

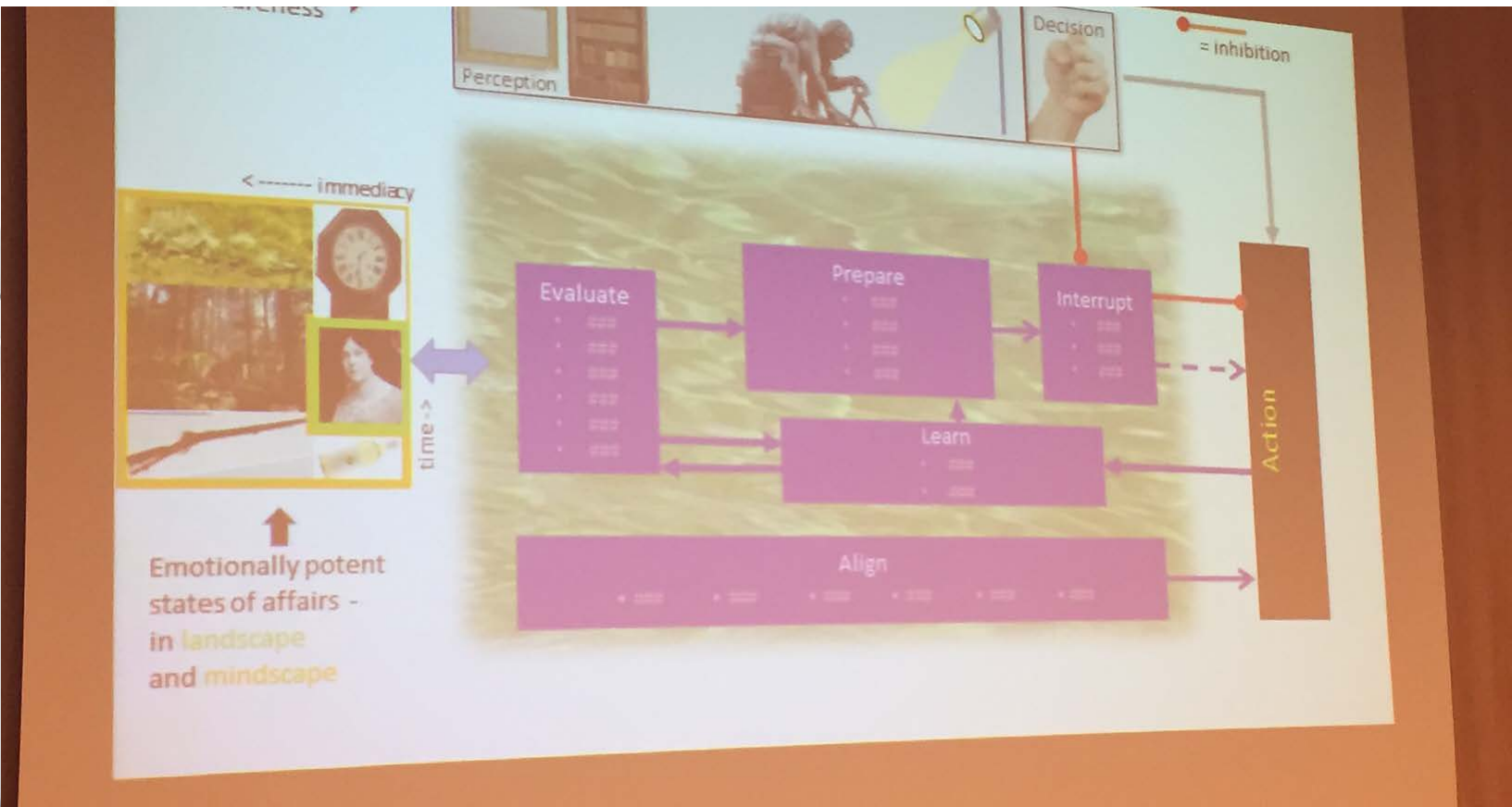


# The influence of context on emotion recognition in humans

Ursula Hess & Shlomo Hareli

CBAR 2015

# Roddy Cowen





Why does context **always** matter?

**TWO WAYS TO DECODE  
EMOTION EXPRESSIONS**

# Pattern matching



# Pattern matching



Activation of  
Zygomaticus  
Major?  
Check!



# Pattern matching



Activation of  
Zygomaticus  
Major?  
Check!



Activation of  
Orbicularis  
Occuli ?  
Check!

# Pattern matching



Activation of  
Orbicularis  
Occuli ?  
Check!

Activation of  
Zygomaticus  
Major?  
Check!

He is happy!





# Perspective taking







# Perspective taking

He just got  
some very  
good news



# Perspective taking



He just got  
some very  
good news

People who  
get very good  
news are  
happy



# Perspective taking



He just got some very good news

People who get very good news are happy



He is happy!

# Perspective taking



He just got some very good news

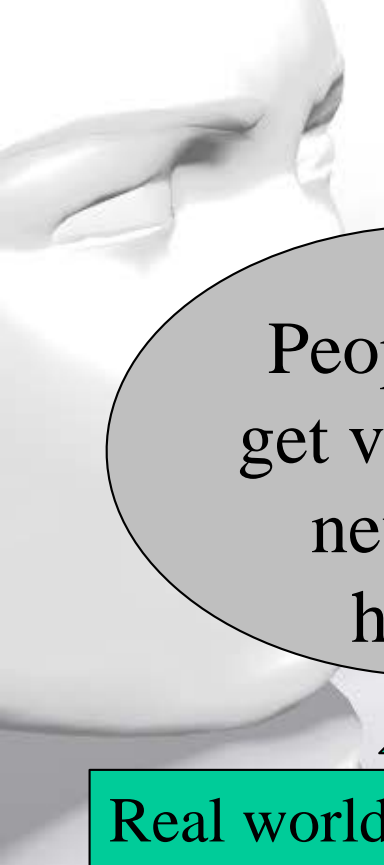
Context Information

He is happy!



People who get very good news are happy

Real world knowledge




# Types of context

Matsumoto and Hwang – the face is shown :

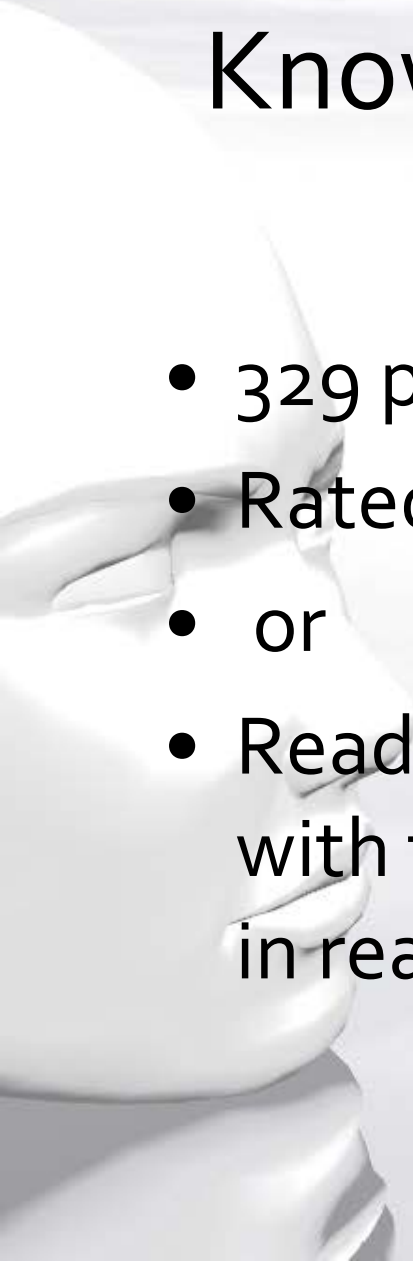
- together with the emotion elicitor (Face-trigger linkage)
- together with other, coherent or incoherent nonverbal channels (Response coherence) [Ex](#)
- following other expressions by the same expresser (Face contrast)
- as part of a larger image with other objects and/or faces (face imbedding) [Ex](#)

# What is missing

- 
- The face itself [Ex](#)
  - The perceiver
    - Goals and needs
      - Motivation to engage in processing [Ex](#)
      - Cooperative versus competitive stance
    - Real world knowledge
      - Native emotion theories
      - Cultural display rules
      - Cultural norms and expectations

# Naïve Emotion Theories: Knowledge about the emotion- elicitor

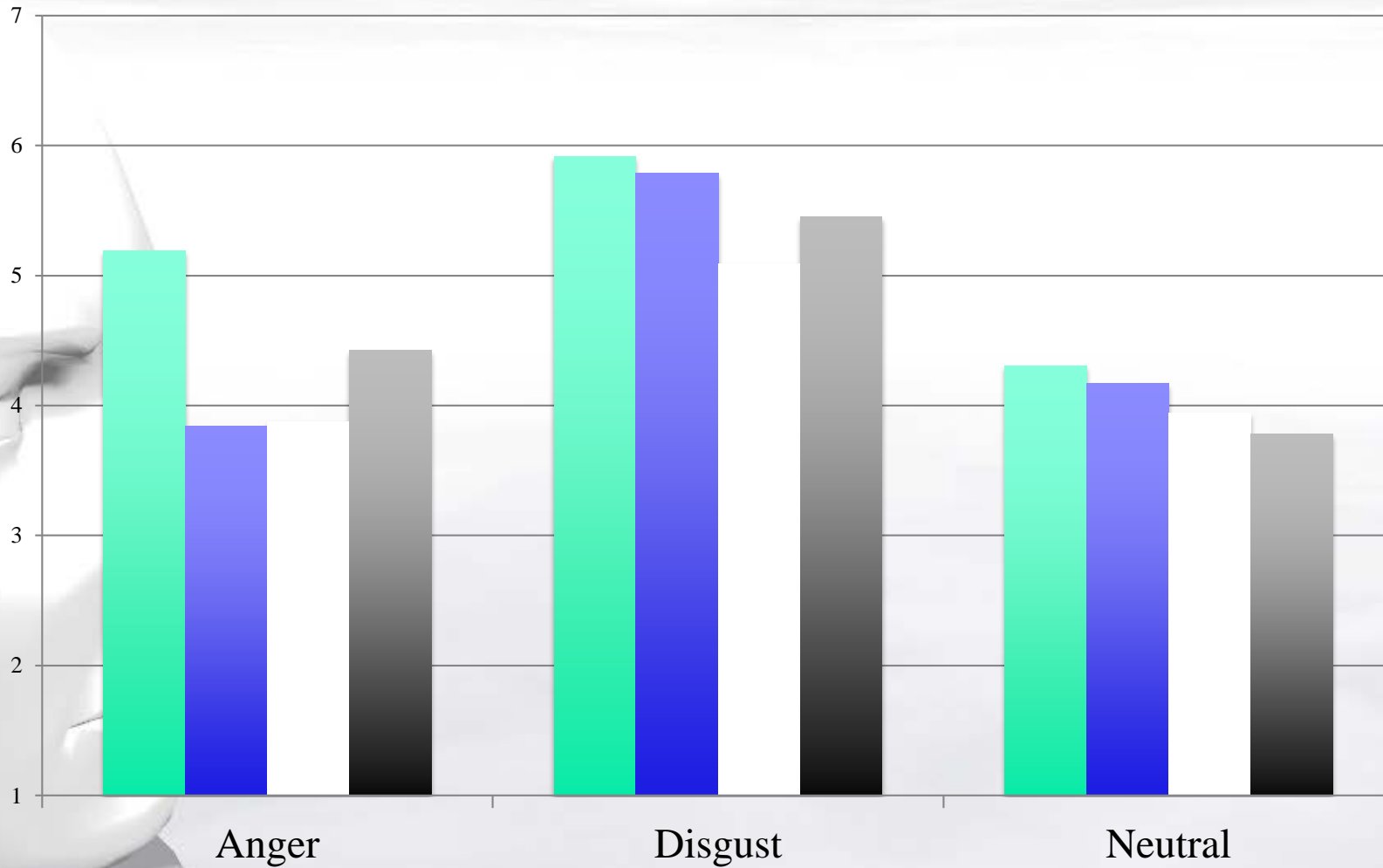
- 329 participants either
- Rated the expressions alone
- or
- Read a vignette and then see the person with the expression, which is claimed to be in reaction to the vignette



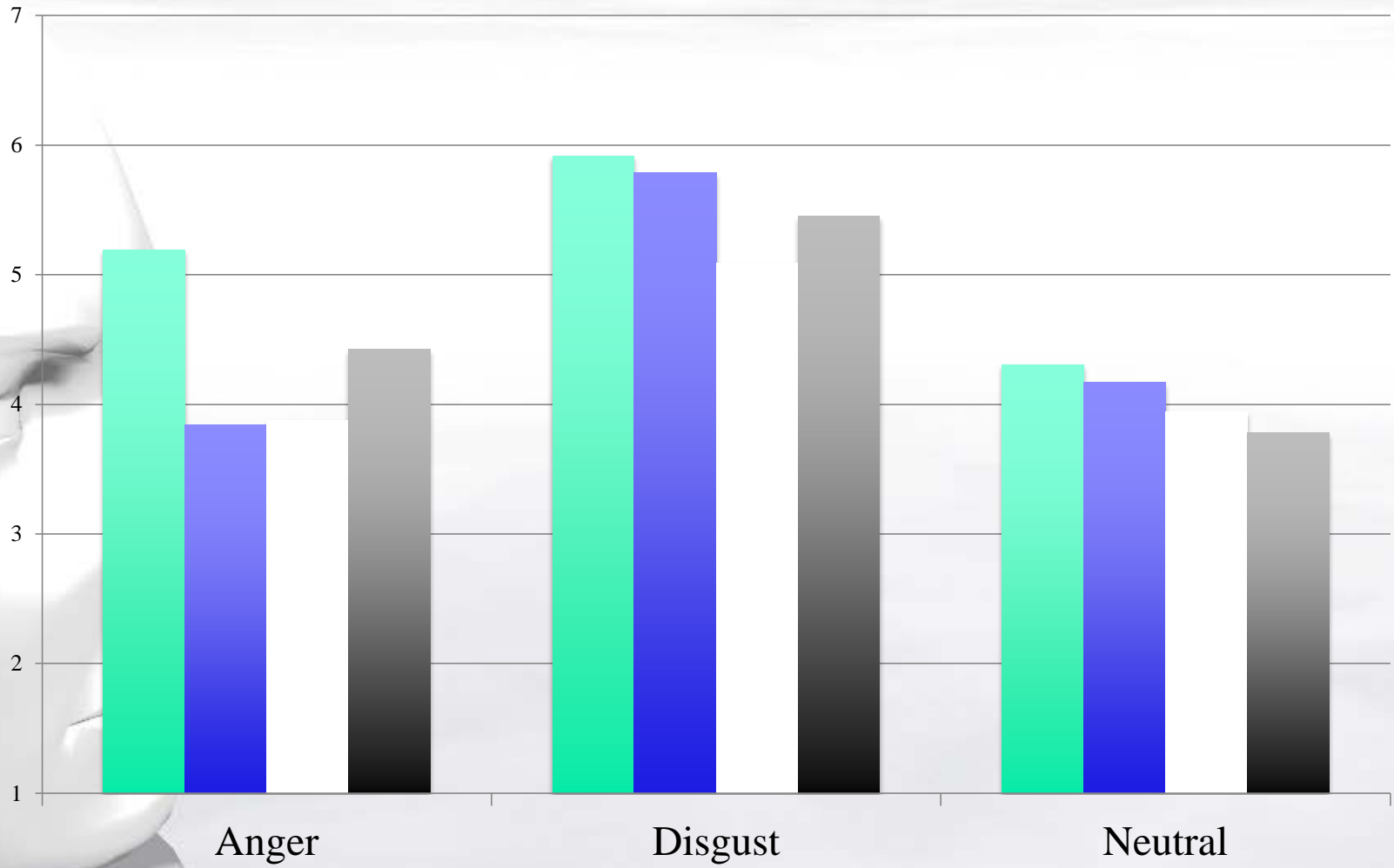




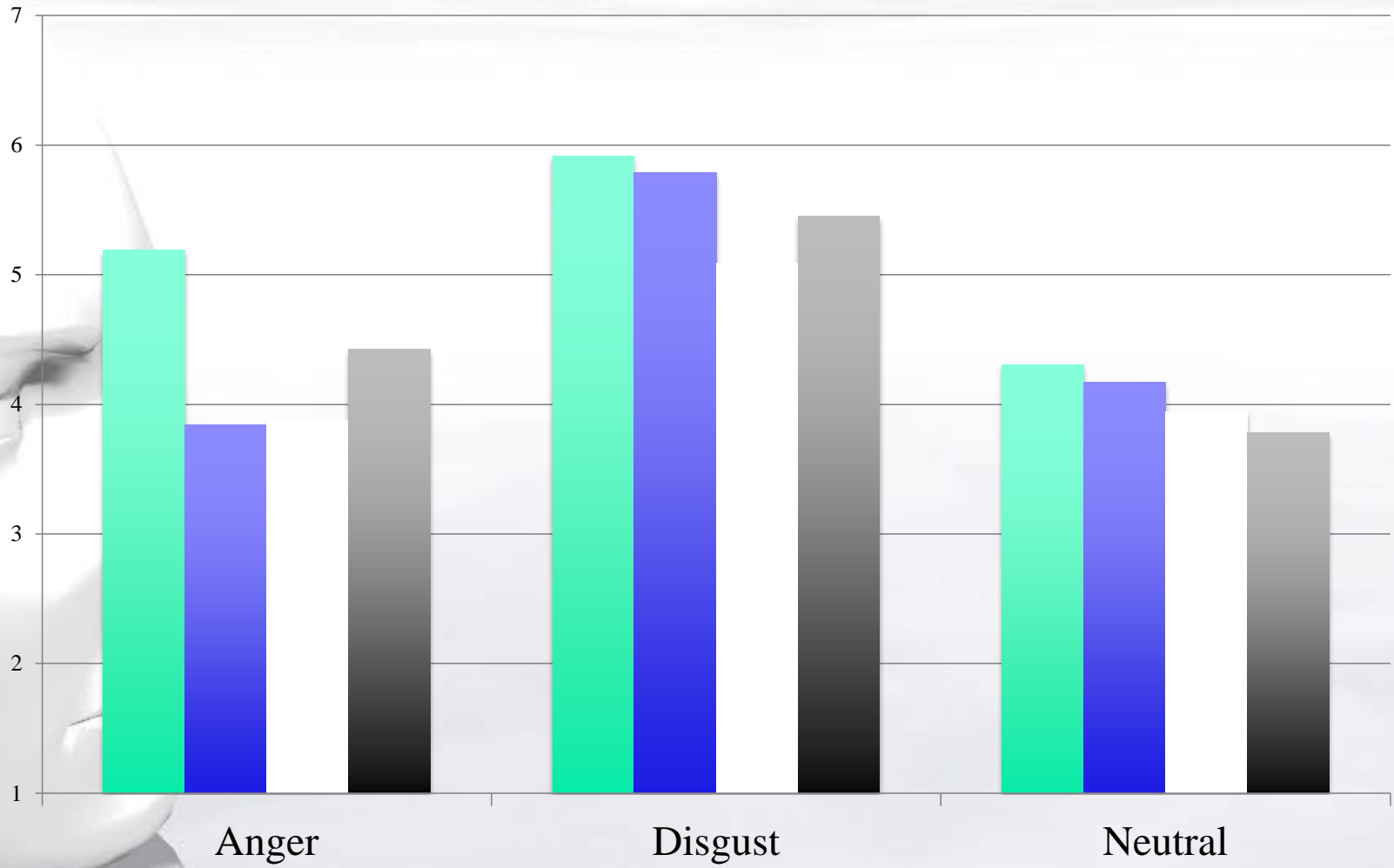
■ No context ■ Unusual Behavior ■ Impolite Behavior ■ Immoral Behavior



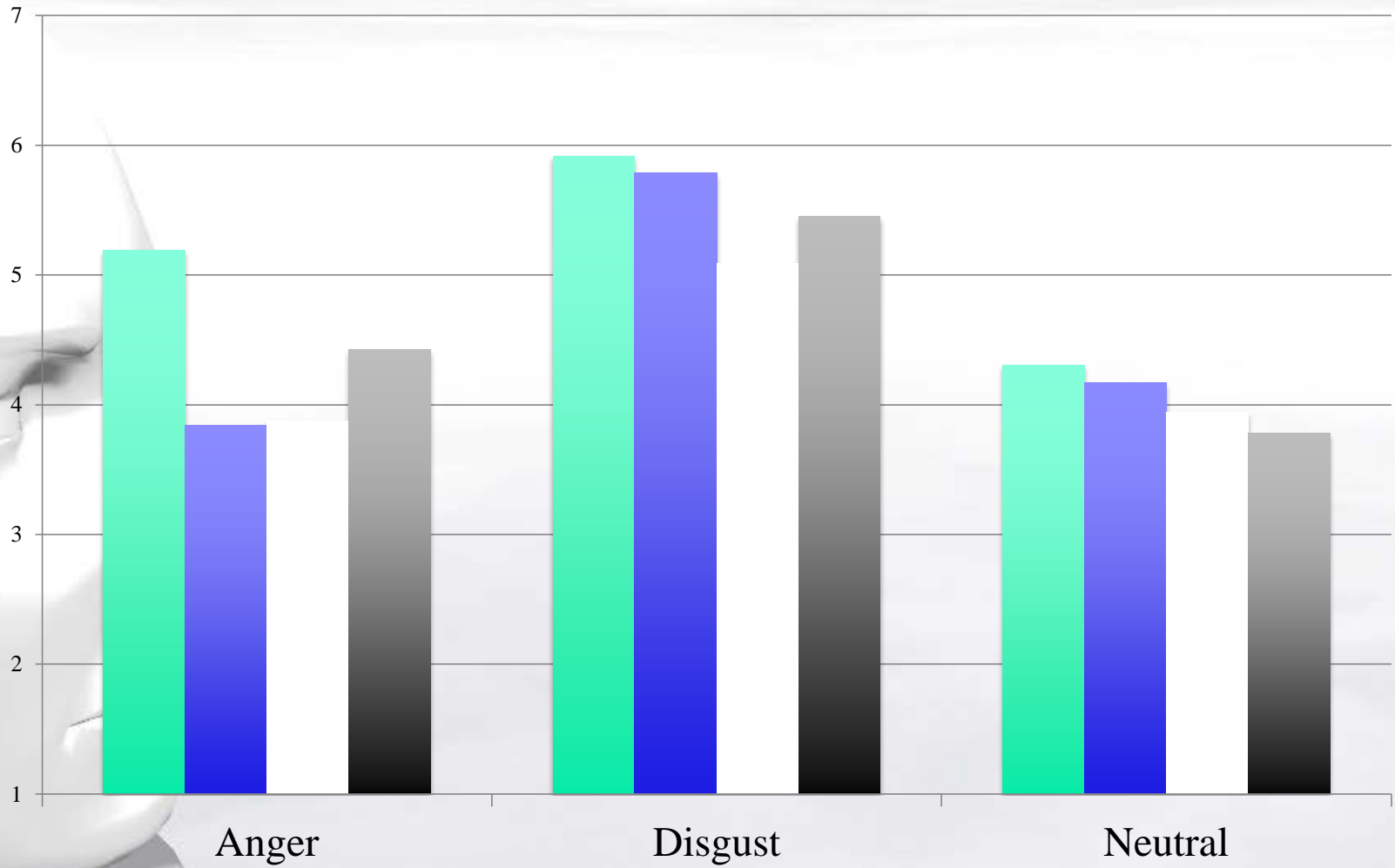
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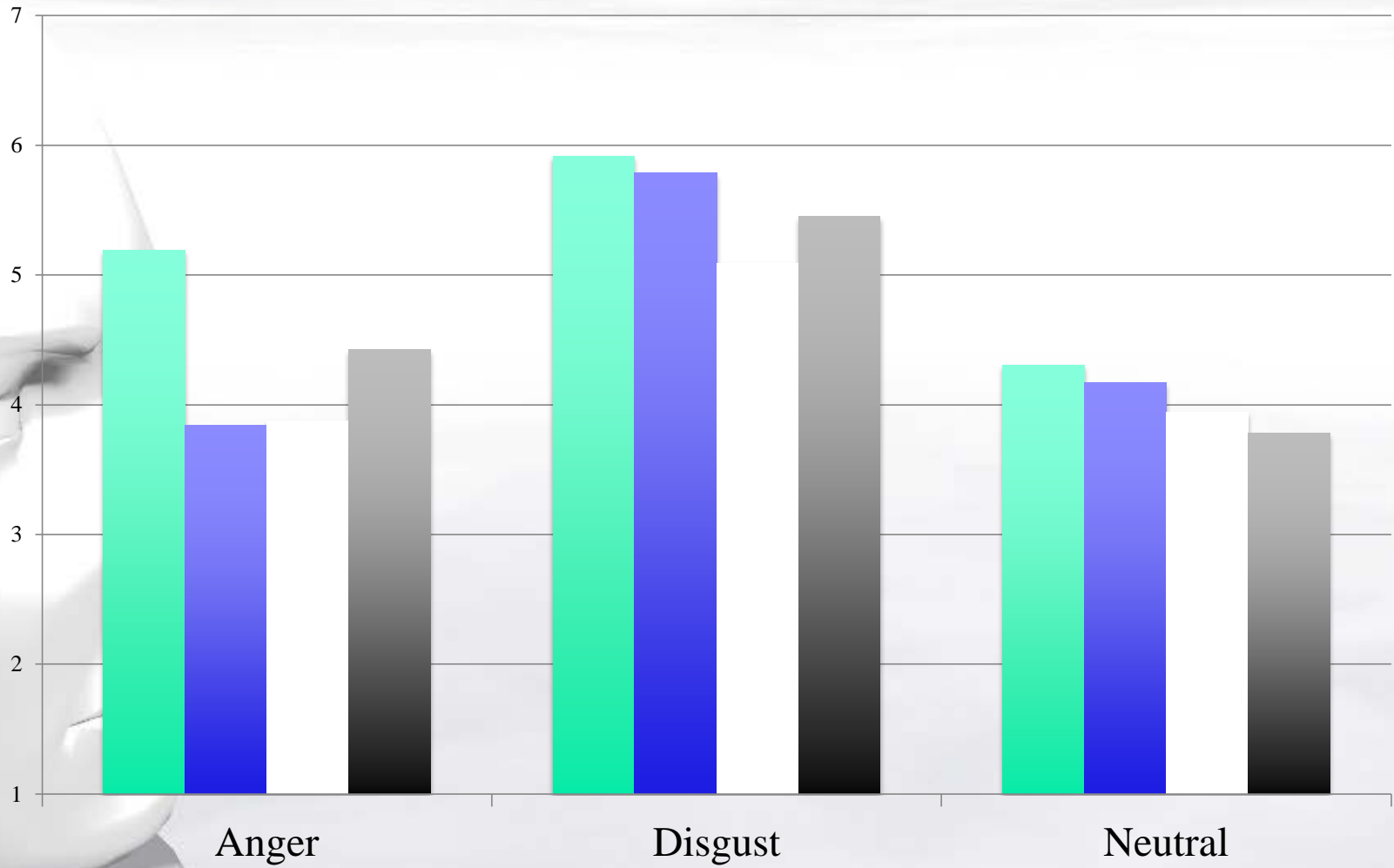
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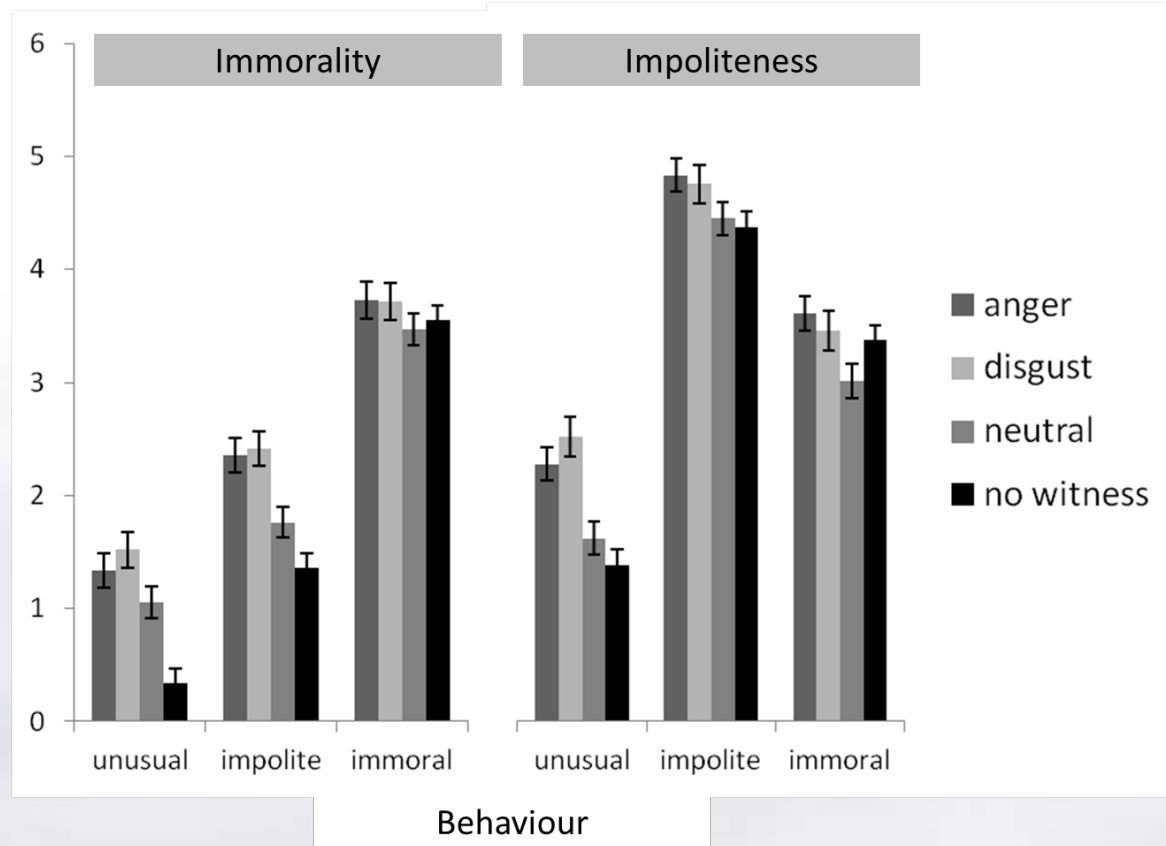
■ No context ■ Unusual Behavior ■ Impolite Behavior ■ Immoral Behavior



■ No context ■ Unusual Behavior ■ Impolite Behavior ■ Immoral Behavior



# The effect of a social referent





**KNOWLEDGE ABOUT THE  
EXPRESSERS' MOTIVATION**

# A new game



Global view of the field where distance markers are up to 15 meters



The blue player is about to throw the last ball in this match; fans appear in the background



The third ball is also about to cross the 15-meter line



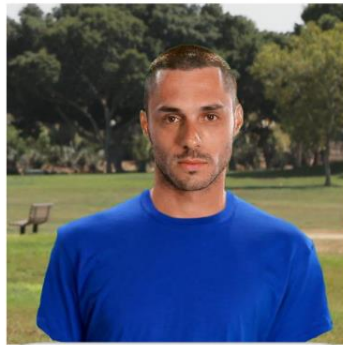
Close up: The final result of the three balls thrown by the blue player



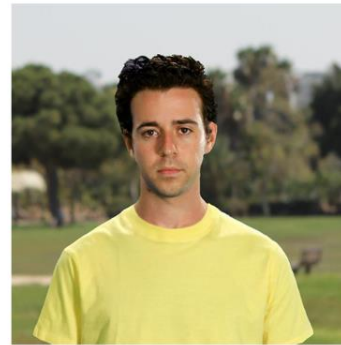
# The reaction to the play



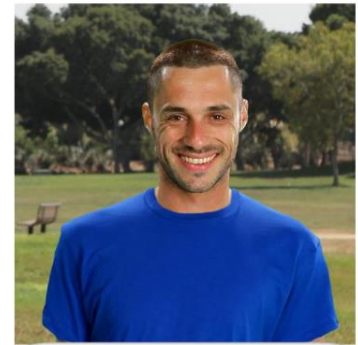
The reaction of a supporter of the yellow team (opponent's team)



The reaction of a supporter of the bleu team



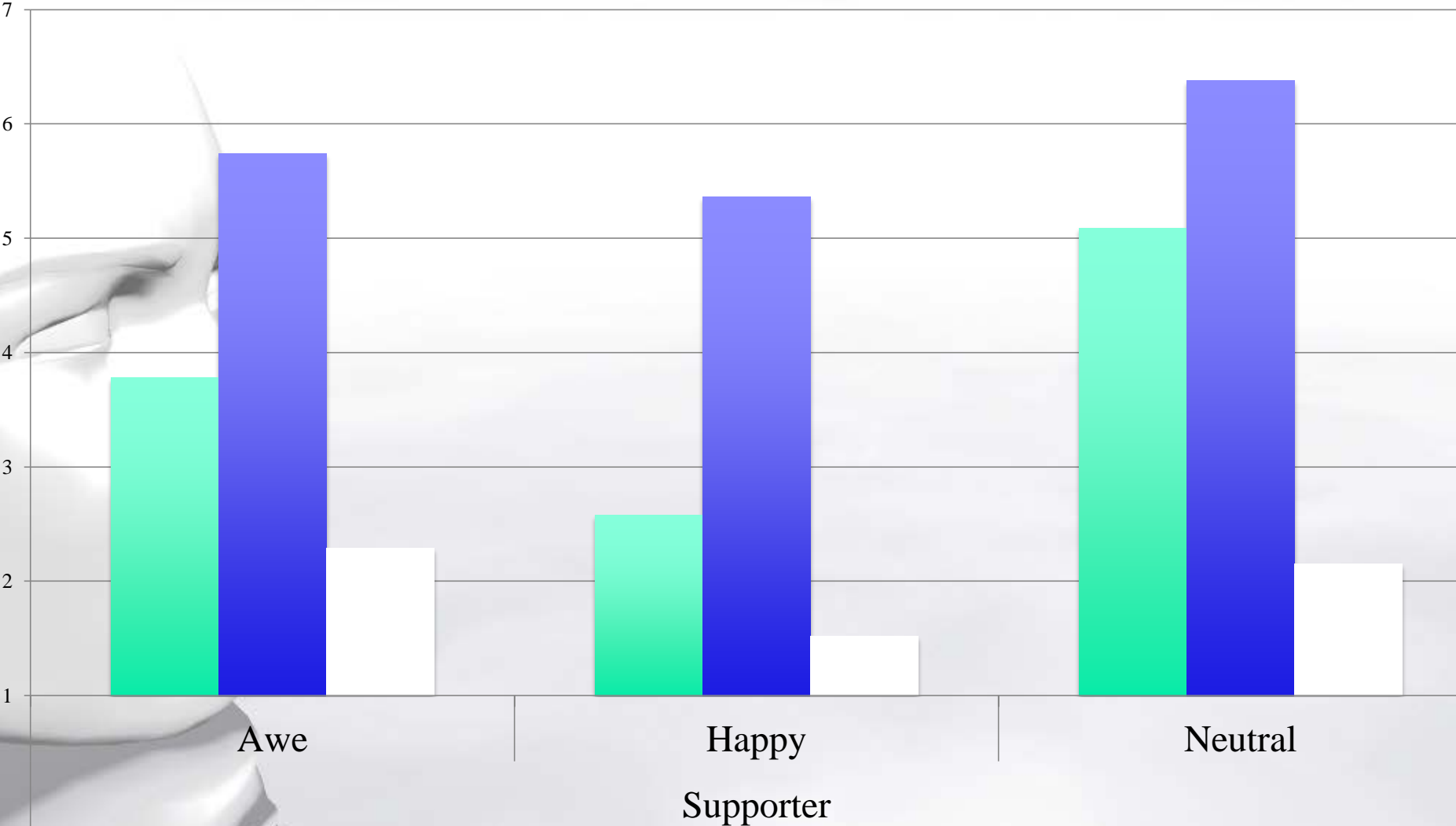
The reaction of a supporter of the yellow team (opponent's team)



The reaction of a supporter of the bleu team

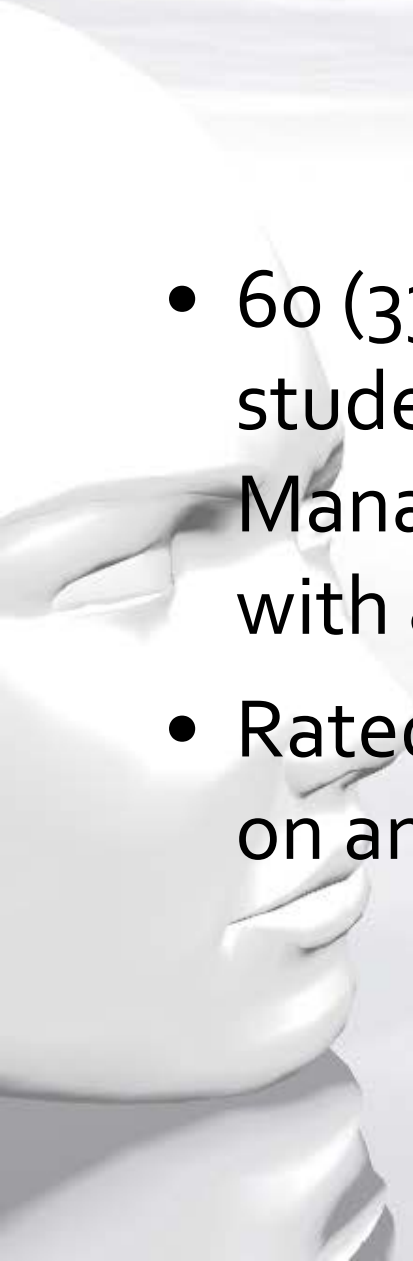
# Opponent's Happiness

Awe Happy Neutral



# Stereotype knowledge

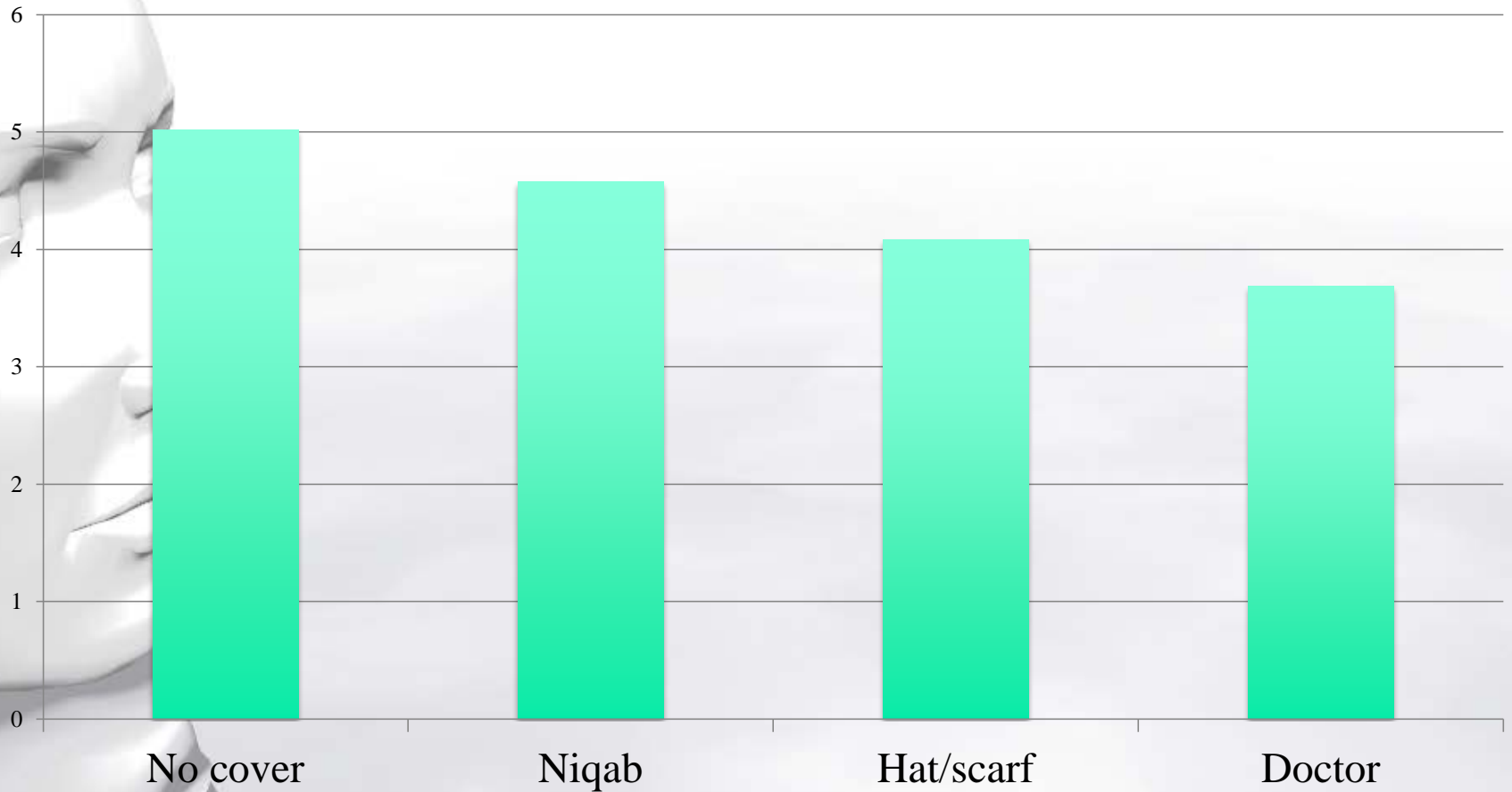
- 60 (33 men and 27 women) graduate students from the Graduate School of Management at the University of Haifa with a mean age of 28.5 years ( $SD = 9.0$ )
- Rated the intensity of the emotion shown on an emotion profile





# Rated intensity

**Target emotion**



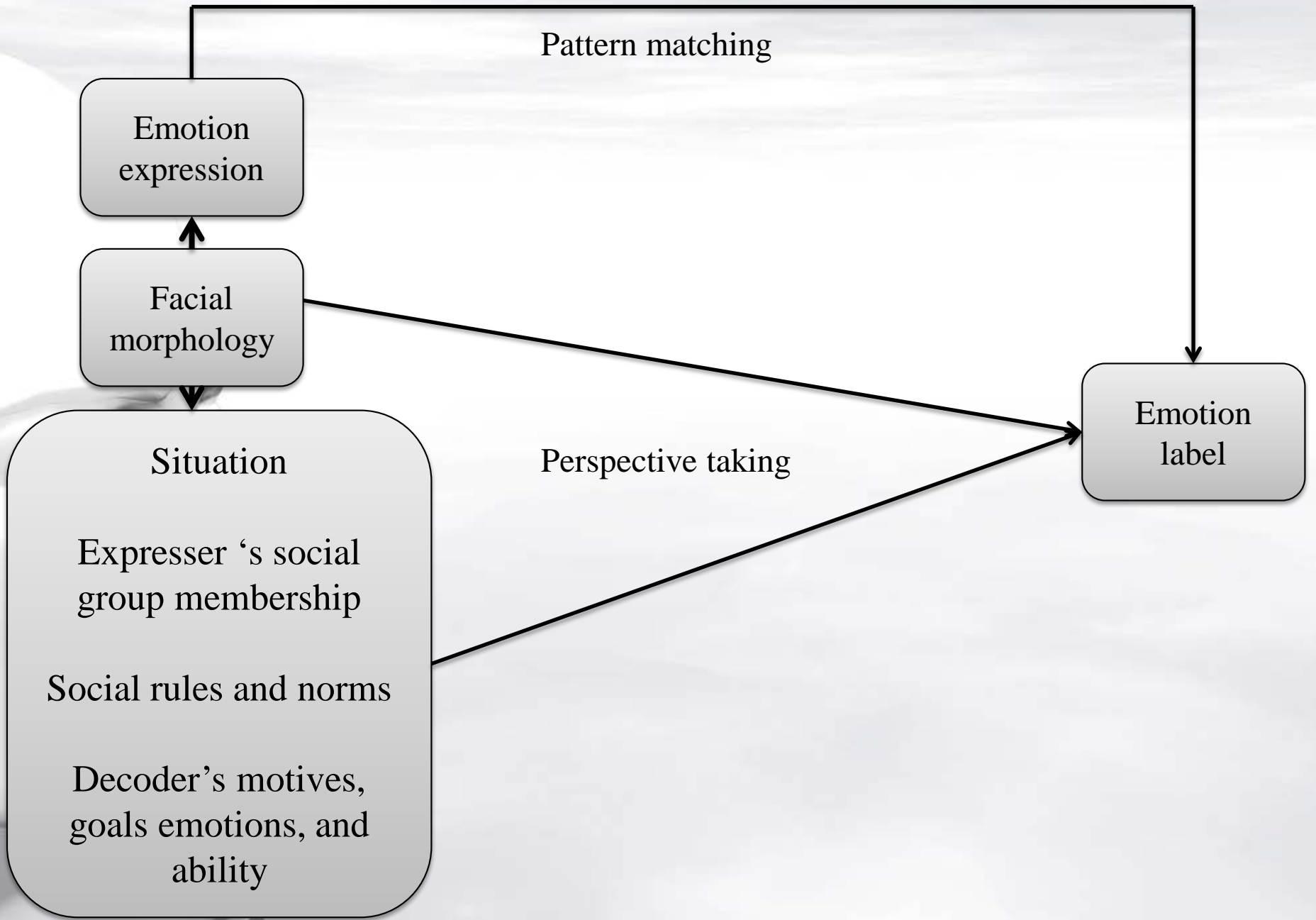
In sum ...



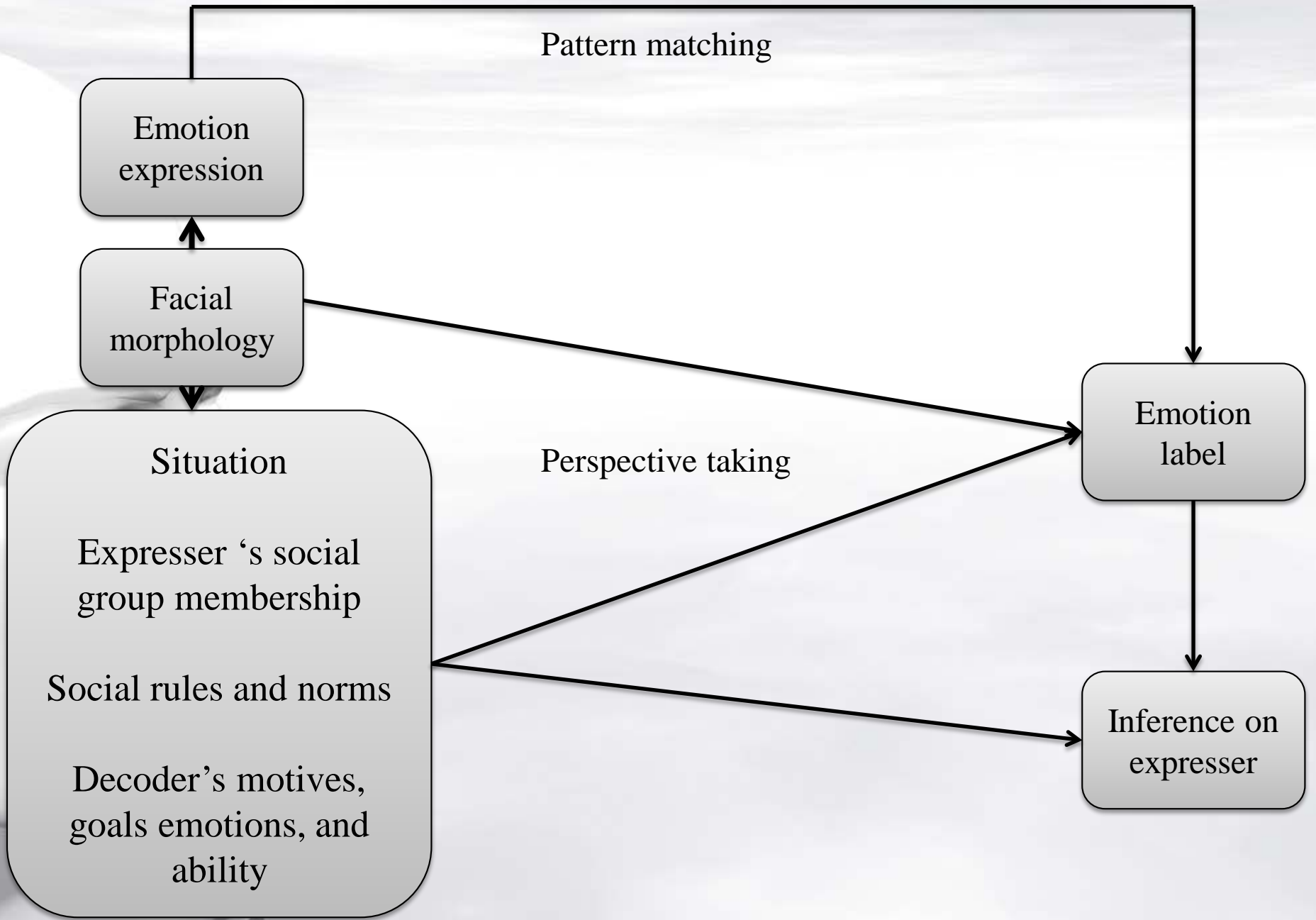


In sum ...

Faces are rated in context  
based on the  
the perceivers' real world knowledge  
and the expression shown







a



b



c



d

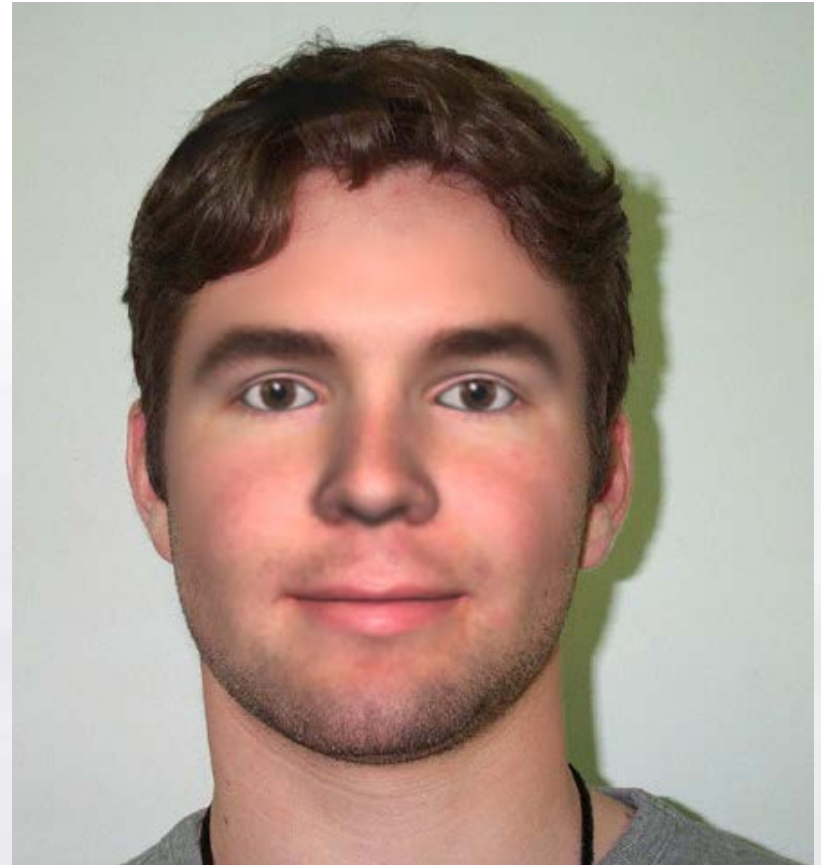


Aviezer, H., Hassin, R., Ryan, J., Grady, C., Susskind, J., Anderson, A., . . . Bentin, S. (2008). Angry, Disgusted, or Afraid? Studies on the Malleability of Emotion Perception. *Psychological Science*, 19, 724-732

# Imbedding



# Neutral faces



# Accuracy as a function of reward

