

Mentally switching between levels of abstraction is cognitively costly

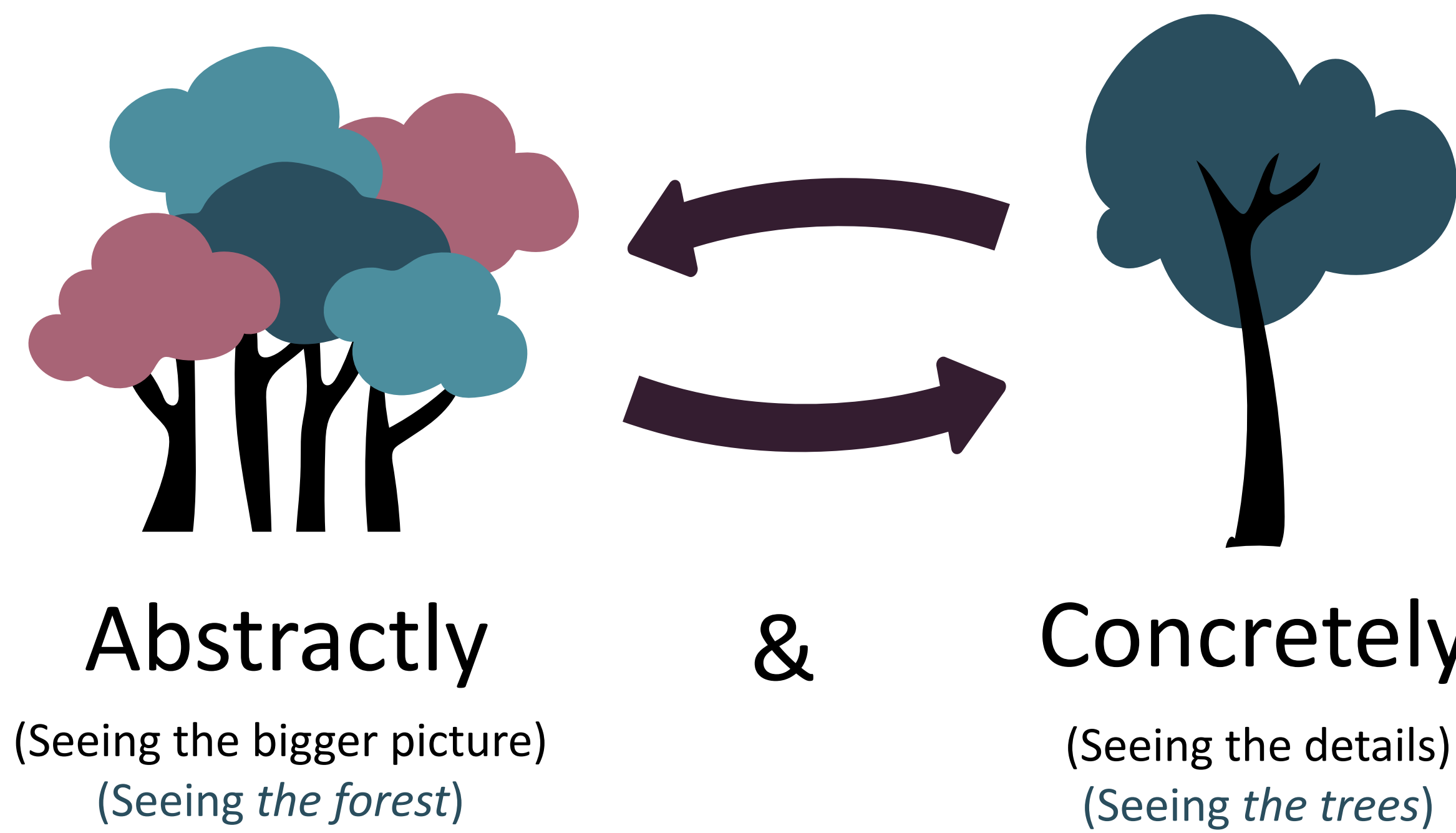


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Introduction

Numerous daily tasks require shifting between thinking



Despite extensive psychological research on abstract thinking and its underlying mental capacities, little is understood about how people dynamically *switch* in and out of abstract thinking.

For example, organizing an event might involve switching between envisioning abstract plans and executing concrete details.

Research Questions

Is switching between levels of abstraction (i.e., construal levels) cognitively costly?

Do people who tend to think more abstractly (vs. concretely) experience greater cognitive cost when switching away from abstract (vs. concrete) thinking?

Methods

- **Behaviour Identification Form (BIF):** measure on how abstractly people generally think
- **Category-Exemplar task:** reaction time (RT) measure when construing items at an abstract level or a concrete level

Key Takeaways

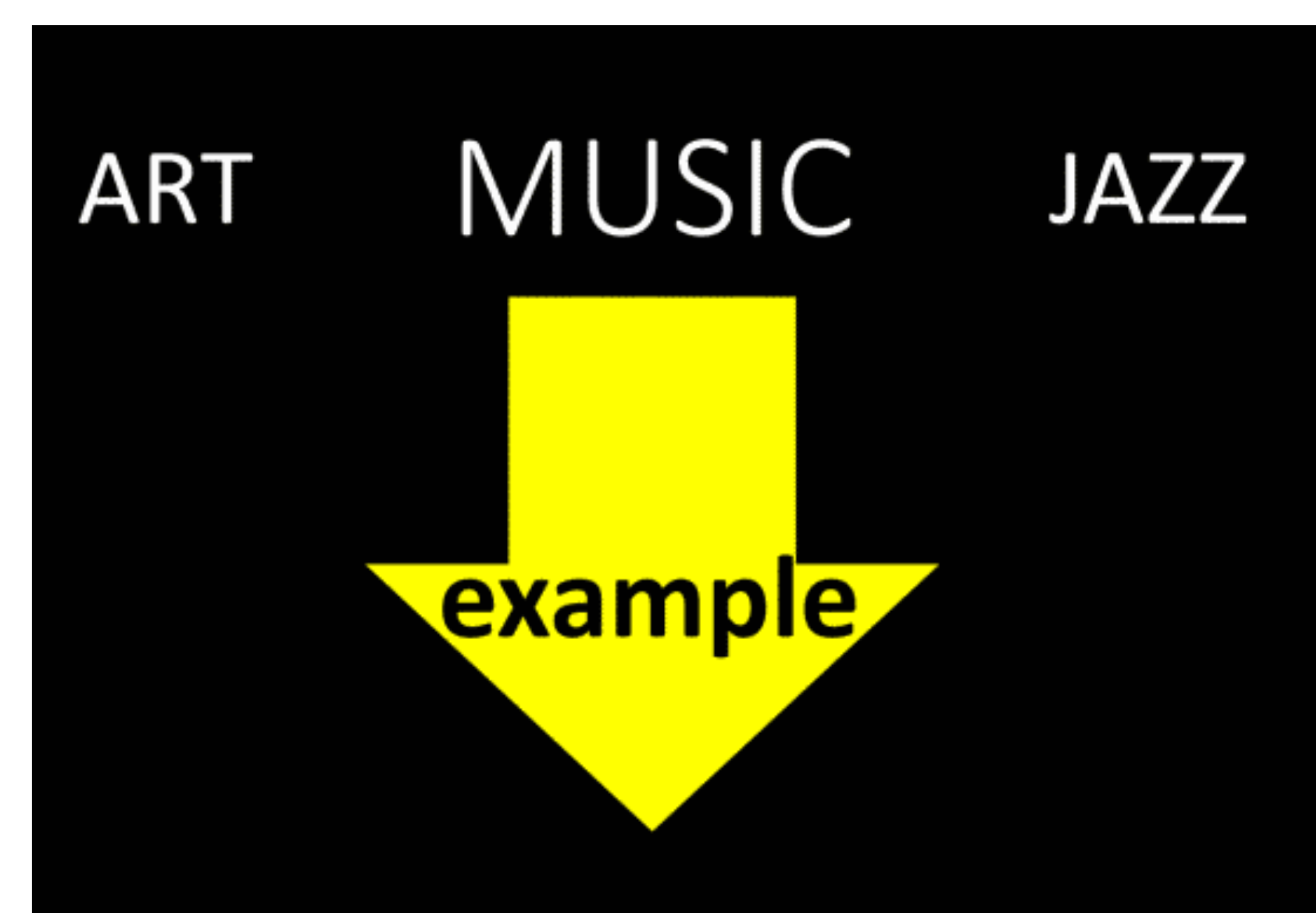
- ★ Switching between construal levels is cognitively costlier
- ★ Switching from thinking abstractly to concretely (and vice versa) may be similarly challenging for everyone, regardless of how abstractly people tend to think

Category-Exemplar Task

On each trial, participants are asked to identify a *category* (abstract thinking) or an *exemplar* (concrete thinking)



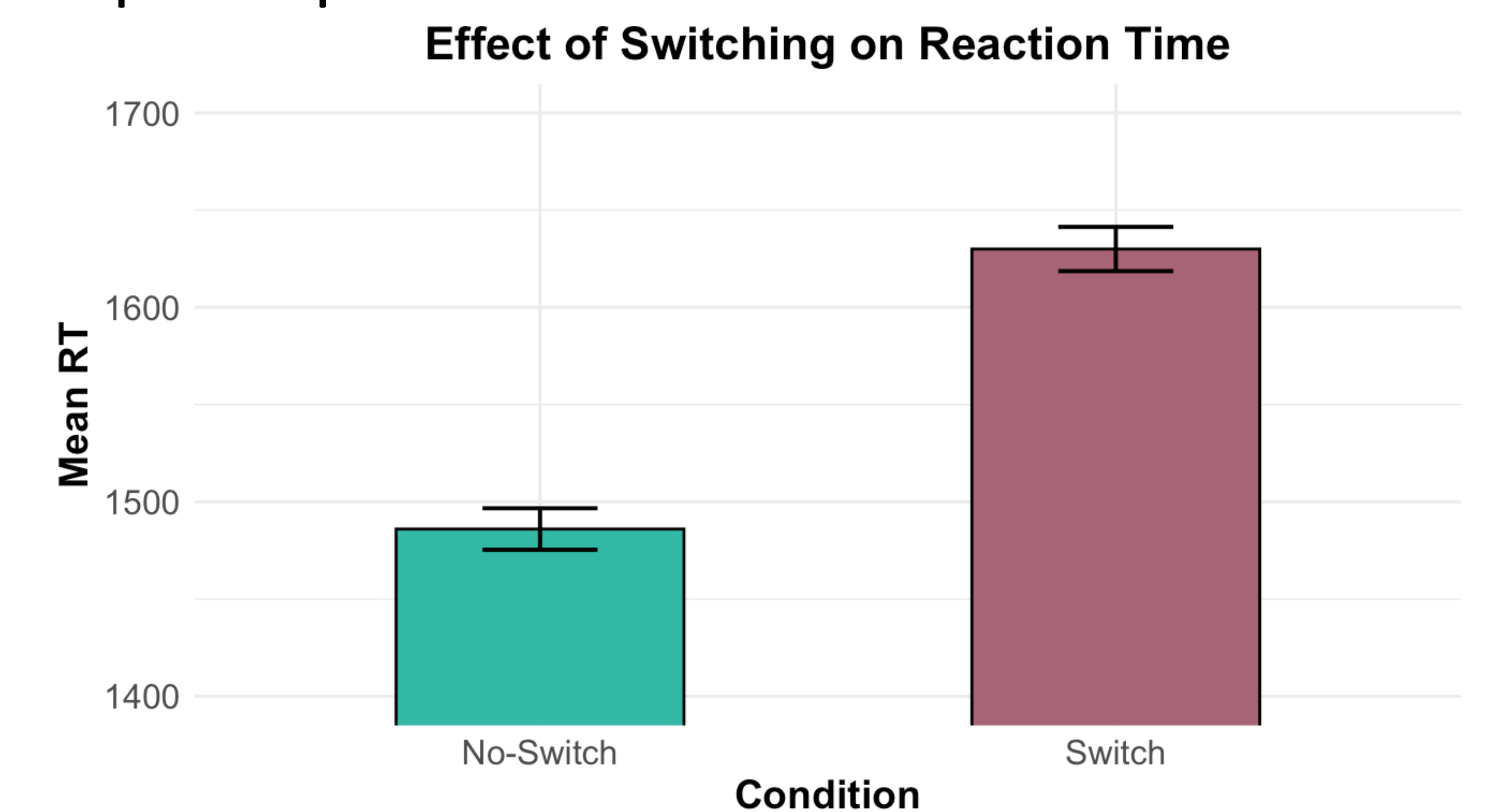
- Participants are asked to identify which *category* "MUSIC" would fall into, "JAZZ" or "ART"
- The correct answer would be "ART" (thinking *abstractly*)



- Participants are asked to identify which would be an *example* of "MUSIC," either "JAZZ" or "ART"
- The correct answer would be "JAZZ" (thinking *concretely*)

Results

- 985 participants were recruited

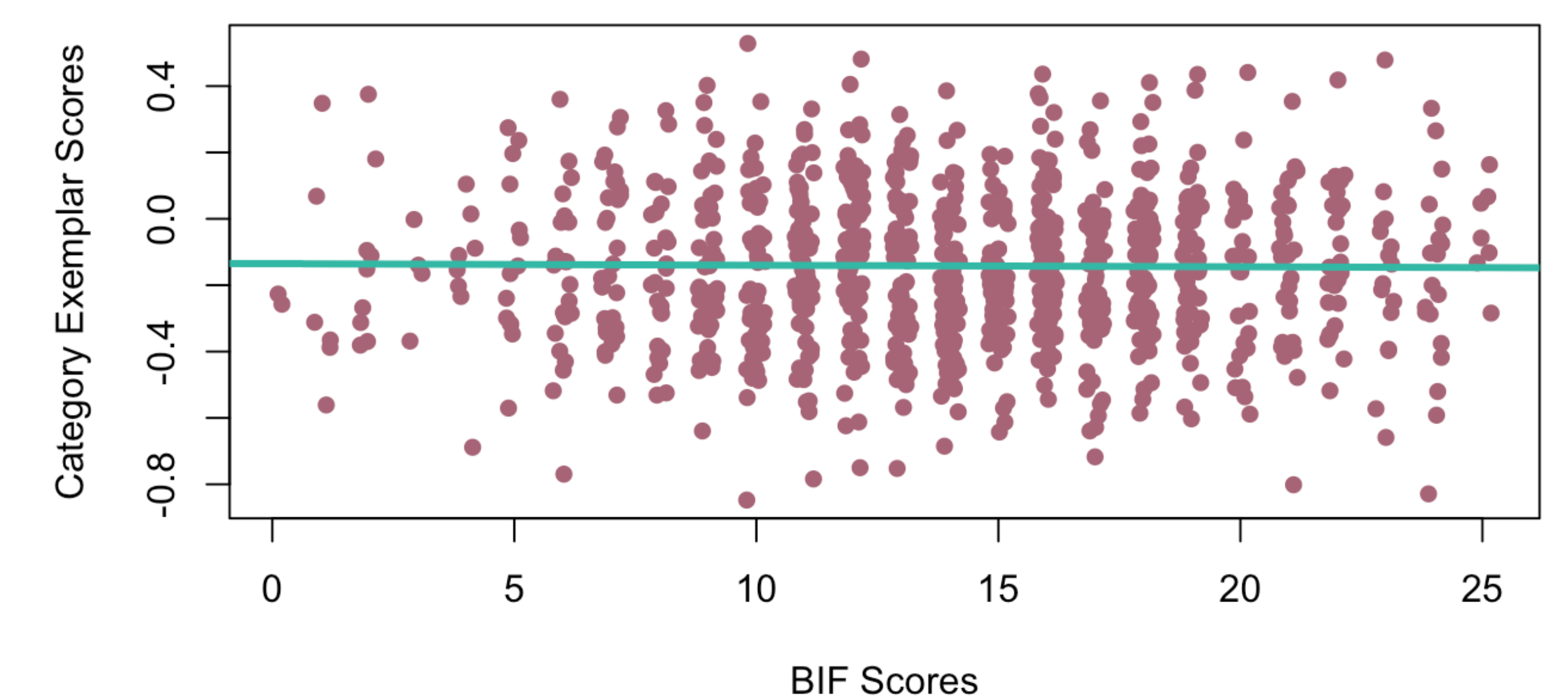


Repeated measures ANOVA: Switching construal levels took longer ($M = 1630$ ms, $SD = 357$) than staying at the same level ($M = 1486$ ms, $SD = 335$), $F(1, 924) = 1356.86$, $p < .001$, $\eta^2 = .04$.

- Results on the Category-Exemplar Task suggested that switching between construal levels (i.e. from abstract to concrete and vice versa) was cognitively costlier than no switching

Category Exemplar and BIF Scores

$b = 0.00$, $p = .701$



- A person's tendency to think abstractly/concretely did not predict the cognitive cost of construal level switching (compared to no switching)
- No significant relation between participants' tendency to think at certain levels of abstraction and their ability to switch out of the level at which they tend to think