

# Analysing the Relevance of Experience Partitions to the Prediction of Players' Self-Reports of Affect

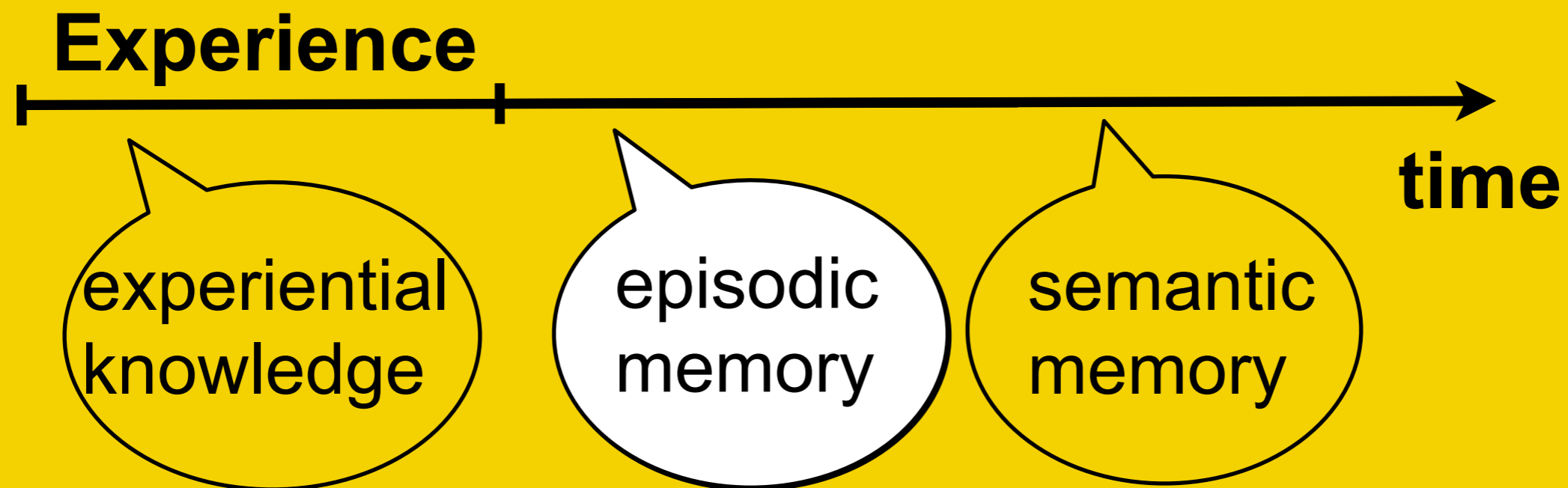
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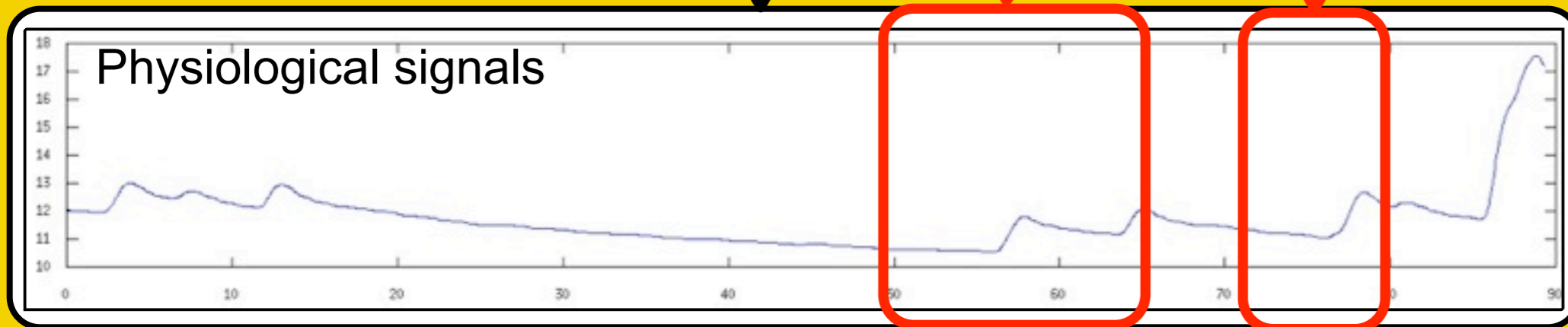
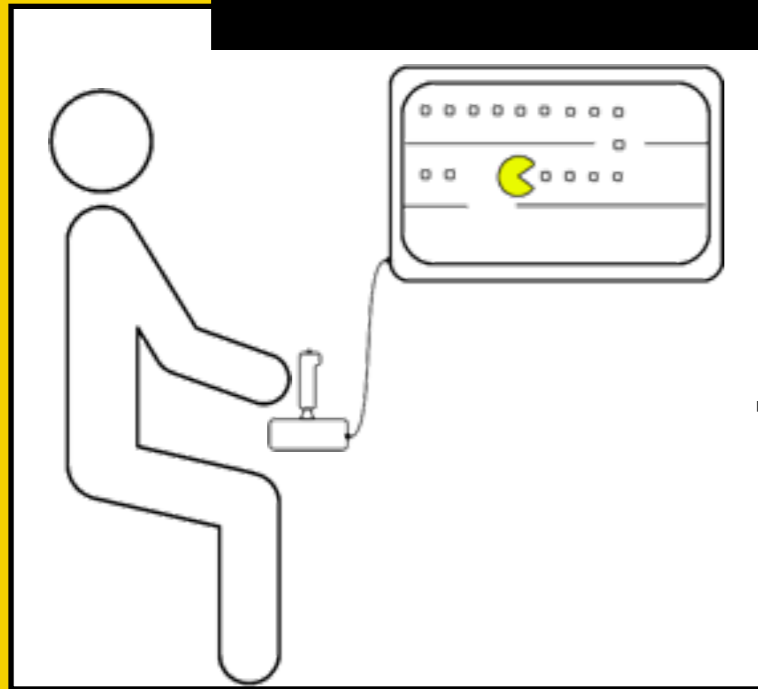
# Motivation

time and post-experience self-reports



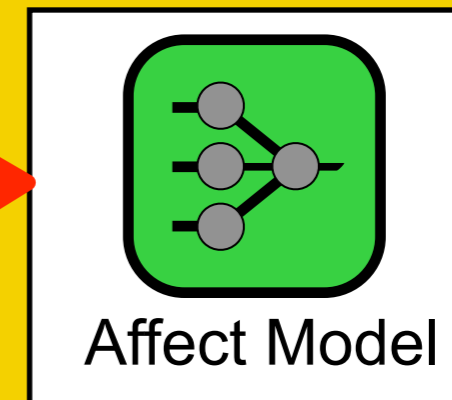
- 1) Time: How long experience should be?
- 2) Time: Which parts of experience?

# Models of Self-reported Affect



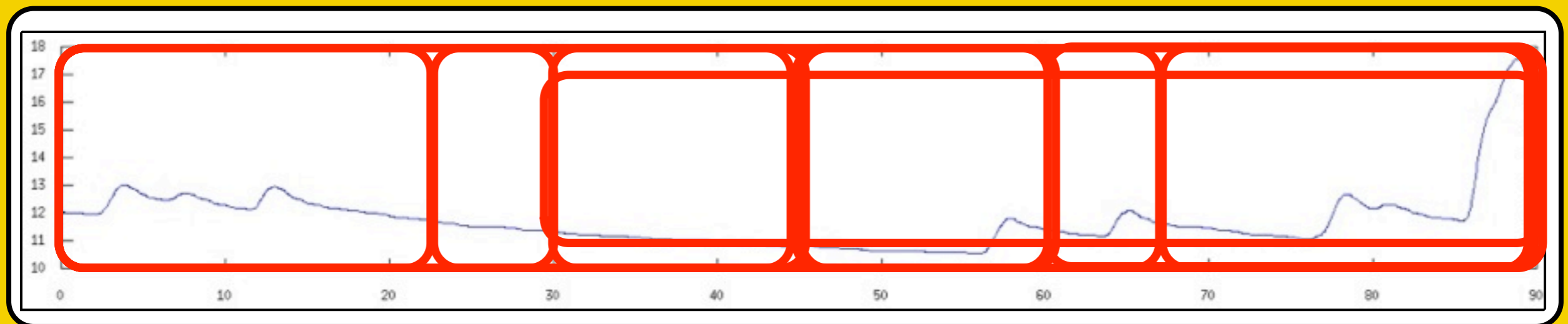
Self-report of affect

fun?  
 frustration



# Time partitions investigated

- one **90 second** long window
- two **60 second** long windows
- two **45 second** long windows
- three **30 second** long windows
- four **22.5 second** long windows

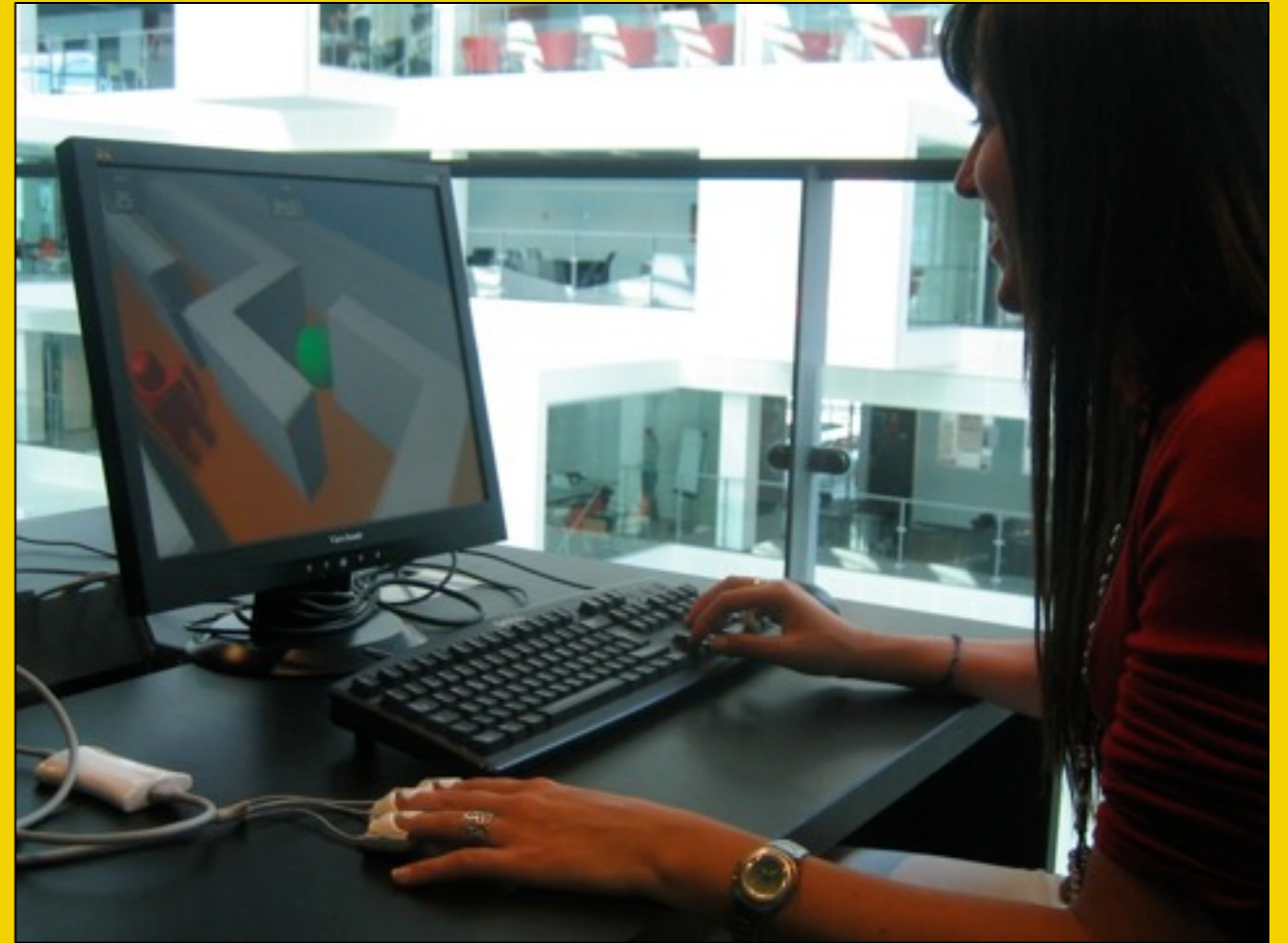


# The game: Maze-Ball



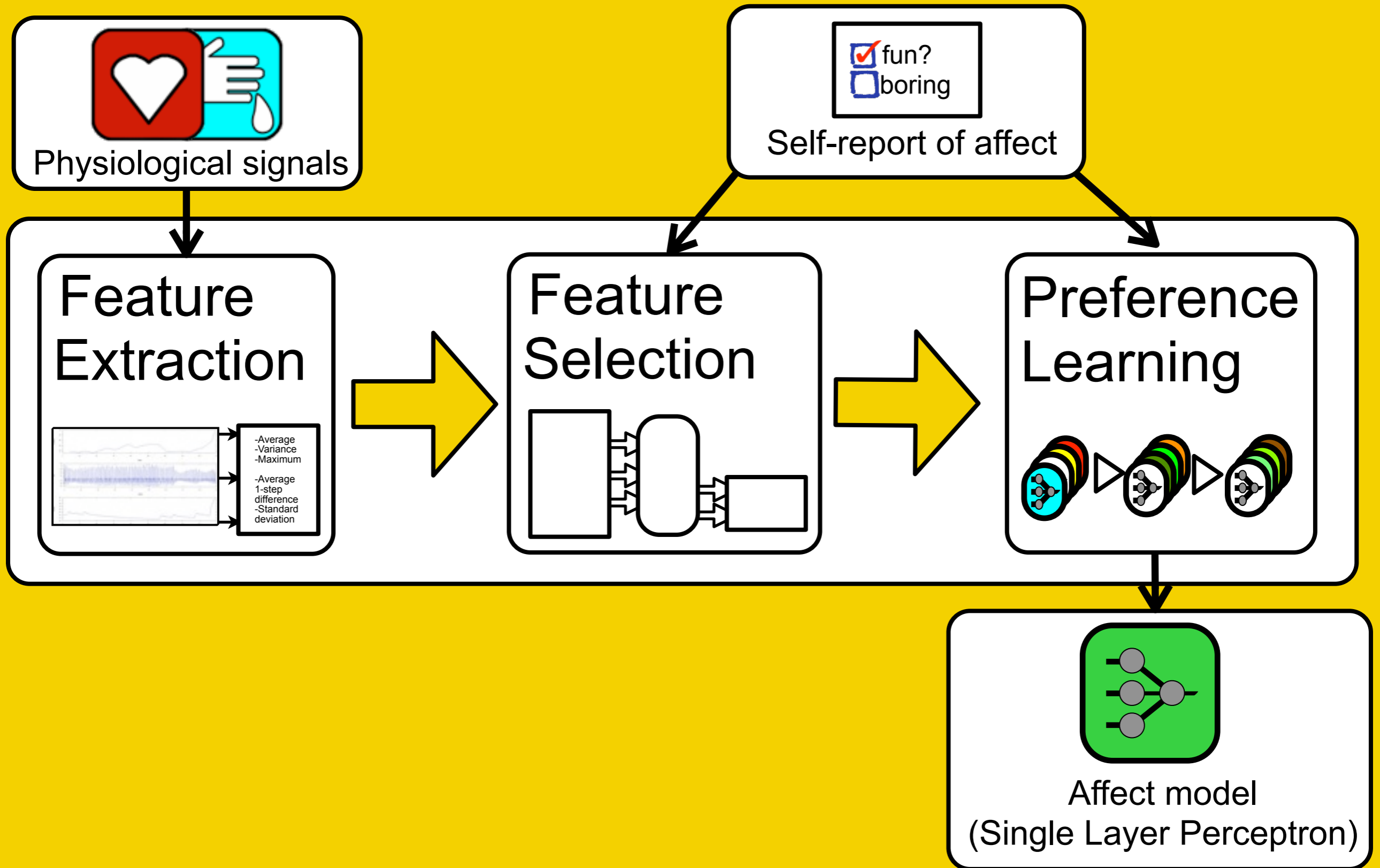
# The Dataset

- 36 players
- 8 games per player
- Skin conductance, blood volume pulse and heart rate
- 4-alternative forced choice self-reports after each pair

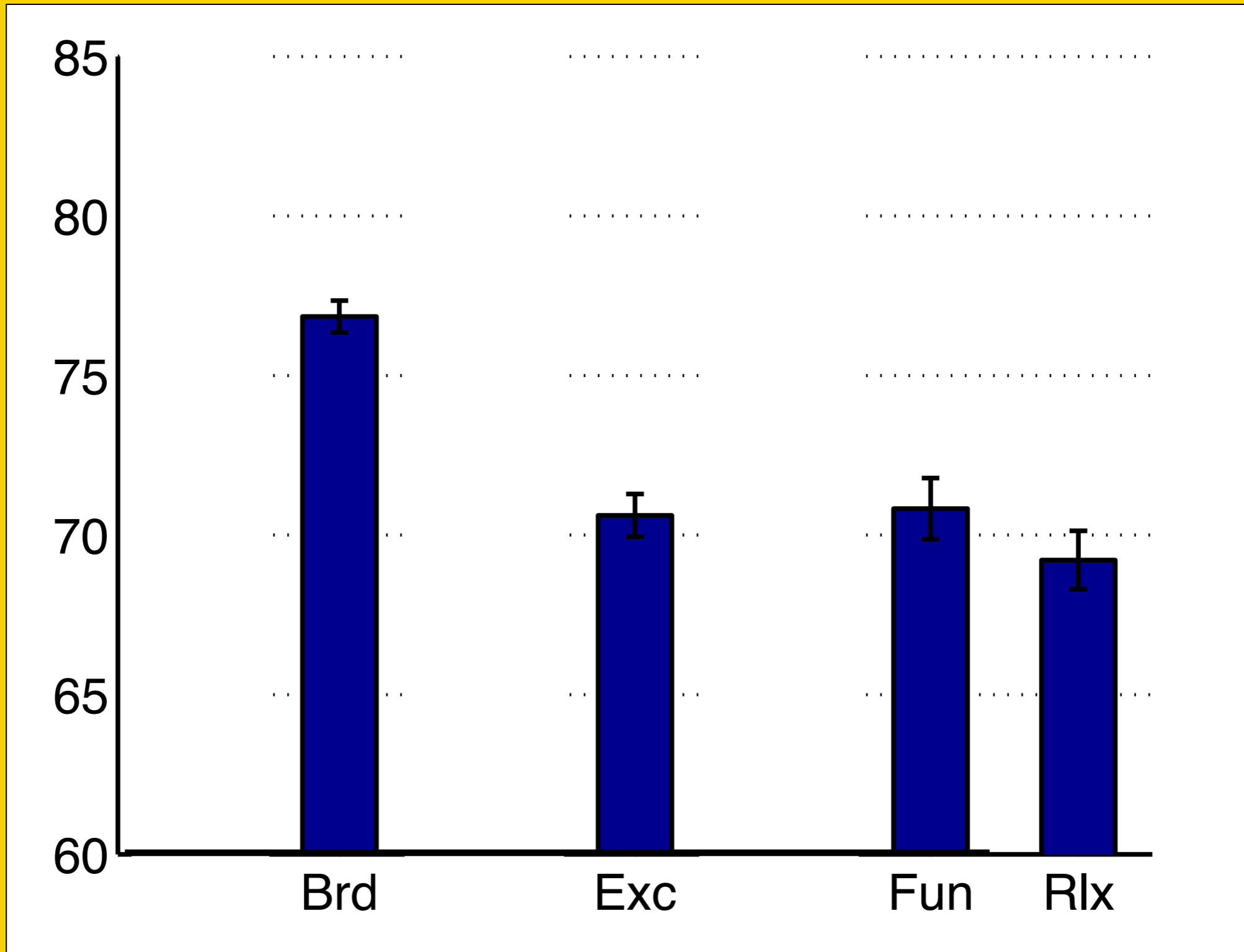


frustration   relaxation   excitement   boredom   anxiety   challenge   fun

# Method

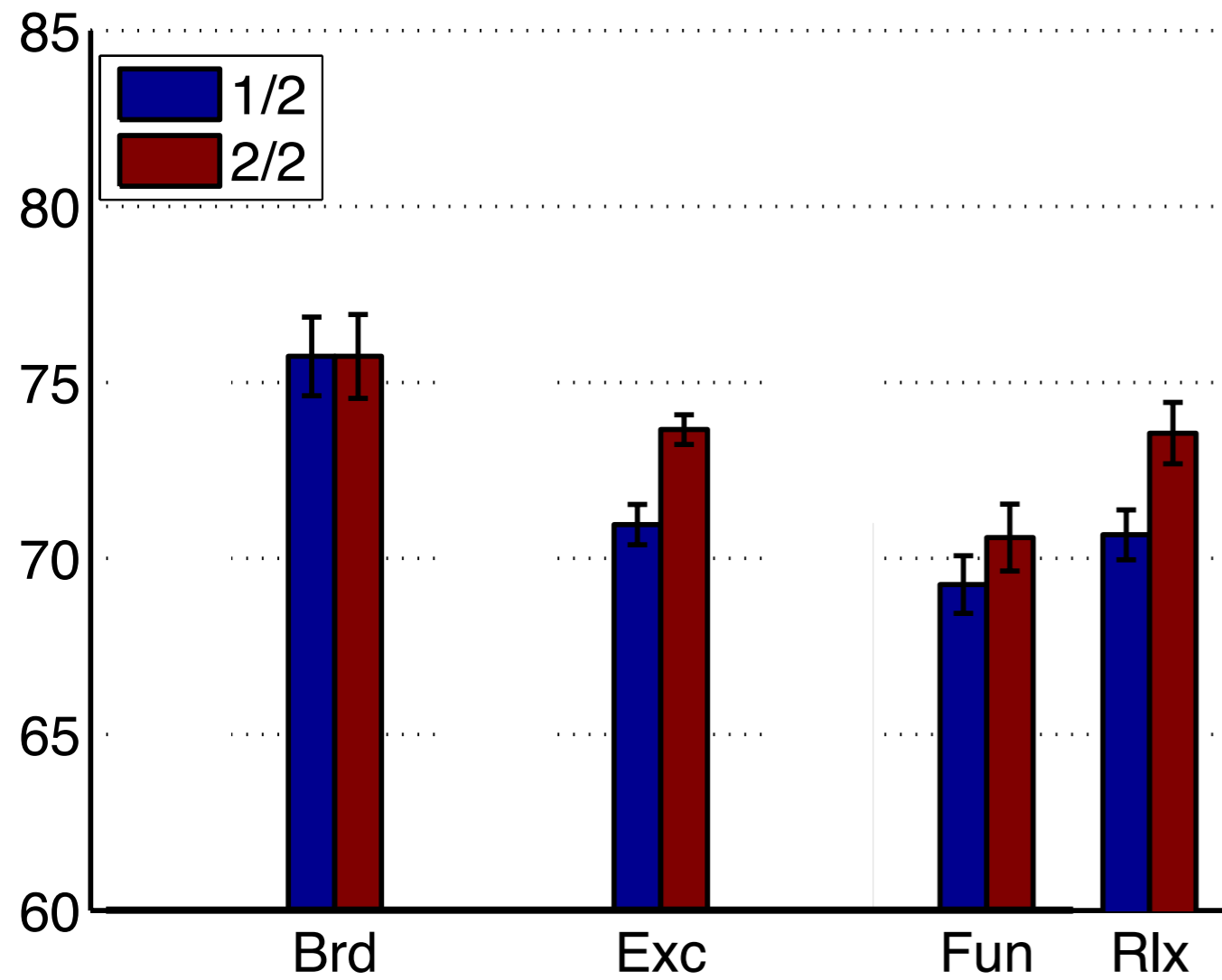


# Results - 90 seconds

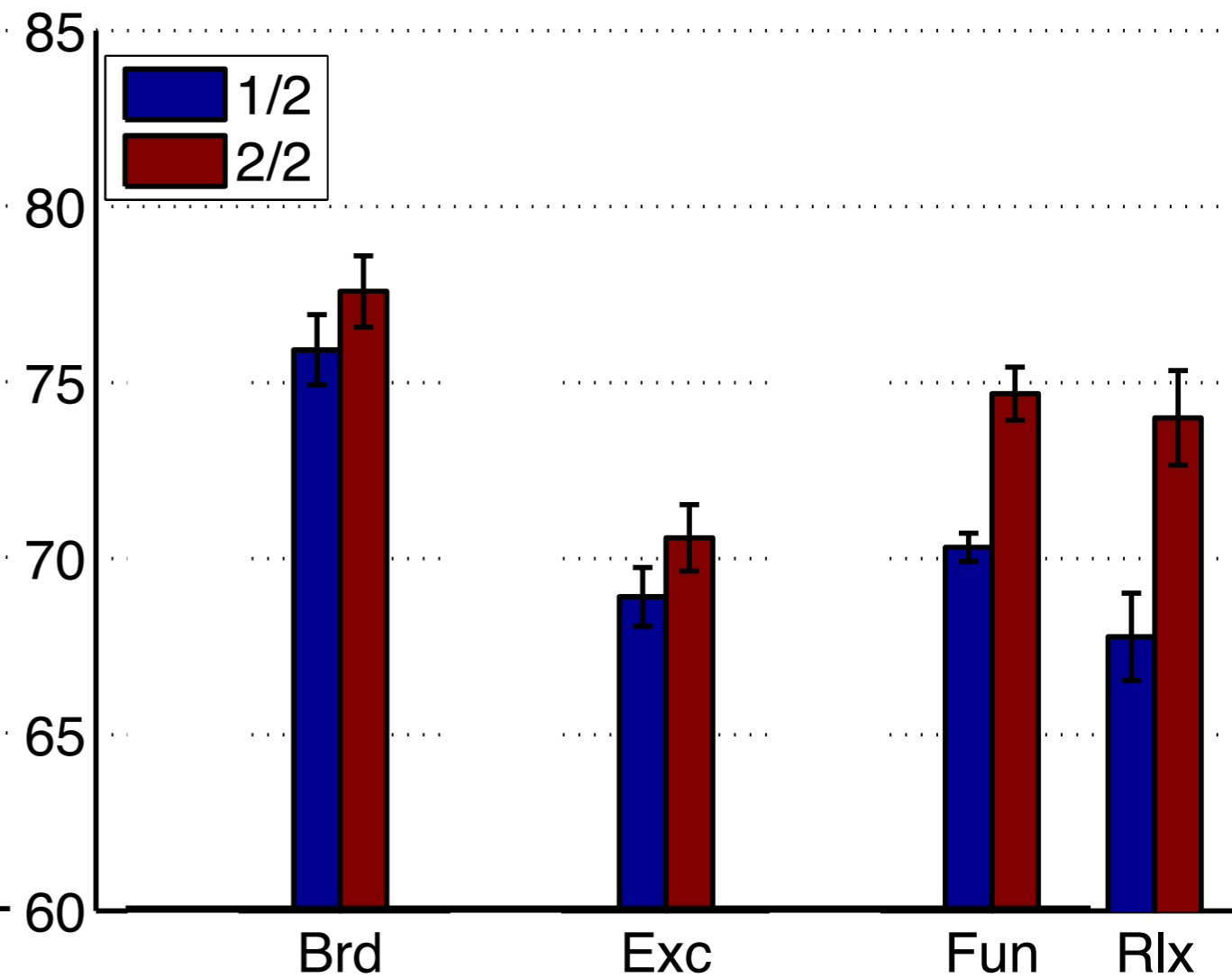




# Results - halves

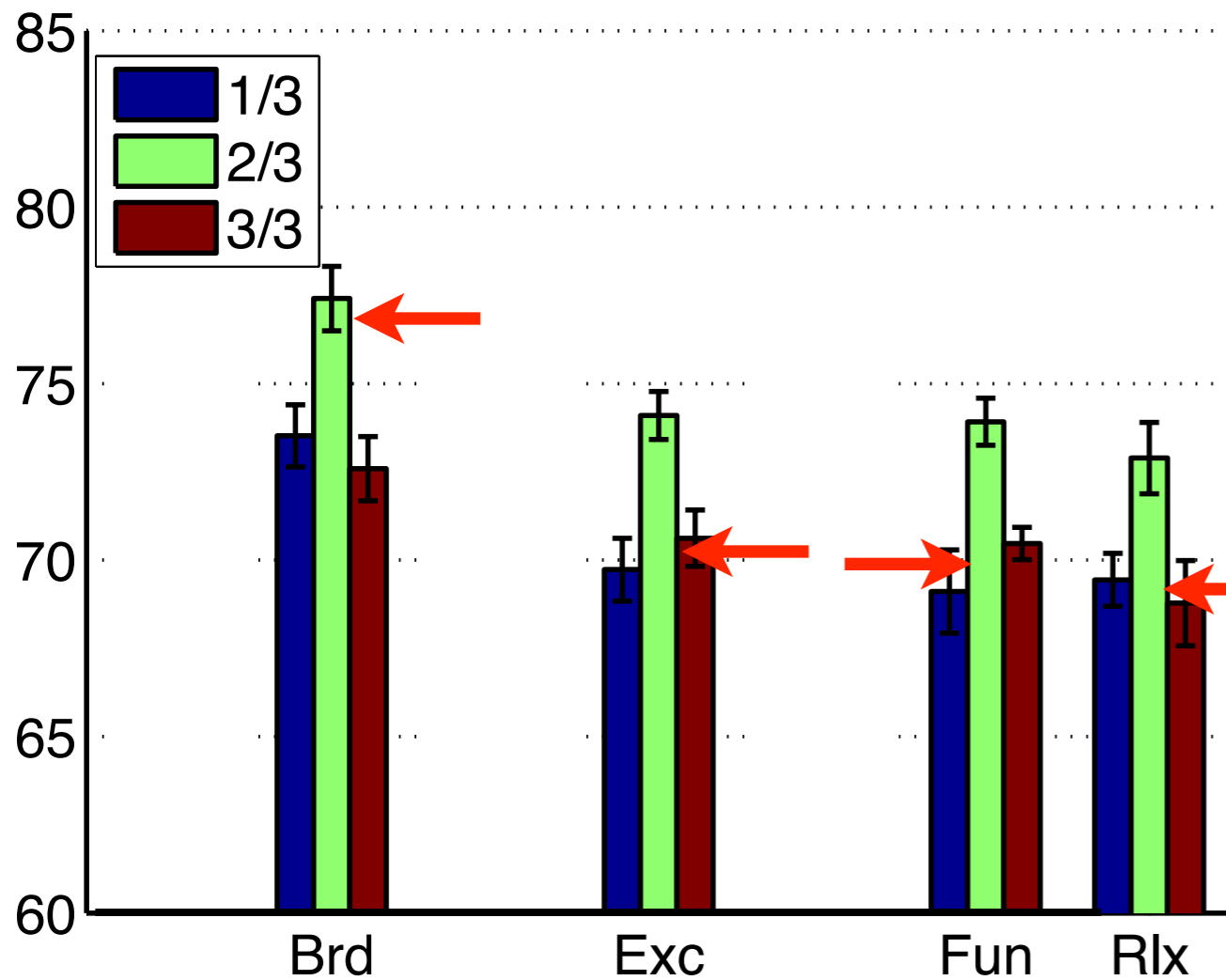


60 second partitions

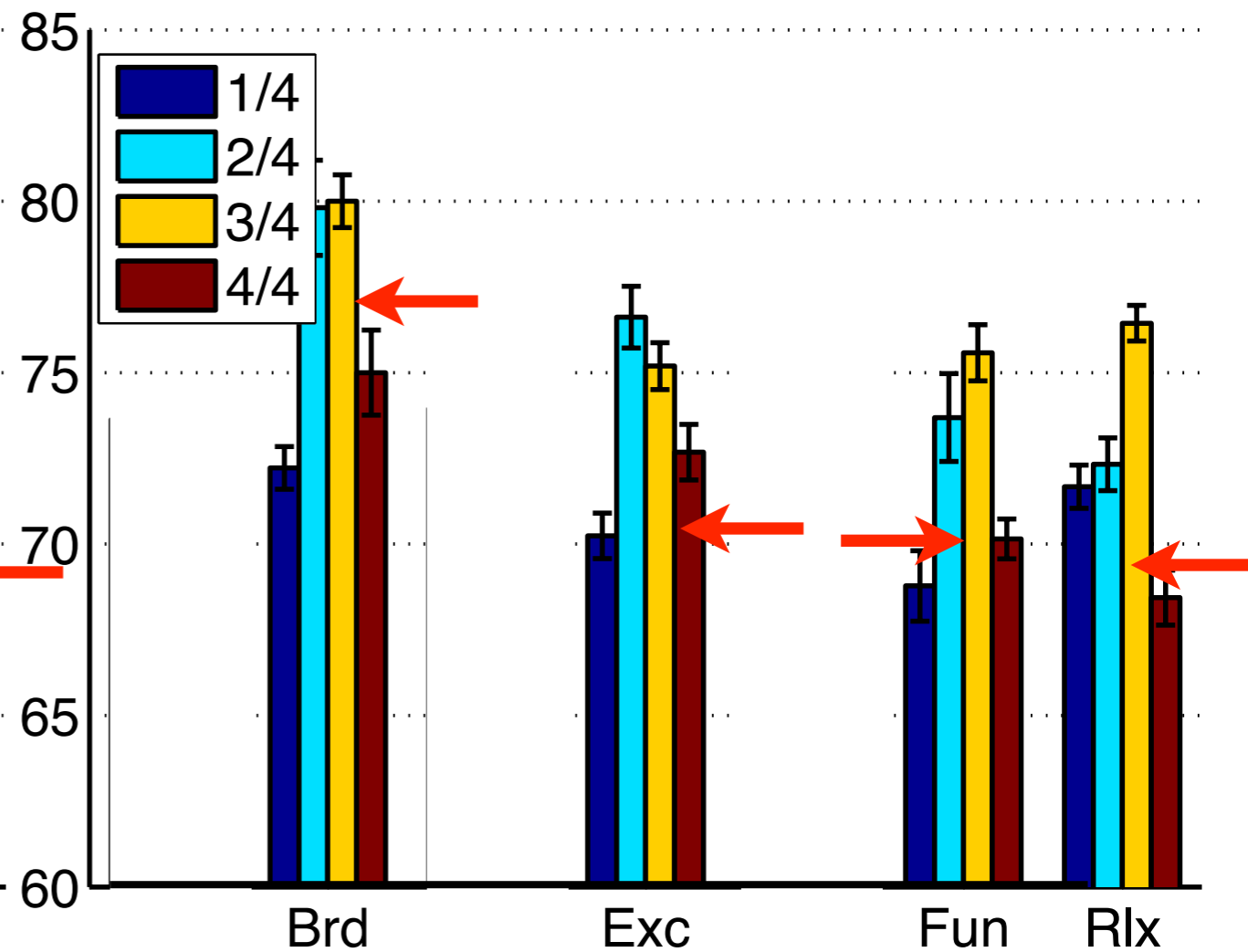


45 second partitions

# Results - thirds and quarters

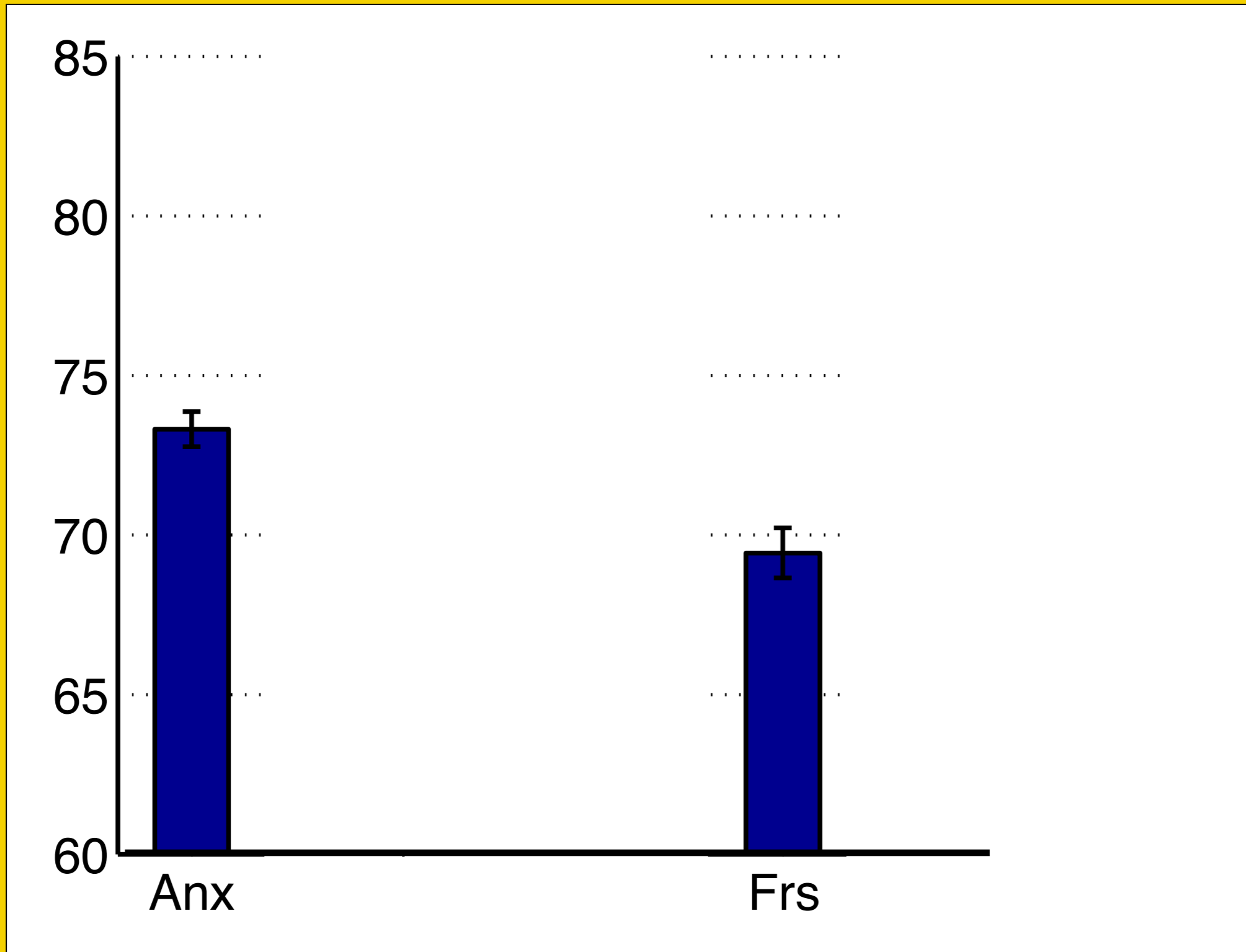


30 second partitions

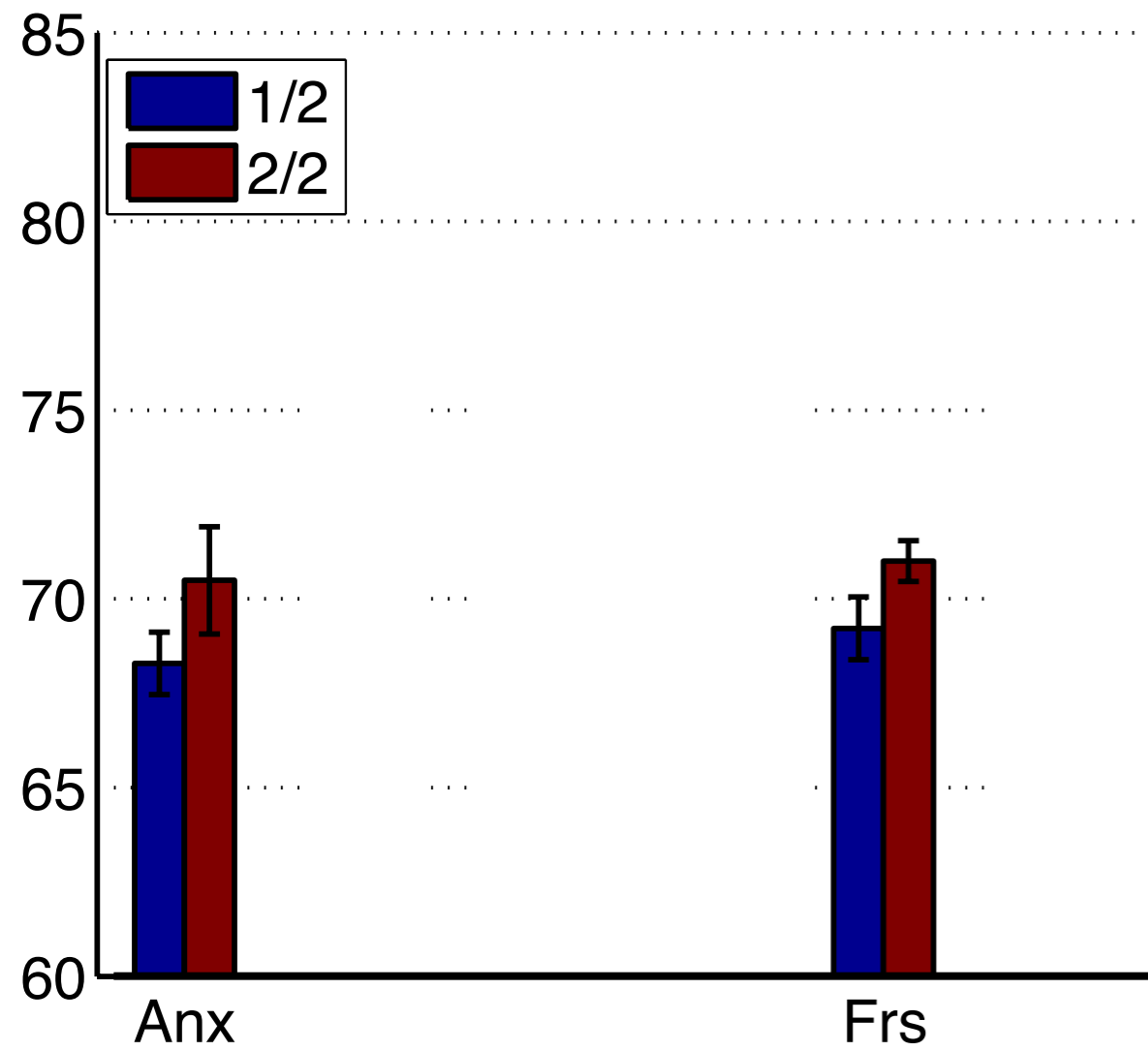


22.5 second partitions

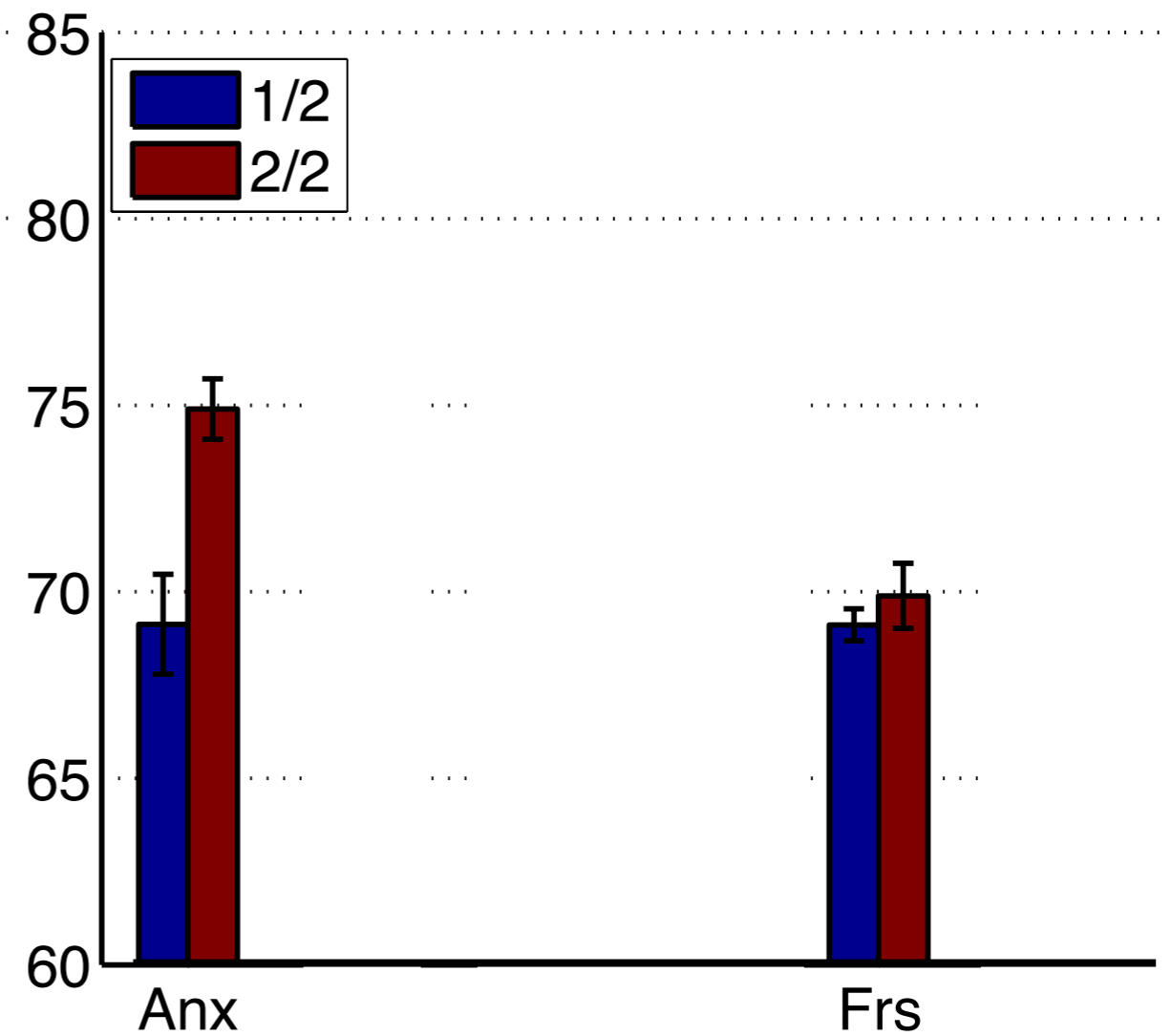
# Results - 90 seconds



# Results - halves

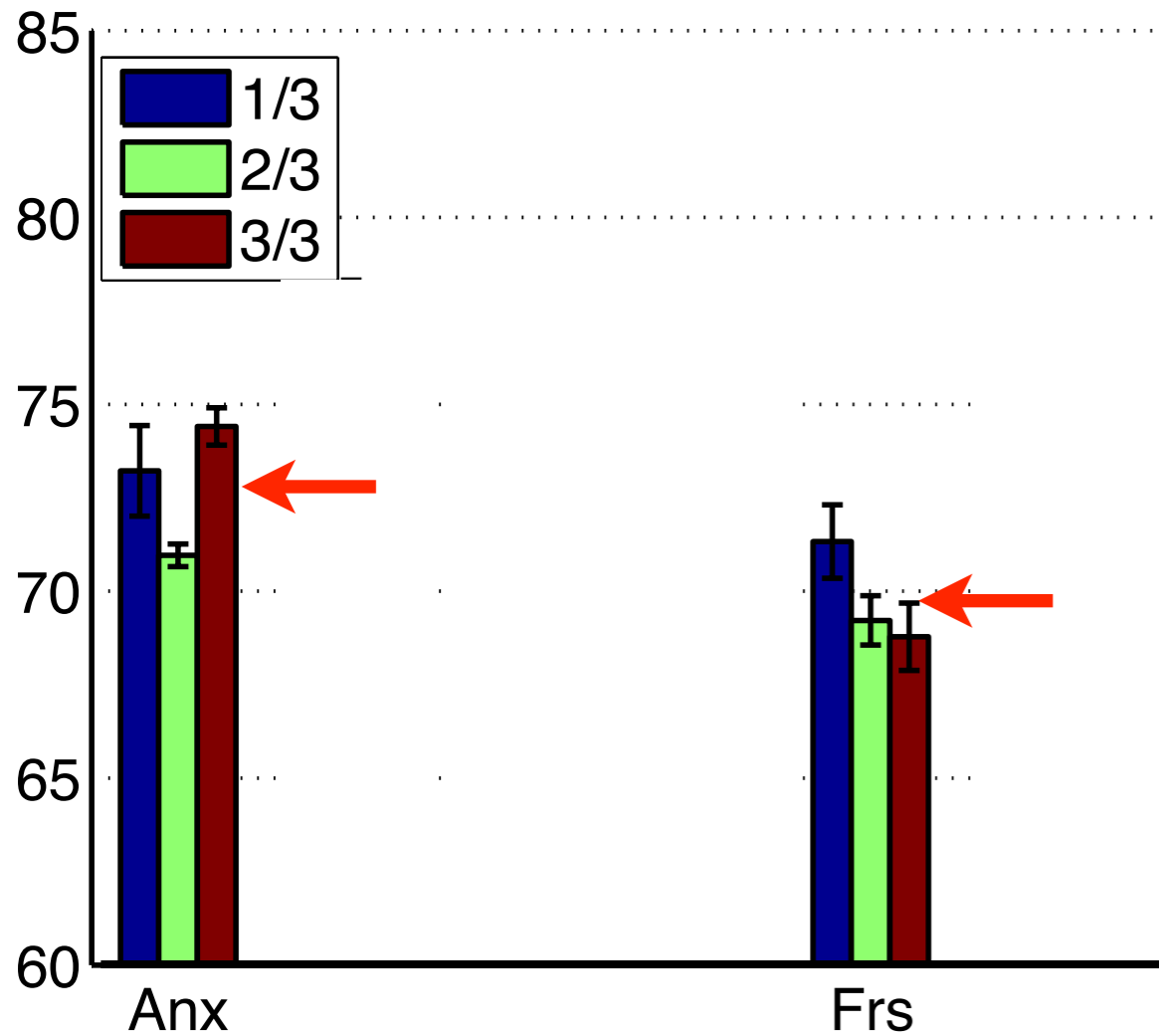


60 second partitions

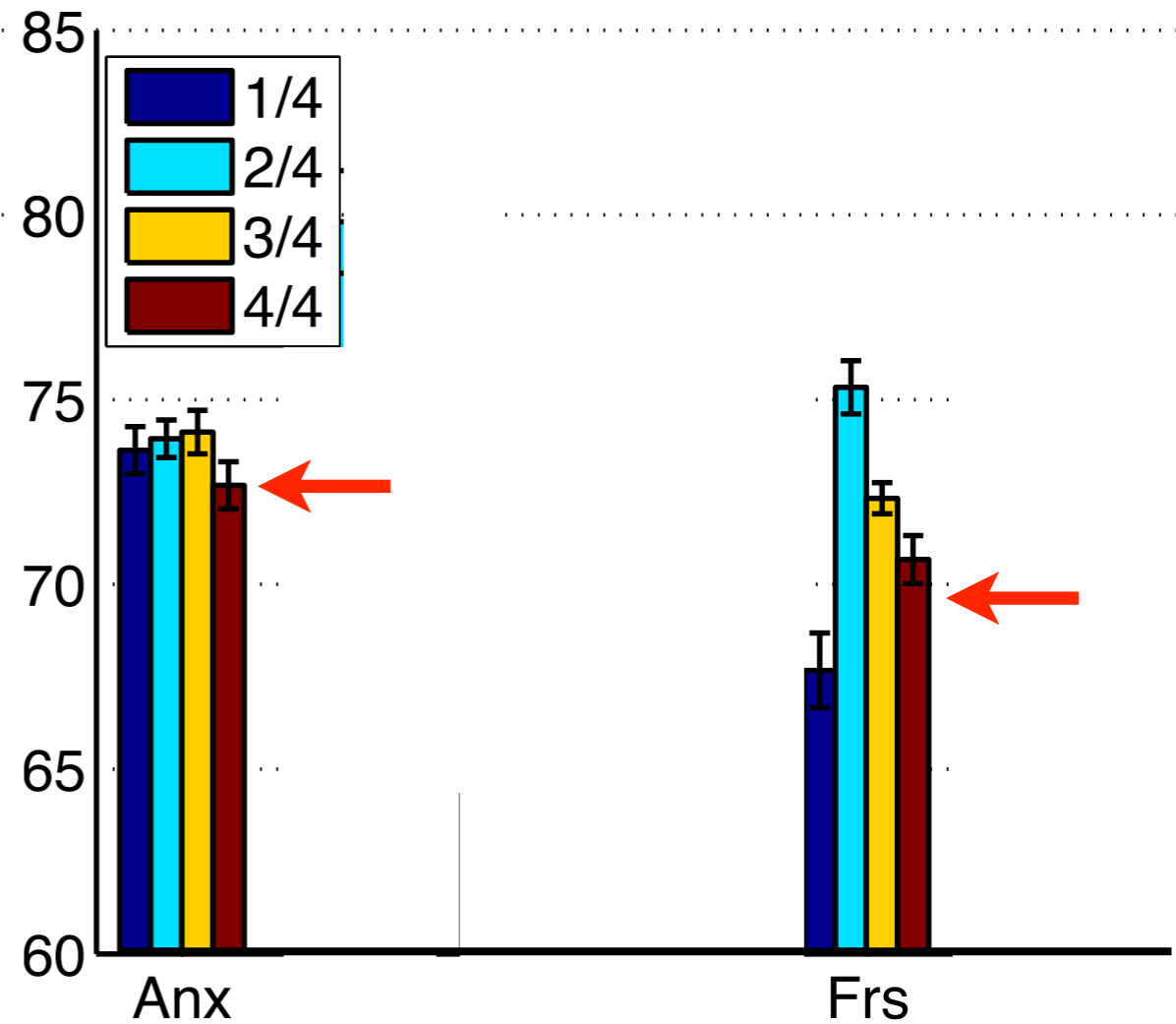


45 second partitions

# Results - thirds and quarters

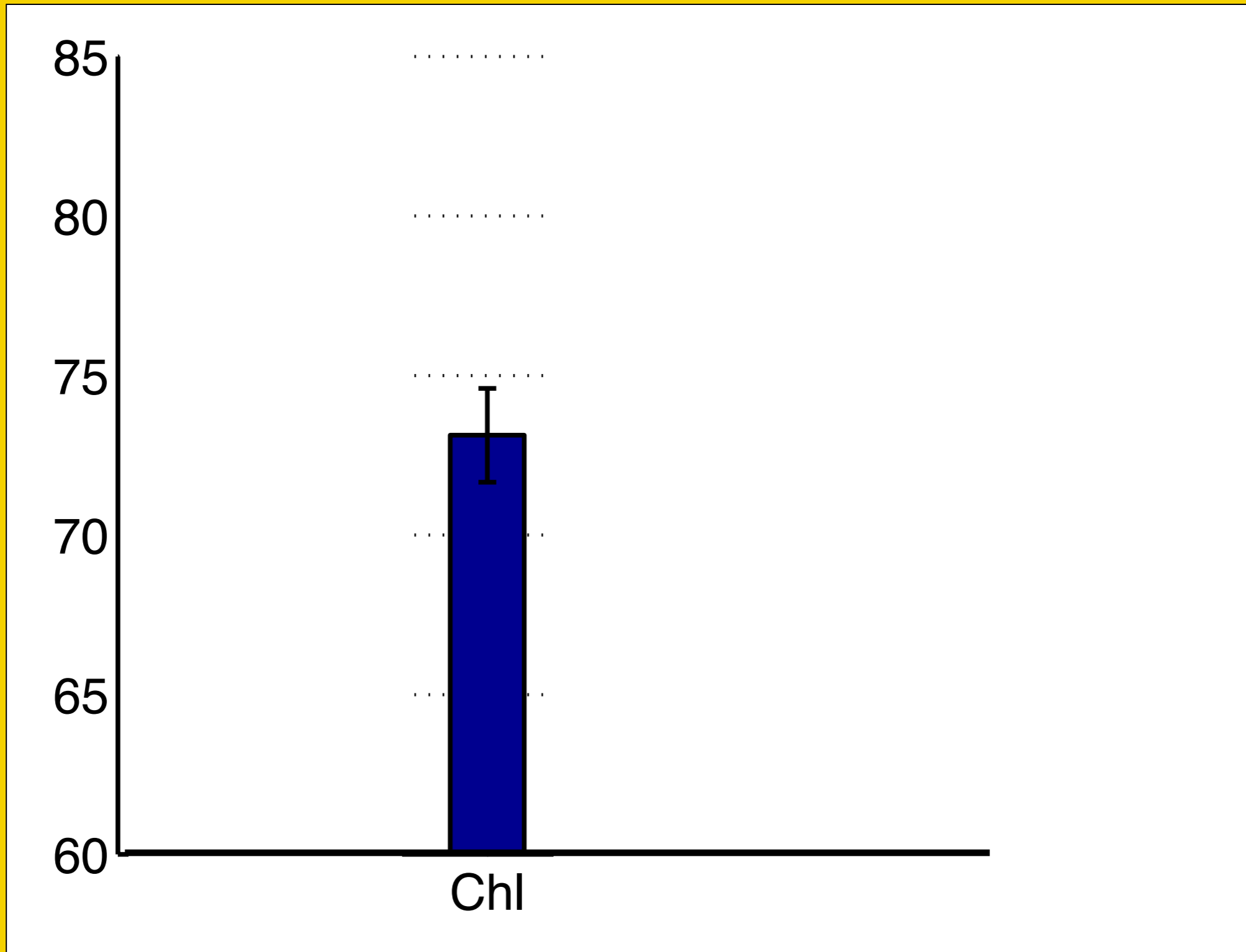


30 second partitions

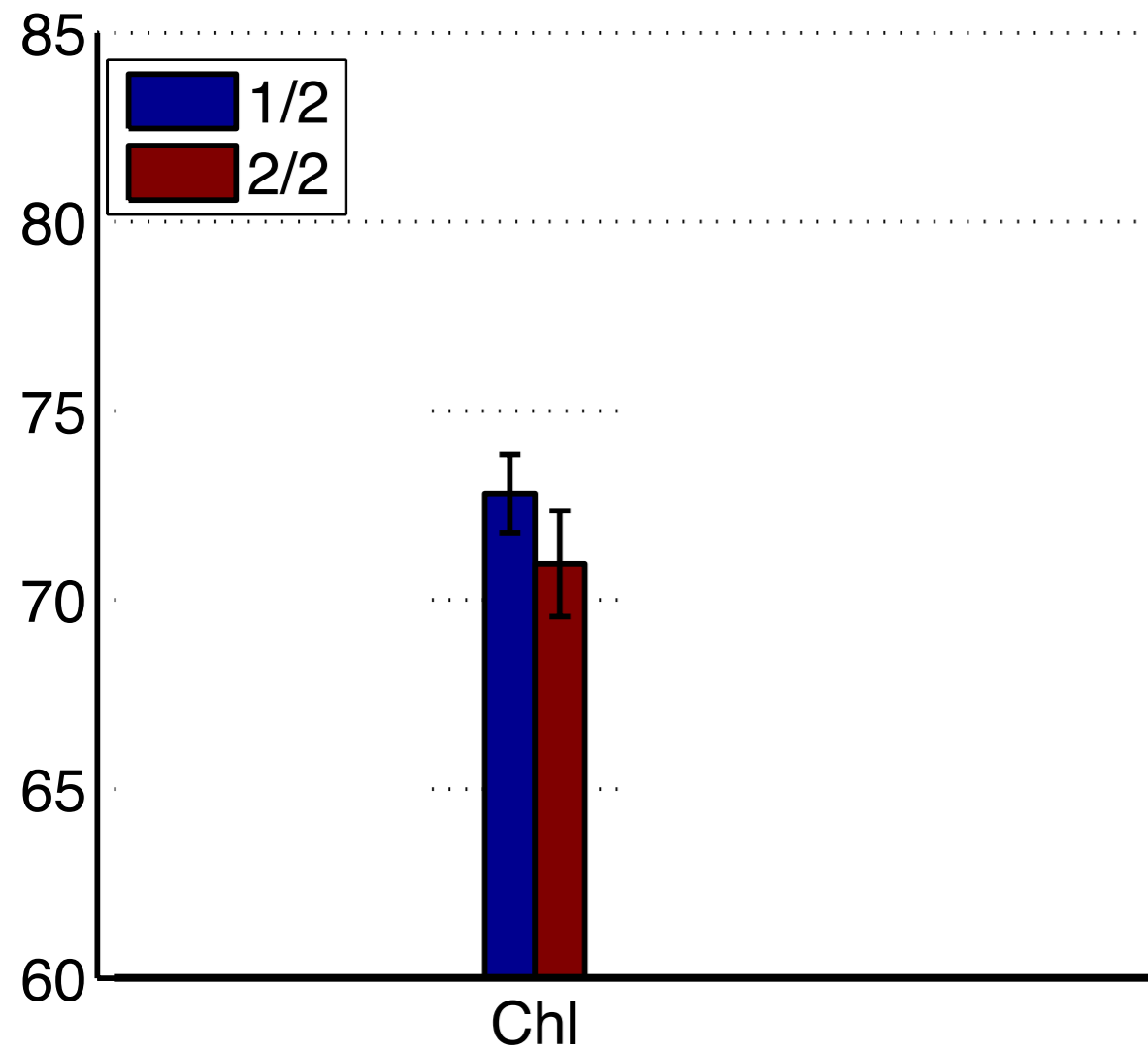


22.5 second partitions

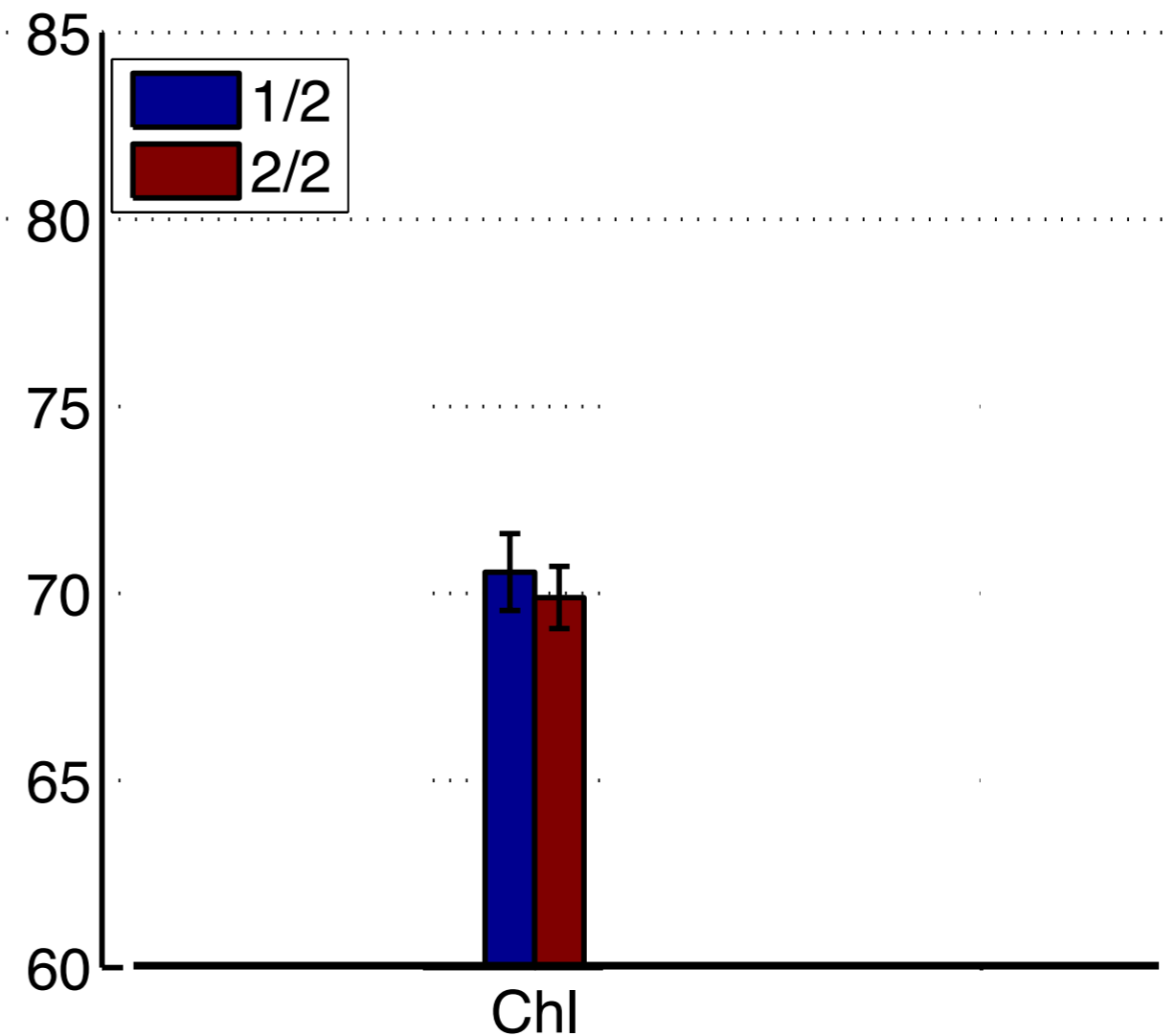
# Results - 90 seconds



# Results - halves

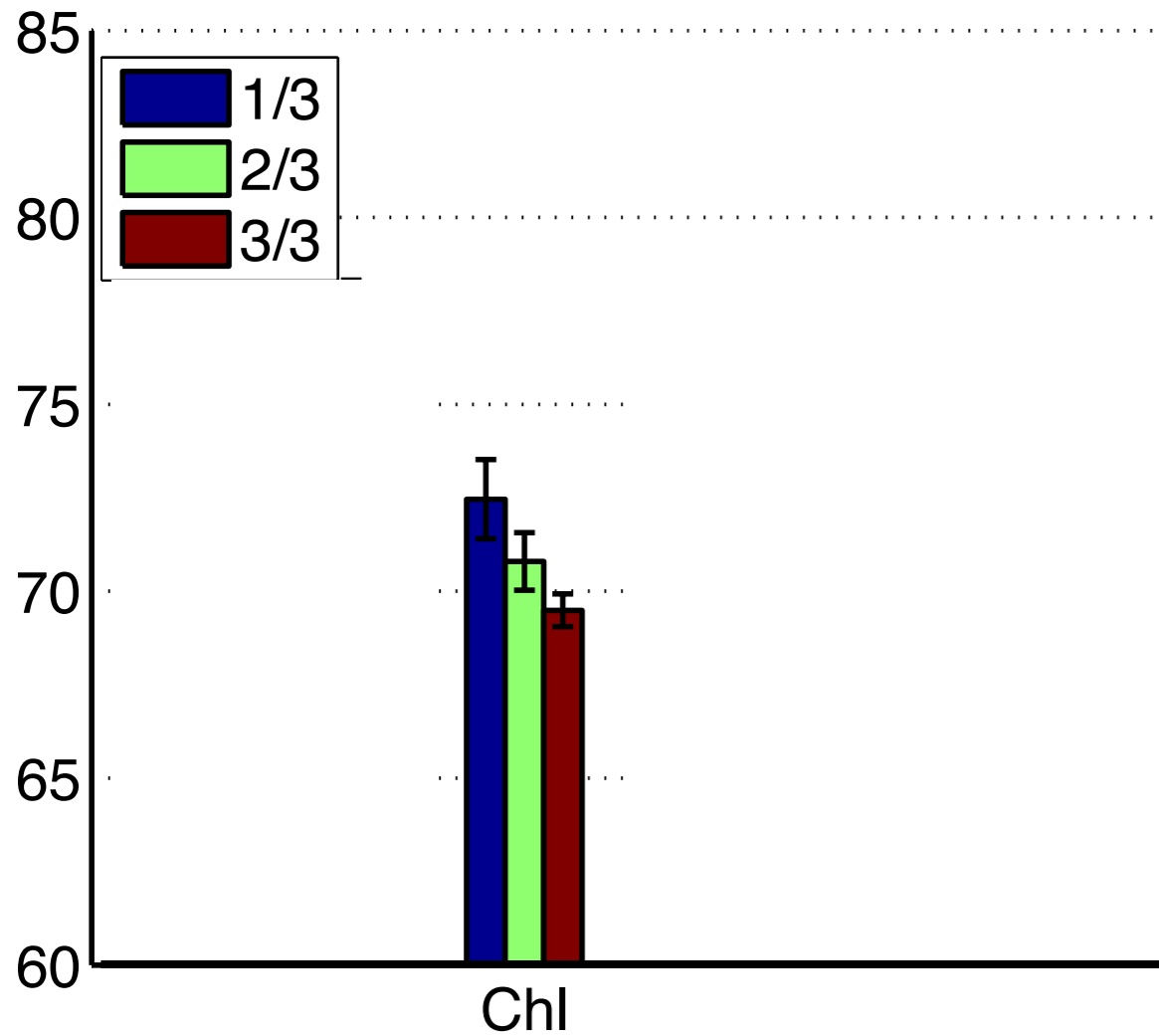


60 second partitions

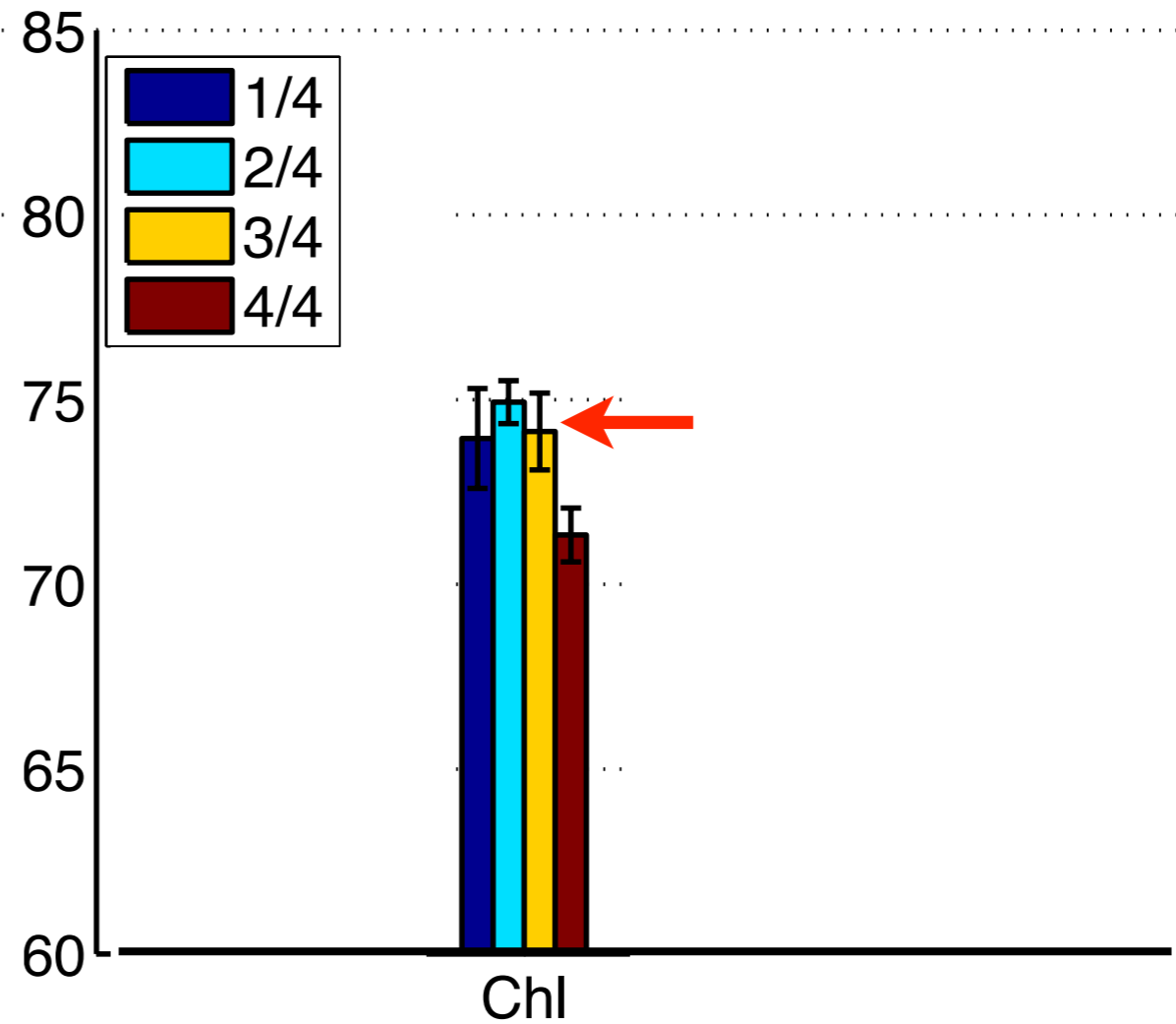


45 second partitions

# Results - thirds and quarters



30 second partitions



22.5 second partitions



# Conclusions

- A fraction of the physiological signals yields more accurate models than the full-length signal
- Self-reports of **positive affective states** and **boredom** predicted more accurately by **central** parts of the signals
- Self-reports of **anxiety** and **frustration** are **not clearly** related to a time window
- Self-reports of **challenge** predicted more accurately by the **initial** parts of the signals

# Future Work

- Validate results with game play features
- Validate results across different games

# Thanks!

