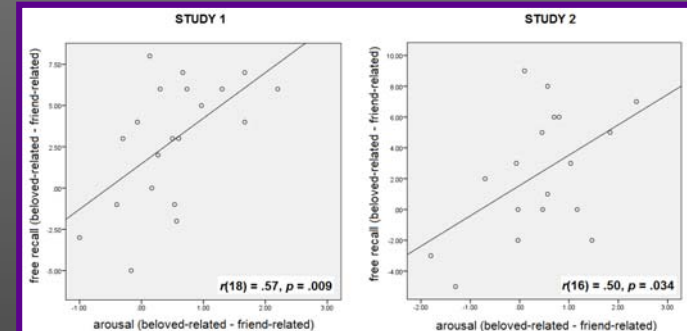
**Fig. 1** Enhanced LPP for beloved-related stimuli



**Fig. 4** Frontal old/new effect for beloved-related and friend-related stimuli, parietal old/new effect for all conditions



**Fig. 2** Enhanced free recall for beloved-related stimuli, \*  $p < .03$



**Fig. 3** Positive correlation between arousal ratings and free recall

## Results

- LPP: beloved > friend > control (Fig. 1)
- Free recall: beloved > friend > control (Fig. 2)
- Arousal ratings correlated with free recall performance (Fig. 3)
- Recognition ( $Pr$ ): beloved (0.88) = friend (0.88) = control (0.90)
- Frontal old/new effect: beloved = friend > control (Fig. 4)
- Parietal old/new effect: beloved = friend = control (Fig. 4)

## Discussion

- Enhanced attention (LPP) for beloved-related information
- Enhanced memory (free recall) for beloved-related information
- Due to arousal, not to experience, positive valence, or semantic relatedness
- No enhanced recognition memory for beloved-related information, possibly because of ceiling effect and short delay
- Romantic love has profound effects on cognition that play a clear role in daily life

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