

# When do you rather believe in their face?

## Numerical interpretation of verbal probabilities with facial expressions

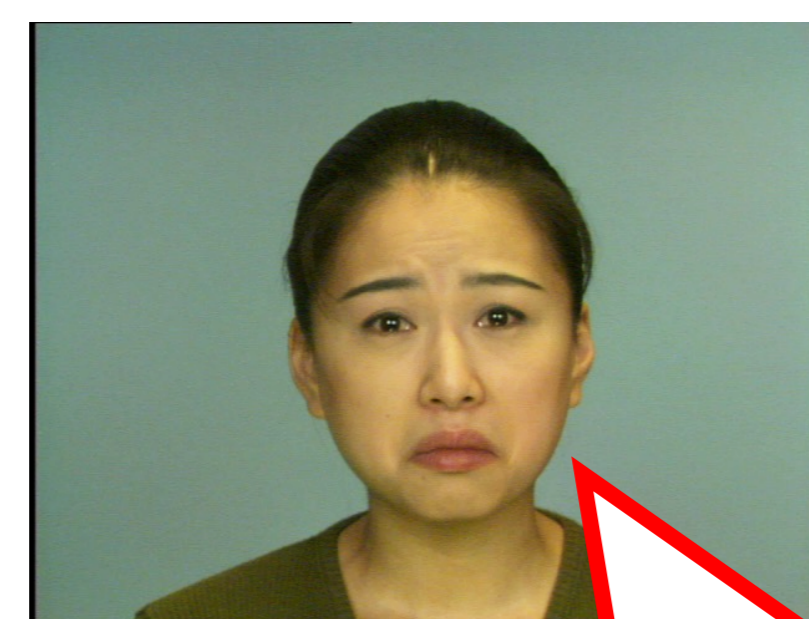


<https://zoom.us/j/7444761562>

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### Introduction

How many % do they really mean?



There is little hope that...  
It is unlikely that...

It is almost certain that...  
It is likely that...

### Verbal Probability Expressions (VPE)

(Teigen & Brun 1995, 1999)

Speaker's Direction	Listener's Focus	Listener's Reaction
Positive	occurrence	affirmative
Negative	unoccurrence	negative

### Congruence between Verbal & Non-verbal

(Mehrabian, 1971)

When they are incongruent, their impact was **words** (7%) < tone + **facial expression** (38+55%)

### Directionality X Facial Expressions

How do people interpret VPE followed by a face, especially when they are incongruent?

	Speaker's Direction	Speaker's Face	Listener's Interpretation
congruent	H1 Positive	happy	high % ?
	H2 Negative	sad	low % ?
incongruent	H3 Positive	sad	low % ?
	H4 Negative	happy	high % ?

### Abstract

Verbal probability expressions (VPE) have been widely studied in risk communication, but little is known about how people react to them accompanied by a facial expression. In this study, directionally different VPE (positive or negative) and face (neutral, happy, or sad) are employed in three kinds of context. There was an interaction between VPE directionality and face in the “verbal probabilities only” context. In the two “success rate of diseases” context, however, participants constantly tended to underrate VPE with a sad face, suggesting that the potential dominance of face may depend on context.

### Methods

#### Online Survey

##### \* Design

- 3 Context between-subject
- control (only VPE)
- severe (surgery's success rate for CJD)
- mild (surgery's success rate for appendicitis)

For each of the 3 context,  
2 VPE Directionality X 3 Face within-subject

- VPE Directionality: 8 Positive, 8 Negative
- Face: neutral, happy, sad, no face (as CV)

##### \* Question

“How many % do you think it is when the speaker says, ...?”

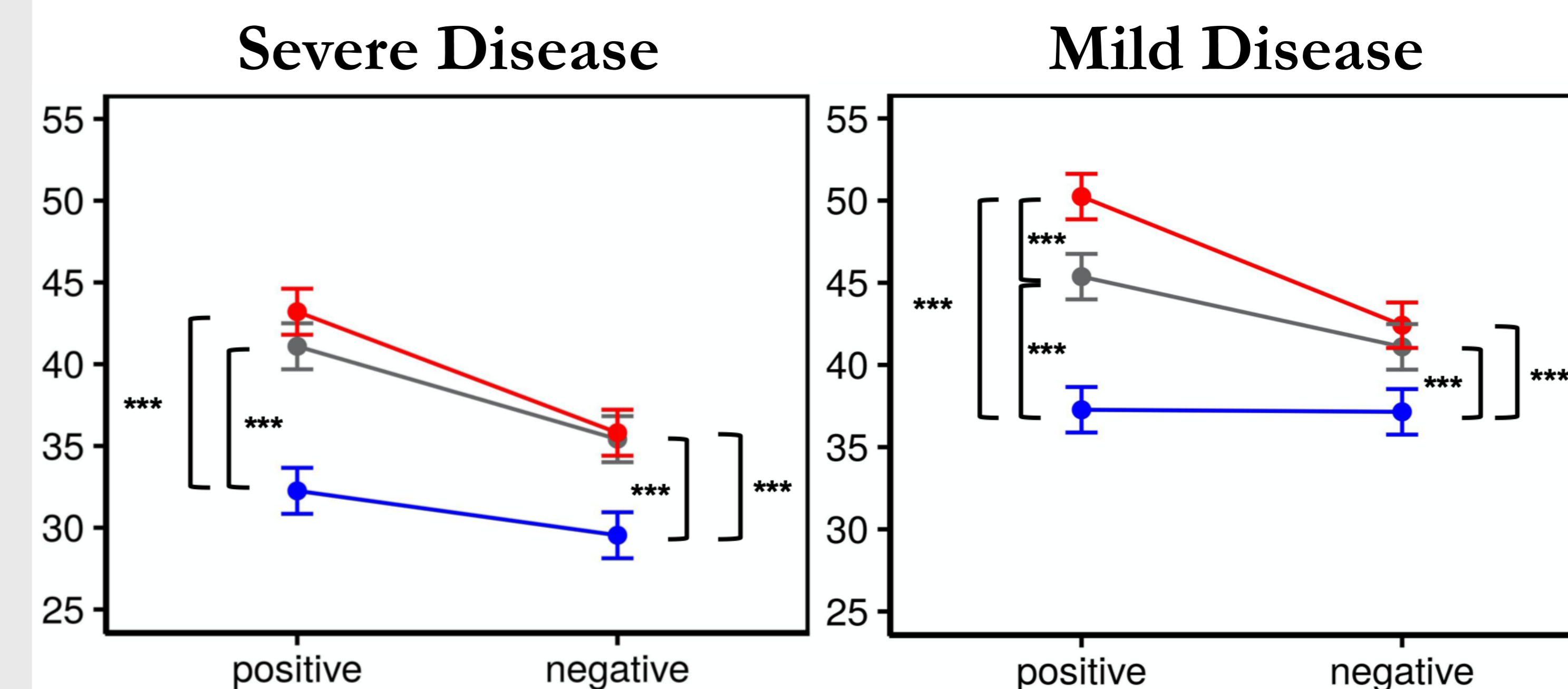
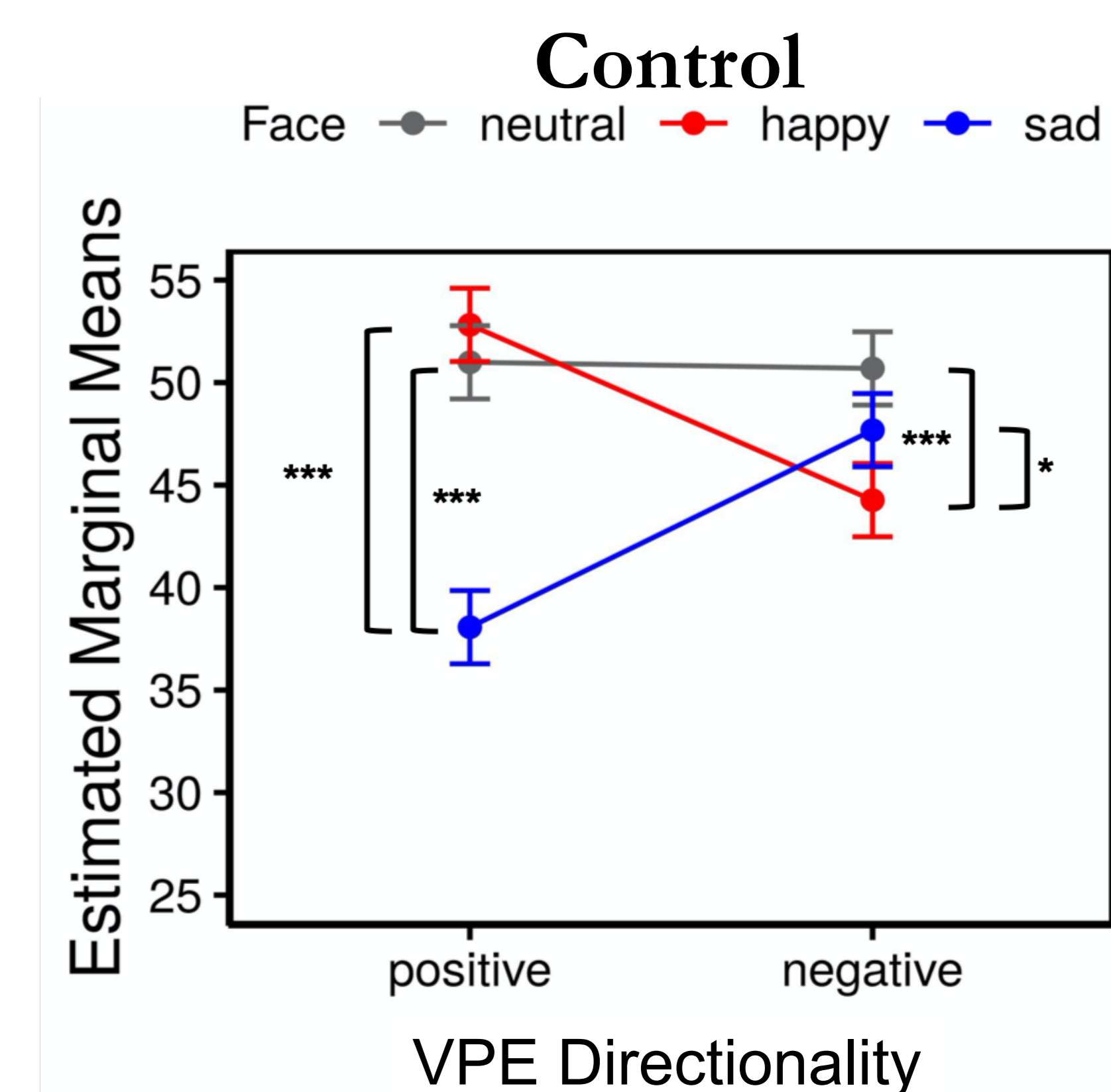
- control: *there is little hope.*
- severe disease: *there is little hope* that a surgery for CDJ will succeed.
- mild disease: *there is little hope* that a surgery for appendicitis will succeed.

#### Statistical Analysis

ANCOVA for each context separately

- IV: VPE directionality, Face
- DV: Interpreted Probability
- CV: Interpreted Probability without Face

### Results & Discussion



- In the control context, there was an interaction between VPE directionality & face: participants underrated **positive VPE** with a **sad face** while they underrated **negative VPE** with a **happy face** (support only H1&3).
- In the severe or mild disease context, participants underrated all VPE with a **sad face** (support H1-4).
- The potential dominance of face over VPE may depend on context.
- Participants expected overall higher success rates for the mild disease's surgery than for the severe one.