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Neural networks of Component Process Model of emotions explored through VR and fMRI

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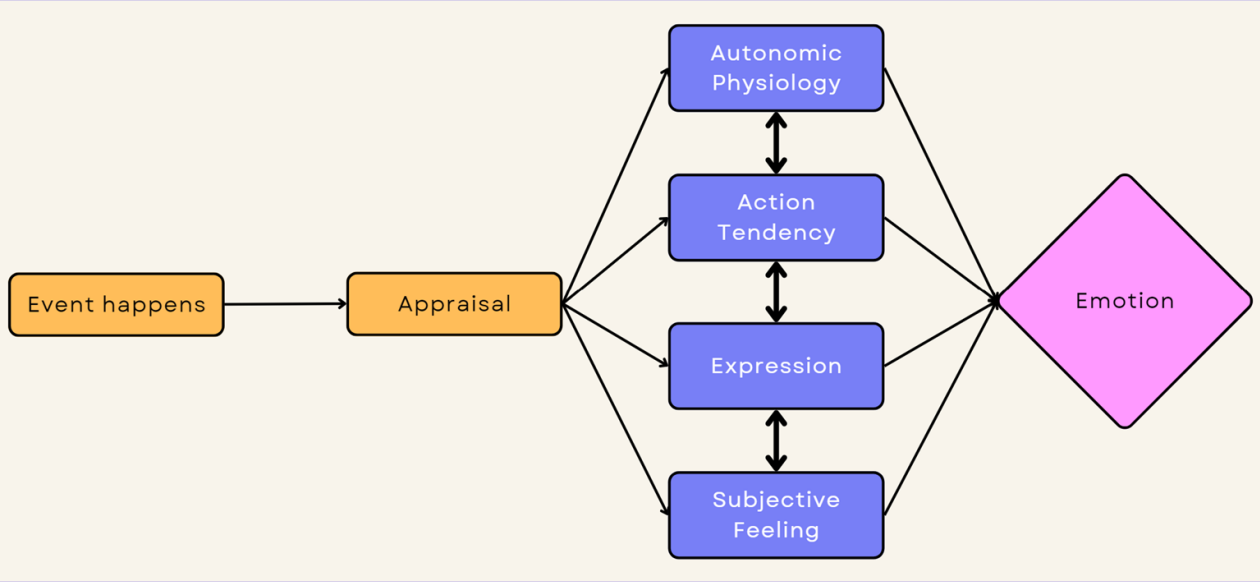
About Me

Theory Overview

- Emotions and “Affect” have been notoriously difficult subjects to study in neuroscience
- This led to development of new theories, psychological and neuroscientific
- One of these was the Component Process Model proposed by Klaus Scherer (A former UNIGE professor)
- It falls into a constructionist view of emotions which asserts that we use information around us and in us to create our own affective states



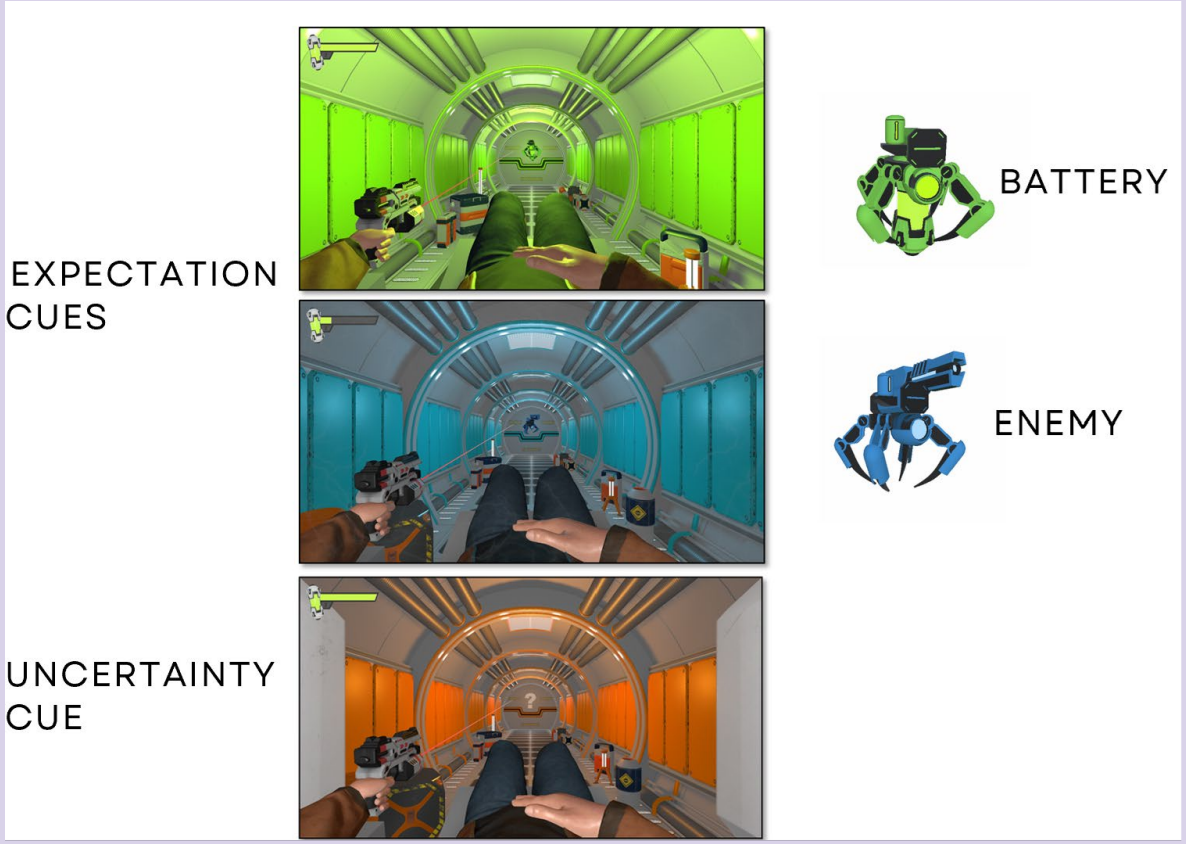
Study Aim

"To link components of emotions to functional brain systems and test whether multicomponent patterns of responses can predict discrete emotions"

What does that mean?

Methodology

- We are using a somewhat novel approach with a VR task being the emotional stimulus for participants
- They navigate the space, facing enemies and gaining rewards with each of these designed to create expectations and then reactions based on appraisals
- They then have to report their emotions at various points throughout the task



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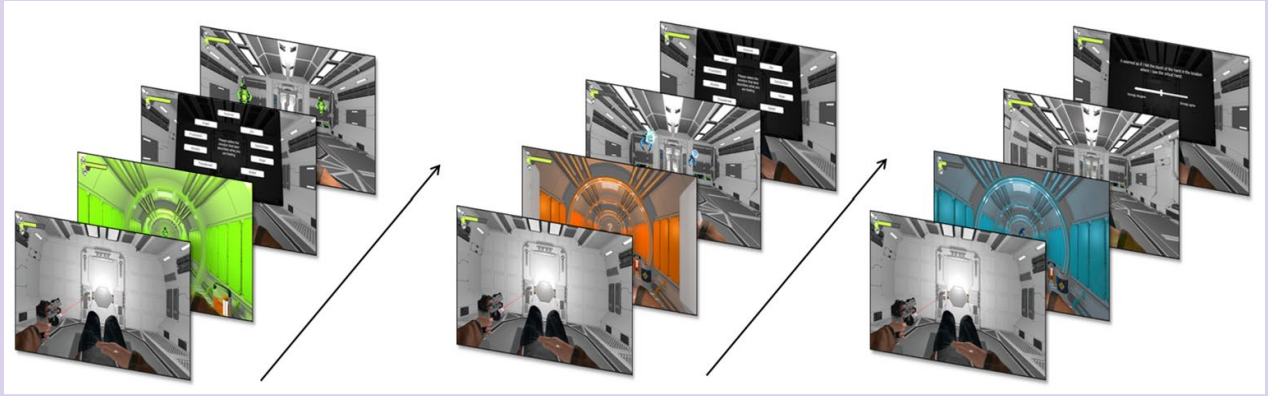

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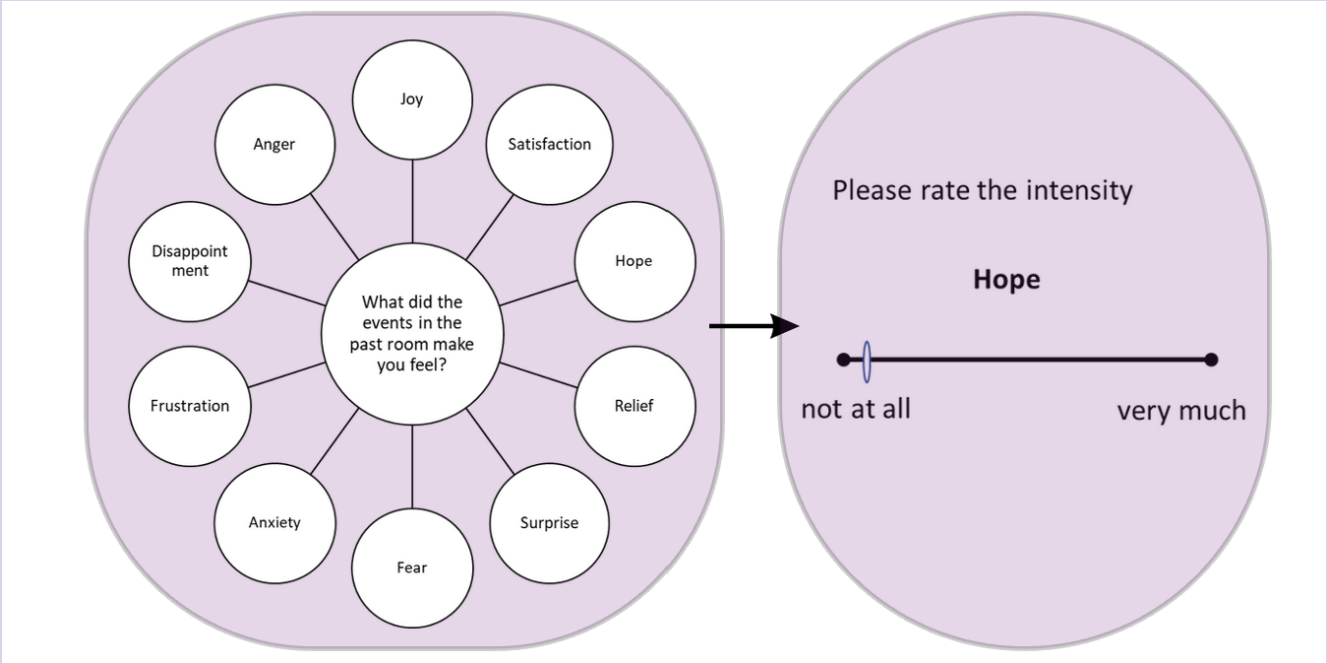

How it fits

- As with all research, this is an iterative process, so beginning by looking just at what the neural correlates of CPM are
- Long term, if the results of this do indeed come back promising, the research would then move towards creating that recipe book of emotions based on neural activity
- These of course, would be the ideal results, but we've dealt with struggles throughout

Personal Reflection

- Established new personal and professional relationships with good people
- Helped me to clarify my research interests and begin thinking about what I want my own graduate school experience to look like
- Gained a lot of behind the scenes access looking at troubleshooting experimental processes and how to ask questions and use measures with intention and accuracy
- Picked up MATLAB and rudimentary Python coding skills

Thanks!

Credit: Martina Nonni, Patrik Vuilluemier