

SELF-OTHER DISTINCTION AND SELF-OTHER PRIORITY IN PERSPECTIVE TAKING

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Egocentric bias: I use my *own egocentric* experiences, knowledge, and beliefs to guess what someone thinks BUT....

If she has different experiences/knowledge/beliefs → **inaccurate guess of what she experiences/knows/believes**

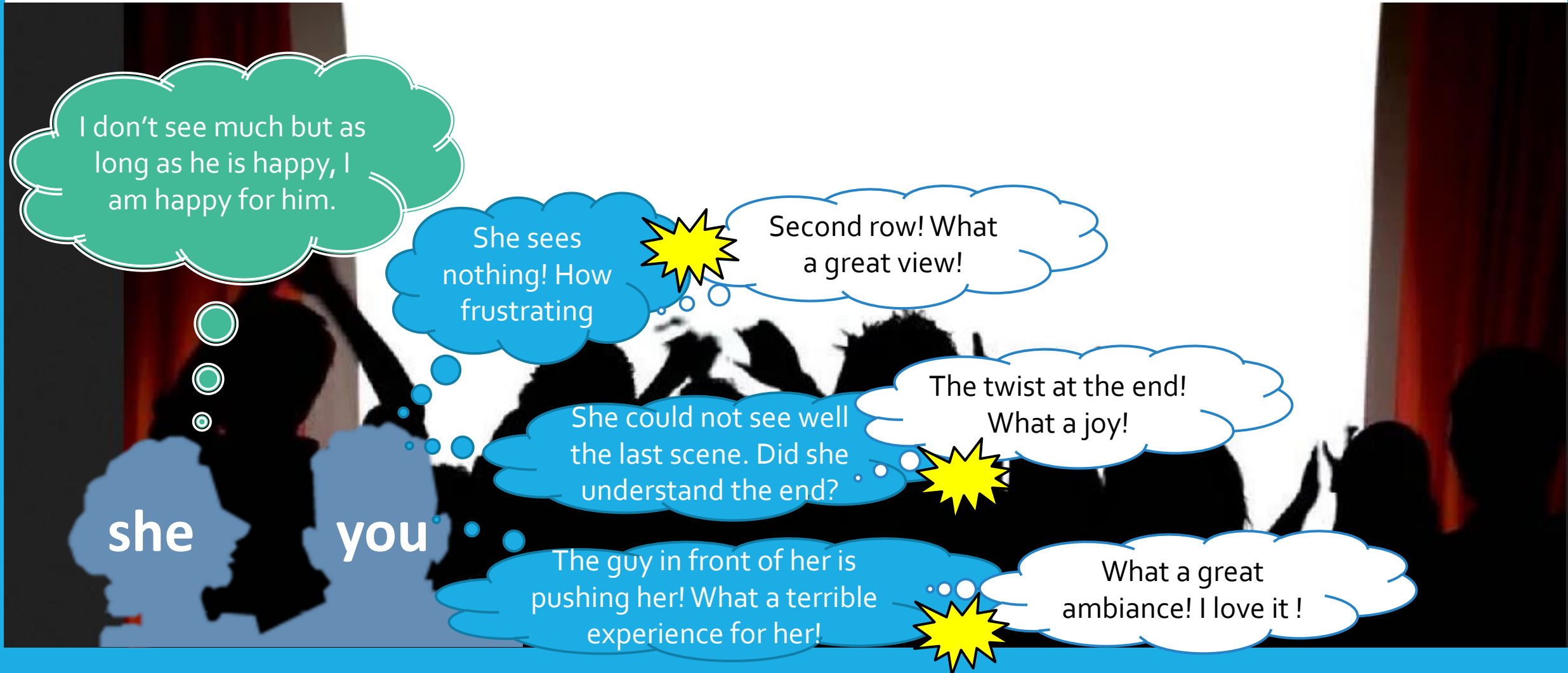
If I struggle to put aside my egocentric perspective → **interference: slower guess**

Example : My own experience of being fired biases how I guess my best friend must experience being fired.



Altercentric bias: the experience, knowledge, and beliefs I am guessing she has (→ her altercentric is biasing how I think!
If the other person has different experiences/knowledge/beliefs → **inaccurate guess of what I experience/know/believe**
If I struggle to put aside her altercentric perspective → **interference: slower guess**

Example : Her *guessed* experience of show biases my own experience of the show.



Which components predict PT performance?

What she thinks,
her perspective,
her mental states

What I think,
my perspective,
my mental states

≠ Self-Other distinction



Inferential process



Affect computation



Belief computation



Intention computation



Object orientation computation



etc

Info on her
(salient)

Her expression,
what I know on her,
her behaviour, etc

Info
on
me

Self-Other
priority

Me

She

Two-dimensional assessment of perspective-taking

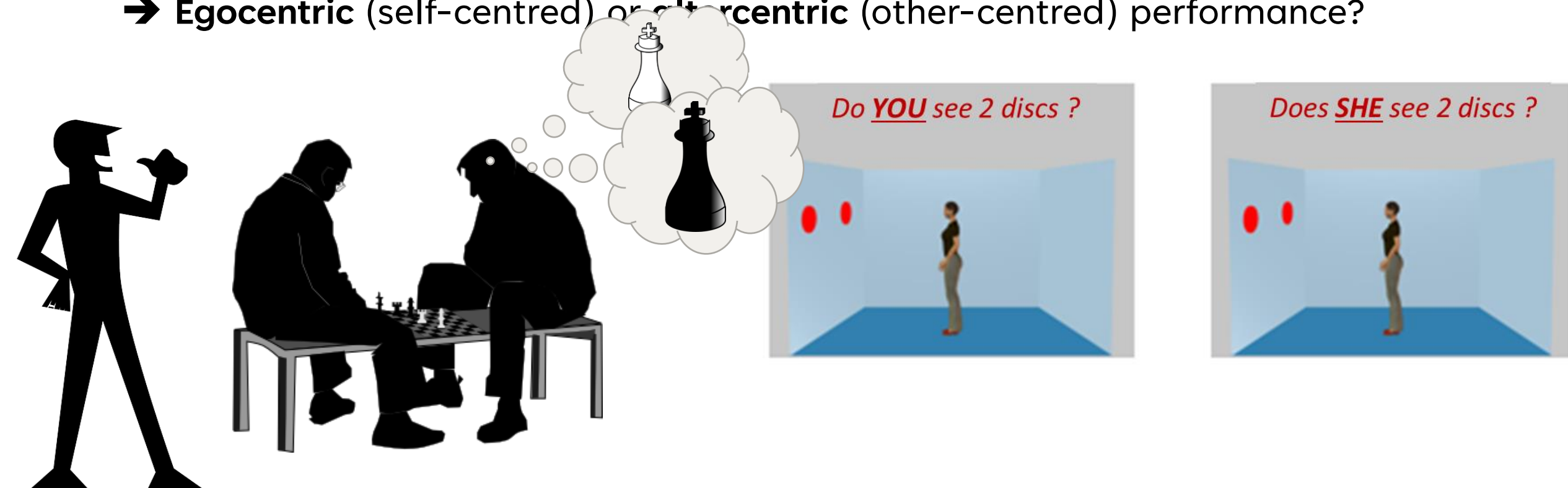
DIMENSION 1: SELF-OTHER PRIORITY

Processing advantage for self-perspective versus other's perspective

→ Attentional priority, social cues processing, access to mental representations

X against assumption of *default* self-perspective

→ **Egocentric** (self-centred) or **altercentric** (other-centred) performance?



Two-dimensional assessment of perspective-taking

DIMENSION 2: SELF-OTHER DISTINCTION

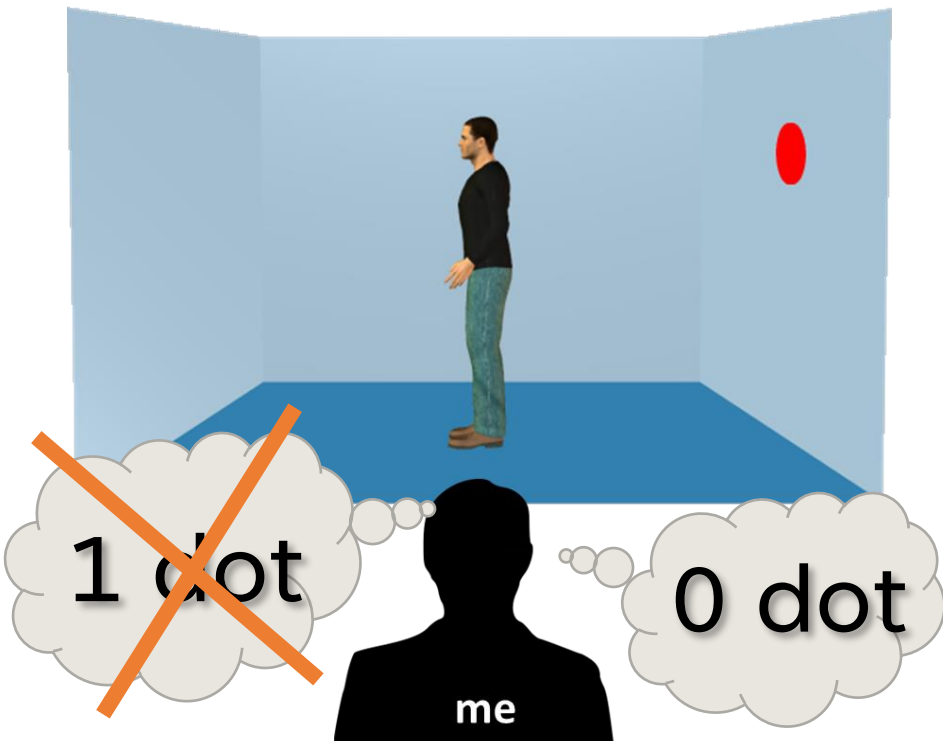
Ability to suppress the irrelevant conflicting perspective

→ monitoring, shifting, inhibition

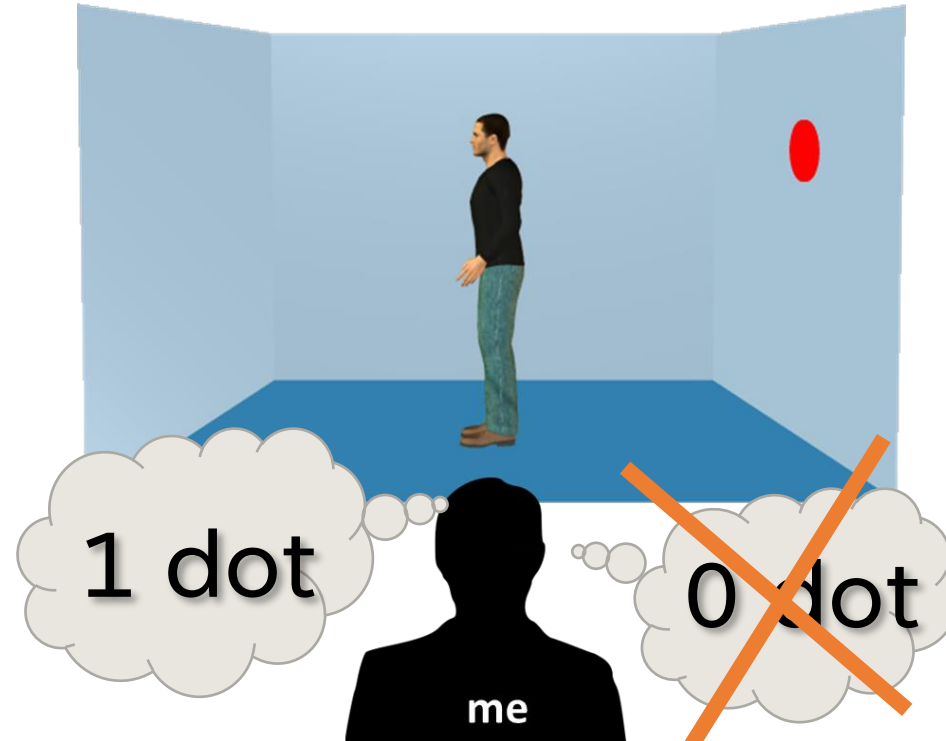
... irrespective of perspective taken (self- or other's)

→ **Conflicted** or **flexible** performance?

“Does HE see 1 red dot?”



“Do YOU see 1 red dot?”



Influence of social emotions



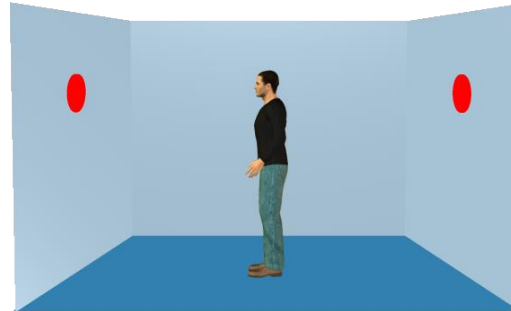
Guilt



Shame



Anger



Self-other distinction ?

Self-other priority ?

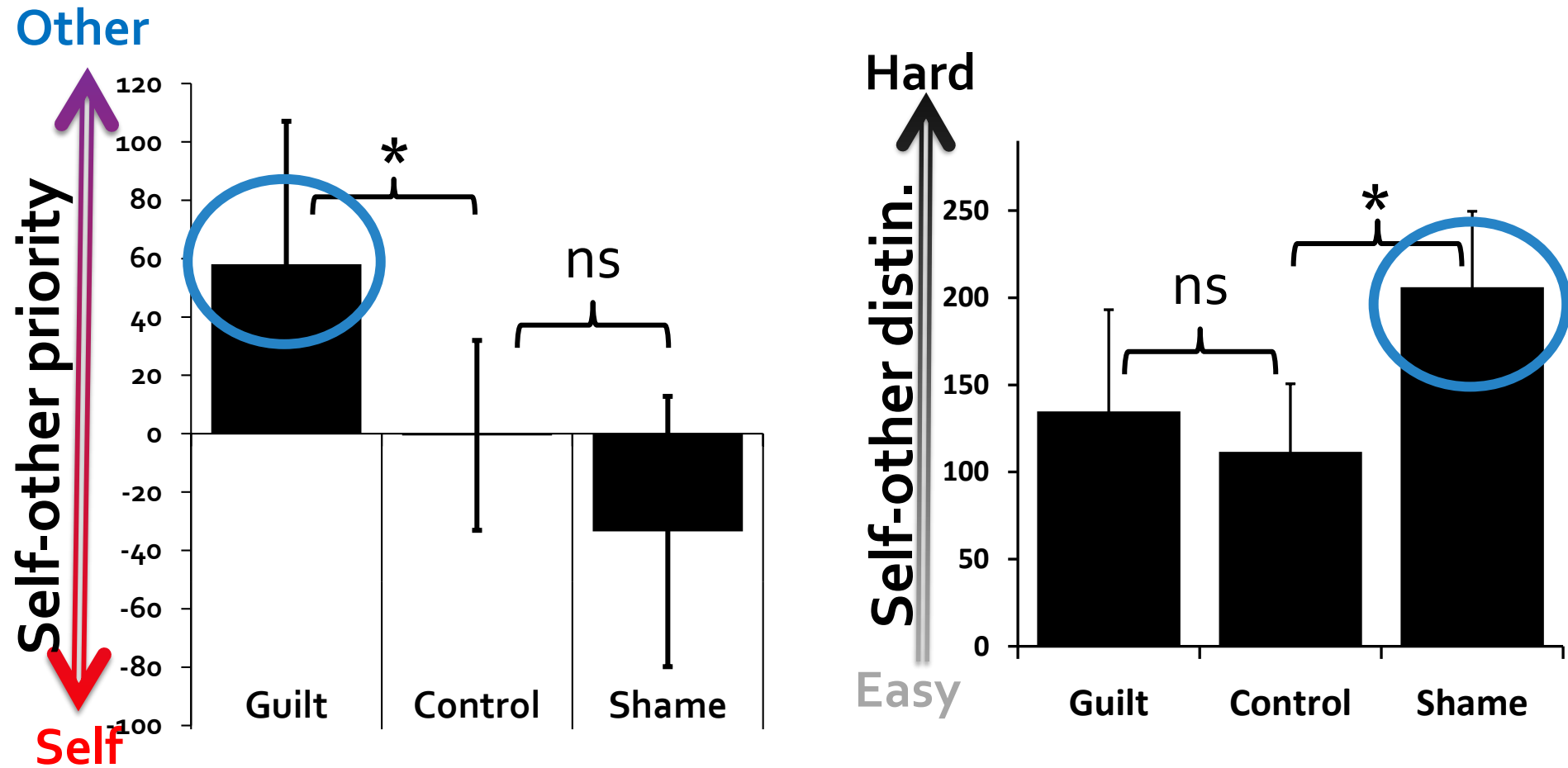
Egocentric bias ?

Altercentric bias ?

Influence of social emotions



Influence of social emotions



Note: Score = Inverse Efficiency Index (IES) = Reaction Time / (1 – Error Rate)

Influence of social emotions

Guilt



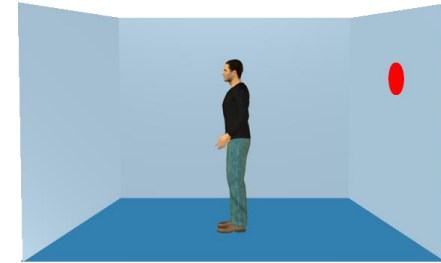
Self-other priority

Shame



Self-other distinction

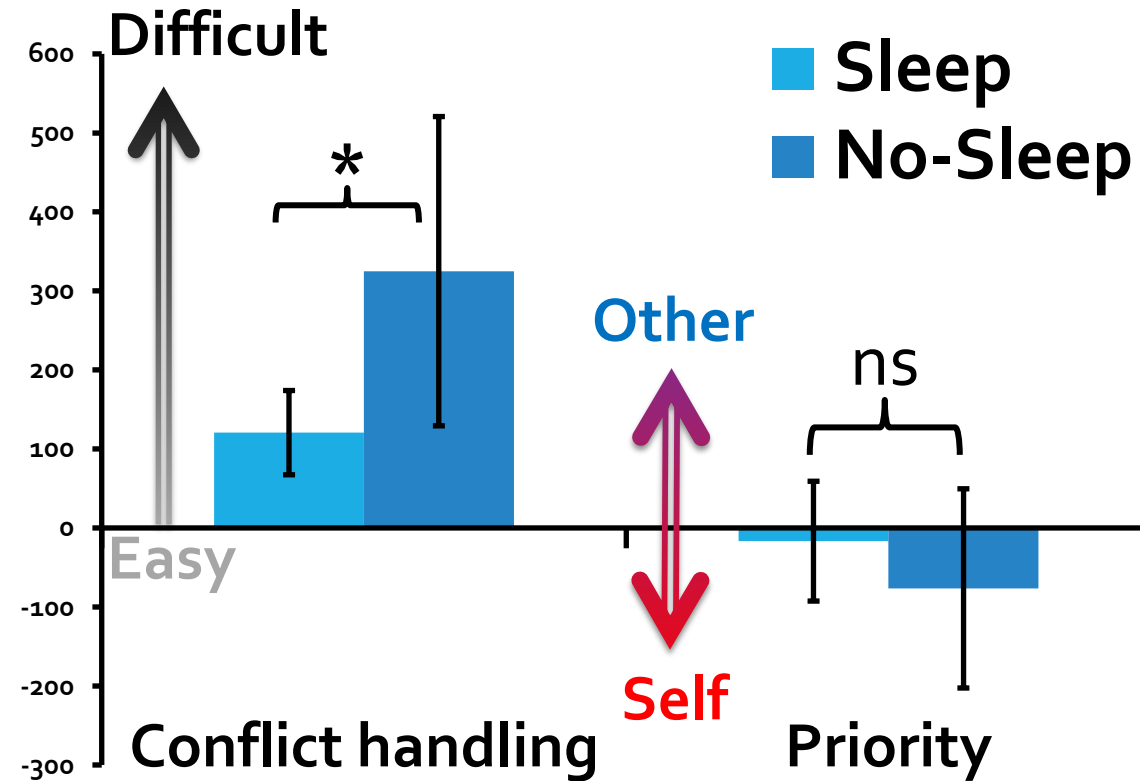
Effect of sleep deprivation



Same participants tested twice:
(1) Morning after **no-sleep** night
(2) Morning after **full sleep** night

Self-other distinction ?
Self-other priority ?
Egocentric bias ?
Altercentric bias ?

Effect of sleep deprivation

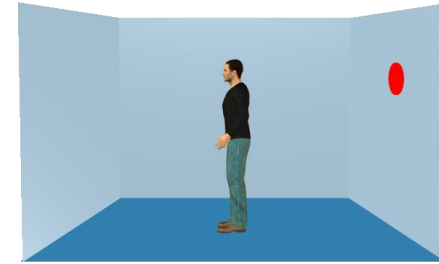


Perspective taking habits

Interpersonal Reactivity Index (Davis, 1982)



Credit: WikiHow



Self-other distinction ?
Self-other priority ?
Egocentric bias ?
Altercentric bias ?

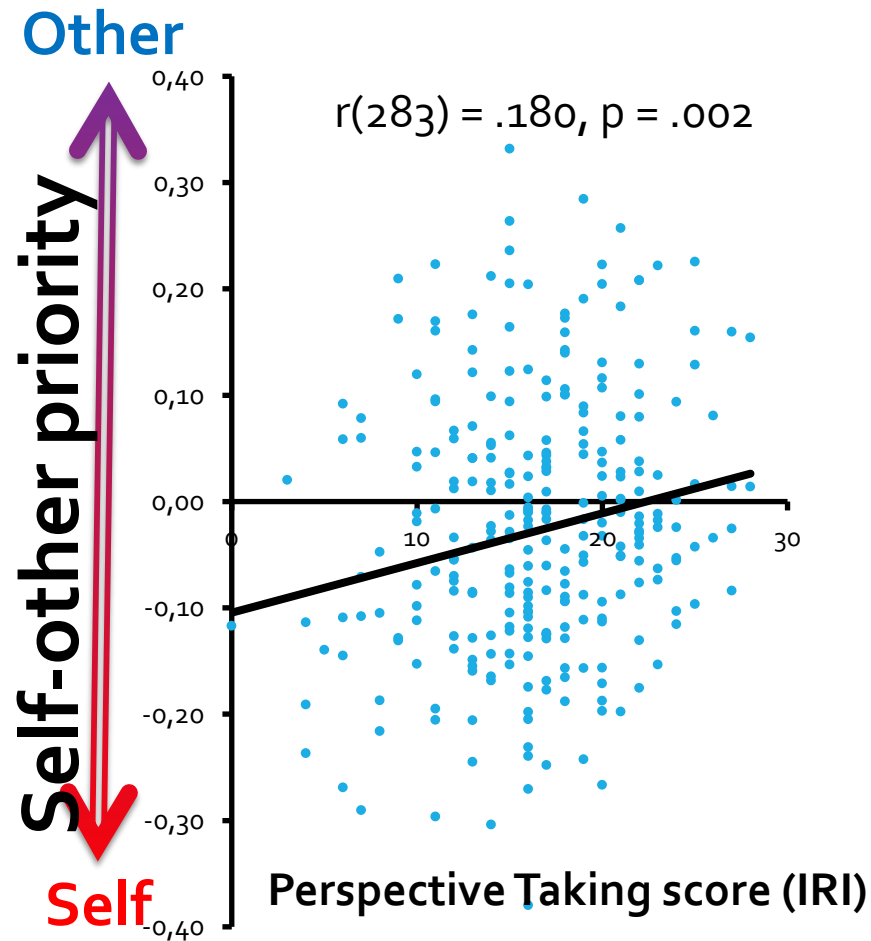
Perspective taking "I try to look at everybody's side of a disagreement..."

Empathic concern "I often have tender [...] for people less fortunate than me."

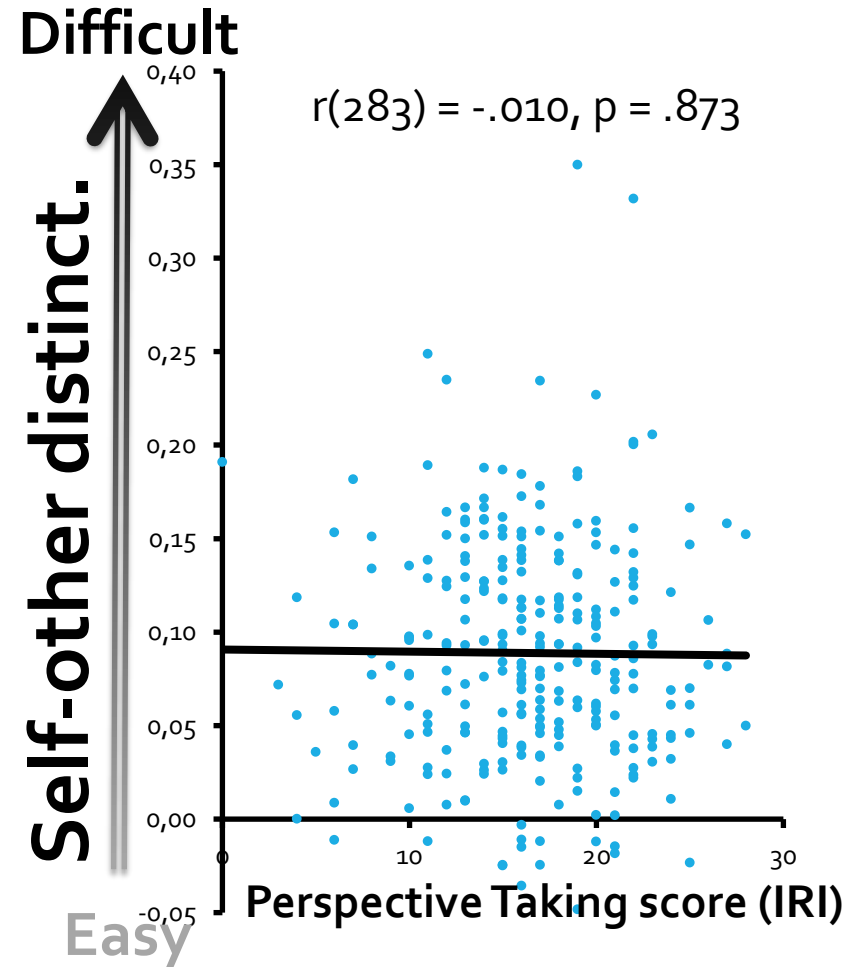
Personal distress "In emergency situations, I feel apprehensive and ill-at-ease."

Fantasy "I daydream [...] about things that might happen to me"

Perspective taking habits



Empathic concern, Personal distress, Fantasy
→ no significant correlations.



Note: VPT performance = $IES = RT / (1 - ER)$
Bukowski & Samson, 2017.

Lvl-1 VPT predicts complex perspective-taking

- **Predicts students' self-reported perspective-taking** (Interpersonal Reactivity Index)
 - Self-other priority: $\beta = 0.184$, $t(282) = 3.084$, $p = 0.002$ in Bukowski & Samson, 2017
 - Self-other priority: $r(39) = .537$, $p < .001$ in Mattan, Rotshtein & Quinn, 2016
 - Self-other priority: $\beta = 0.297$, $t(99) = 2.531$, $p < 0.05$ in Bukowski, Bigot, & Samson, preprint
- **Predicts physicians' self-reported perspective-taking with patients** (JSPE)
 - Self-other distinction : « *Standing in patients' shoes* » subscale: $r(180) = 0.196$, $p < 0.01$ in Bukowski et al., 2021.
 - « I try to imagine myself in my patients' shoes when providing care to them.”
- **Replicates effects with other mentalising tasks:**
 - Guilt improves PT whereas shame undermines PT in Bukowski & Samson (2015) and in Leith & Baumeister, 1998; Yang, Yang, & Chiou, 2010
 - Sleep deprivation undermines PT in Deliens et al. (2017) as in Deliens et al. (2015)



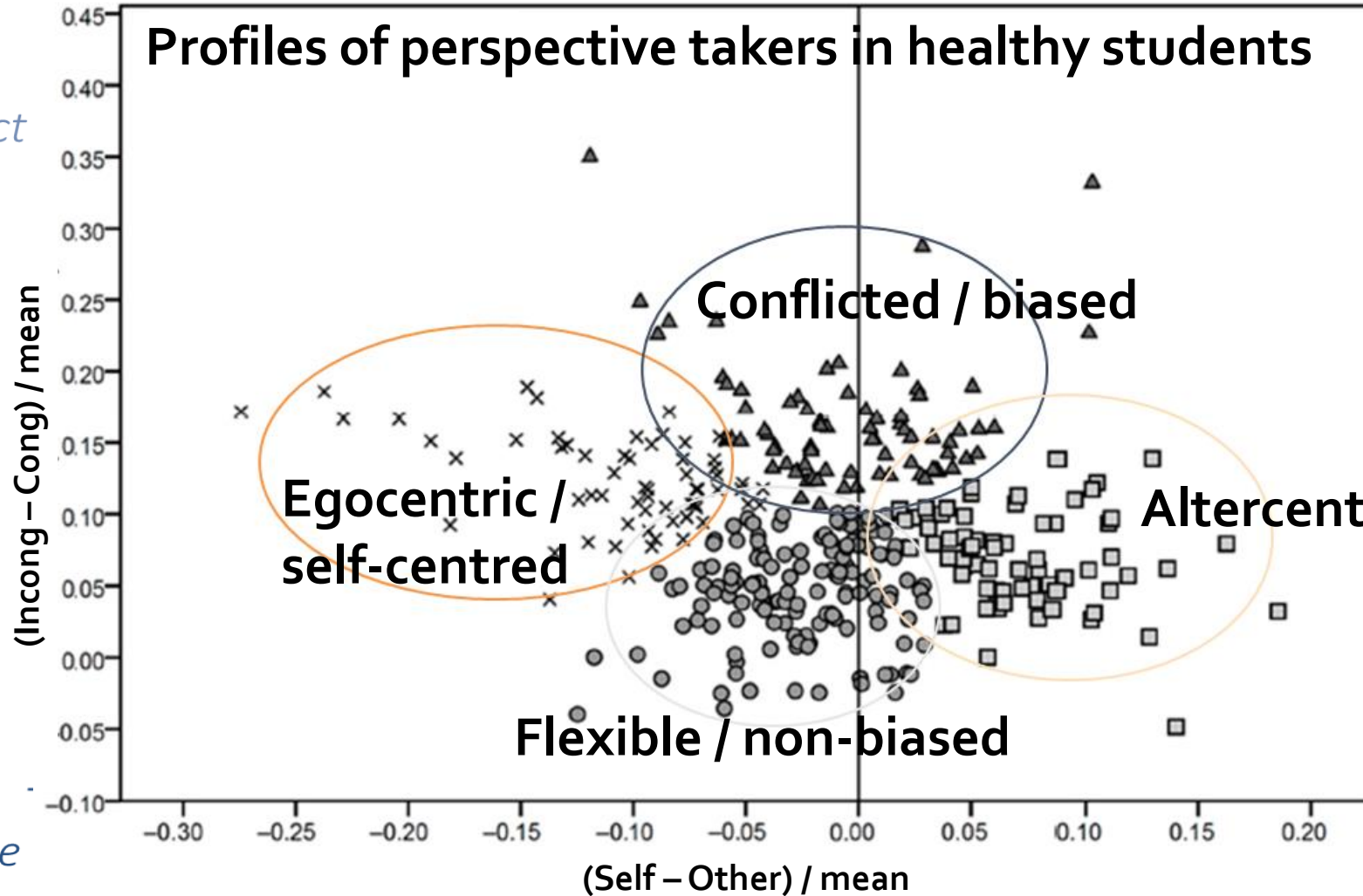
Individual differences on two dimensions of PT

PT performance =
Inverse efficiency
(speed RT / accuracy)

High conflict

Self-Other Distinction

Flexible



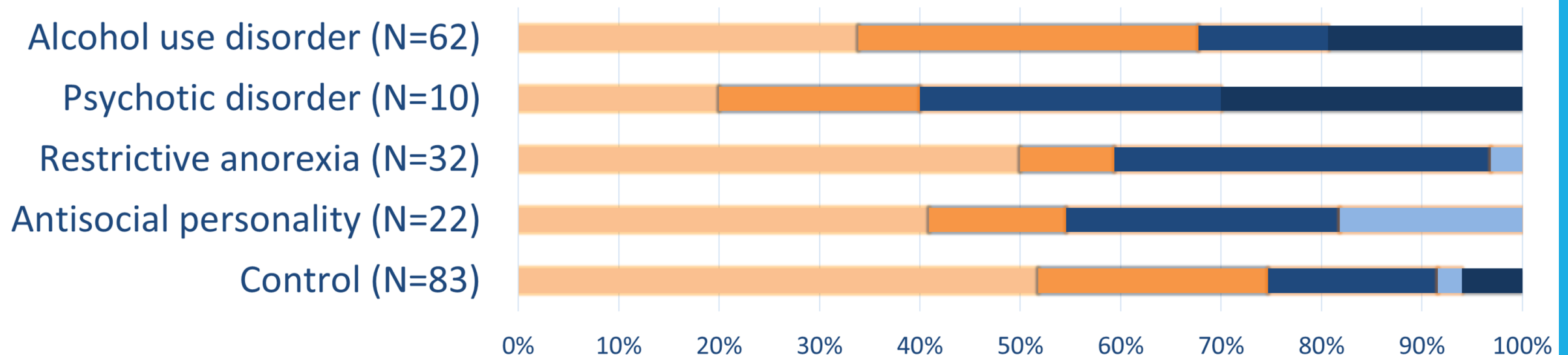
Egocentric

Self-Other Priority

Altercentric

Profiles of perspective takers across mental disorders

- Flexible and altercentric
- Flexible and egocentric
- Conflicted and egocentric
- Conflicted
- Conflicted and altercentric



Next steps

- More clinical collaborations:
 - Borderline (KULeuven, UniVie)
 - Autism (Macquarie-Potsdam univ)
 - Depression (Saint-Luc hospital)
 - Psychopathy (UMons-Les Marroniers)
- More dimensions
 - + Self-Other shifting
- More psychometric validation
- Profile-based socio-cognitive interventions
- Control scales
 - Situational states scale
 - Motivated PT scale

WHAT IF WE IGNORE THE INFERENTIAL PROCESS*
TO CONSIDER PT PERFORMANCE
AS DETERMINED BY TWO DIMENSIONS?

→ SELF-OTHER DISTINCTION
AND SELF-OTHER PRIORITY

*here very basic, playing probably a negligible role

my perspective on PT

Failure to infer a mental state (mental rotation of “6”) → inferential process / representation capacity

Low capacity to inhibit self-perspective (put aside “6”) → self-other distinction dimension

Excessively focussed on self-perspective → self-other priority dimension

Problem with the inferential process / representational capacities :

Many distinct inferential processes : understanding others’ beliefs, desires, sarcasm, humor, faux-pas, ...

Risk of inconsistent findings because measuring (individual differences on) different inferential processes!

Lack of correlations between PT tasks because measuring different inferential processes!

Advantages of self-other distinction & self-other priority :

Assumed to be the same processes irrespective of the mental state

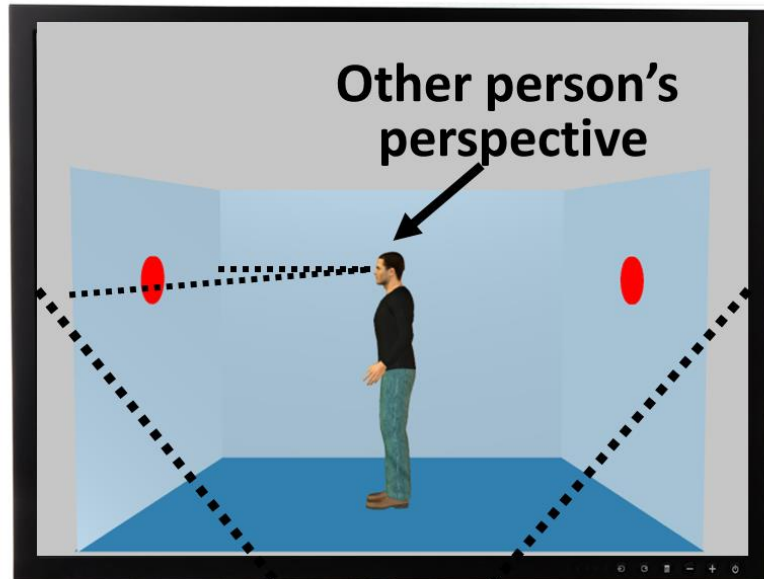
Measures individual differences expected to generalize to other type of mentalizing



6

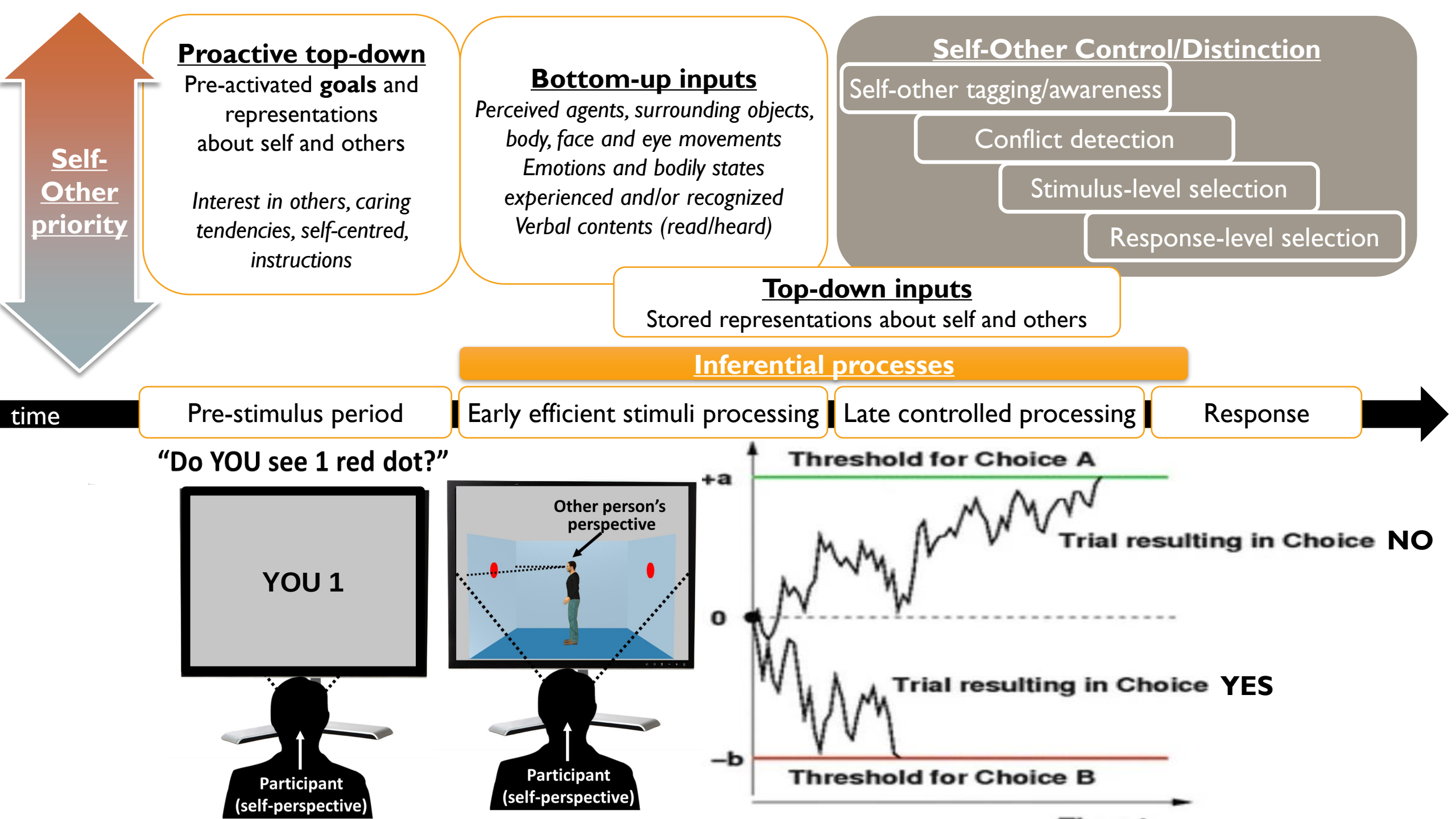


level-1 visual perspective taking = most basic inferential process



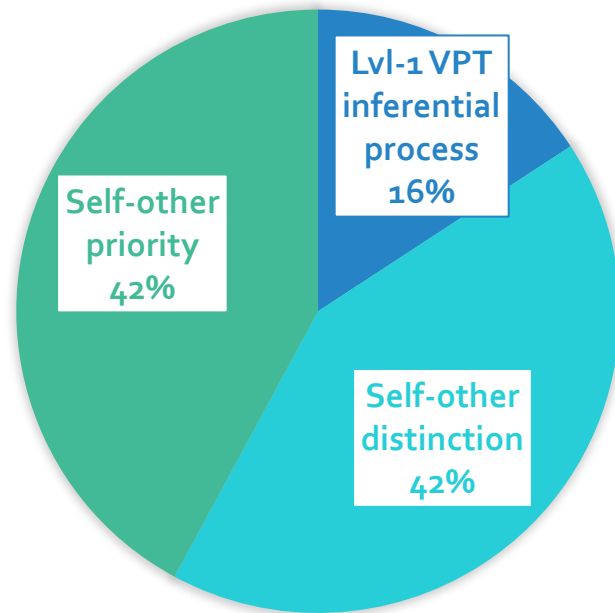
- = eye gaze processed into knowledge about whether a person sees an object
- Year 1: start to follow where others' eyes are looking (Hood, Willen, & Driver, 1998)
- Present in non-human animals (Moll & Tomasello, 2006 ; e.g., dogs, marmosets, goats, some birds species)
- considered as the most basic, modular, first-developed mentalizing process (Flavell, 2004; Baron-Cohen, 1995)

- **Highly efficient** computation (> self-perspective computation)
- Altercentric bias + advantage for the other perspective
- Whether it is mentalising = debated
- **Universal – homogenous** across individuals ?

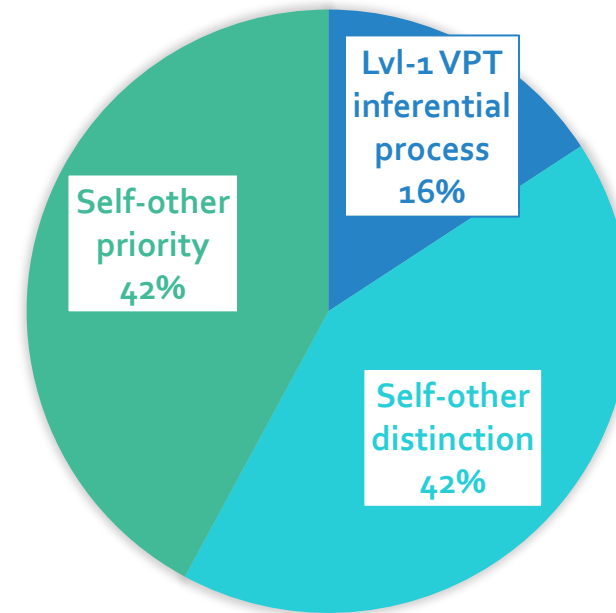


What is wrong about the egocentric and altercentric biases?

ALTERCENTRIC BIAS



EGOCENTRIC BIAS



If someone shows a **high altercentric bias**, we have no idea whether it's because he is **attentive to others** (= adaptive feature)
OR he **struggles to resolve interference** (= maladaptive feature)