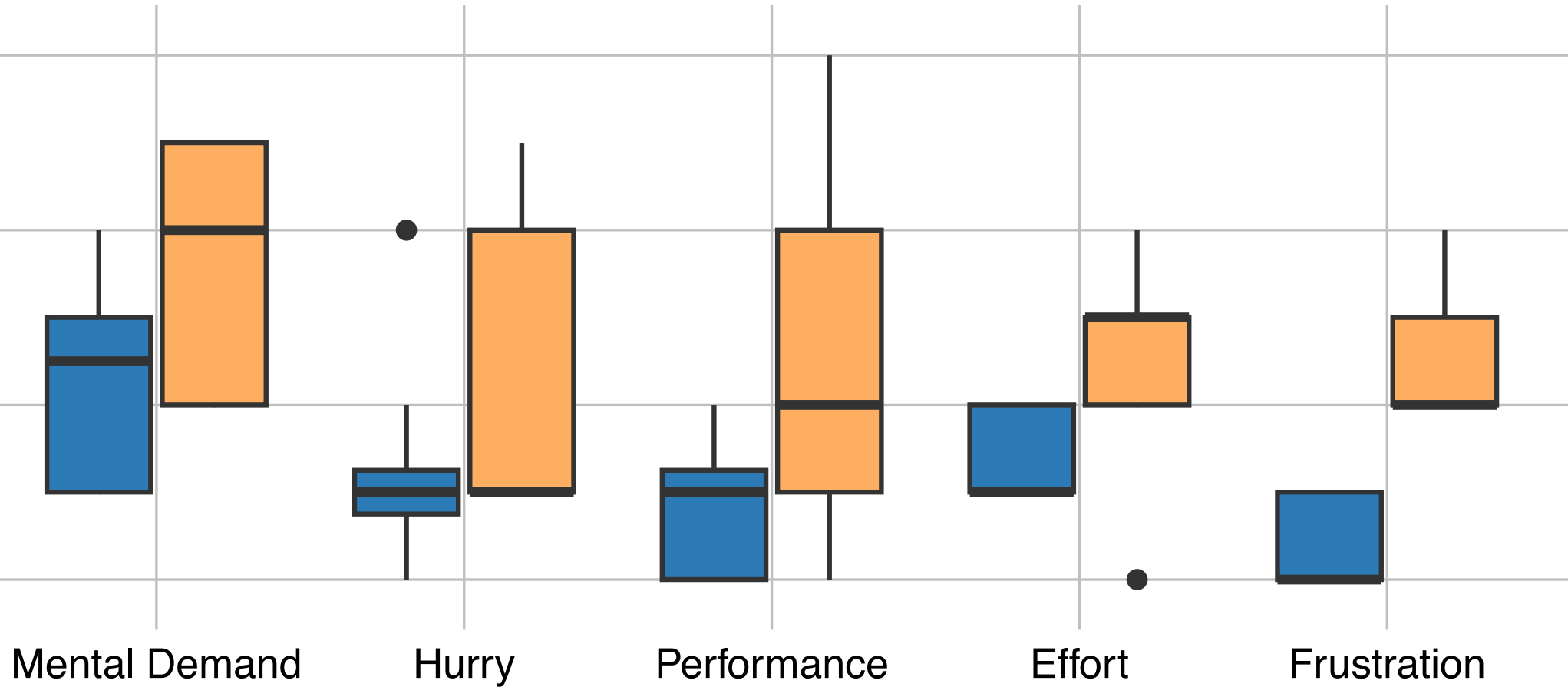
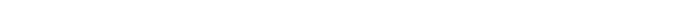


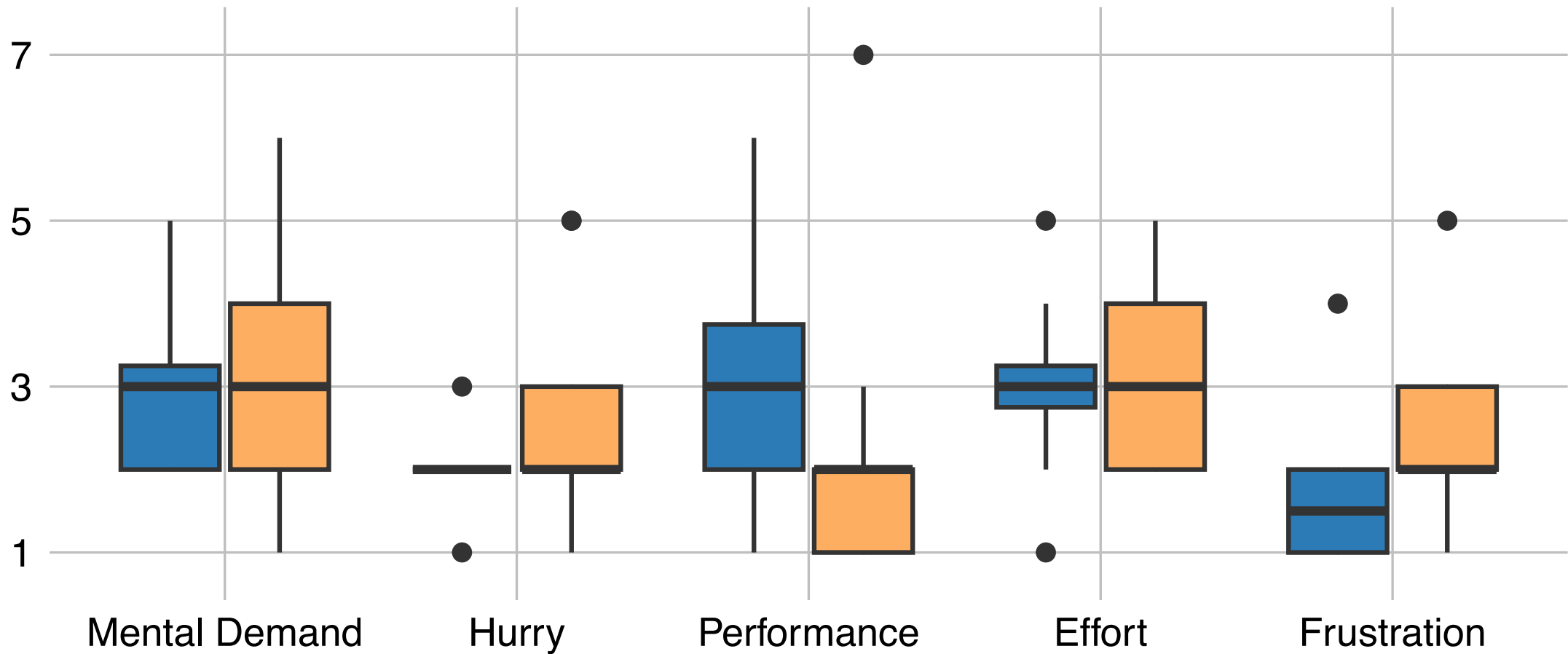
Pandas





Results: Effect on the Cognitive Load

Bigram



Bigram (Algorithmic)

Pandas (API-Heavy)

In *tasks amenable to validation by execution*, LP reduces the cognitive load of validating AI-generated code

NASA's ATLAS Cognitive Load Metrics

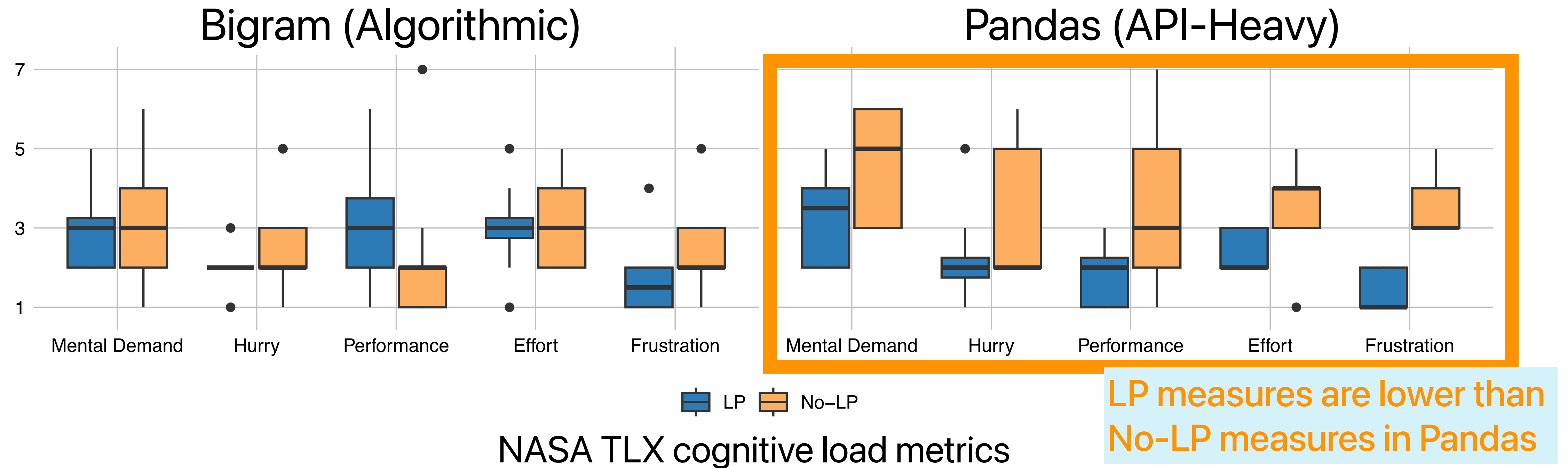


LP measures are lower than
No-LP measures in Pandas

2

9

Results: Effects on the Cognitive Load



In tasks amenable to validation by execution, LP reduces the cognitive load of validating AI-generated code

Key Contributions

From a study with 17 participants, we show that, by lowering the cost of validation by execution, Live Programming...

mitigates over- and under-reliance on AI-generated code

reduces the need for code examination in some tasks

lowers the cognitive load of validation in some tasks

Tool: <https://leap.goto.ucsd.edu>