The influence of postural stability and yoga experience on perceptions of other’s postural stability

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Kinesiology and Health Science
Our abilities and experiences can influence how we perceive the world...
Short Report

See the Apparent Ball

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University of Virginia
Perceived distance an

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b Department of Statistics, Colorado State Univ

Fig. 4. Verbally estimated distance as a function of body weight and target distance. Each point represents data from one or more participants, and there are 4 points for each participant (1 for each target distance). Lines represent linear regressions from Model 9 with PST set to the mean PST of 6.62. Thicker lines correspond to farther target distances. The graph shows the increased relationship between estimated distance and body weight as target distance increases.
Could our abilities and experiences influence how we perceive the abilities of other people?
Introduction
Variables and Hypotheses

- **Independent Variable:**
  - Yoga experience
  - History of injury

- **Dependent Variable:**
  - Own postural stability
    - Extent of sway (COBALT)
    - Dynamics of sway (SampEn of quiet stance)
  - Perception of other’s postural stability
Hypothesis:

- Perceptions of another’s stability will be influenced by the participant’s own abilities (e.g., postural stability) and his/her own experience with a stability-specific task (e.g. yoga)
Methods - Overview

- Comparison 1:
  - Current Yoga (2x/week for at least 3 months)
  - Non-Current Yoga

- Comparison 2:
  - History of bodily injury (any)
  - No history of injury
One Minute Quiet Stance

COBALT

Posture Perceptions

Less Regular

More Regular

SampEn = .14

SampEn = .71

Medial-Lateral

Anterior-Posterior

ApEn = .1392

ApEn = .6944

Less Regular

More Regular
### COBALT

#### One Minute Quiet Stance

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sway Score</th>
<th>No. of Errors</th>
<th>Time to 1st Error (secs)</th>
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<tbody>
<tr>
<td><strong>Firm Normal - EC HS</strong></td>
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<td>Trial 1</td>
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<tr>
<td><strong>Average</strong></td>
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<tr>
<td>Trial 1</td>
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<td>Trial 2</td>
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<td><strong>Average</strong></td>
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<tr>
<td><strong>Average</strong></td>
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<tr>
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<tr>
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<td><strong>Average</strong></td>
<td>0.97</td>
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One Minute
Quiet Stance

COBALT

Perception of other’s stability
How long could this person hold this posture?

<table>
<thead>
<tr>
<th>seconds</th>
<th>minutes</th>
<th>hours</th>
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0s 1s 10s 1m 10m 1h 10h
Methods- continued

Questions:

● On a scale from 1-10 how fit was this person?
● On a scale from 1-10 how fit are you?
● Past bodily injuries?
Data and Results
$t(52) = -2.19 \quad p = 0.03$
Average Posture Rating of Other

Currently in Yoga

Currently NO Yoga

$\text{t}(52) = 0.26 \quad p = 0.80$
$t(52) = -3.26 \quad p = 0.00$
t(52) = 0.17  p = 0.87

Average Posture Rating

History of Injury

No History of Injury
The scatter plot shows a positive correlation between the Cobalt Average Score and the Average Posture Rating of Other. The correlation coefficient is \( \rho = 0.26 \) and the p-value is \( p = 0.06 \).
rho = 0.28  pval = 0.04
Conclusions:

- Yoga experience didn’t influence the perception of another’s stability
- Having an injury didn’t influence the perception of another’s stability
- Relationship between one’s own stability score and perception of another’s stability
- Significant correlation between one’s own fitness perception and the perception of another’s stability