

# The Effects of Clothing on Affordance Judgments

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## Introduction

- Judging our capabilities for action (i.e. *affordances*) requires integrating perception of the environment with awareness of our own body characteristics and capabilities (i.e. *body schema*)
- Several studies suggest that external objects (i.e. tools, backpacks) are incorporated into the body schema and influence perceived affordances (Iriki et al, 1996; Proffitt et al, 2003)
- We hypothesized that clothing may also be incorporated into the body schema and may influence affordance judgments

## Experiment 1: Method

### Does clothing influence perceived reachability?

- 2 (reach type: actual reach, judged reach) x 5 (layers of clothing: 1-5) within-subjects design

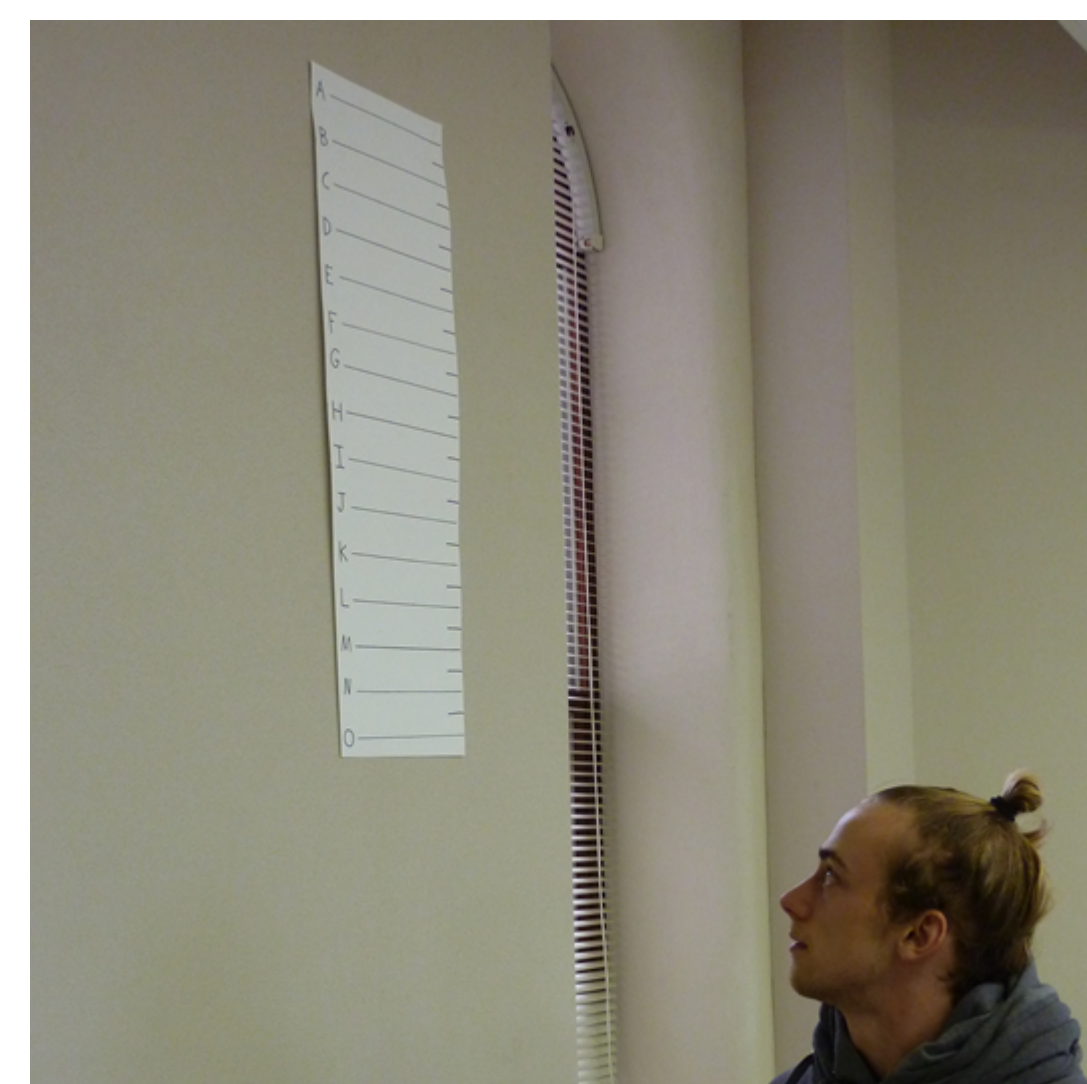


#### Actual Reach Task (baseline)

- Participant wears from 1 to 5 sweatshirts (randomized)
- Measured blindfolded participant's max reach

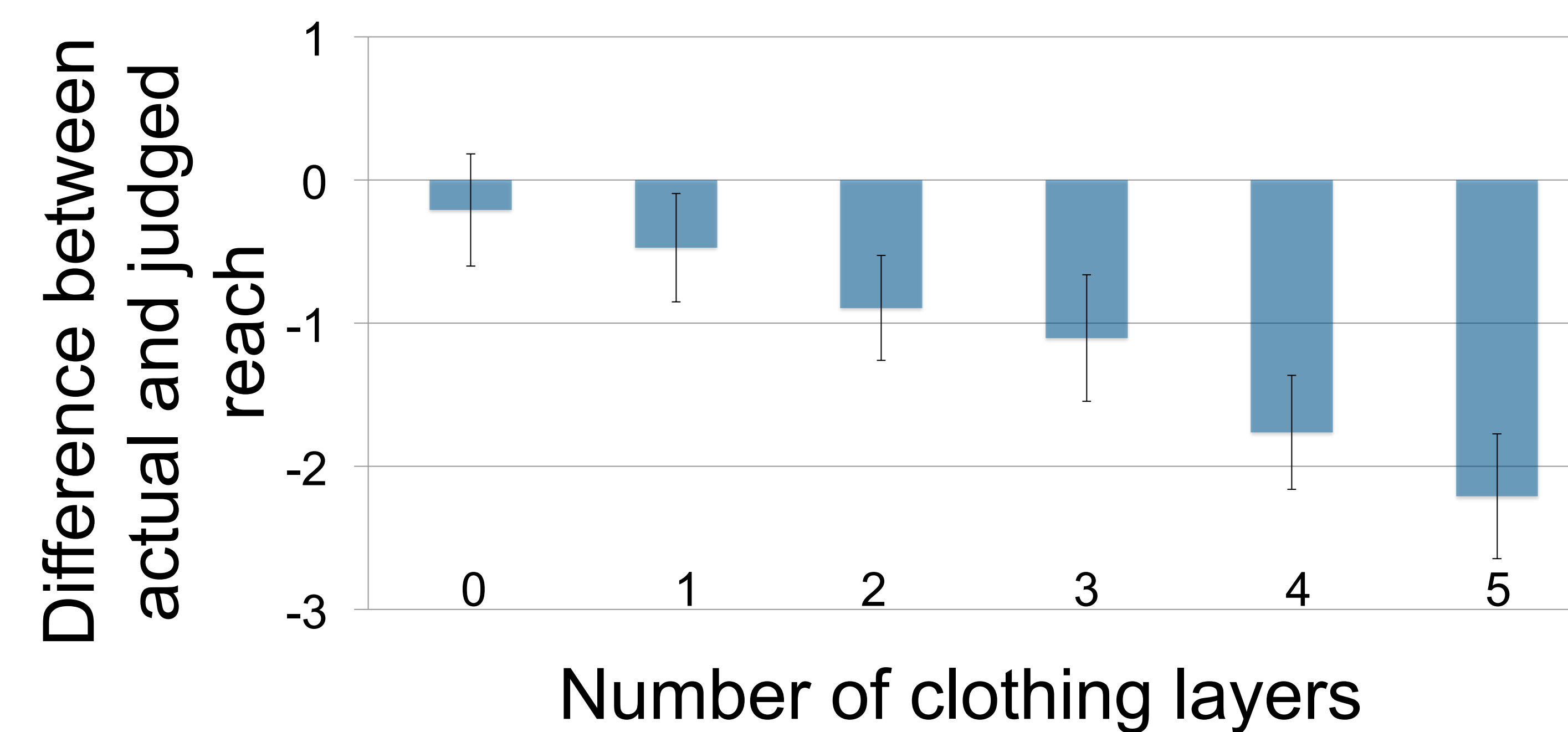
### Affordance Judgment Task

- Participant wears from 1 to 5 sweatshirts (randomized)
- Participant reports *perceived* max reachable height



## Experiment 1: Results

- Interaction between reach condition and layers of clothing,  $F(2.5, 93.8) = 22.63, p < .001$ 
  - Actual reach was constant with additional layers
  - The difference between actual and judged reach was significant with 2 or more layers of clothing



## Experiment 2: Method

### Does clothing influence perceived reachability?

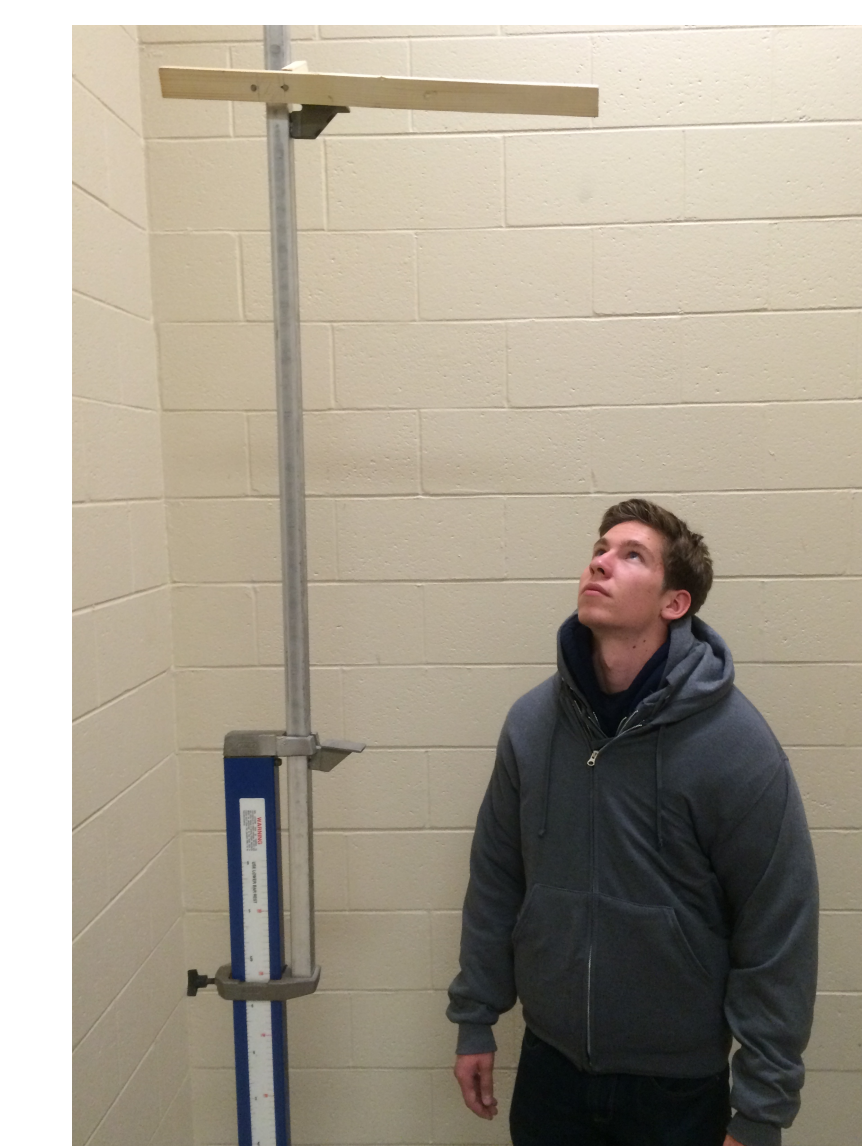
- 2 (reach type: actual reach, judged reach) x 5 (layers of clothing: 1-5) within-subjects design

#### Actual Reach Task (baseline)

- Participant wears from 1 to 5 sweatshirts (randomized)
- Blindfolded participant's max reach measured

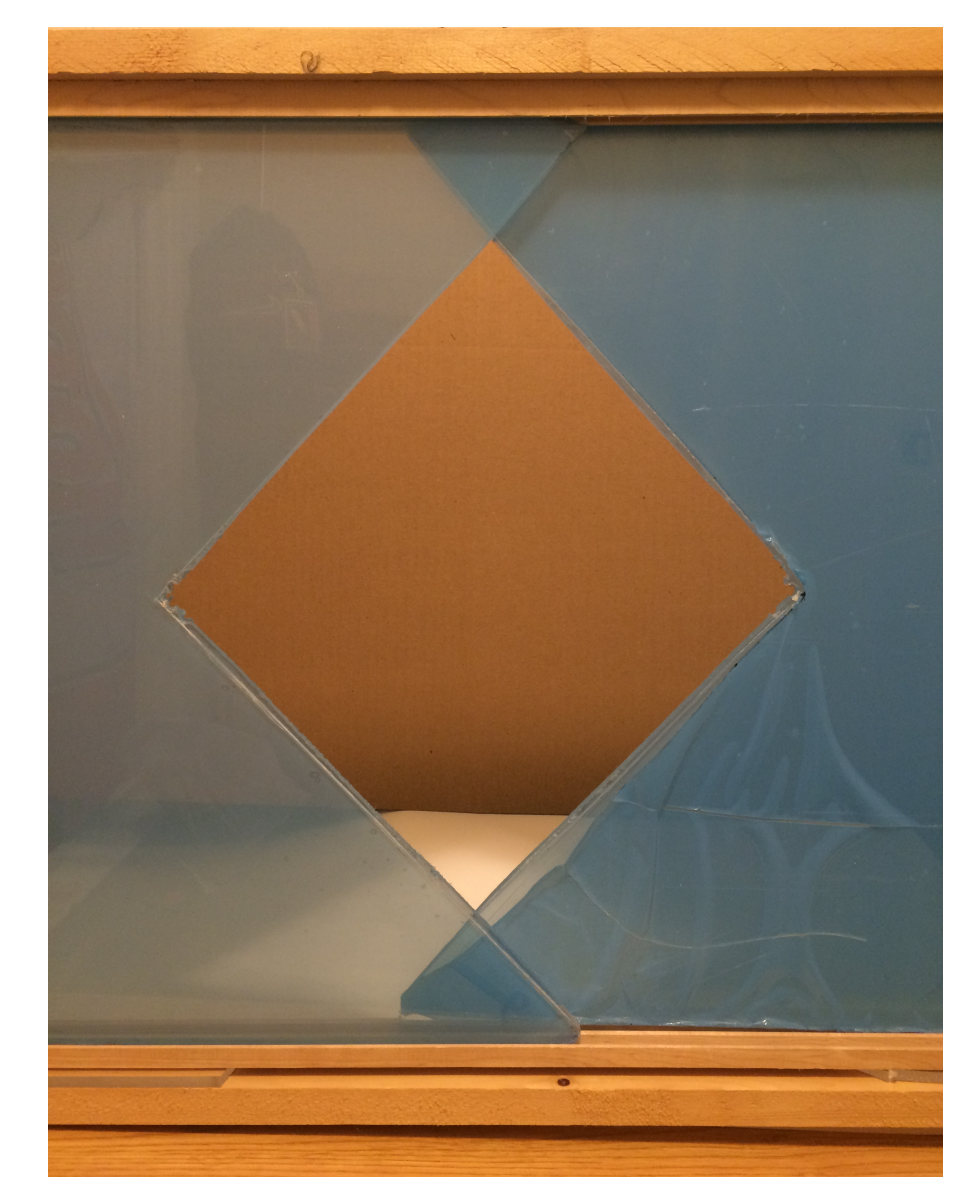
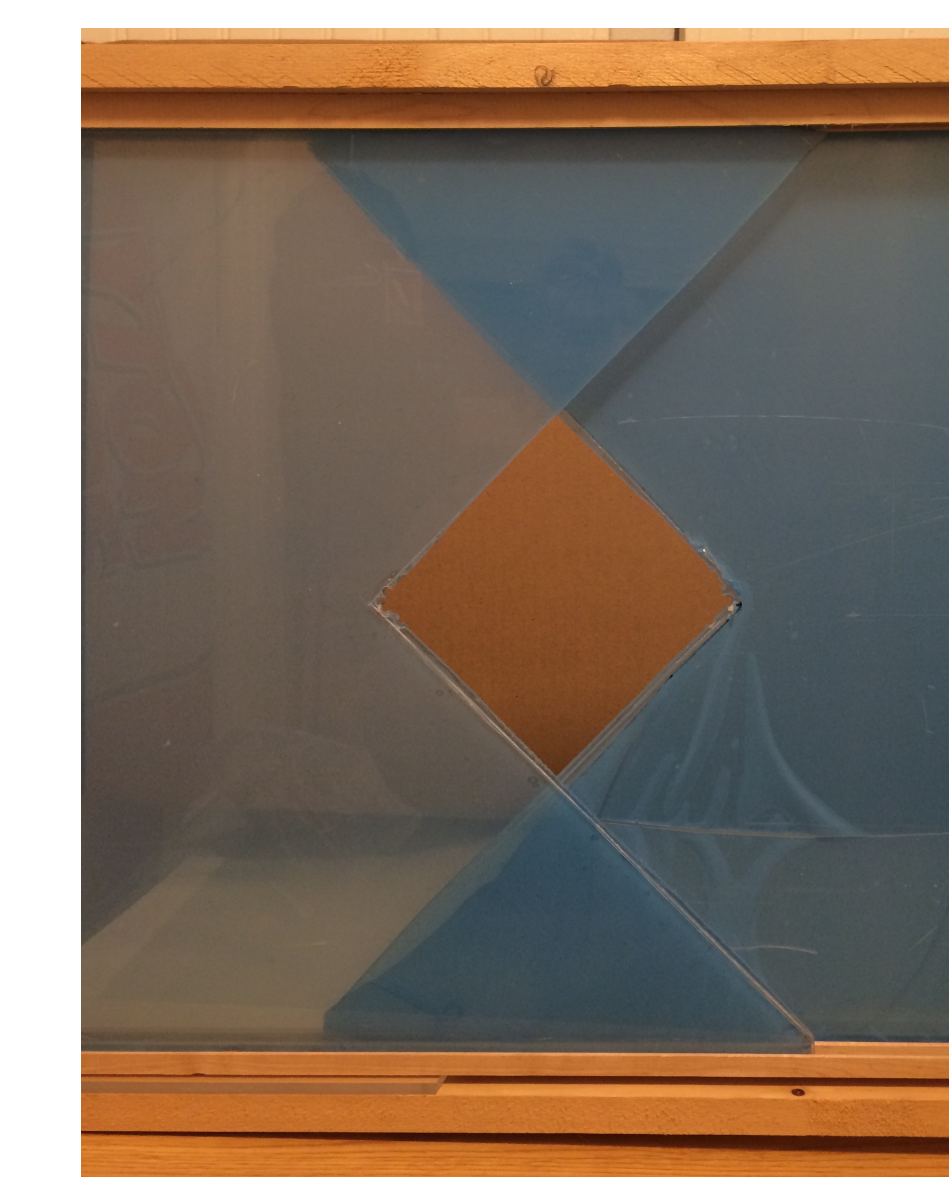
#### Affordance Judgment Task

- Participant wears from 1 to 5 sweatshirts (randomized)
- Method of limits: bar is raised until beyond judged reach height or lowered until within reachable height



## Discussion and Future Directions

- Experiment 1 suggests that clothing does not influence actual reachability, but does influence perceived reachability
  - As clothing layers increased, difference between actual & judged reachability increased
- Experiment 2, in progress, is predicted to replicate Experiment 1 with a more rigorous measure of perceived reachability
- Experiment 3, in progress, will assess the influence of clothing on perceived passability
  - Participants will judge the passability of their arms through apertures under different clothing conditions



- These experiments provide evidence that the body schema is flexible and adaptable and influences judgments about one's ability to act in the environment

## References

- Iriki, A., Tanaka, M., & Iwamura, Y. (1996). Coding of modified body schema during tool use by macaque postcentral neurones. *Neuroreport*, 7(14), 2325-2330.
- Proffitt, D. R., Stefanucci, J., Banton, T., & Epstein, W. (2003). The role of effort in perceiving distance. *Psychological Science*, 14(2), 106-112.