Email: lewend.mayiwar@bi.no

@LewendM

Fearful speakers use negative frames to describe outcomes

Lewend Mayiwar

Erik Løhre

Department of Leadership and Organizational Behaviour

2 stages of the decision-making process

Coding

- Negative
- Positive

Evaluation

- Safe
- Risk

Fischhoff (1983); Tversky and Kahneman (1981)

People form their own frames

McElroy et al. (2007); Sher and McKenzie (2006); Zhang et al. (2020); Yu et al. (2015)

Frame selection

A healthcare organization has received an offer to invest in the development of an innovative treatment for cancer. A medical expert evaluates this treatment and says that it has **40% chance of failure** and **60% chance of success**.

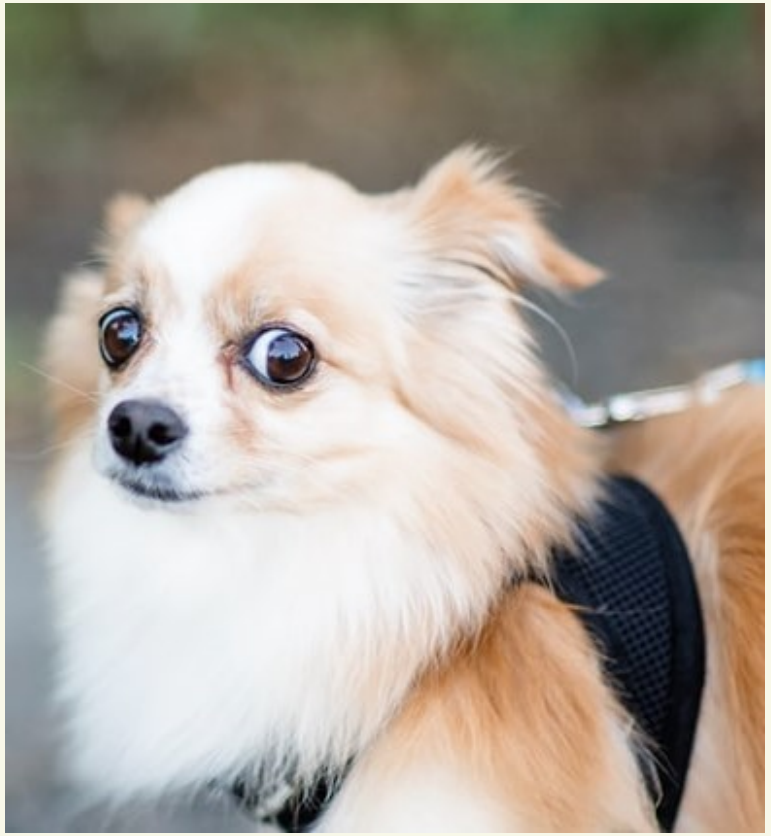
How would you describe this treatment?

A: This treatment has a 40% chance of failure.

B: This treatment has a 60% chance of success.

How do fear and anger influence frame selection?

Fear → low certainty

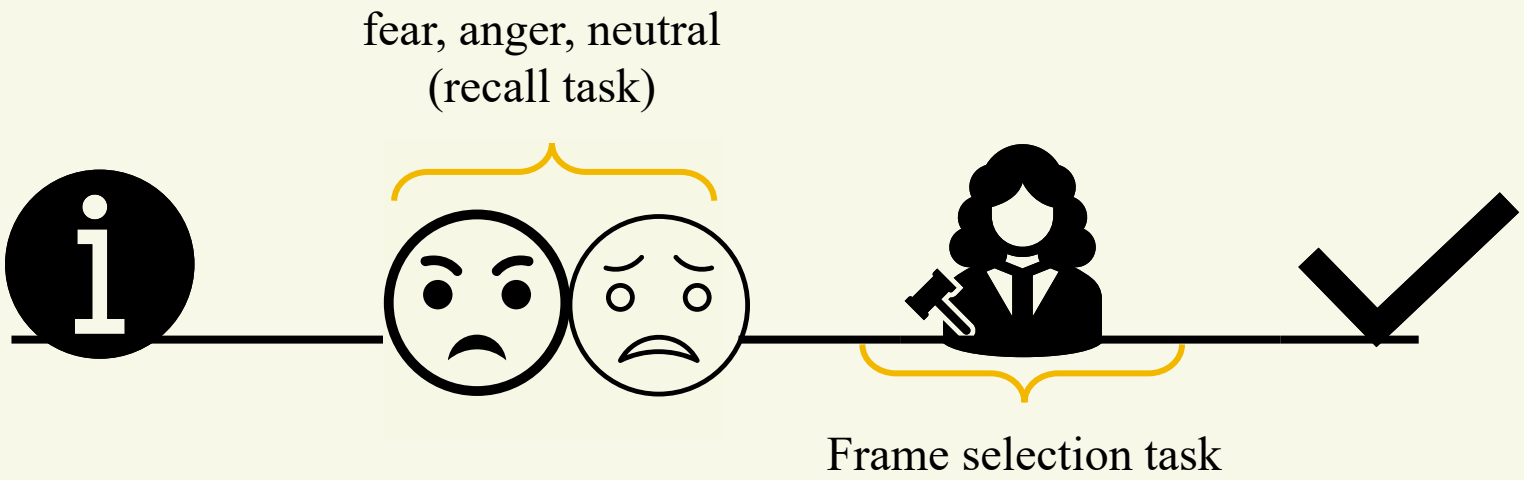


Anger → high certainty

Lerner and Keltner (2000, 2001)

PREREG. PILOT STUDY

Preg'ed pilot: manip. emotions & risky choice framing



Preg'ed pilot: (manip.) emotions & frame selection

A large hi-tech company is experiencing serious economic troubles and it looks like they need to lay off 6000 employees. The top management team has been exploring alternative ways to avoid this crisis and are now considering two different options…

Option A1: Of the total 6000 jobs, 4000 jobs will be lost.

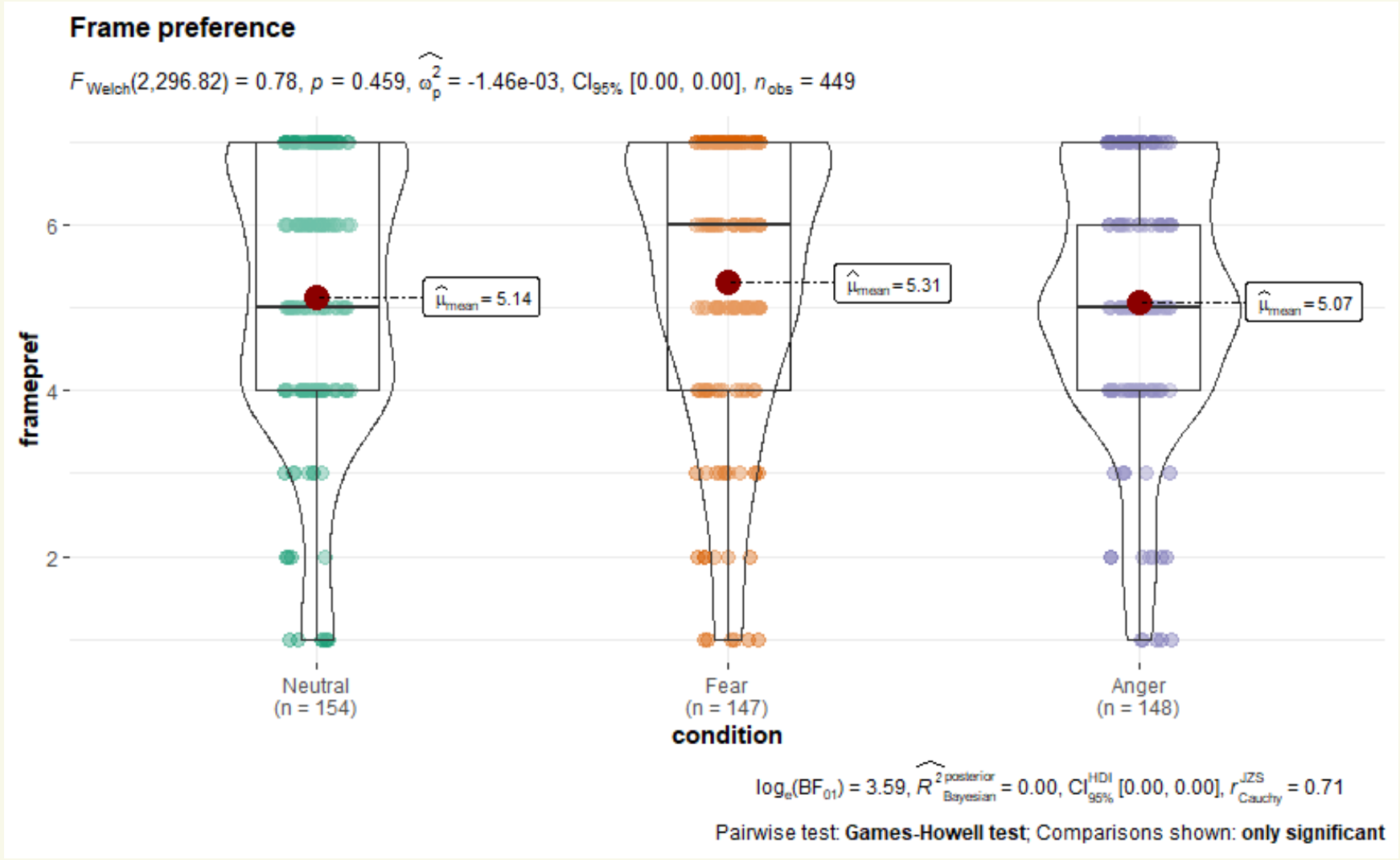
Option A2: Of the total 6000 jobs, 2000 jobs will be saved.

Option B: 2/3 probability of losing all jobs, 1/3 probability of saving all jobs.

Which way would you choose to describe Option A?

KEY RESULTS

Preg'ed pilot: insig. emotion effect



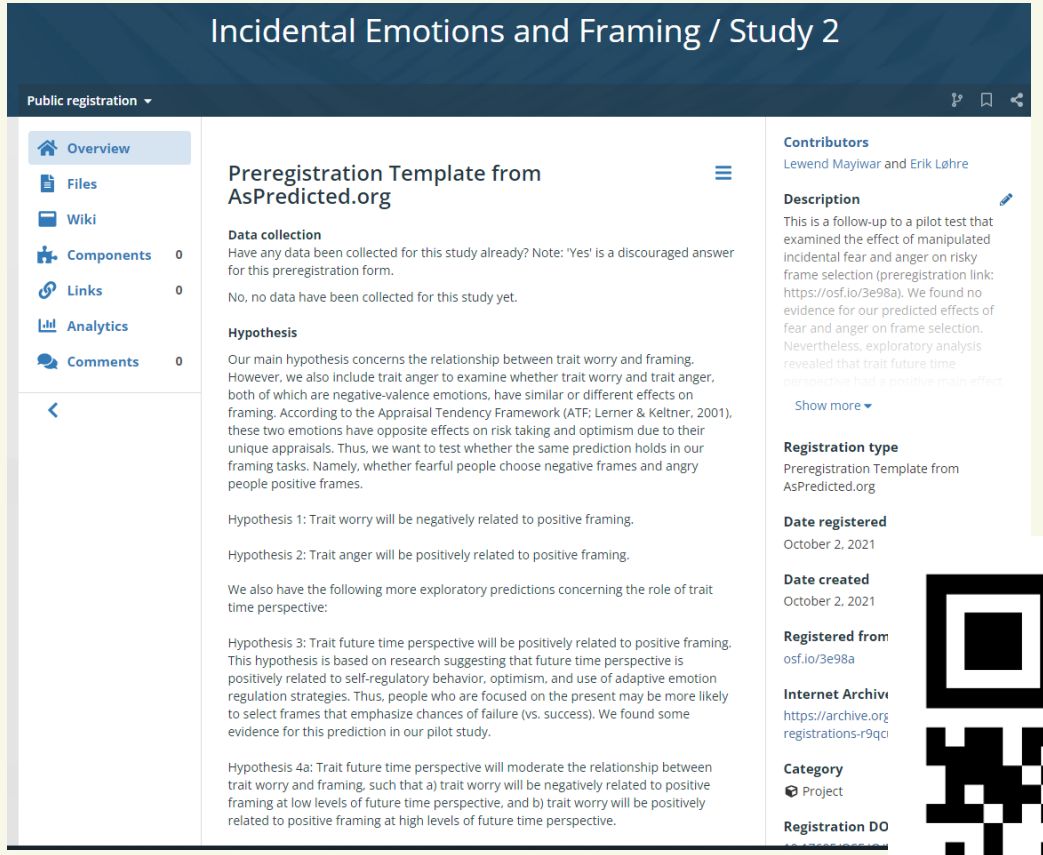
Scan to access preregistration

PREREG. STUDY 2

Prereg'ed Study 2 (N = 700; Prolific)

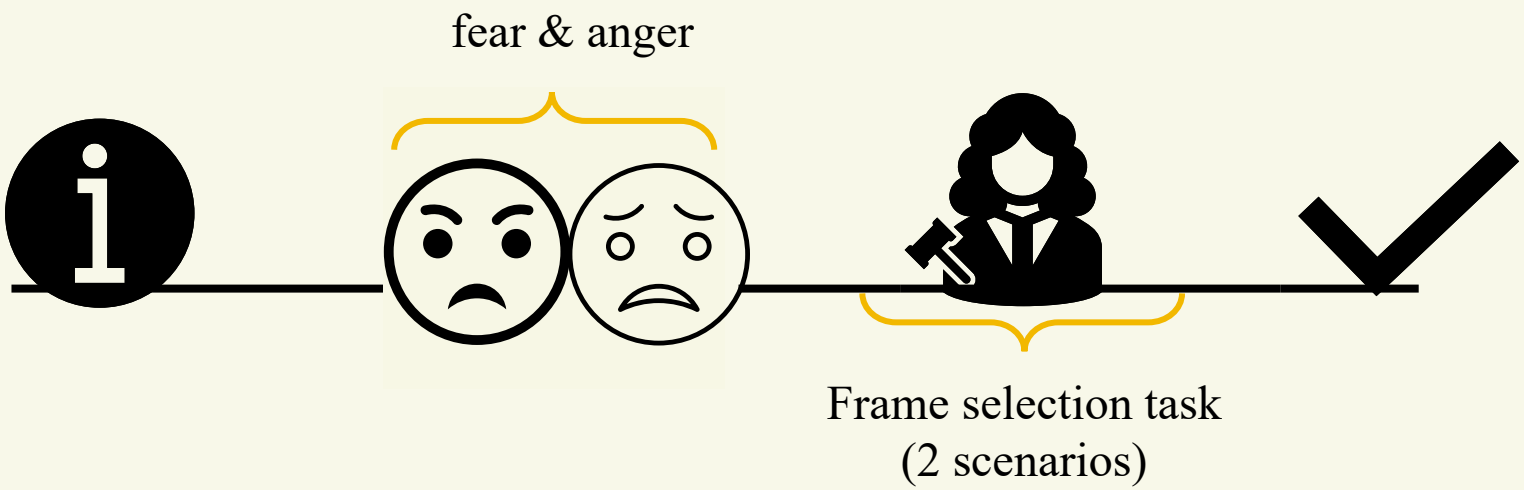
Inclusion criteria:

- +18 years old,
- residing in the UK,
- native/fluent English speakers,
- have an approval rate of at least 98%, and
- + 50 submissions completed.



Scan to access preregistration

Design



Trait anger	Trait worry
1. I rarely get angry at my friends.	1. If I do not have enough time to do everything, I do not worry about it.
2. I am rarely frustrated by other people.	2. My worries overwhelm me.
3. I often find myself feeling angry.	3. I do not tend to worry about things.
4. I get mad easily.	4. Many situations make me worry.
5. It's rare for me to get enraged.	5. I know I should not worry about things, but I just cannot help it.
6. I am often mad at someone or something.	6. When I am under pressure, I worry a lot.
7. Other drivers on the road infuriate me.	7. I am always worrying about something.
8. I often blame others before blaming myself.	8. I find it easy to dismiss worrisome thoughts.
9. A lot of people annoy me.	9. As soon as I finish one task, I start to worry about everything else I have to do.
10. I'd like to tell people how much they anger me.	10. I never worry about anything.
	11. When there is nothing more I can do about a concern, I do not worry about it anymore.
	12. I have been a worrier all my life.
	13. I notice that I have been worrying about things.
	14. Once I start worrying, I cannot stop.
	15. I worry all the time.
	16. I worry about projects until they are all done.

Frame selection task (medical)

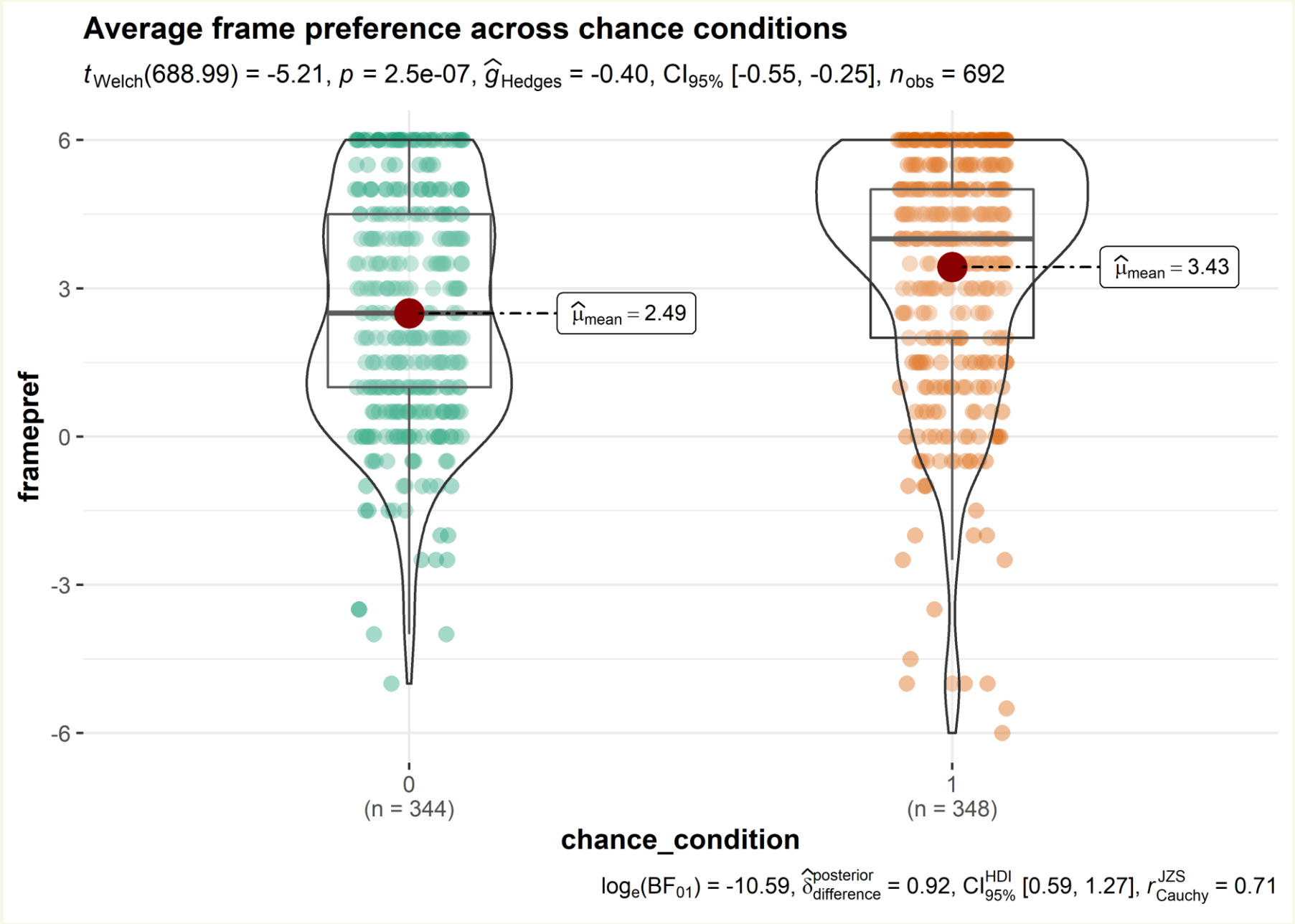
Imagine that you work for a large healthcare organization in your city that has received an offer from a team of scientists to invest in the development of an innovative treatment for cancer. A medical expert in your organization evaluates this treatment and says that it has **40% [20%]** chance of failure and **60% [80%]** chance of success. Your task is to communicate this to your manager who will decide whether or not to invest in the treatment.

How would you describe this treatment to your manager?

A: This treatment has a 40% [20%] chance of failure.

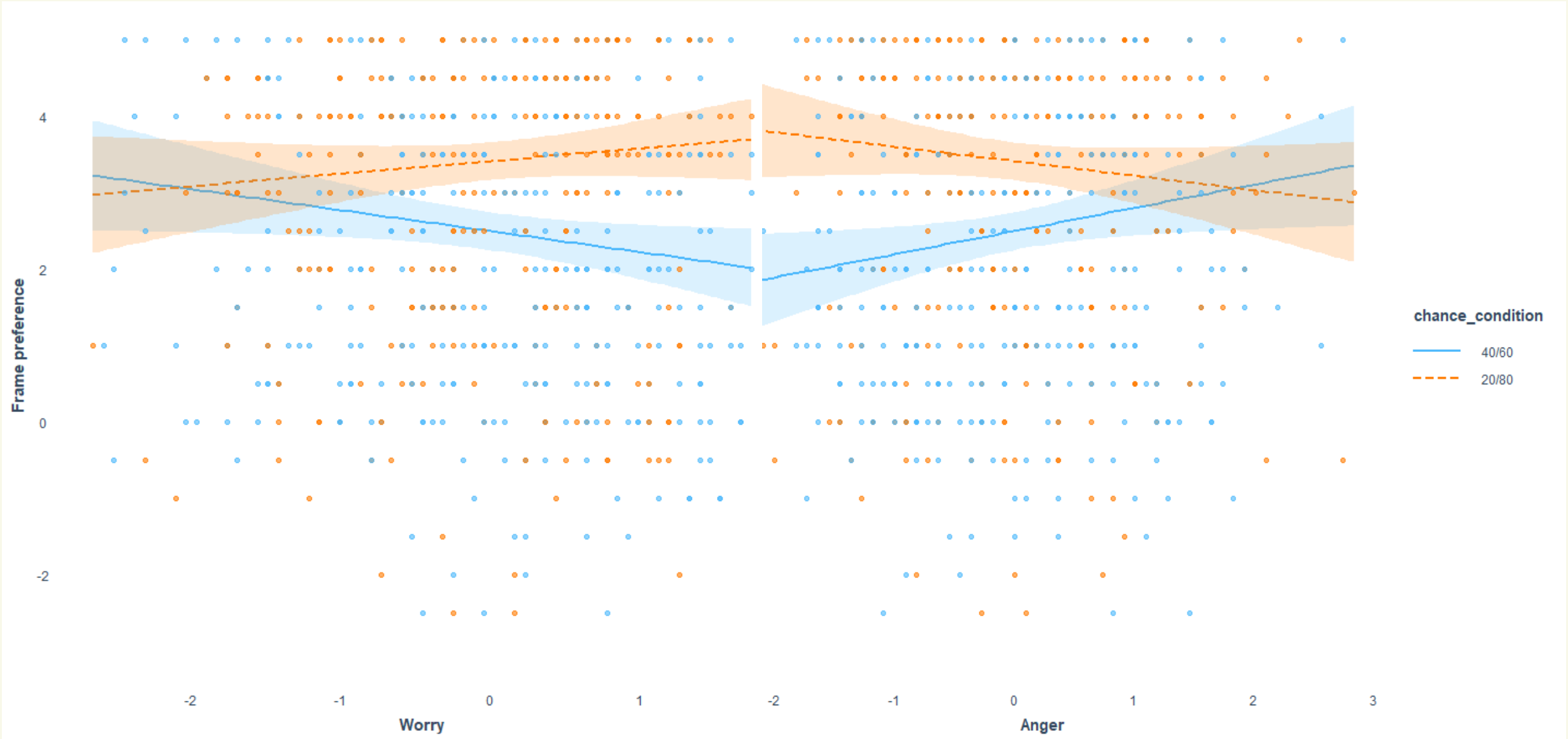
B: This treatment has a 60% [80%] chance of success.

KEY RESULTS


Average frame preference across chance conditions
$t_{Welch}(688.99) = -5.21$, $p = 2.5e-07$, $\hat{g}_{Hedges} = -0.40$, $CI_{95\%}$ [-0.55, -0.25], $n_{obs} = 692$
6
3
0
-3
-6
framepref
$\hat{\mu}_{mean} = 2.49$
$\hat{\mu}_{mean} = 3.43$
0
(n = 344)
1
(n = 348)
chance_condition
$\log_e(BF_{01}) = -10.59$, $\hat{\delta}^{posterior}_{difference} = 0.92$, $CI^{HDI}_{95\%}$ [0.59, 1.27], $r^{JZS}_{Cauchy} = 0.71$

	Frame preference		Frame preference	
Predictors	*Estimates*	*CI*	*Estimates*	*CI*
Intercept	1.64 **	1.59 – 1.69	2.49 **	2.25 – 2.74
Chance condition	0.15 **	0.08 – 0.23	0.91 **	0.56 – 1.26
Worry	-0.04 *	-0.08 – -0.00	-0.27 *	-0.53 – -0.02
Anger	0.01	-0.03 – 0.05	0.30 *	0.04 – 0.57
Worry x Chance condition			0.44 *	0.07 – 0.81
Anger x Chance condition			-0.49 **	-0.86 – -0.12
Observations	697		700	
R^2 / R^2 adjusted	0.032 / 0.027		0.050 / 0.043	

** p<0.05 ** p<0.01 *** p<NA*


Frame preference
4
2
0
-2
-2
-1
0
1
Worry
-2
-1
0
1
2
3
Anger
chance_condition
40/60
20/80

CONCLUSION

- Overall strong preference for positive framing.

- Consistent with an appraisal perspective:
  - Fear → negative framing
  - Anger → positive framing

- Predicted associations only emerged in the **40/60** chance condition. (Emotion effects stronger under ambiguity?)

- Although significant, associations were weak.

(PLANNED) STUDY 3

Planned follow-up study

Extension 1

50% chance failure and **50%** chance success

&

60% chance failure and **40%** chance success

Planned follow-up study

Extension 2

Verbal likelihood statements

You work as a financial advisor for a company in your city. Your client is considering to invest $10,000 in a company. After running a financial forecasting analysis, you conclude that there is 10-30% chance that your client will make a positive return from this investment (and a 70-90% to lose money). Which of the following statements would you choose to communicate the predicted outcome of the investment to your client?

A: It is **unlikely** that this investment will yield a positive return.

B: There is a **small chance** that this investment will yield a positive return.

Thanks! Thoughts or suggestions? :)

Qualtrics files & preregistrations can be found on our OSF repository.

Scan the code to access.

Email: lewend.mayiwar@bi.no

@LewendM

Lewend Mayiwar & Erik Løhre

Department of Leadership and Organizational Behaviour