

Research Plan - Why Are Active Music Making and Executive Functions Related? Testing the Roles of Sensory Discrimination and Fluid Intelligence



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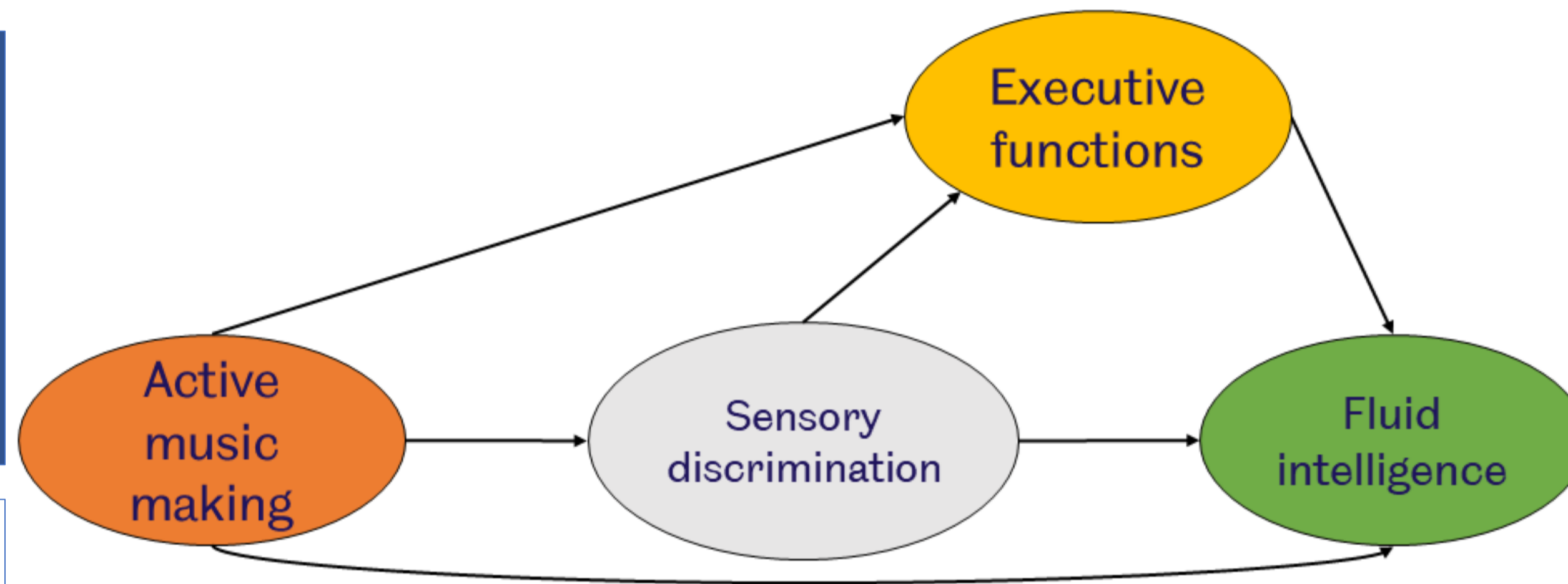
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Research Question

How is active music making related to sensory discrimination, executive functions, and fluid intelligence?



Planned Analysis

A serial mediation analysis using structural-equation modelling.

Outlook

Future studies are needed to determine the causal direction of these variables.

Background

- **Active music making** is positively related with **executive functions** (Okada & Slevc, 2020), but the mechanisms underpinning this relationship are yet unclear.
- Studies found that musicians have better **sensory discrimination** (Hyde et al., 2009) and **fluid intelligence** (Meyer, Oguz, & Moore, 2020).

Method		
Active Music Making <ul style="list-style-type: none"> • Goldsmith Musical Sophistication Index (Gold-MSI) • Melodic discrimination testing • Computerised Adaptive Beat Alignment Test (CA-BAT) 	Participants At least 250 young, normal-hearing adults will be recruited (Schönbrodt & Perugini, 2013)	Fluid Intelligence <ul style="list-style-type: none"> • Raven's Advanced Progressive Matrices <ul style="list-style-type: none"> • Letter sets • Number series
Executive Functions <ul style="list-style-type: none"> • Inhibition: Simon, go/no-go, and stop-signal • Shifting: Shape/colour, animacy/size, and parity/magnitude switching • WM updating: Colour, letter, and number keep-track 		Sensory Discrimination <ul style="list-style-type: none"> • Visual discrimination: Line, circle, and visual duration discrimination • Auditory discrimination: Pitch, loudness, and auditory duration discrimination

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References & Further Info:

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