

Experimental Materials for *Doing and Seeing are not Believing: An Investigation into the Relations Between Conceptual and Perceptual Knowing*

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The following presents the materials for the five experiments.

- pp. 2 – 6: Experimental Procedures & Materials for Experiment 1
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For Experiments 1 -3, comments and section headings that are not shown to participants as part of the experimental procedure are set in [square brackets].

Experimental Procedures & Materials for Experiment 1

[Phase 1]

You are going to see two videos of a person on a balance beam, and after you see them we are going to ask you some questions about them.

Page Break

To acquaint you with the context, Figure A shows a balance beam. Figure B shows someone on the balance beam who has moved his arms to the left. Figure C shows someone on the balance beam who has moved his arms to the right.



Figure A.



Figure B.

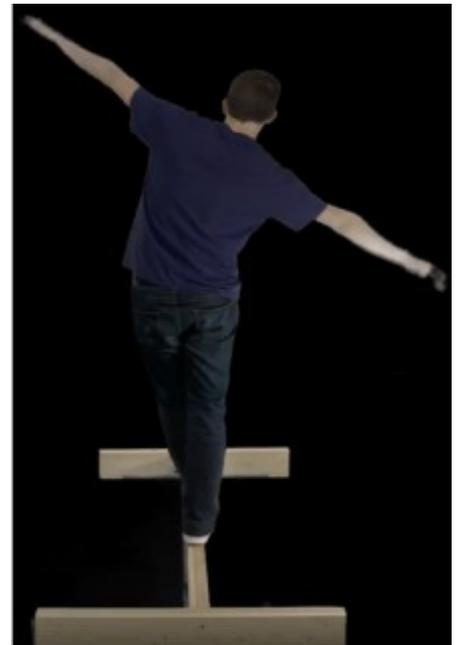


Figure C.

Page Break

Now we are going to show you a video of a person on a balance beam. After the video, we will ask you a follow-up question. The video will automatically play on the next page. Click the arrow when you're ready to watch the video.

Page Break

[Experiments 1 – 2; Phase 1, video 1: automatically loads, plays, and moves to the next page]

Page Break

Which way did the person swing his arms?

Left

Right

Page Break

Now we are going to show you another video of a person on a balance beam. After the video, we will ask you a follow-up question. The video will automatically play on the next page. Click the arrow when you're ready to watch the video.

Page Break

[Experiments 1 – 2; Phase 1, video 2: automatically loads, plays, and moves to the next page]

Page Break

Which way did the person swing his arms?

Left

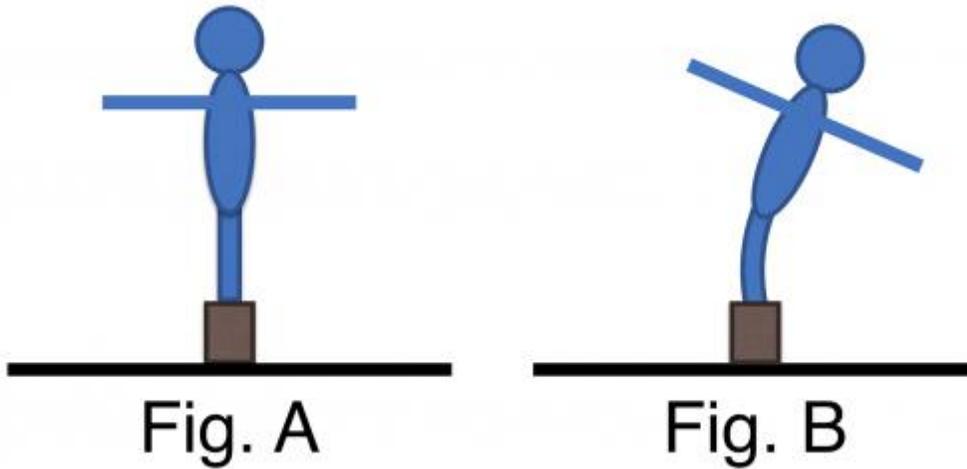
Right

Page Break

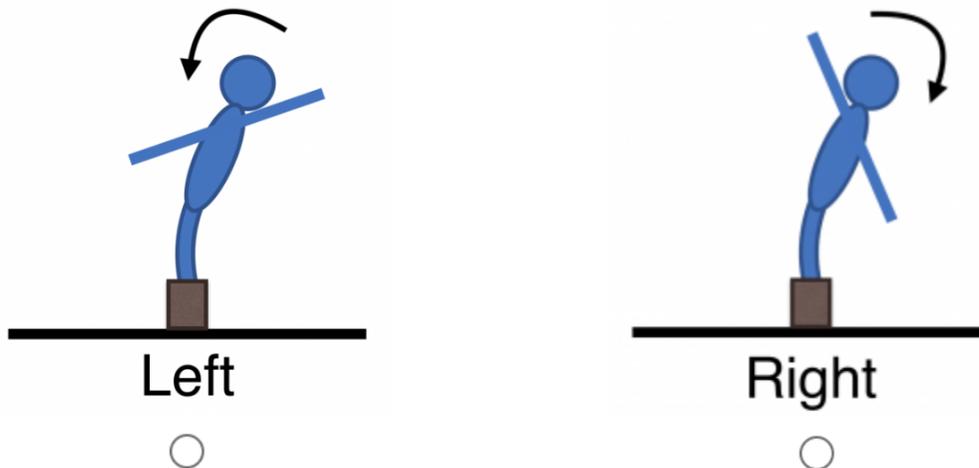
[Prediction Question for Experiment 1]

[*Note: Only participants randomly assigned to the prediction condition receive this question else participants move directly to Phase 2.]

Think of a person balancing on a balance beam (Fig. A). Now think of the person starting to fall toward the right (clockwise direction) (Fig. B).

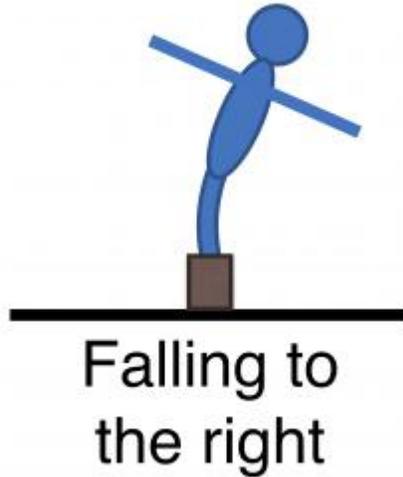


In which direction (right or left) would the person have to swing their arms to maintain their balance on the balance beam?



[Phase 2]

You are going to see a video of a person on a balance beam, and after you see it we are going to ask you some questions. In the video, the person shown starts to **fall toward the right** and swings his arms to regain his balance.



The video will automatically play on the next page. You will only see the video once. Click the arrow when you're ready to watch the video.

Page Break

[Experiments 1 – 2; Phase 2, video 1: automatically loads, plays, and moves to the next page]

Page Break

Which way did the person swing his arms?

Left

Right

Page Break

Now we are going to show you another video of a person on a balance beam. In the video, the person shown starts to **fall toward the right** and swings his arms to regain his balance. After the video, we will ask you some follow-up questions. The video will automatically play on the next page. Click the arrow when you're ready to watch the video.

Page Break

[Experiments 1 – 2; Phase 2, video 2: automatically loads, plays, and moves to the next page]

Page Break

Which way did the person swing his arms?

Left

Right

Page Break

[Survey End]

Considering the entire activity: Were any parts unclear? Was there any point where you were uncertain about the instructions? Were there any technical errors with the survey?

If so, please describe what was unclear or uncertain or what errors occurred.

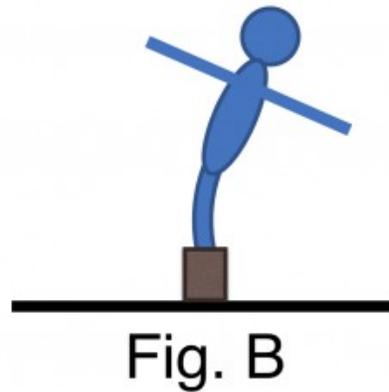
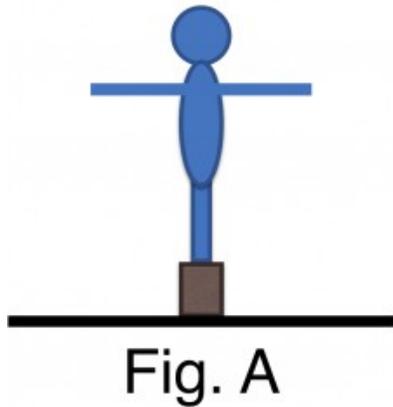
Experimental Procedures & Materials for Experiment 2

[*Note: Phase 1 in Experiment 2 matched Experiment 1 exactly. Experiment 2 only modified the prediction question and Phase 2]

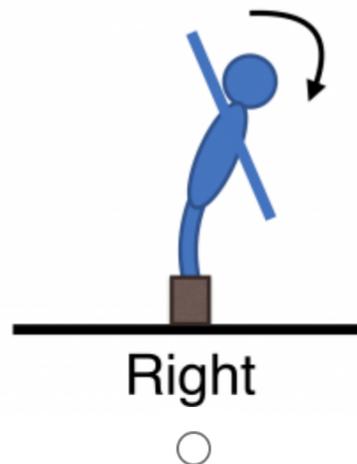
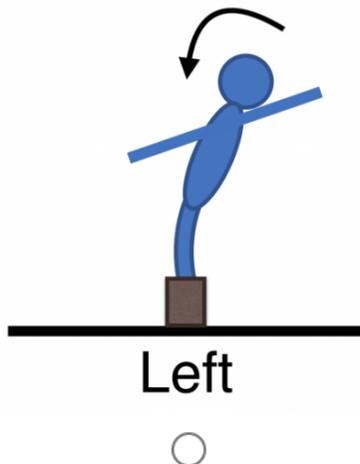
[Prediction Question]

[*Note: Only participants randomly assigned to the prediction condition receive this question else participants move directly to Phase 2.]

Think of a person balancing on a balance beam (Fig. A). Now think of the person starting to fall toward the right (Fig. B).



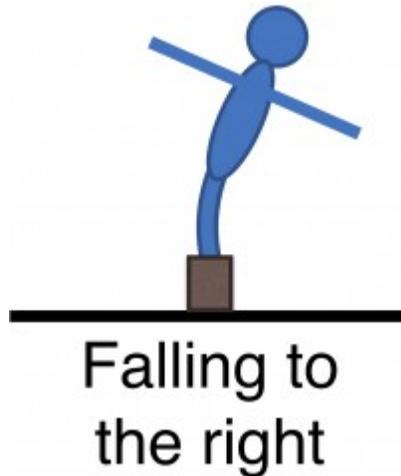
In which direction (left or right) would the person have to swing their arms to keep from falling off the balance beam?



Page Break

[Phase 2]

You are going to see a video of a person on a balance beam. After the video, we will ask you a follow-up question. In the video, the person shown starts to **fall toward the right** and swings his arms to keep from falling off.



The video will automatically play on the next page. You will only see the video once. Click the arrow when you're ready to watch the video.

Page Break

[Experiments 1 – 2; Phase 2, video 1: automatically loads, plays, and moves to the next page]

Page Break

Which way did the person swing his arms?

Left

Right

Page Break

Now we are going to show you another video of a person on a balance beam. In the video, the person shown starts to **fall toward the right** and swings his arms to keep from falling off. After the video, we will ask you a follow-up question. The video will automatically play on the next page. Click the arrow when you're ready to watch the video.

Page Break

[Experiments 1 – 2; Phase 2, video 2: automatically loads, plays, and moves to the next page]

Page Break

Which way did the person swing his arms?

Left

Right

Page Break

[Survey End]

Considering the entire activity: Were any parts unclear? Was there any point where you were uncertain about the instructions? Were there any technical errors with the survey?

If so, please describe what was unclear or uncertain or what errors occurred.

Videos used in Experiment 3

***Note: The materials used in Experiment 3 were identical to those used in Experiment 2, except different videos were used. The following is a list of the different videos used in Experiment 3.**

Experiment 3; Phase 1, video 1

Experiment 3; Phase 1, video 2

Experiment 3; Phase 2, video 1, ambiguous visual stimuli condition

Experiment 3; Phase 2, video 2, ambiguous visual stimuli condition

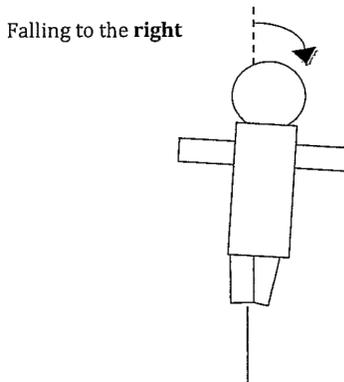
Experiment 3; Phase 2, video 1, unambiguous visual stimuli condition

Experiment 3; Phase 2, video 2, unambiguous visual stimuli condition

Prediction Question for Experiments 4-5

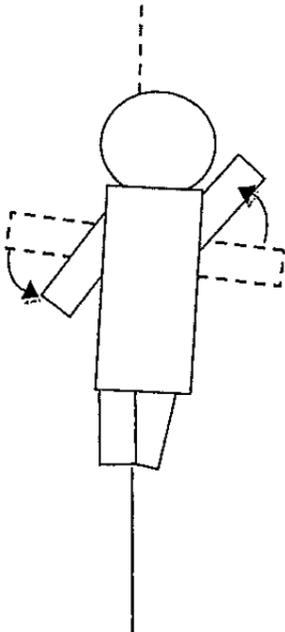
[*Note: There was another version where the person was falling to the left. The direction of falling was randomly assigned to participants]

A person is balancing on a tight rope right in front of you. You are looking at the person from behind so that both of you are facing the same direction. The person then starts falling to the **right** as indicated in the picture below.

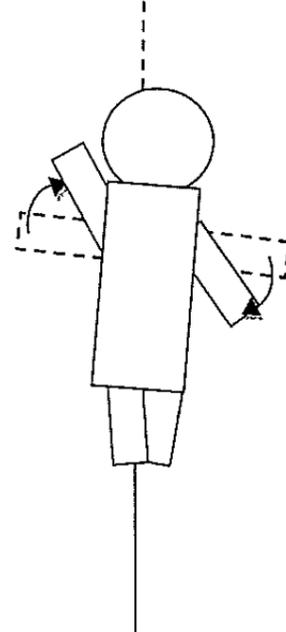


Which way does the person need to swing their arms to regain their balance?

a)



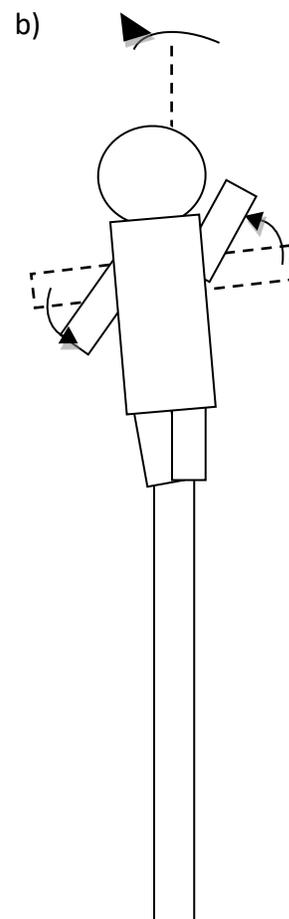
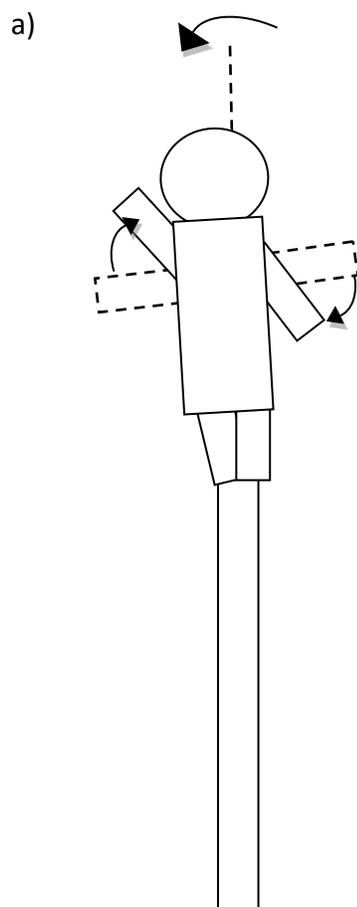
b)



Recall / Delayed Recall Question for Experiments 4-5

[*Note: There was another version where the person was falling to the right. The direction of the person falling for the immediate recall was chosen to match the most common falling direction when the participant themselves balanced on the beam. For the delayed recall, the direction of the fall was counterbalanced.]

You were just on the balance beam. The below diagram is a view from the back. At one point, you started to **fall to the left**. When that happened, which way did you swing your arms to maintain your balance?



Imagery Script for Experiments 5a/b

We would like to have you complete an activity involving imagery before we ask you some questions. To do this I would like you to close your eyes and imagine yourself back on the balance beam while holding out your arms out like this [demonstrate].

[wait until eyes are closed if not prompt them to close their eyes].

Now with your eyes closed and arms out, I am going to guide you through the activity. Imagine yourself balancing on the balance beam. Take about a few seconds to replay your balancing in your head [Wait 2 seconds]. Now envision yourself starting to fall to the right and how your arms moved [Wait 2 seconds]. Now envision yourself starting to fall to the left and how your arms moved. [Wait 2 seconds]. OK now open your eyes and Please answer this question.

Imagery Script for Experiment 5c

We are going to have you complete some imagery exercises. To do this we will ask you to imagine yourself in some situations. During this activity we want you to imagine without thinking. We are going to describe some scenarios and then ask you to do an action. We want you to do the action as quickly as possible without thinking about it. This means to go with however your body starts moving and try not to correct yourself. We want you to do whatever you do naturally for this activity.

I will now model for you what we would like you to do. We will ask you to close your eyes and imagine a situation. For example, if I say, imagine that there is a target right in front of you, you would close your eyes like this [demonstrate]. [wait 2 seconds] You have a baseball in your hand [hold your hand showing that you have a baseball ready to throw]. [wait 2 seconds] You want to throw the ball to hit the target. If we say “THROW THE BALL TO HIT THE TARGET” [say it authoritatively and louder] we want you to immediately do this [show throwing motion] without thinking.

[check if they understand correctly]

Now it's a completely different scenario. This next imagery exercise will involve the balancing you did on the balance beam. In order to this, we would like you to put yourself back on the balance beam in your mind's eye and act as if you were actually balancing on the beam. Please close your eyes.

[wait until eyes are closed if not prompt them to close their eyes].

Imagine yourself about to get on the balance beam. You step onto the balance beam and stand with your arms out to your side [if they don't put their arms to the side ask them to do so]. Imagine yourself walking to the middle of the balance beam. You are now standing on the middle of the balance beam [Wait 2 seconds]. You feel yourself start to fall to your right— QUICKLY SWING YOUR ARMS TO STOP FALLING]. You stop falling to your right and now that you have stopped falling you straighten yourself up*. [Wait 2 seconds]. Now you take a couple of steps forward on the balance beam [Wait 2 seconds]. Now you take a couple of steps backwards on the balance beam [Wait 2 seconds]. You feel yourself start to fall to your left— QUICKLY SWING YOUR ARMS TO STOP FALLING [Wait 2 seconds]. You stop falling to your left and now that you have stopped falling you straighten yourself up*. OK please open your eyes and answer this question.

[*Note: This sentence was ignored if the participant moved back to neutral without prompting]