

SenseCam, Imagery and Bias in Memory for Wellbeing

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Research Questions

- SenseCam can facilitate autobiographical recollection in both patient groups and normal healthy samples
- May also significantly contribute to wellbeing
- Assuming both are indeed happening – the interests of our group are:
 - identifying the underlying mechanisms involved and
 - Sources of variation (cognitive, affective and technical) that may help us contextualize and optimize its use, particularly in clinical applications.

Imagery, Wellbeing and Bias

- Imagery associated with autobiographical recollection generally and that relationship is prominent in key clinical conditions
- Imagery linked to wellbeing and is currently a focus of research interest in modifying negative cognitive “biases” in depression (FvB)
- ? Role for SenseCam in mood manipulation and in promoting Cognitive Bias Modification – a new paradigm for treatment of anxiety/depression
- ? Why – “usual suspects” - rich v verbal; dynamic v static; easily self-referenced
- Preliminary study of using *review of SC traces* to manipulate mood/interpretation linked to personally experienced events in the lab and to explore the part played by imagery skills and mood

Preview of 3 “Take Home” Points

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- SenseCam review working with imagery and positive and negative ideas can bias mood in the immediate term but things look different the following day
- The extent to which it does so is quite likely related to the use of *pre-existing imagery skills* rather than mood per se.
- Think not just about issues to do with e.g. consolidation and/or access but the qualitative nature and role of the *mental processes* that support them

Participants, Profiles, Design



- 20 participants (13f/7m) – average age 19.8 yrs
- Profiles measured on:
 - Beck Depression Inventory (Av 10.8, *SD* 9.0)
 - Spielberger Trait Anxiety Inventory (Av 42.6, *SD* 12.4)
 - Spontaneous Use of Imagery Scale (Av 3.25, *SD* 0.73)
 - (Also Positive & Negative Affect Schedule & Stress-Reactive rumination scale)
- Each participant carried out a number of tasks - 1/2 subsequently reviewed with pos captions/ 1/2 with negative ones (counterbalanced etc...)

SenseCam Review with Valenced Captions

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Complete BDI, STAI SUIIS on arrival then

1. Complete a series of 12 tasks under laboratory conditions
2. Measure mood using multiple visual analogue scales (VAS)
3. Complete a simple filler task rating classical music
4. Imagery Training (field perspective, link self-experience to caption)
5. SenseCam review of 12 “standard” captioned sequences (6 assigned multiple *Positive* Captions and 6 assigned multiple *Negative* ones)
6. Measure mood again on multiple VAS
7. Phoned ~24 hrs later and asked to rate how enjoyable each of the 12 tasks were and to rate how vividly they could remember each one

Tasks: each ~3.5min long

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1. make a greeting card
2. folding clothes
3. write shopping list
4. spot the difference
5. make collage
6. answering factual questions
7. pacman
8. map (working out routes)
9. online shopping
10. catalogue (select two outfits)
11. fishing game
12. wordsearch

SenseCam Captioned Review

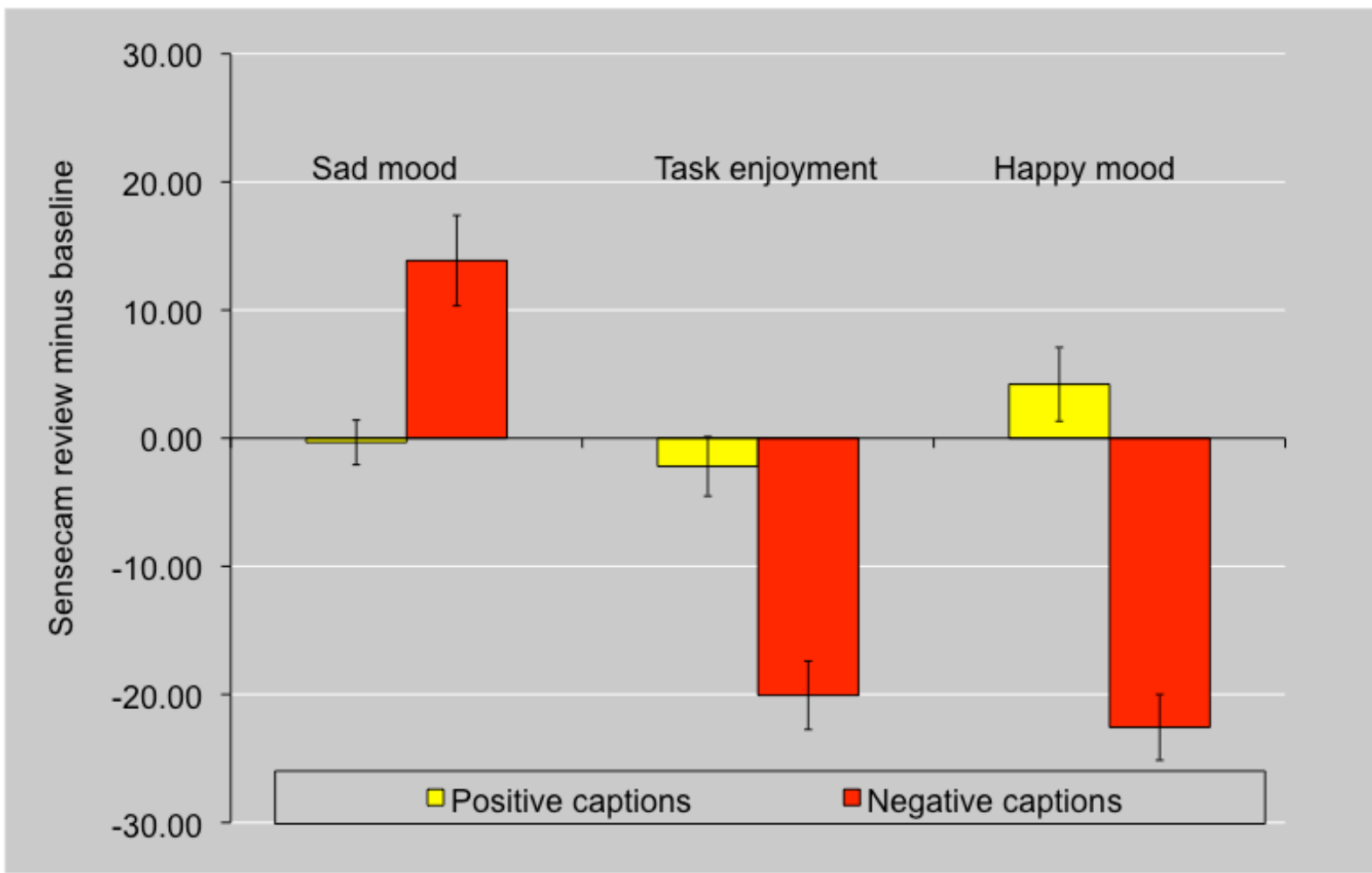


Challenging Game

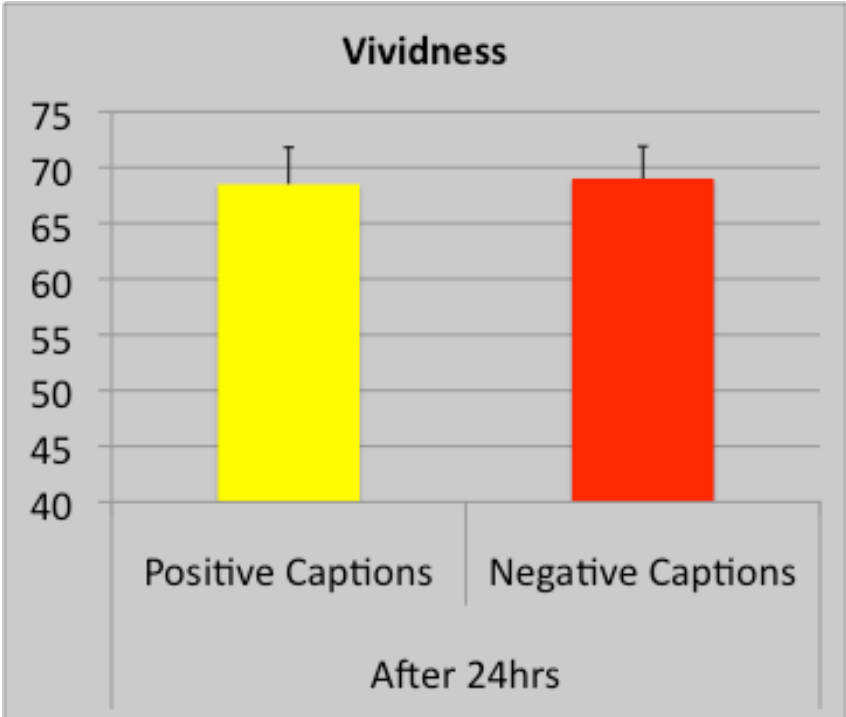
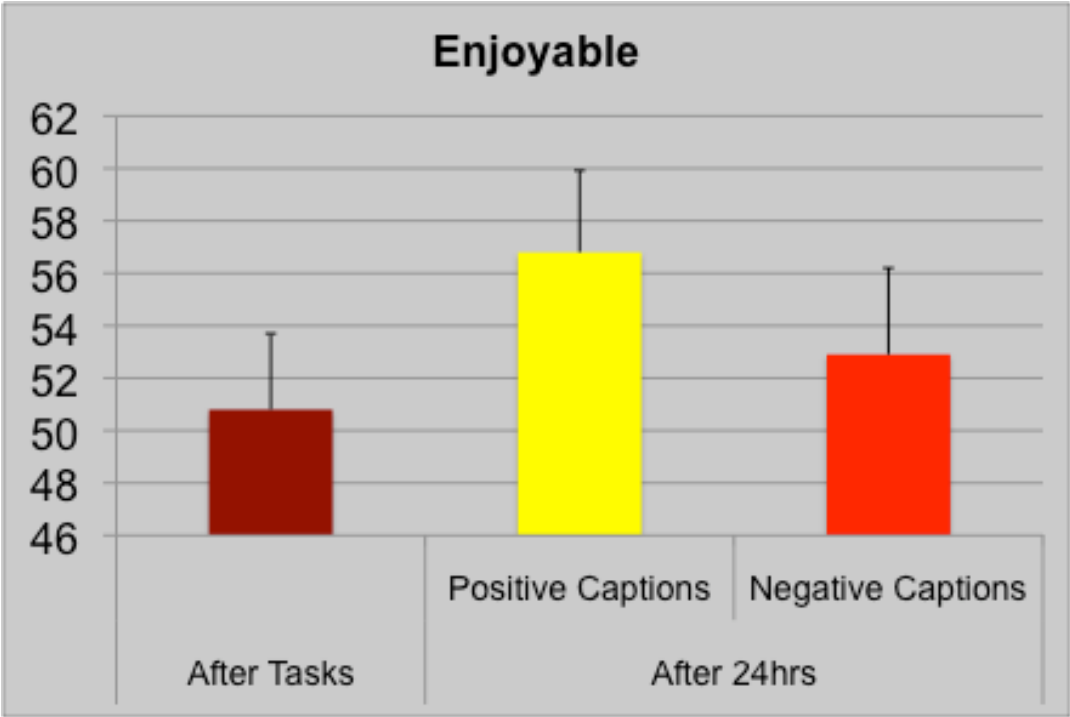
The Positive set for this task

- Trying a Fun Game
- Feeling Happy
- Having a Laugh
- Practice makes Perfect
- Becoming Skilled
- Feeling Carefree

Data after captioned SenseCam review



Data at 24 hr follow-up



The role of individual differences in imagery skills

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- We replicated a number of standard findings (mood ratings on and around task execution and BDI/STAI/Rumination; sad mood & use of bystander perspective; happy mood with field perspective)
- High use of imagery correlates with positive mood and task enjoyment in task and at follow up ($r(20) = .48$)
- Examined the effects of BDI and imagery on caption induced biased effects remained with BDI covaried out but ***vanish*** when SUIIS is covaried out
- Neither the use of field imagery or bystander imagery was influenced by the positive and negative captions

Discussion Points

- Captioned SenseCam review can produce large short term effects on reported mood
- In the case of negative captions, a general positivity bias is restored after 24hr with enhanced memory for enjoyment at time of execution for tasks reviewed with positive captions only
- Limitations
 - interpretive biases and their generalisation omitted
 - it's a small "non-clinical" sample
 - the image sequences were not actually "personal"
- Further studies might beneficially focus on the role of imagery strategies, and other content manipulations such as use of metaphor in modifying interpretations of autobiographical experiences of self, others and the world with clinical samples.

Reminder of Take Home Points

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- Think not just about issues to do with e.g. consolidation and/or access but the qualitative nature and role of the *mental processes* that support them