Let's talk structure

the positive outcomes of structural thinking

Marianna Y. Zhang, Linda Liu & Ellen M. Markman

Department of Psychology, Stanford University

How should we think about social disparities?

Inherent thinking (attributing to groups' inherent features, e.g., biology) is problematic. Is cultural thinking (attributing to groups' shared beliefs/values) also problematic? Could structural thinking (attributing to groups' shared external context) be better?

inherent thinking biological cultural shared shared biology beliefs/values (e.g., XX (e.g., family-, people-oriented) chromosomes) social disparities (e.g., women working more

shared external context (e.g., experiences of gender oppression)

structural

As culture could also be seen as inherent to a group, cultural thinking may have problematic outcomes. Structural thinking about social disparities may have more positive social outcomes.

7-9yo are just starting to reason about the causes of social disparities they see, and are capable of structural thinking (Peretz-Lange et al., 2021). biological **Exp 1:** US 7-9yo (n=67, ~22/condition, Zoom)

Exp 2: US adults (n=90, 30/condition, MTurk)

Zarpies work as **aquafruit farmers**... ... paid very little... can also be **dangerous**...

Vawns work as **bosses/distribution** managers... earn lots of money....

relatively **low risk**...

structural (government discrimination)

...Zarpies see better in the water than on land... have big hands and feet that are good for swimming... even kid Zarpies have strong bodies...

(physiology)

Zarpies' bodies are good for/well-suited to for farming aquafruit.

...Zarpies have grown aquafruit for a long time/by tradition, Zarpie families teach their children to farm aquafruit, and Zarpies think it is really important to live by the ocean...

cultural

(traditions/values)

low-paying jobs)

Zarpies' traditions and values are good for/well-suited to farming aquafruit.

adults: required by this island's 7-9yo: rule on this island that Zarpies have to pay a government to fill out complex and expensive paperwork to be lot of money to become hired in other jobs... bosses...

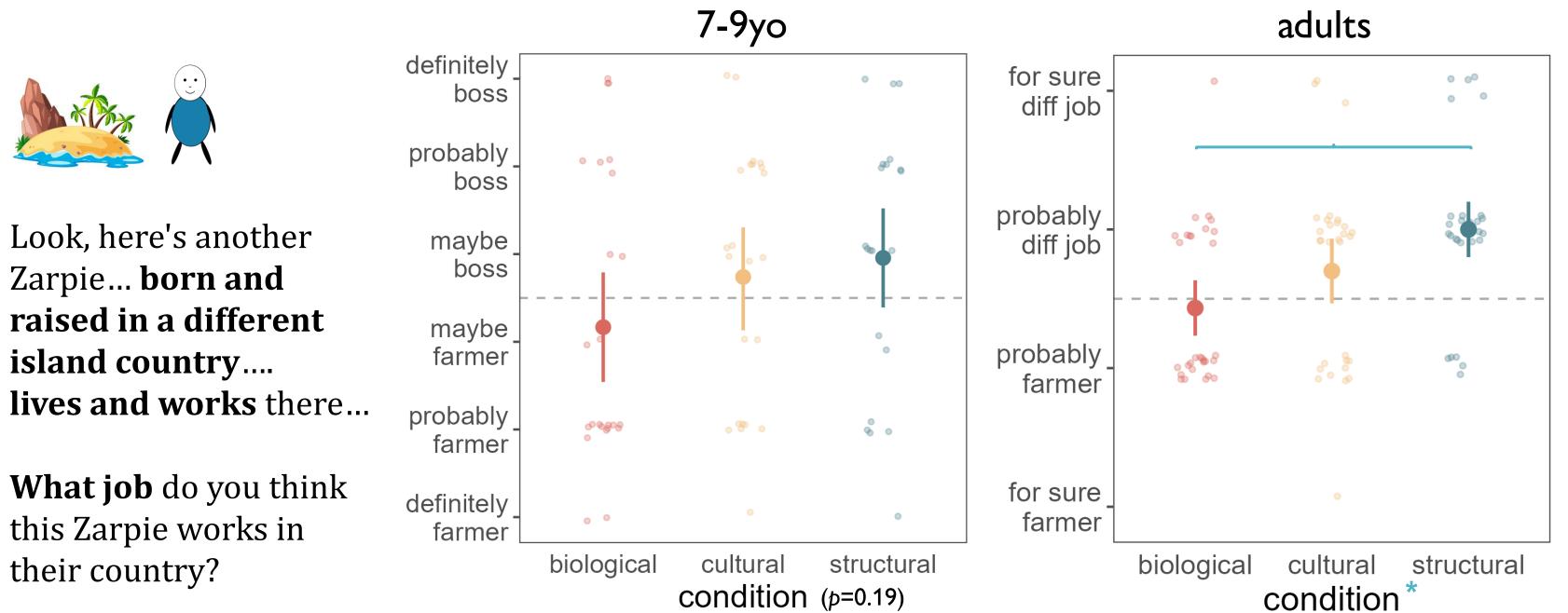
This situation leads Zarpies with little other choice than to farm aquafruit.

low-status Zarpies work as aquafruit farmers. occupation

What is the case

- Inherent thinking leads to wide group-based generalization. (Rhodes & Mandalaywala 2017)
- Cultural thinking might too, as culture is shared across the group.
- Structural thinking could lead to context-sensitive generalization, since similarity of group members depends on members sharing a social context.

adults (maybe children) showed more context-sensitive generalization



Inherent thinking justifies existing group properties as natural/inevitable, so children and adults endorse present disparities. (Hussak & Cimpian, 2015)

What should be the case

- Since structural thinking makes no such claim, structural thinking might allow for opposition to social disparities.

children & adults were less likely to endorse present disparities 7-9yo adults



very bad

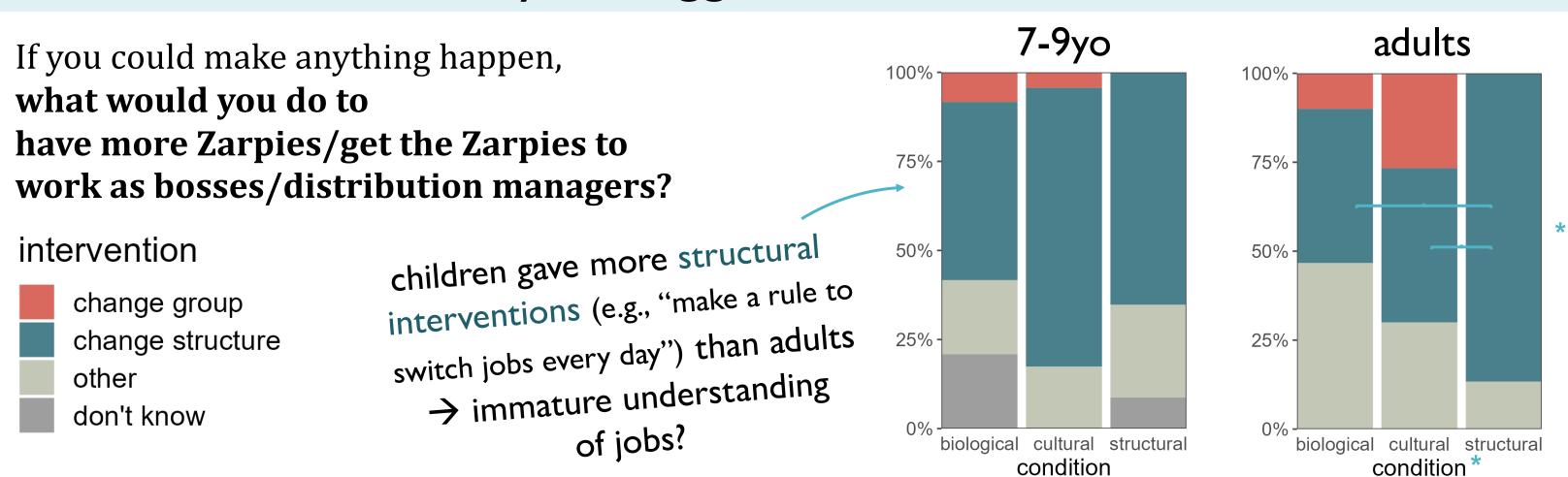
very good pretty good a little a little bad pretty very, very bad condition

- Opposition to disparities might motivate intervention. But how?

How to change the case

- Inherent or cultural thinking might suggest that group must change in some way, while structural thinking might suggest structural interventions.

adults were more likely to suggest structural interventions



condition

structural

Across 3 outcomes

(what is the case, what should be the case, how to change the case),

like working papers

or a visa

structural thinking

shaped adults' (and even children's to some extent) thinking about social disparities for the better.

cultural thinking had an intermediate pattern of outcomes, suggestive of its intermediate status (culture could be seen as more or less inherent).

Future directions

Under what conditions does structural reasoning leads to positive outcomes?

♦ = means with 95% bootstrap Cls = statistically significant difference between means (FDR-corrected) ***** = statistically significant main effect of condition

email web

managers?

marianna.zhang@stanford.edu mariannazhang.github.io

paper lab

CogSci proceedings paper markmanlab.stanford.edu

funding

Stanford Graduate Fellowship in Science & Engineering (MYZ) PsychSummer Research Program (LL)