



The Role of the Right Hemisphere and Interhemispheric Connectivity in Moral Decision-Making

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Background

Previous research has found that the left and right hemispheres of the brain often play preferential or distinct functional roles in many cognitive domains. While brain imaging techniques have begun to elucidate some of the neurological components of moral decision-making, research is scarce on whether brain hemispheres play a preferential role in responding to certain moral dilemmas.

The current study was designed to address this issue by systematically over-activating either the left or right hemisphere while participants made moral decisions.

Method

357 participants completed a standard moral dilemma paradigm (see Conway & Gawronski, 2013) under 1 of 3 conditions of preferential hemispheric activation:

- Left hemisphere activation (rightward-looking goggles)
- Right hemisphere activation (leftward-looking goggles)
- Control (no goggles)
- All participants completed two blocks of 10 moral dilemmas (congruent and incongruent).
- Choice & RT data were recorded in all trials

Dual Process Approach

Congruent trials:

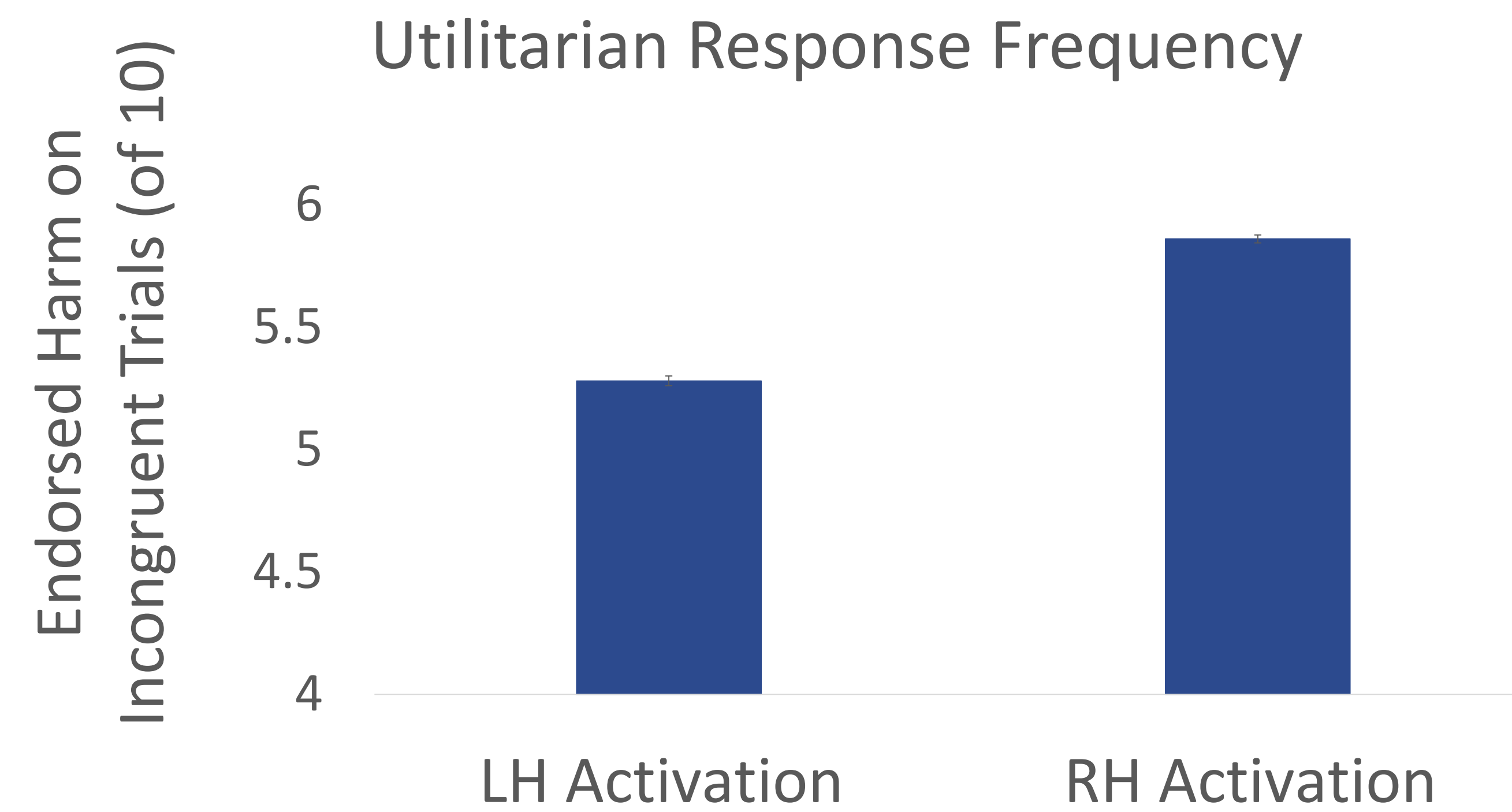
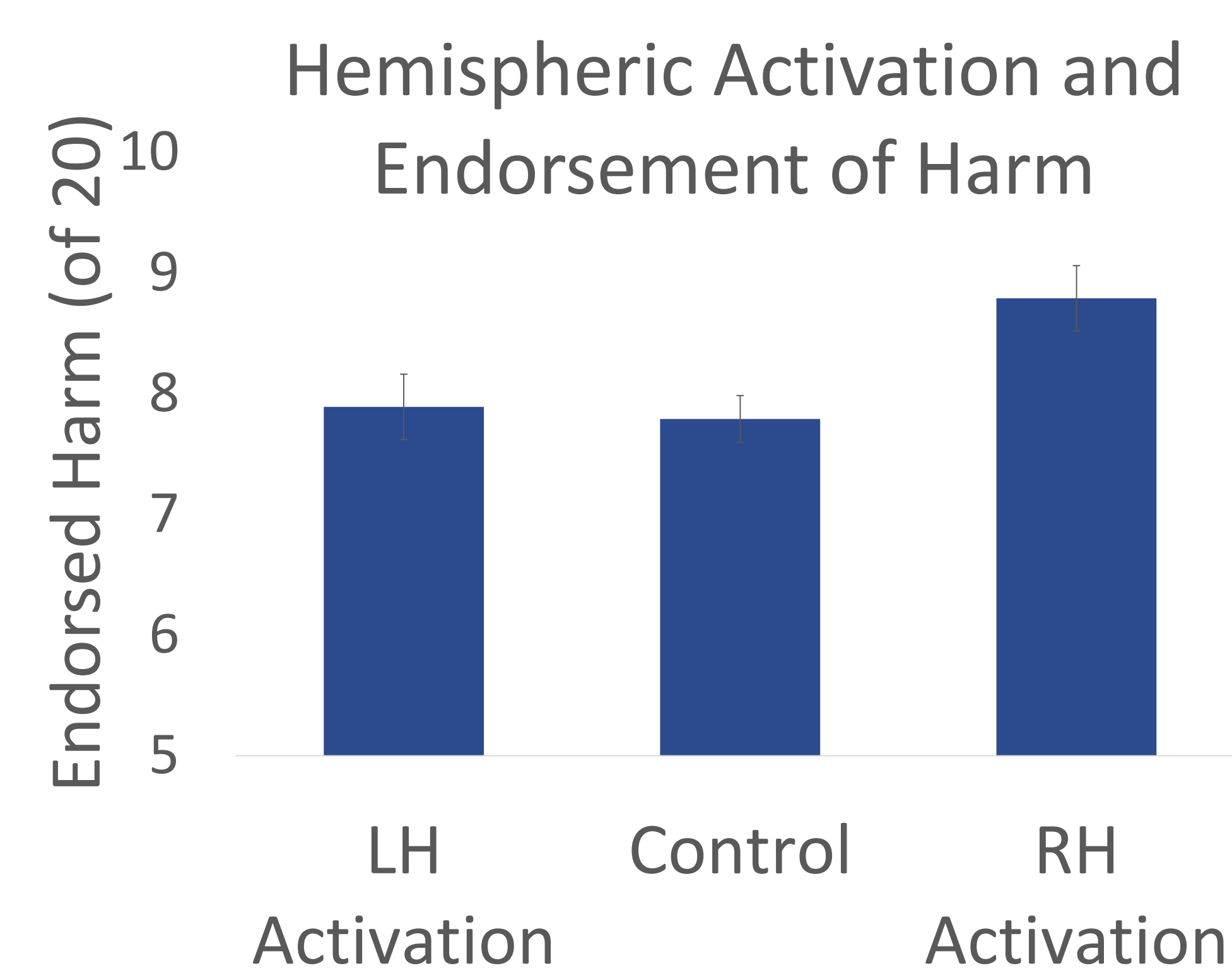
Do you torture individual to find out where the next non-lethal paint bomb will go off?

Utilitarian Response/Process: No
Deontological Response/Process: No

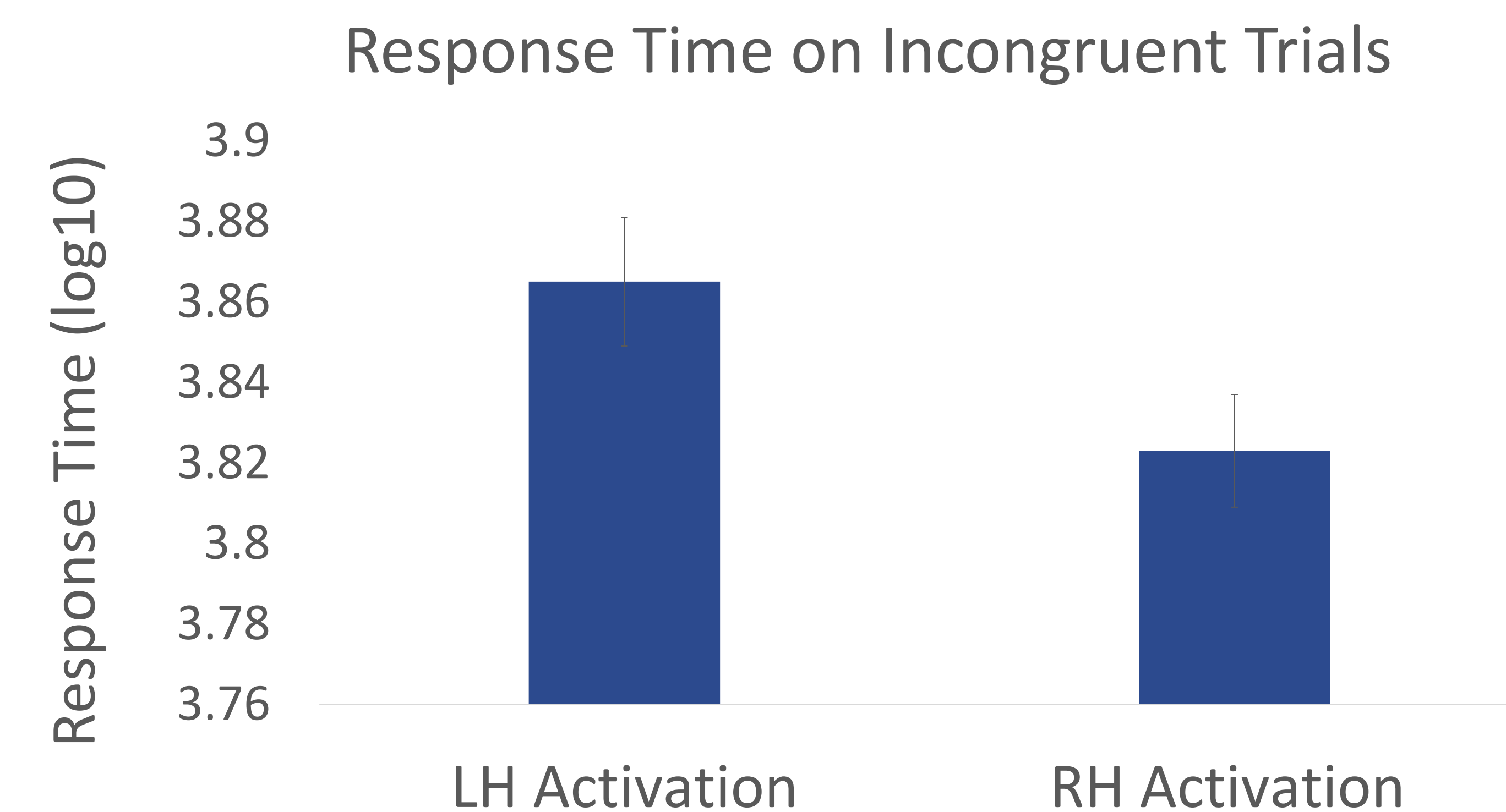
Incongruent trials:

Do you torture individual to find out where the next lethal bomb will go off?

Utilitarian Response/Process: Yes
Deontological Response/Process: No



	Congruent Trials (Harm)		Incongruent Trials (Harm)	
	M	SD	M	SD
RH	2.93	1.60	5.86	1.53
LH	2.61	1.69	5.28	1.90
Control	2.32	1.39	5.46	1.75
RH RT	3.63	.179	3.82	.133
LH RT	3.64	.178	3.87	.153
Control RT	3.64	1.89	3.86	.155



References

1. Conway, P., & Gawronski, B. (2013). Deontological and utilitarian inclinations in moral decision making: A process dissociation approach. *Journal of Personality and Social Psychology*, 104(2), 216-235.

Results

- Participants endorsed more harm when the RH was activated $F(2,354)=4.851, p = .008$.
- Increased harm endorsed on incongruent trials $t(178)= 2.248, p = .026$ but not congruent trials.
- RH activation led to faster responses than Left hemispheric activation $t(178) = -1.97, p = .05$.
- LH activation was not different than controls for harm, $t(265)= -.794, p=.428$, and response time, $t(265)=.379, p=.705$

Conclusions & Future Studies

- RH activation increased participants' utilitarian response frequency and decreased response time.
- The RH is typically associated with emotional processing, but activation led to more utilitarian responses.
- Future research should investigate interhemispheric differences to explain this (i.e., increased holistic reasoning in the RH).
- Future studies could investigate the effects of different levels of hemispheric activation (i.e., hand dynamometers) or increasing interhemispheric connectivity.