

# The Effect of Posture on Visualization: A Test of Gravitational Frame of Reference

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## Abstract

Walker and Strother (2015) suggested that a gravitational frame of reference may affect a visualization task based on posture. Participants were instructed to change posture and visualize a task. Then they were prompted with a question and their response was the dependent variable. This experiment did not yield significant results. Suggestions for future research follow.

## The Goals

- \*Determine whether posture affects a task of visualization, which would test the theory of a gravitational frame of reference.

- \*Identify method weaknesses

- \*Suggestion solutions to weaknesses

## Stimuli

[https://www.youtube.com/watch?v=i9-Vqo\\_O--o](https://www.youtube.com/watch?v=i9-Vqo_O--o)



Participants were instructed via audio message over You-Tube to close their eyes and visualize two basketball players like the ones pictured here. Participants were then asked to imagine that one of them passed the ball to the other then asked the question "which player passed the ball, the one on the left or the one on the right?"

## Design and Procedure

Tacit Consent-

This message preceded the consent: If you choose to participate in this experiment you will watch another You Tube video with a set of instructions. You will be asked to lie down and visualize and even. After answering a question about what you imagined, you will be asked to submit your responses via email to [strothk@eou.edu](mailto:strothk@eou.edu), who will be the only one to know your identity.

Counterbalanced by birth month

Condition A - Lie on right side

-January, March, May, July, September, November

Condition B - Lie on left side

-February, April, June, August, October, December

Progression through linked annotations

"To access the experiment now"

"Click here if you were born in JANUARY, MARCH, MAY, JULY, SEPTEMBER, NOVEMBER"

"Click here if you were born in FEBRUARY, APRIL, JUNE, AUGUST, OCTOBER, DECEMBER"

"For more information about this experiment Click Here--Debriefing"

## Data Collection

Experimenters posted the link for the You-Tube video on their Facebook pages. In addition psychology students from Eastern Oregon University were referred to the video from a psychology instructor and offered extra credit in exchange for their participation. Participants emailed their results to one of the experimenters of the project.

## Results

This analysis shows no relationship between condition and side, chi squared(1) = 0,  $p = 1$ .

	Left	Right
Condition A	6	13
Condition B	7	12

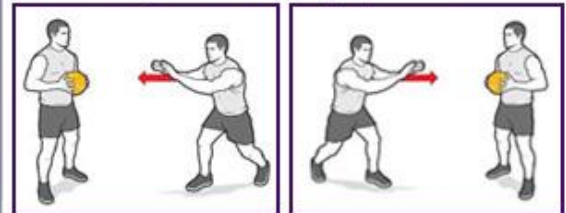
## Weaknesses and Suggestions

This experiment did not yield results of statistical significance. Some limitations of this study and suggestions are as follows:

- \*This study requested participants to perform a visualization, but performed audible instructions. Visual prompts such as the standing position, followed by visual prompts for response selection may produce different results.

- \*This study did not collect demographic data such as age or handedness. Handedness may have impacted results. Future research should control for handedness.

- \*This study did not control for an upright position but rather asked both conditions to change posture to a lying-down position. Future research may include an upright position.



## Summary

Although some studies indicate posture has effects on various functions, in this study it did not seem to affect visualization. Future research possibilities would include a control for handedness in the sample, visual prompts before the visualization task, and counterbalance for the delivery of response options.

## References

Walker, A. & Strother, K. (2015). The Effect of Posture on Visualization: A test of gravitational frame