

BACKGROUND

- Skilled musicians often report states of *flow* during highly enjoyable and immersive (solo and group) performances
- Flow:** a mental state of complete absorption and enjoyment in a challenging, goal-directed task, characterized by effortless control of action (Csikszentmihalyi, 1990)
- Previous research has treated flow that occurs alone and in groups as a single construct, using the same measurement techniques and theory for both situations
- However, interpersonal interaction and shared goals that underpin successful group coordination can give rise to experiences unavailable to individuals acting alone
- Therefore, flow states arising in groups require a distinct conceptualization (Hackert et al., 2022)
- Group flow theory** extends flow to the group context, positing that immersive and enjoyable group experiences can take on different qualities from individual flow (e.g., sense of unity) that depend upon different antecedents (e.g., group coordination)
- Little empirical work on group flow accompanies the growing and disjointed set of (often conflicting) theories and definitions (Pels et al., 2018)
- Furthermore, group flow theories attempt to account for a variety of situations (e.g., musical ensembles, team sports, group brainstorming).
- Group music-making requires skill, keen awareness of others, and precise temporal coordination, making it unique to other types of group interactions and an excellent case for the study of group flow experiences

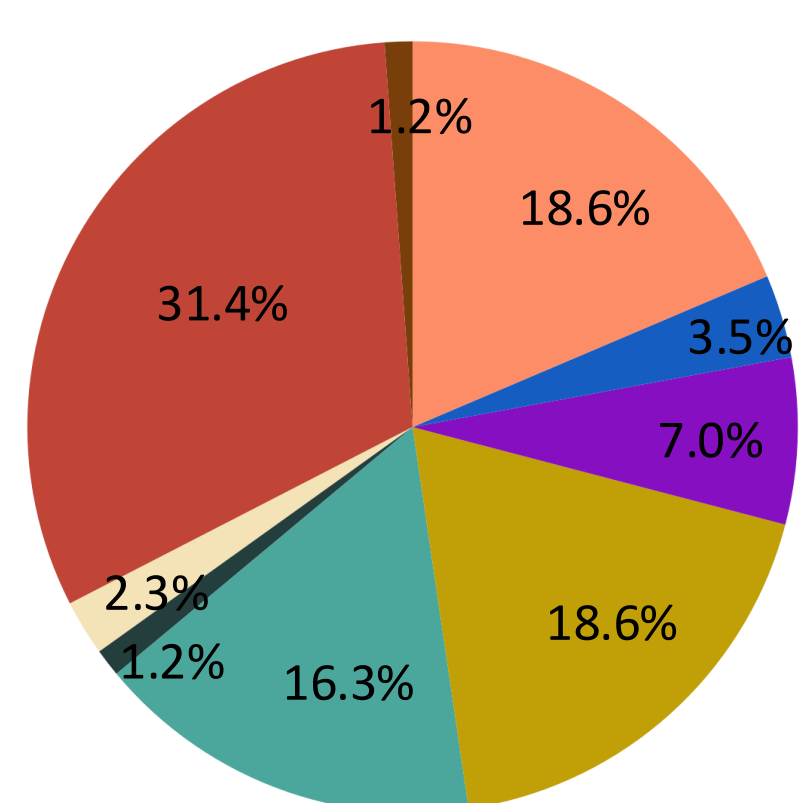
Study aims:

- Empirically investigate the components of subjective experiences in peak group musical performance states.
- Use a data-driven approach to develop a survey to measure group flow in musical interactions.

METHODS

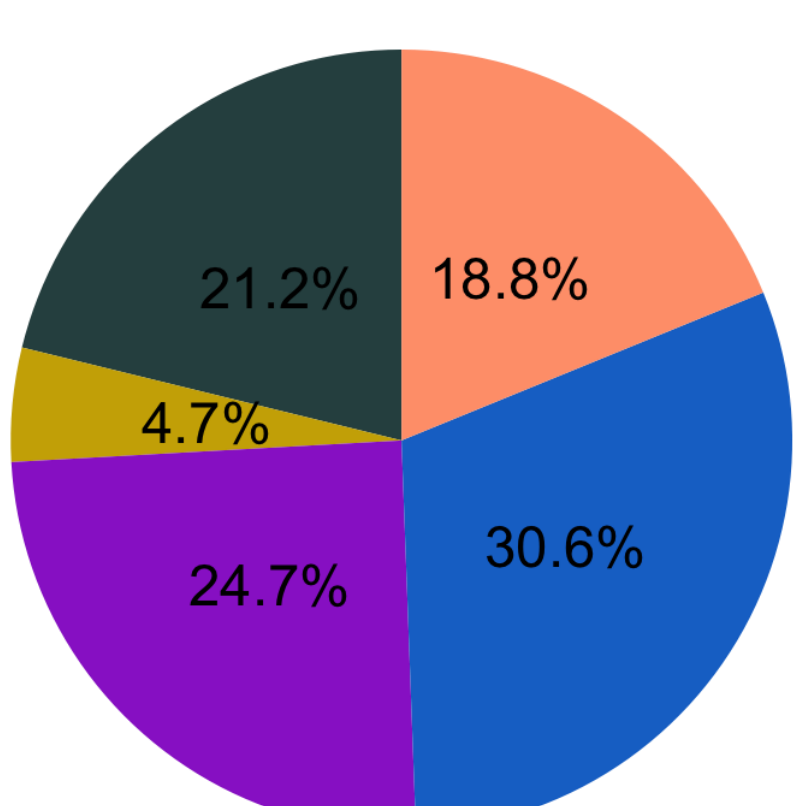
Online survey soliciting free-form written descriptions of one peak group musical experience

- Participants:** 86 self-professed group musicians (42 male, mean age 31.7) from 17 countries, recruited from the online study platform Prolific
 - 27% were professional musicians
 - 49% reported at least some improvisation during their performance
 - 76% played for an audience (average size = 190)
 - Group size ranged from 2 to 150, with most playing in groups of 4
 - 14% had experience with non-western musical styles
- Prompt:** "Think of a particular instance of group music playing in which you experienced a shared mental state of absorption and highly enjoyable group performance."
 - What did you experience while interacting with your group?
 - How did you feel toward the other members of your group, and how did the group interaction affect your experience?
 - What stood out the most? What were you most aware of?



Group Context

- Church band
- Informal jam sessions
- Jazz or brass band
- Live electronic music (DJing)
- Orchestra
- Other
- Religious or ceremonial group
- String quartet
- Touring or performing band



Improvisation

- A combination of these
- Our performance was entirely improvised
- We played according to a structure, but improvised over it
- We played entirely from a score
- We played memorized parts

INDUCTIVE THEMATIC ANALYSIS

Example excerpts and codes for five of the seven themes:



THEMES

Group cohesion: Strong sense of unity and connection, feeling "in tune" / "in harmony" with others

Fluid interaction: Seamless coordination, mutual adaptation to and anticipation of others, shared performance goals

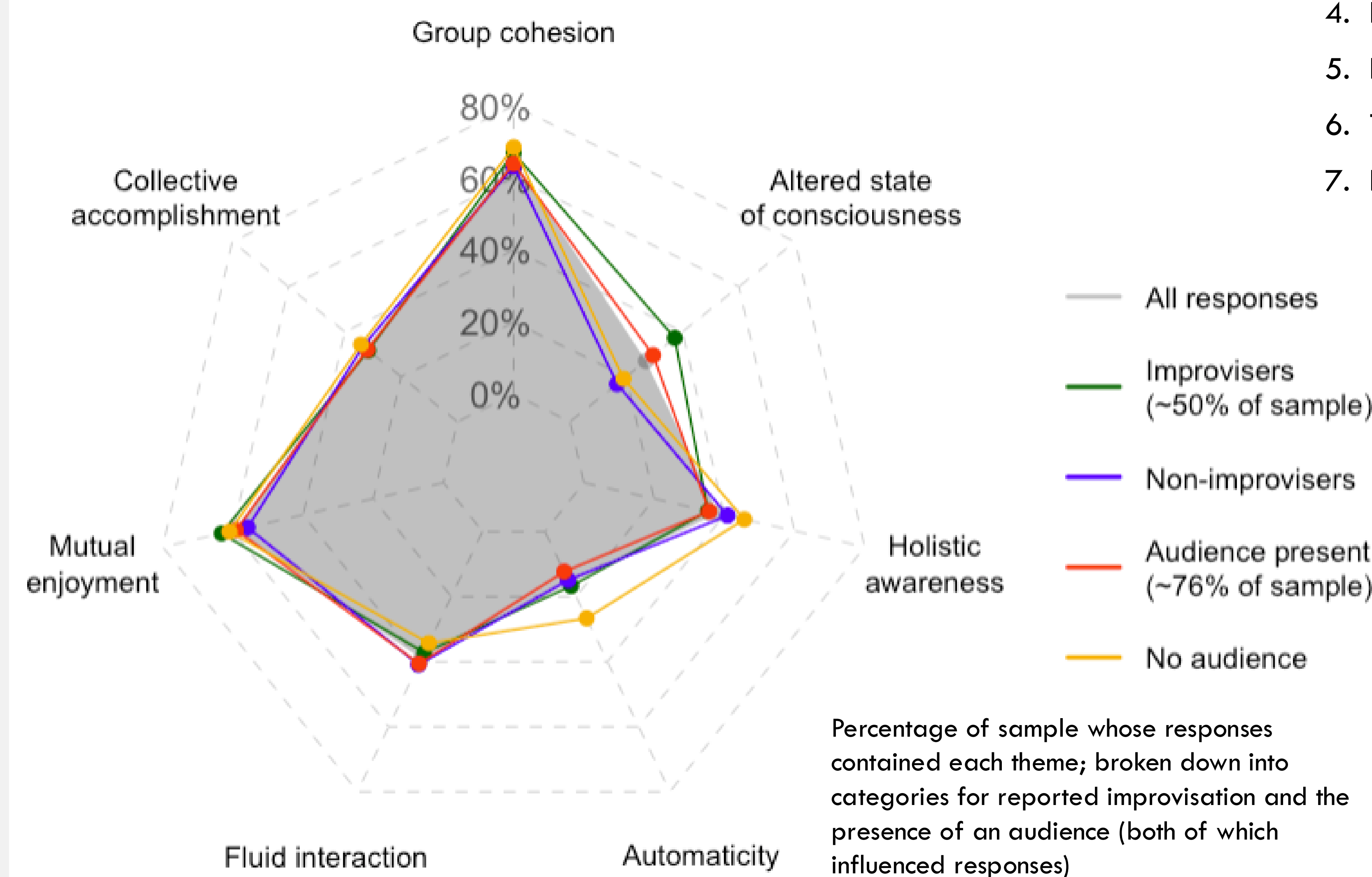
Collective effort: Sense of shared accomplishment and pride in the performance, equal participation, mutual appreciation of one another

Holistic awareness: Awareness of the collective sound as a whole

Automaticity: Actions feel automatic and effortless, "playing without thinking"

Mutual enjoyment: Shared joy and excitement, the perception that others were also enjoying the performance

Altered state of consciousness: Changes in self-awareness and time perception, experiencing euphoric, trance-like states



FURTHER DIRECTIONS

The seven major themes aligned well with current theoretical frameworks (e.g., (Sawyer, 2006; 2017) and (Lavoie et al., 2024)).

The type of musical performance (level of improvisation vs. memorized playing) and context (presence of an audience) influenced the themes that each description contained. **Improvisers** were more likely to report an altered state of consciousness, and those playing for an **audience** were less likely to report automaticity.

The themes were used to develop a set of **~70 Likert-style survey items**. We plan to gather responses from a large online sample, conduct dimensionality reduction and create a short musical group flow survey. Examples of survey items:

- I felt a strong sense of unity and connection with my fellow musicians.
- We were able to easily adapt to each other's playing real-time.
- Everyone in the group contributed meaningfully to the performance.
- I was aware of the entire sound of the group.
- I felt our performance flowed seamlessly, without conscious effort to control my actions.
- There was a mutual sense of exhilaration shared amongst all the group members.
- I experienced a lack of boundary between myself and the other musicians.

References and Acknowledgments

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Use QR code for samples of responses and additional info:

