

2022

Size-Weight Illusion With a Squatting Task (Poster)

Amanda Laron

Maryssa Becker

Mason Flores

Mikaela Raudsepp

Nicole Seidl

See next page for additional authors

Follow this and additional works at: https://digitalcommons.georgefox.edu/pt_fac

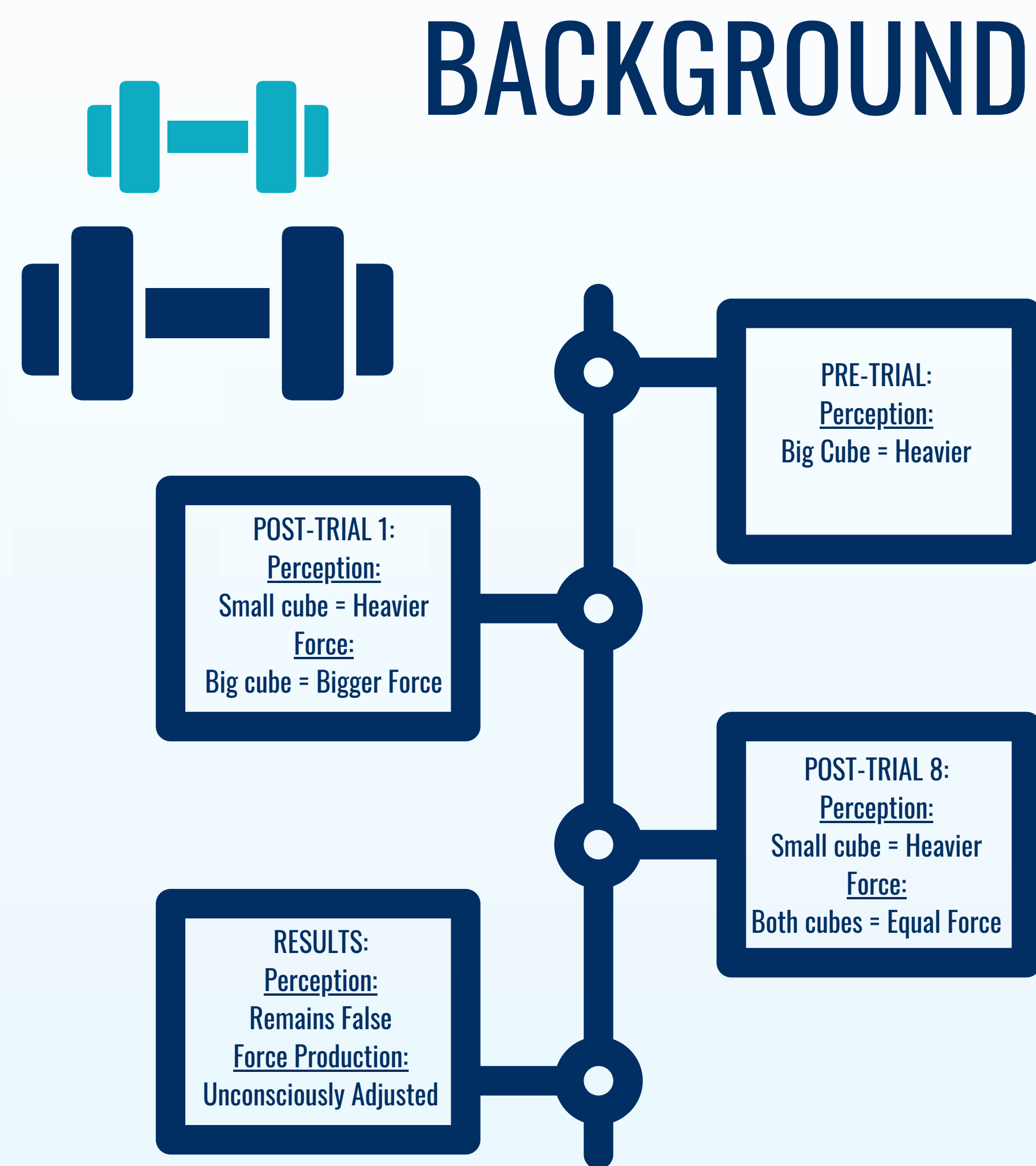
 Part of the [Physical Therapy Commons](#)

Authors

Amanda Laron, Maryssa Becker, Mason Flores, Mikaela Raudsepp, Nicole Seidl, Robin Dorociak, and Andrew Meszaros

SIZE-WEIGHT ILLUSION WITH A SQUATTING TASK

AMANDA LARON, SPT, MARYSSA BECKER, SPT, MASON FLORES, SPT, MIKAELA RAUDSEPP, SPT,
NICOLE SEIDL, SPT, ROBIN DOROCIAK, MS, ANDREW MESZAROS, PT, PHD



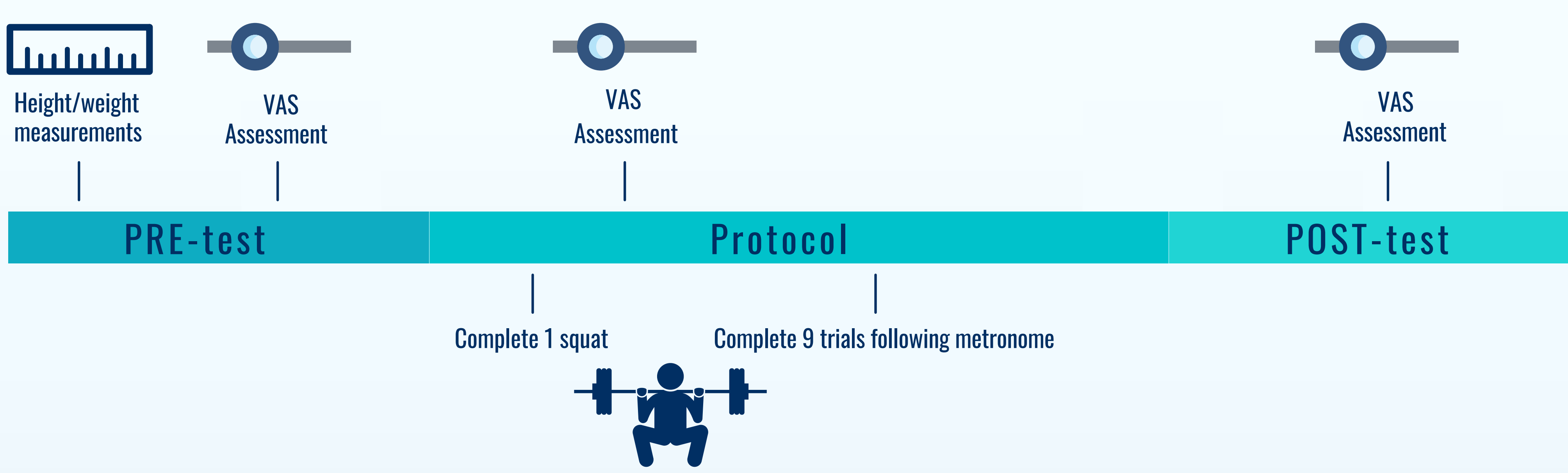
The SWI is well documented in UE lifting tasks, but has not previously been studied in whole body loading tasks.

HYPOTHESES

- The SWI will be observed during a squat movement, resulting in initially a larger GRF through the lower extremity on the side of the larger cube and more vertical displacement of the side of the bar with the large cube.
- The bilateral GRF and bar displacement will become symmetrical after 10 repetitions.
- Participants will initially predict the larger cube is heavier and after completing the squatting task will perceive the smaller cube as heavier.

METHODOLOGY

- x 39 healthy participants
- Inclusion: 18+ Able to squat with bar
- Exclusion: Acutely Ill, Neuropathy, MSK injury



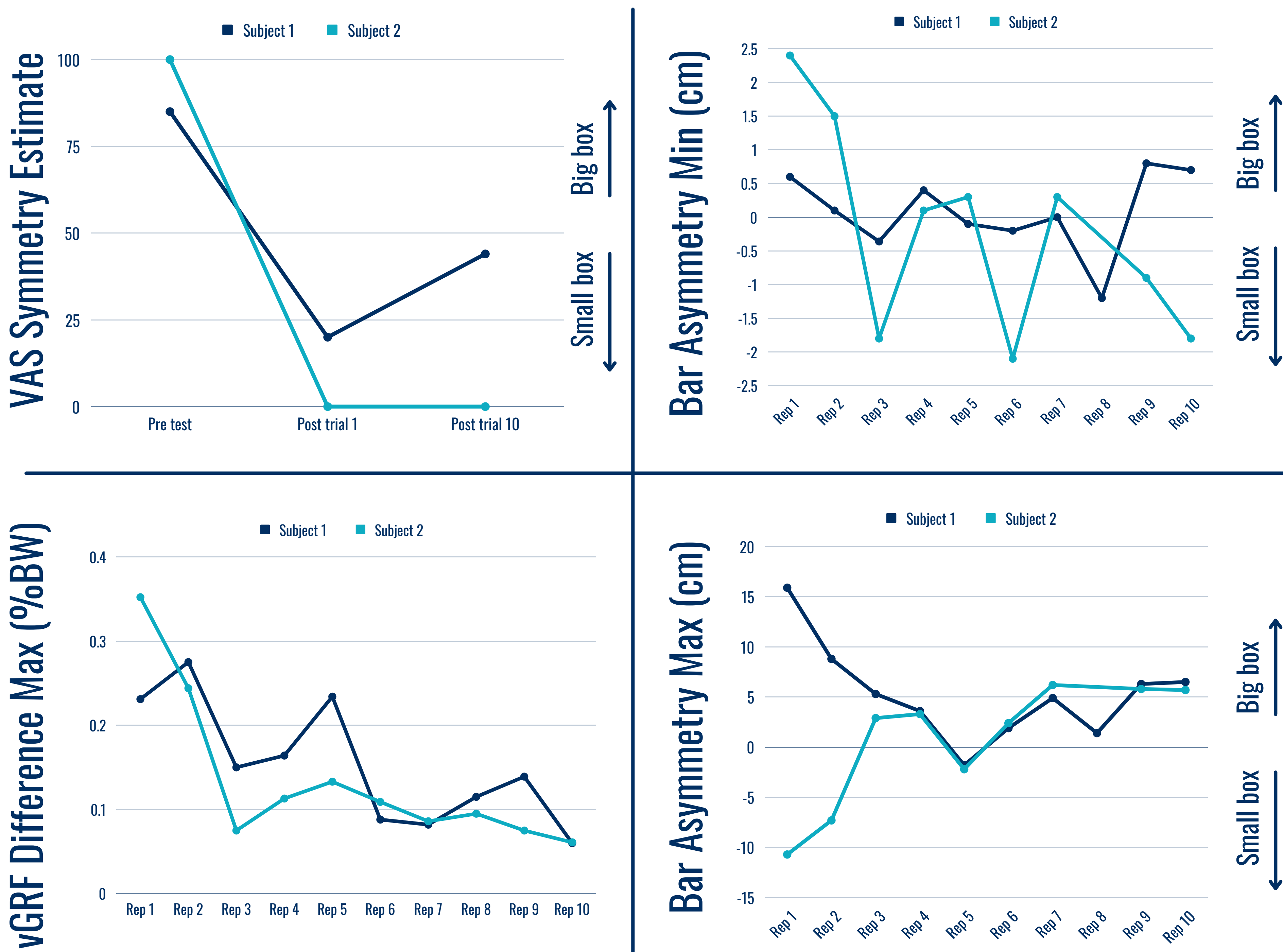
DISCUSSION

- The SWI was present in both analyzed subjects after the first trial in our data set
- After the completion of 10 trials, the SWI was no longer present in subject 1, but persisted in subject 2
- Overall, this study assists with demonstrating that the body can self organize movement regardless of the implicit understanding of the motor task
- This phenomenon has prompted more consideration as to how caregiver perception of patient body weight influences the amount of force used during a transfer maneuver without underlying knowledge of patient's ability to assist in the transfer
- A limitation of this study was the ability to fine tune starting position for bar height according to subject height due to the spacing on the squat rack

CONCLUSION

- Plan: Analyze all 39 subjects to determine if the SWI is demonstrated during a squatting task
 - Based on these subjects and other preliminary data, it appears as if conscious perception of weight may correct more quickly in whole body tasks as compared to isolated UE lifting tasks
- Further research would be beneficial to examine the presence of the SWI with other gross movement patterns such as a deadlift or bench press

RESULTS/FINDINGS



REFERENCES

SCAN ME

