

Speak in Sync: Linguistic Synchrony and Well-being



Presented by Shirley Mingye Li
Emotion and Behavior Lab

General team

new-hires

A friend you know



Sara Parras 9:02 AM

Welcome to the team! We are so glad you're here.
Check out this onboarding doc to get started 😊.



Lisa Zhang 1:52 PM



Linguistic Synchrony - Reciprocal alignment of linguistic features

Language Style Matching (LSM)

Similarity in the use of **function words** (Niederhoffer & Pennebaker, 2002; Ireland et al., 2011).

- Function-word :
 - Pronouns: I, you, we ...
 - Articles: the, a, an ...
 - Prepositions: in, on, at ...
 - Conjunctions: and, but, or ...
 - Auxiliaries/Negations: is, have, not

Semantic Textual Similarity (STS)

Similarity in **meanings** discussed (Fusaroli et al., 2012).

- Semantic features:
 - Shared concepts
 - Thematic overlap
 - Mutual references
 - Polysemy
 - Idiomatic expressions
 - Complex syntactic structures

Research Gap

- While prior work links **linguistic synchrony** to rapport, we lack empirical tests of how these alignment processes differ when users are **exploring vs. exploiting** social connections, and how they affect immediate **well-being**.
 - Stable dyads (e.g. romantic partners, therapy) and long-term outcome (Baumeister & Leary, 1995; Doré & Morris, 2018)
 - Educational or task contexts (Fusaroli et al., 2012)
- How does language adaptation affect short-term psychological outcomes?

Hypotheses

- H1: Linguistic synchrony will systematically vary with exploration vs. exploitation goals in online communication.
- H2: Higher linguistic synchrony in online communication predicts stronger social connections and better well-being.

Methodology

Search or enter website name

Messages

Sort by Newest ▾

- Panda How are you doing?
- Hare ... is typing
- Monkey you: Hi, how are you!
- Deer Awesome!
- Pig Good idea 😊
- Cat you: Literally 1984 😊
- Bear
- Dog
- Vivienne Westwood

Hello! How's your school year going?

Hi, it's going great. I'm taking social psych and I like it a lot 😊

Type your message here..

Send message

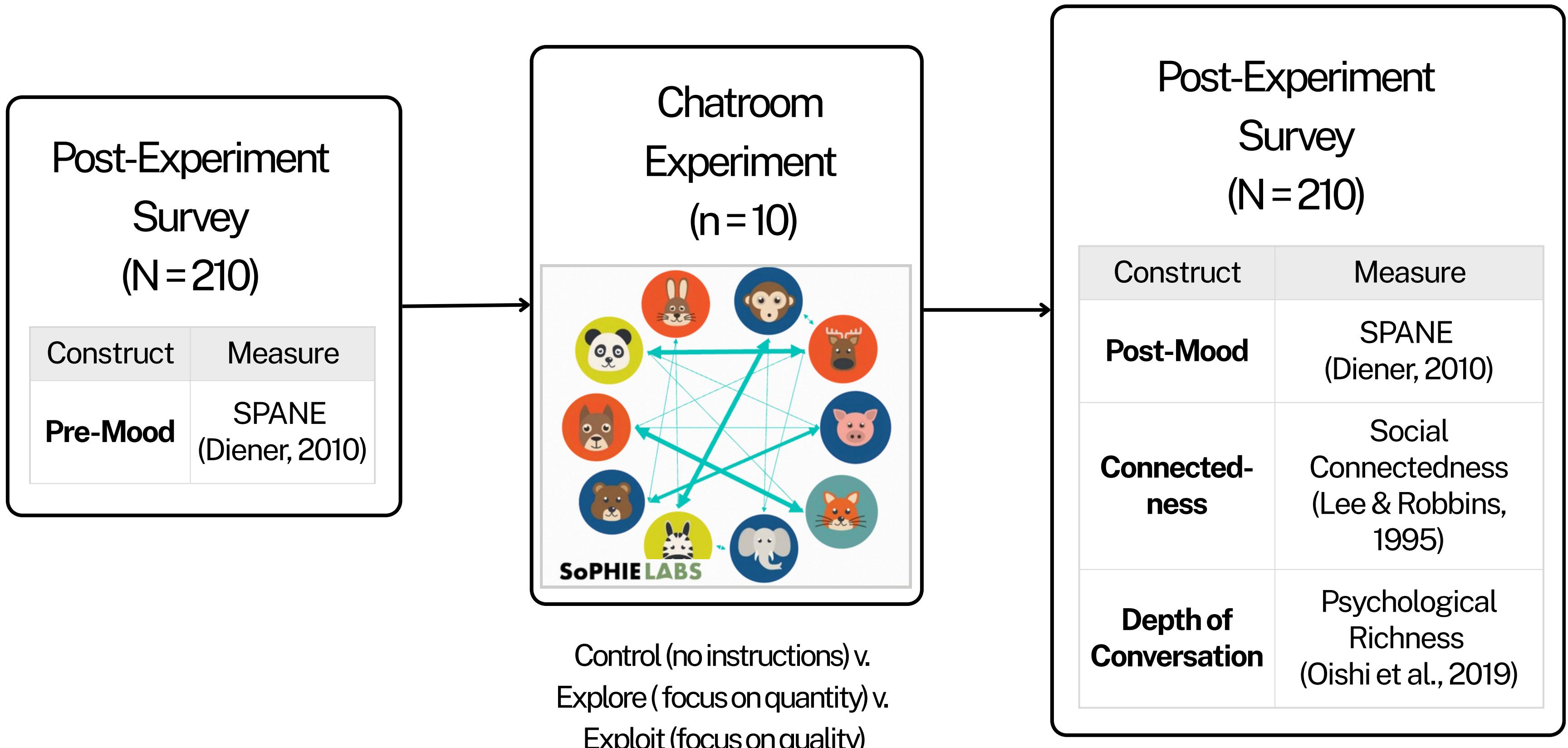
SoPHIE LABS

Average Unique Connections per Condition

Condition	Average Number of Connections
Explore (Quantity)	7.90
Exploit (Quality)	6.19
Control	5.61

Manipulation Check

Methodology



Compute Language Style Matching (LSM) (Niederhoffer & Pennebaker, 2002)

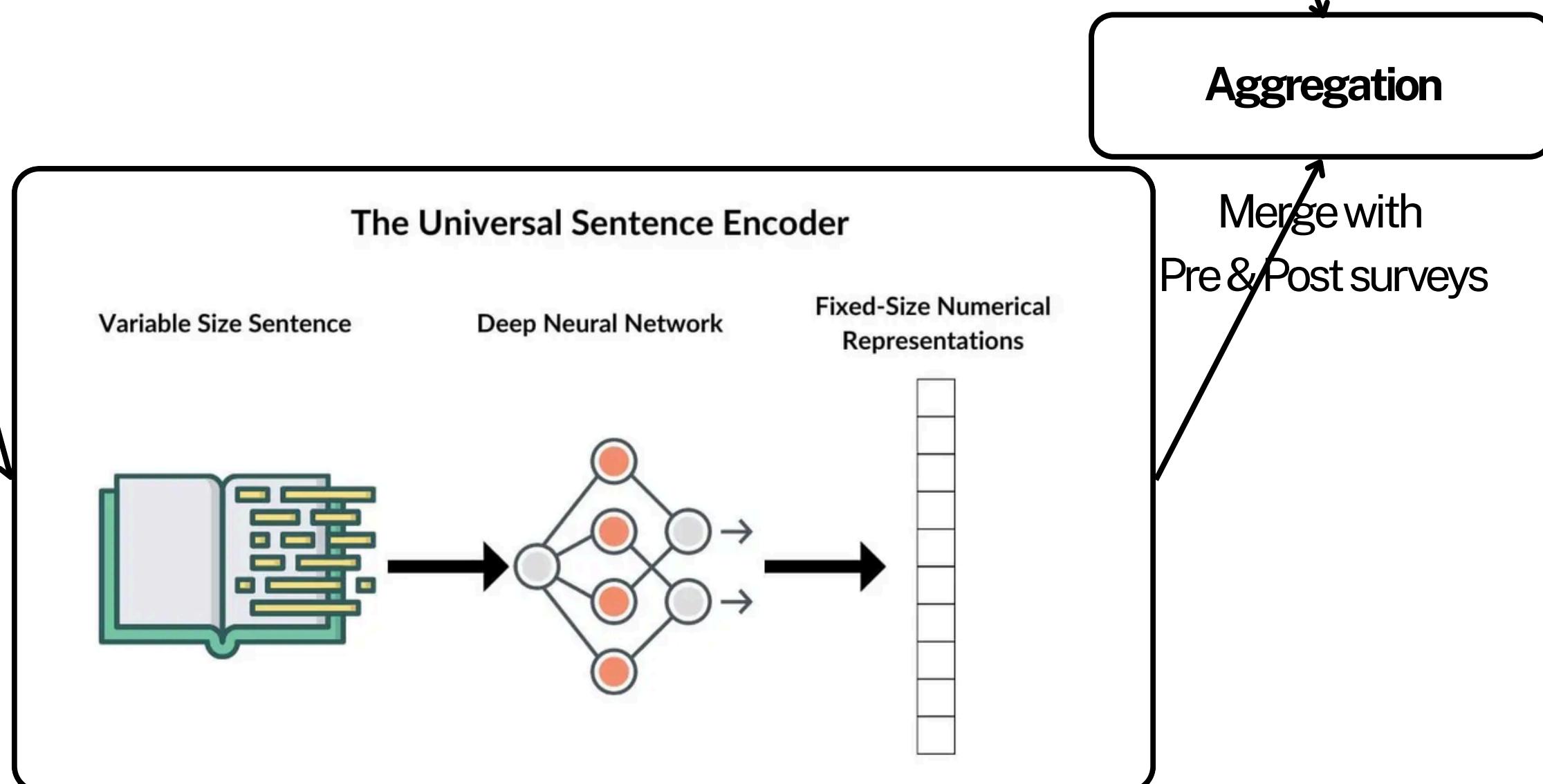
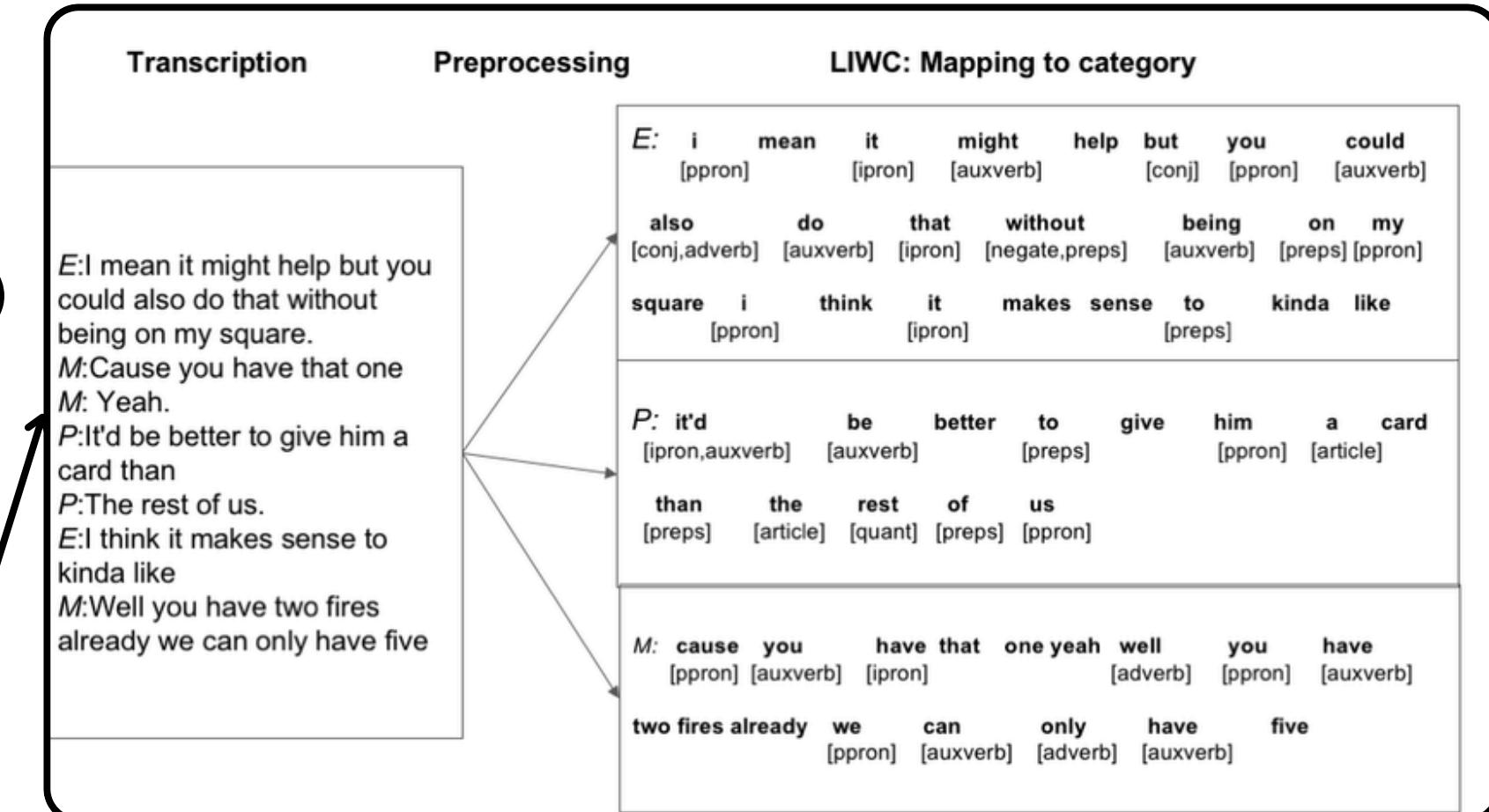
Data Ingestion

Lowercase,
remove URLs,
typos

Thread Pairing

Group by
chat_id & dyad

Compute Semantic Textual Similarity (STS) (Cer et al., 2017)



Example 1: High LSM (LSM = 0.94)



I'm in research methods! I think I am leaning towards neuro, but I'm still trying to decide between classes. hbu? Are you in neuro or smth else?

Yes, same. I'm in social psych and I'm working on my first hw, and I've been liking it a lot.



Example 2: High STS (STS = 0.78)



Yup! it's been a while but I'm a Hufflepuff and a close second is Ravenclaw

I actually have not, but I kind of want to be Gryffindor, Slytherin on the 2nd place



Example 3: High LSM, Low STS (LSM ≈ 0.98; STS ≈ 0.50)



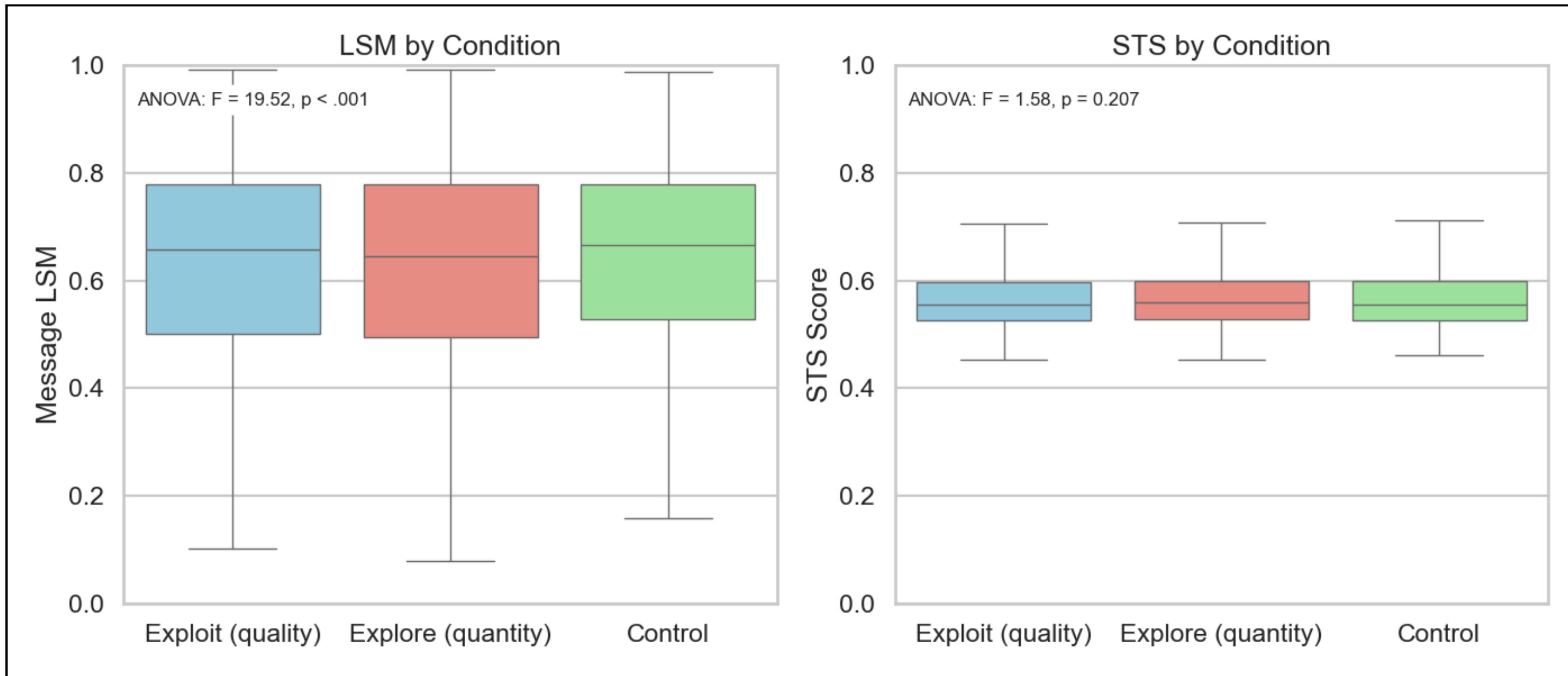
Hi, I'm thinking I might try the new thai place on JPA for lunch. I've heard it's really good, and I'm curious if you've been there yet?

Hey, I don't think so. I'm actually in the middle of writing my paper and I've spent the whole morning revising my intro. I'm hoping I'll finish soon so I can relax.



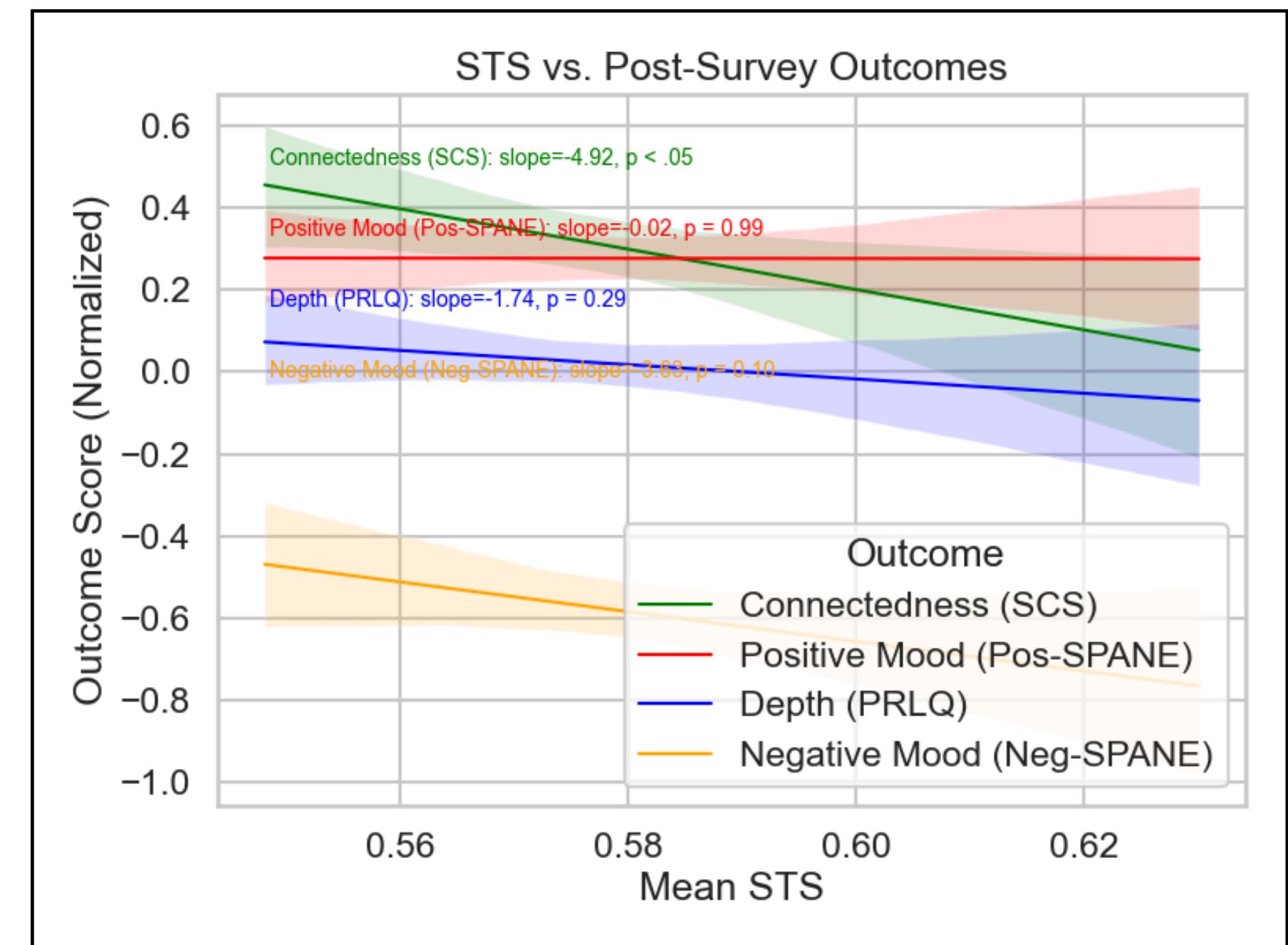
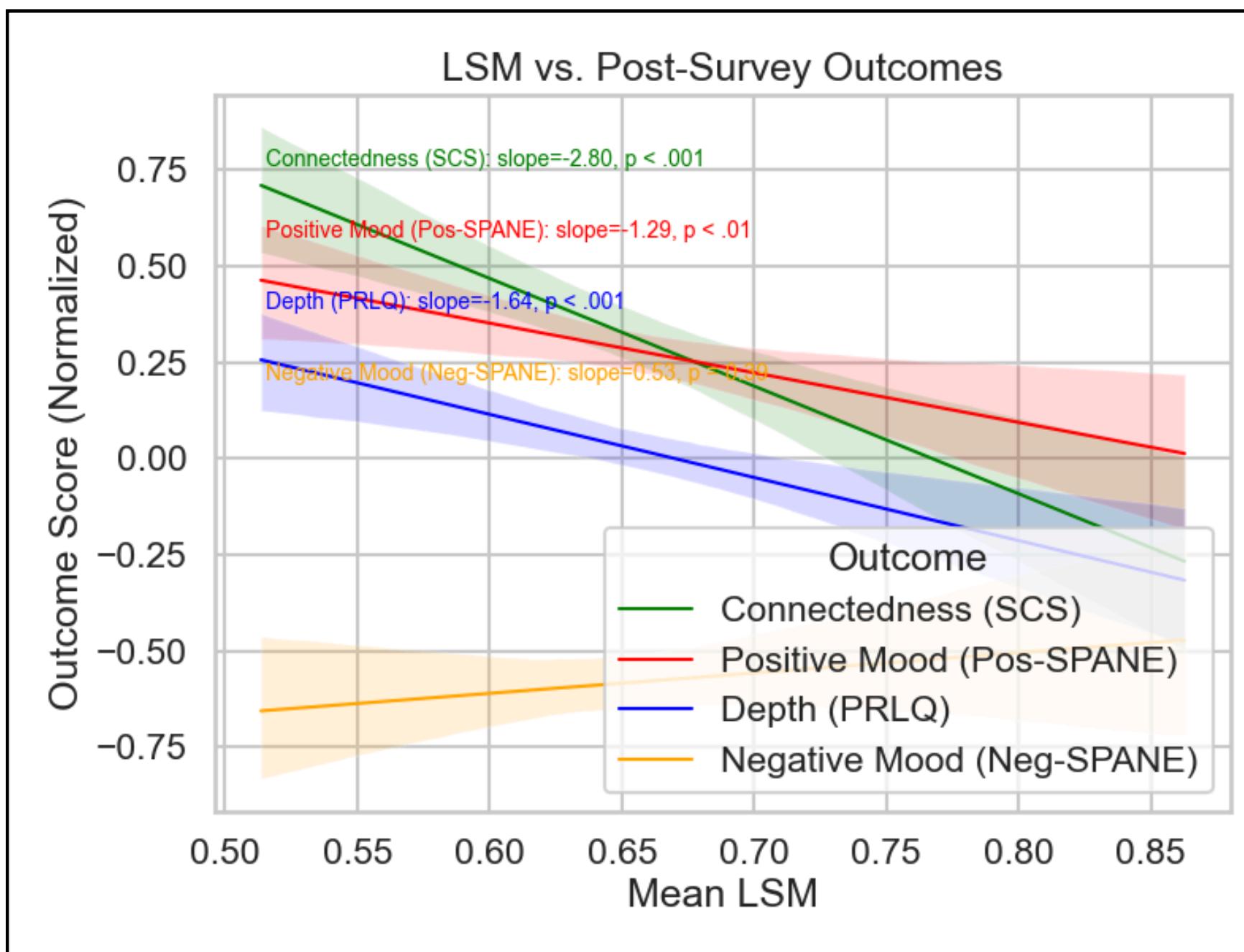
Results - Linguistic Adaptations

- LSM differed by condition: Highest in control, lowest in explore.

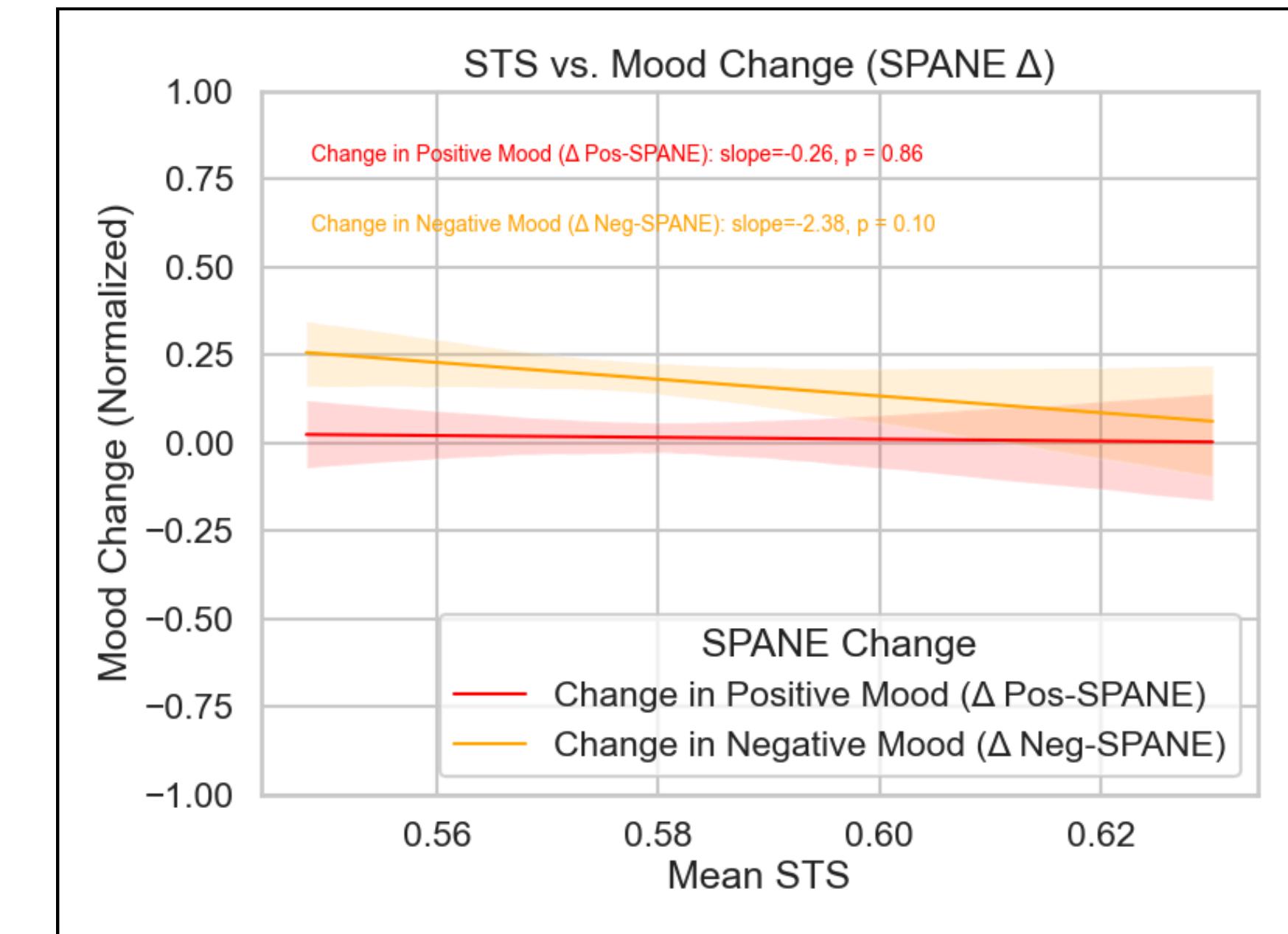
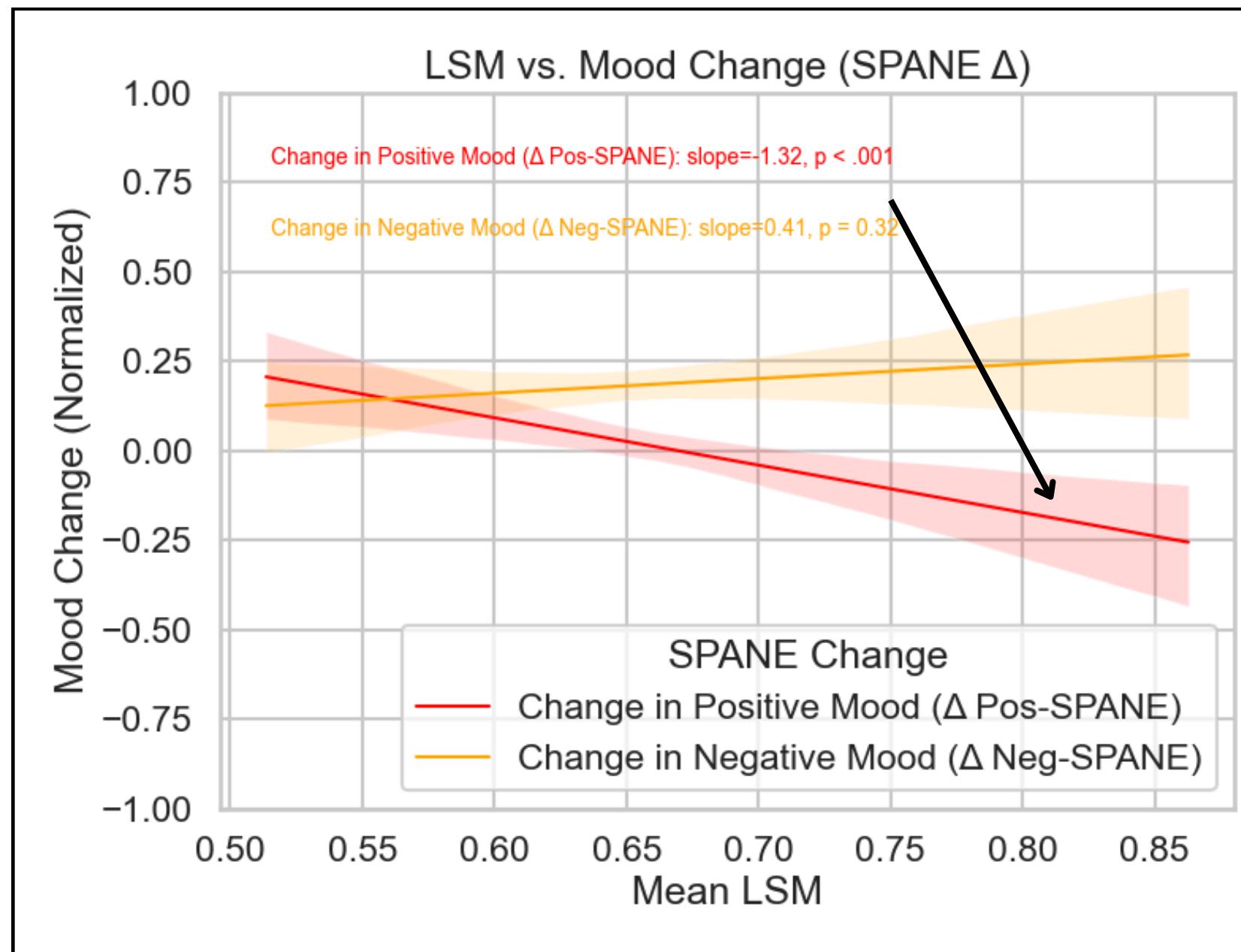


Results – Psychological Outcomes

- Contrary to the usual “synchrony is good” story, higher LSM here correlates with worse social and emotional outcomes across all three measures (SPANE, PRLQ, SCS).



- Participants with higher LSM saw larger drops in positive affect from pre-to post-chat, and no significant change in negative affect.



Discussion

- Higher LSM was consistently associated with worse outcomes, and predicted larger drops in subjective positive experience.
 - High stylistic synchrony might reflect superficial politeness rather than genuine rapport.
- Future Directions
 - What role do individual differences play in responses to linguistic synchrony?
 - Does conversational context (e.g., topic depth, platform norms) matter?
 - Is there an optimal level of synchrony?

Thank you

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