The Subjective Confidence in one's Decisions

The basis of subjective confidence and the reasons for their accuracy

Asher Koriat
Shiri Adiv

The Subjective Confidence in one's Decisions

- There have been many studies that examined the correlation between confidence and accuracy.
- All of them yielded a positive C/A correlation indicating that people know when they are correct and when they are wrong.
- How do people monitor the correctness of their answers?

The Subjective Confidence in one's Decisions

- Most previous studies of the C/A correlation used perceptual comparison tasks or general information tasks. Often the task involved a 2-alternative choice.
- Not surprisingly, people were more often correct than wrong.
- That is, the consensual answer is typically the correct answer.

The Subjective Confidence in one's Decisions

- The question that was asked: What happens when the consensual answer is the wrong answer?
- To examine this question, we compiled a list of general info questions that included a large number of items for which the consensual answer was the wrong answer (Koriat, 2008)

  Ad-hoc classification of items:

  35 Consensually-correct (**CC**):

  57 Nonconsensual (**NC**)

  13 Consensually-Wrong (**CW**)

General Information (Koriat, 2008)

What is the longest river in the world?

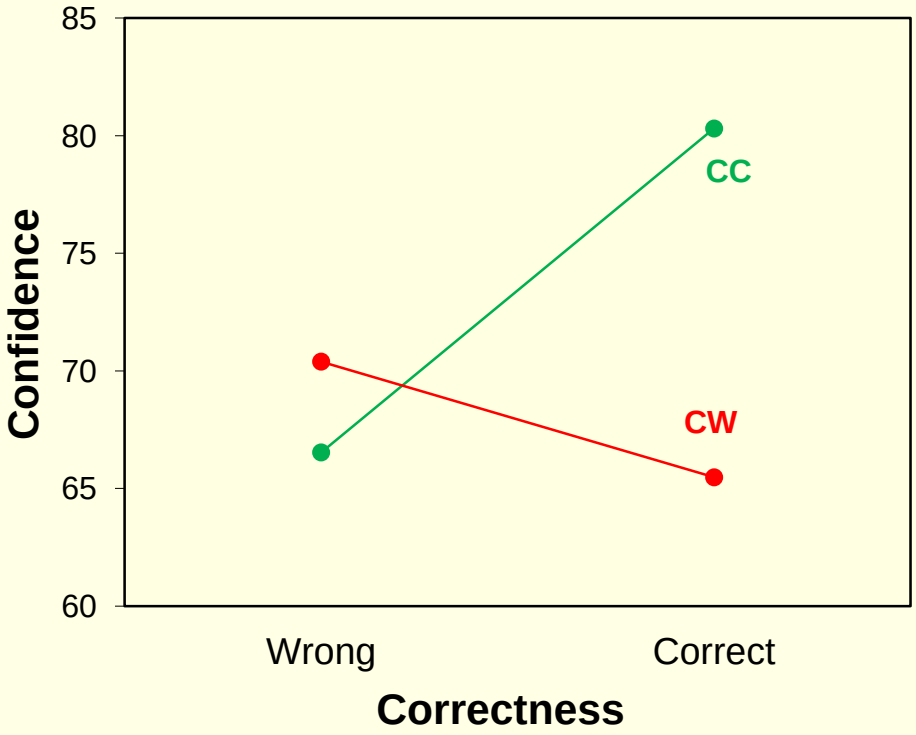
a. Amazonas

b. Nile

Confidence: 50% - 100%

The Consensuality Principle (Koriat, 2008)

• Surprisingly, the results indicated that confidence is correlated with consensuality rather than with correctness.



The Consensuality Principle

The consensuality principle has been confirmed also for

Perceptual judgments (Koriat, 2011),

Social attitudes (Koriat & Adiv, 2011**),**

Social beliefs (Koriat & Adiv, 2012),

Personal preferences (Koriat 2012).

Social Beliefs
(Koriat & Adiv, 2012)

- This study can be seen to join the growing movement to investigate traditional issues in philosophy through empirical research.
- We focus on the question of epistemic justification, examining how empirical observations on people's convictions in their beliefs may bear on the cardinal philosophical approaches to belief justification.

Social Beliefs
(Koriat & Adiv, 2012)

Old people are usually stubborn and biased

Social Beliefs
(Koriat & Adiv, 2012)

Old people are usually stubborn and biased

1. True
2. False

Social Beliefs
(Koriat & Adiv, 2012)

Old people are usually stubborn and biased

1. True
2. False

Confirm

Social Beliefs
(Koriat & Adiv, 2012)

Old people are usually stubborn and biased

1. True
2. False

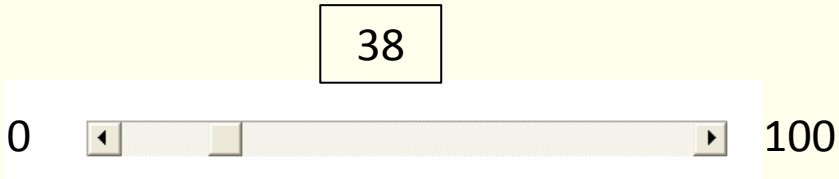
Confirm

Social Beliefs
(Koriat & Adiv, 2012)

Old people are usually stubborn and biased

1. True
2. False

Confirm



Confirm

Social Beliefs
(Koriat & Adiv, 2012)

There is a supreme being controlling the universe

Social Beliefs
(Koriat & Adiv, 2012)

There is a supreme being controlling the universe

1. True
2. False

Social Beliefs
(Koriat & Adiv, 2012)

There is a supreme being controlling the universe

1. True
2. False

Confirm

Social Beliefs
(Koriat & Adiv, 2012)

There is a supreme being controlling the universe

1. True
2. False

Confirm

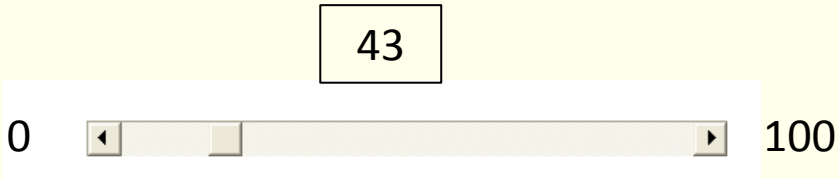
Confirm

Social Beliefs
(Koriat & Adiv, 2012)

There is a supreme being controlling the universe

1. True
2. False

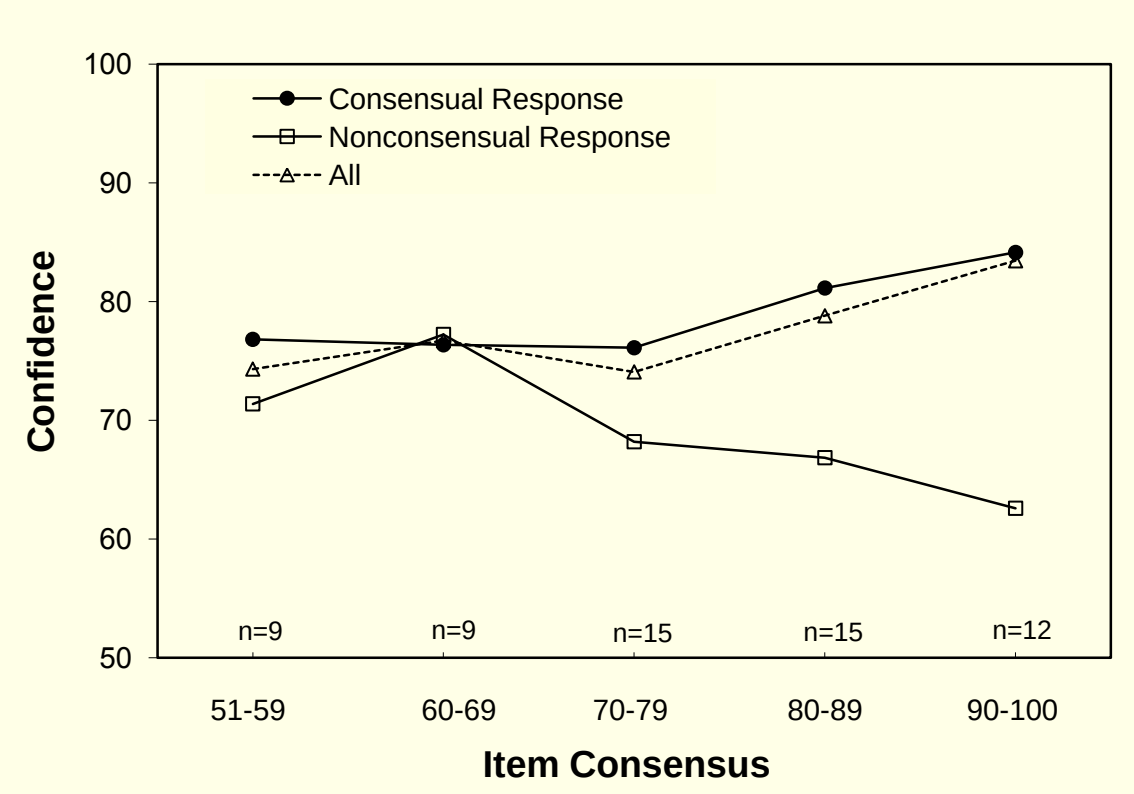
Confirm



Confirm

Social Beliefs

Item consensus
(Koriat & Adiv, 2012)

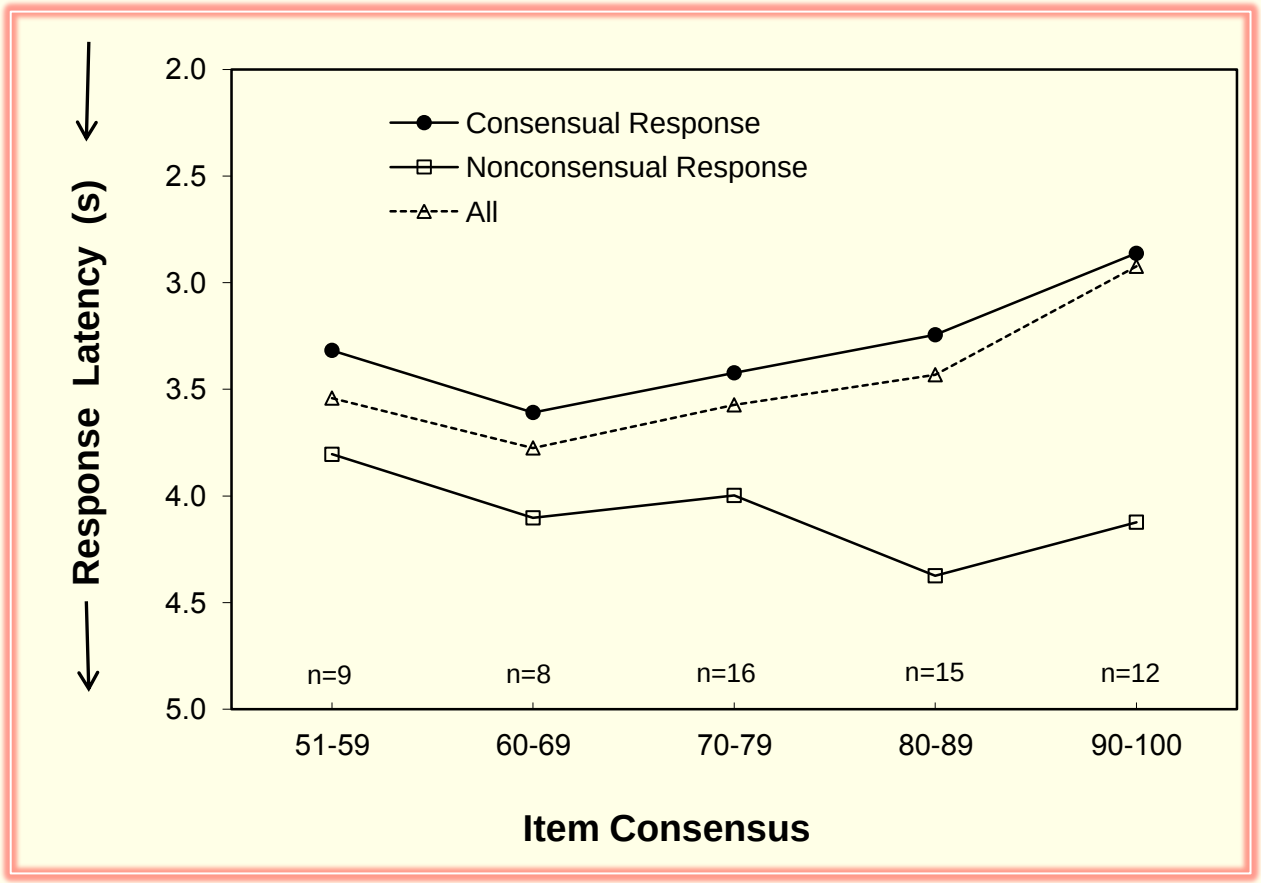


Mean confidence for majority and minority choices as a function of item consensus.

Social Beliefs

Item consensus

(Koriat & Adiv, 2012)



Mean response latency for majority and minority choices as a function of item consensus.

Social Beliefs
(Koriat & Adiv, 2012)

- The implications of the results were tested for philosophical theories of belief justification such as
- Foundationalism
- Reliablism
- Coherentism

Social Attitudes
(Koriat & Adiv, 2011)

Death penalty

Social Attitudes
(Koriat & Adiv, 2011)

Death penalty

1. Favor
2. Oppose

Social Attitudes
(Koriat & Adiv, 2011)

Death penalty

1. Favor
2. Oppose

Confirm

Social Attitudes
(Koriat & Adiv, 2011)

Death penalty

1. Favor
2. Oppose

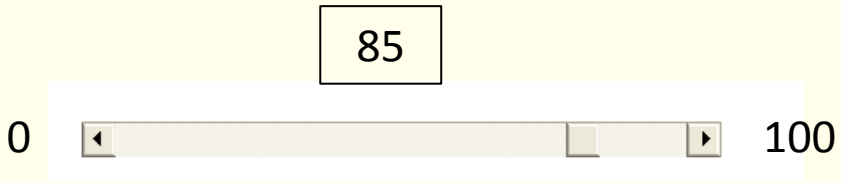
Confirm

Social Attitudes
(Koriat & Adiv, 2011)

Death penalty

1. Favor
2. Oppose

Confirm



Confirm

Social Attitudes
(Koriat & Adiv, 2011)

Evolution Theory

Social Attitudes
(Koriat & Adiv, 2011)

Evolution Theory

1. Favor
2. Oppose

Social Attitudes
(Koriat & Adiv, 2011)

Evolution Theory

1. Favor
2. Oppose

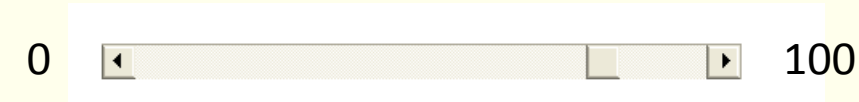
Confirm

Social Attitudes
(Koriat & Adiv, 2011)

Evolution Theory

1. Favor
2. Oppose

Confirm

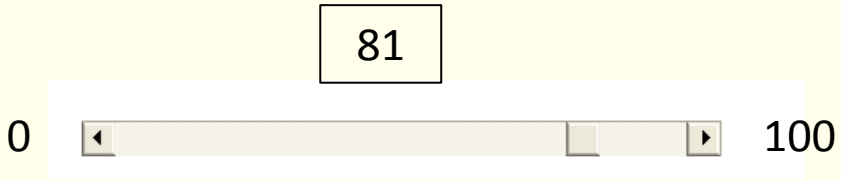


Social Attitudes
(Koriat & Adiv, 2011)

Evolution Theory

1. Favor
2. Oppose

Confirm

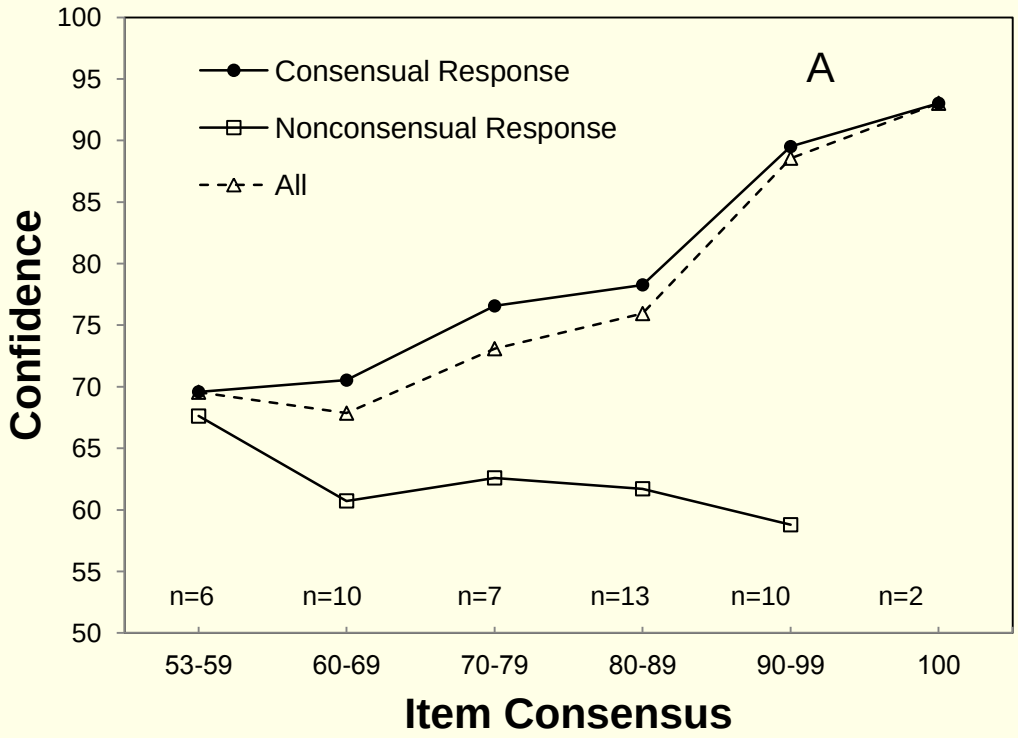


Confirm

Social Attitudes

Item consensus

(Koriat and Adiv, 2011)

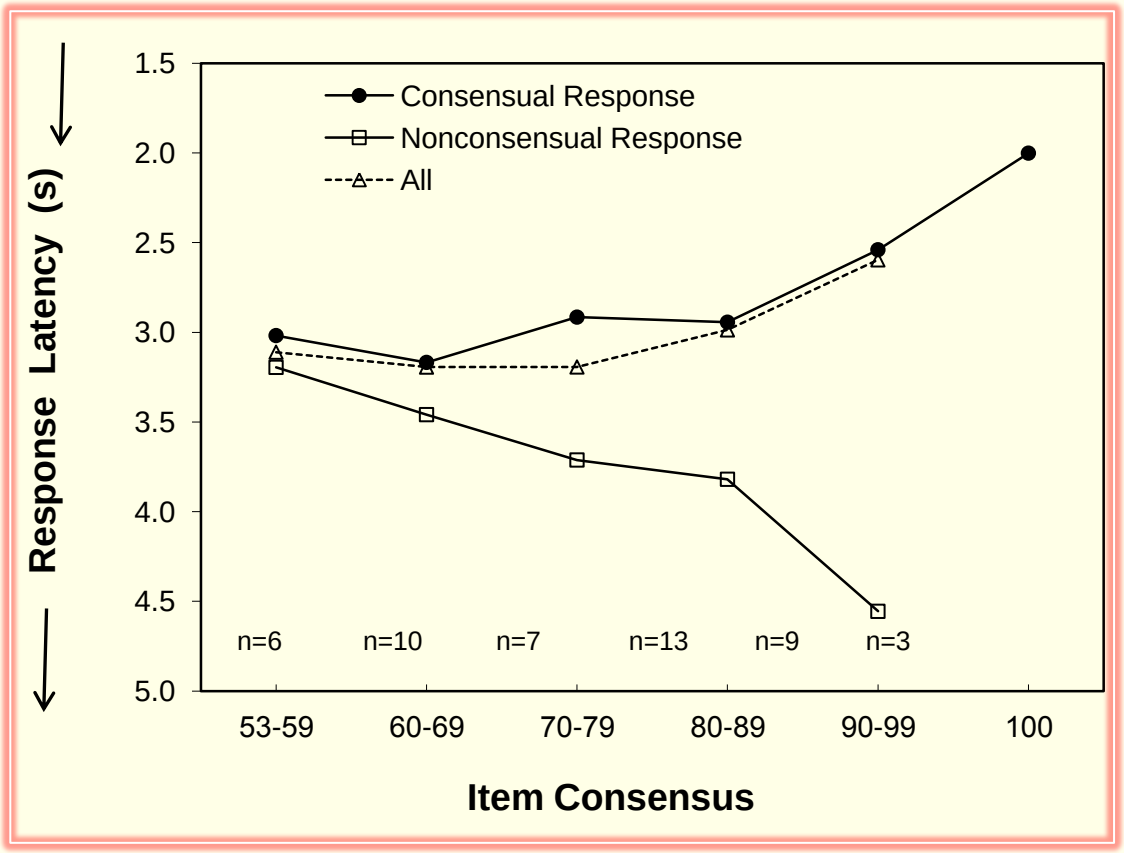


Mean confidence for majority and minority choices as a function of item consensus.

Social Attitudes

Item consensus

(Koriat and Adiv, 2011)

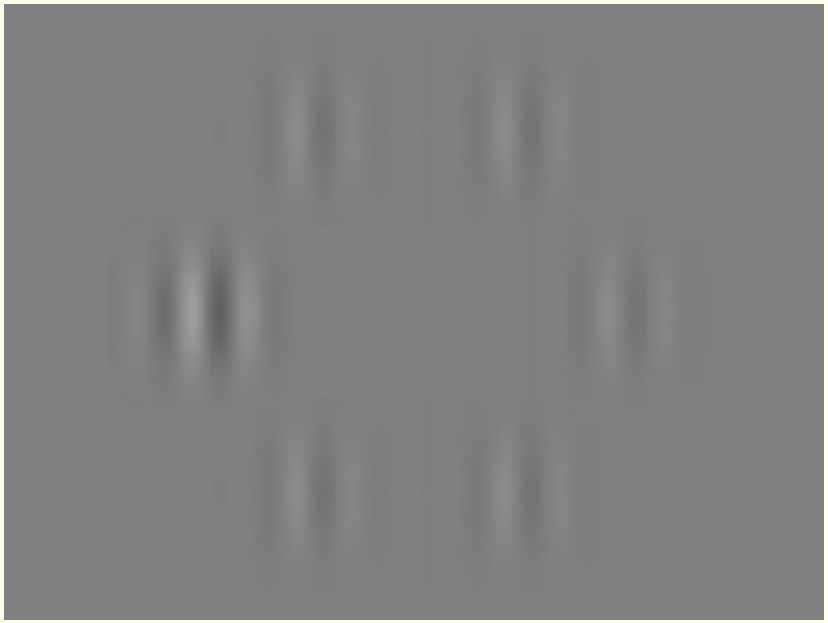


Mean response latency for majority and minority choices as a function of item consensus.

When Are Two Heads Better Than One and Why?
Koriat, 2012

- Bahrami et al. (2010) compared individual and dyadic decisions. Participants judged which of two visual stimuli contained an oddball target and then reached a joint decision.
- The results were clear: "two heads were definitely better than one provided they were given the opportunity to communicate freely" (p. 1081).
- Koriat (2012) replicated the 2-heads-better-than-1 (2HBT1) effect **in the absence of any interaction** between the members of a dyad by selecting on each trial the decision of the more confident member of a virtual dyad.
- Maximum-Confidence Slating (MCS)

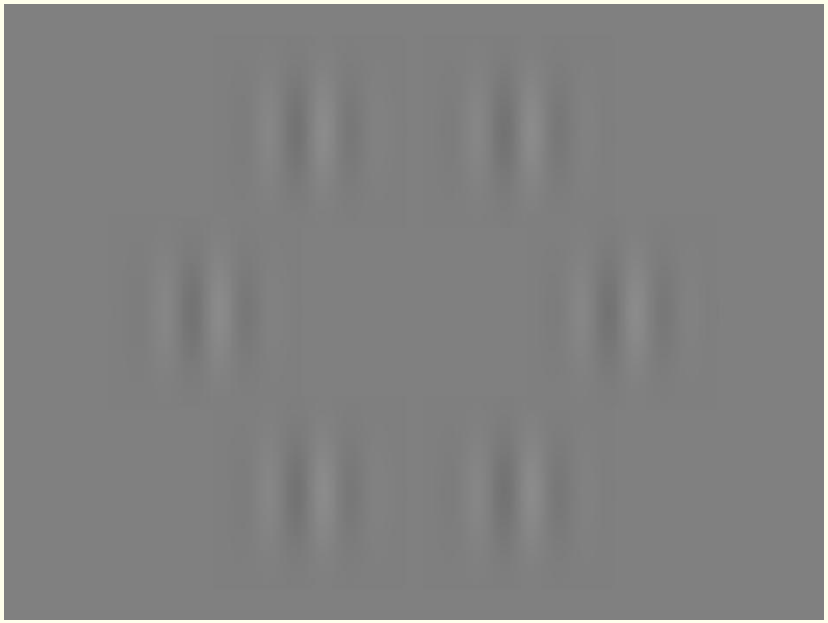
Koriat, 2012- Example



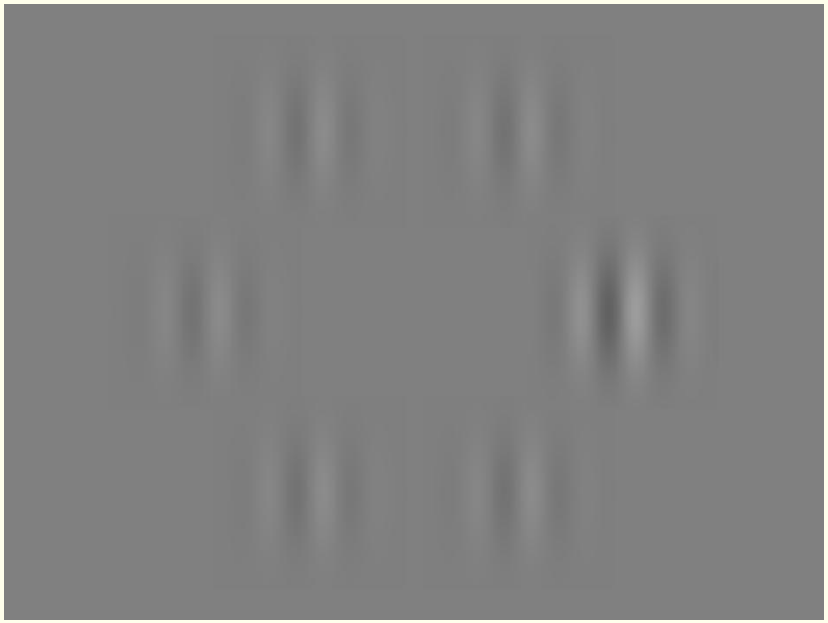
Koriat, 2012

+

Koriat, 2012



Koriat, 2012



Koriat, 2012

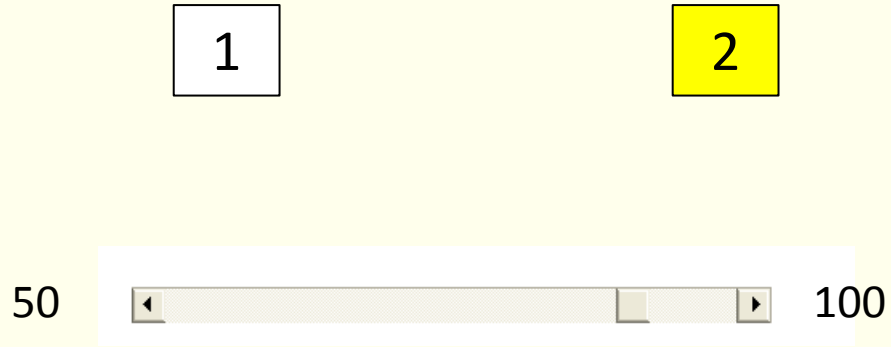
?

1

2

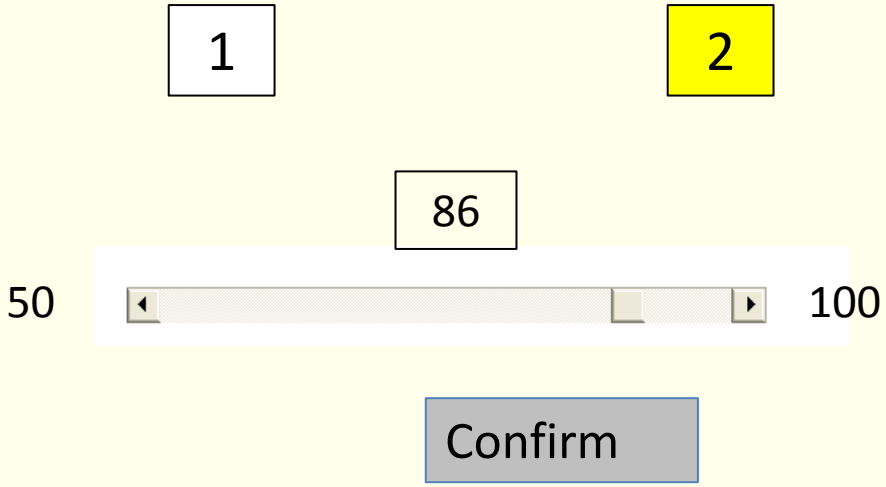
Koriat, 2012

?



Koriat, 2012

?



When Are Two Heads Better Than One and Why?

	HP	LP	D-HC	D-LC
Study 1				
	67.82%	66.98%	69.88%	64.93%

Study 1:
D-HC > HP, $t(18) = 6.69$, $p < .0001$

Koriat, 2012

Perceptual judgments

Experiment 1

Consensually Correct items

Smaller	Larger	% Correct
		83.59
		77.95
		74.87

Consensually Wrong items

Smaller	Larger	% Correct
		15.38
		15.90
		24.10

Experiment 2

Consensually Correct items

Smaller	Larger	% Correct
		89.75
		79.02
		75.12

Consensually Wrong items

Smaller	Larger	% Correct
		17.07
		21.46
		28.29

Figure 2

When Are Two Heads Better Than One and Why?

		HP	LP	D-HC	D-LC
		Study 3			
Lines	CC	81.58%	80.59%	85.03%	77.14%
	CW	25.00%	26.31%	17.10%	34.21%
Shapes	CC	83.33%	84.58%	86.67%	81.25%
	CW	28.13%	24.06%	22.50%	29.69%

Thank You