Manipulating Flow States With Audio Delays: Early Results

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SCAN HERE for future updates on this research

Background

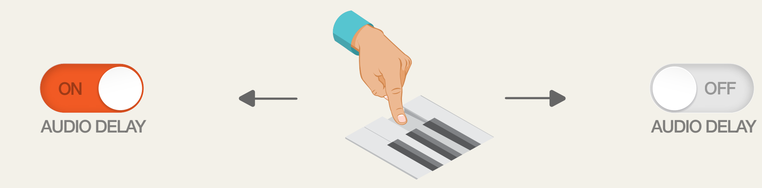
Making and performing music often fosters flow states, where **skilled actions feel fluent, effortless, and enjoyable.**[1,2]

However, consistent neural correlates of flow remain elusive, highlighting the **need for innovative designs.**[3,4]

Common Design

- Flow experiments often compare **extreme task speeds** (anti-flow) with **optimal, skill-balanced speeds** (pro-flow).
- This may introduce motor/visual variance that obscures flow-specific neural correlates.

Our Design



- This study (ongoing) uses **identical, optimal, participant-selected speeds** in both task conditions.
- Audio feedback from piano keypress's in the control condition are **randomly delayed** (0-350ms) to disrupt flow.

Participants

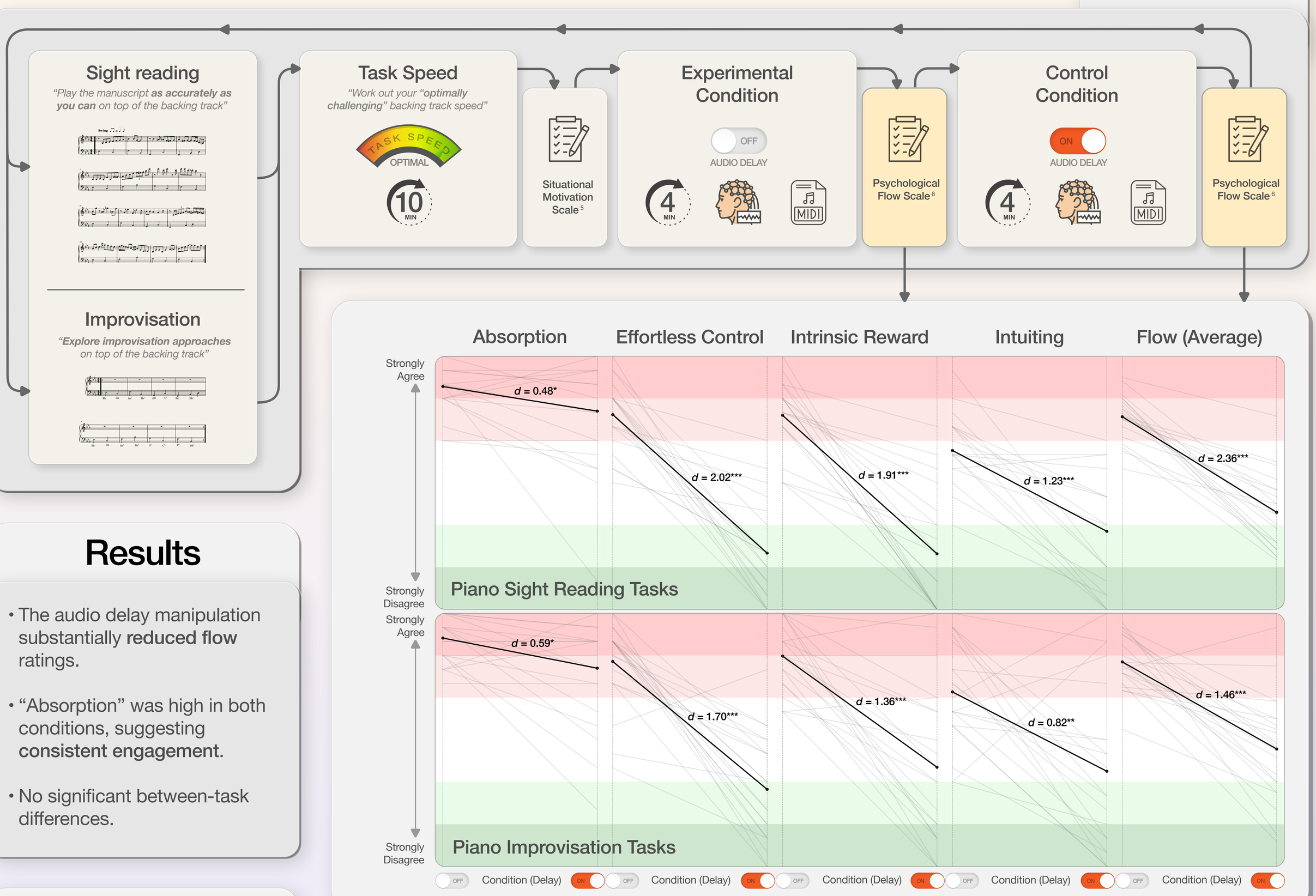
20 Pianists

11M/9F; Age 19-64 M=31(12.3)

≥3yrs experience

Piano sheet reading + improvisation

Procedure



Results

- The audio delay manipulation substantially **reduced flow** ratings.
- "Absorption" was high in both conditions, suggesting **consistent engagement.**
- No significant between-task differences.

Discussion

Strong efficacy for a novel experimental manipulation of flow states that retains high engagement across tasks.

Delayed audio feedback during piano sight reading and improvisation tasks **substantially disrupts flow.**

Next, we plan to double our sample and analyse **EEG, MIDI, and Tetris data** (included but not discussed here).

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