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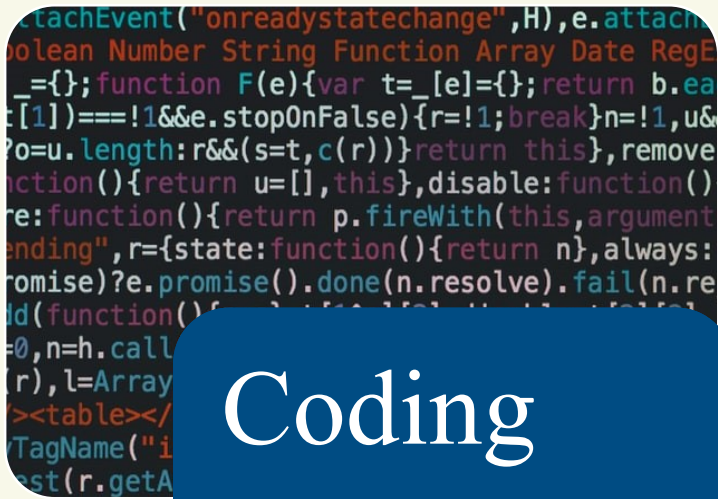
Fearful speakers use negative frames to describe outcomes

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2 stages of the decision-making process



Coding

- Negative
- Positive

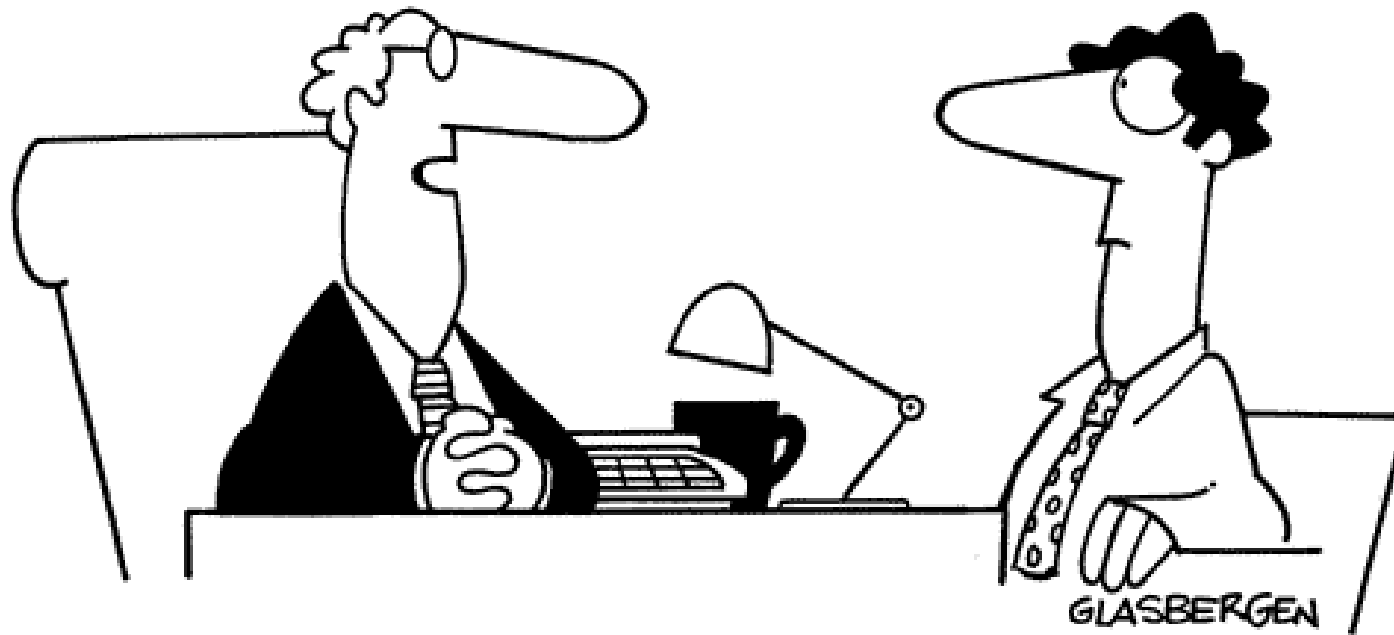


Evaluation

- Safe
- Risk

People form their own frames

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**“Don’t think of it as getting fired.
Think of it as a 100% tax cut!”**

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



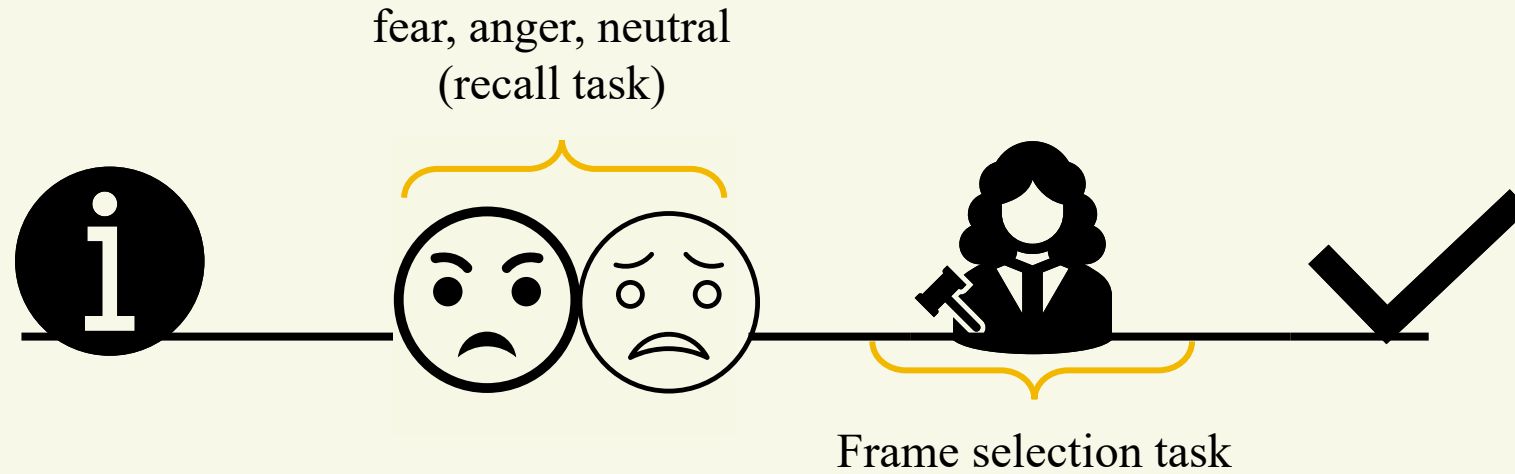
Anger → high certainty



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: $\frac{2}{3}$ probability of losing all jobs, $\frac{1}{3}$ probability of saving all jobs.

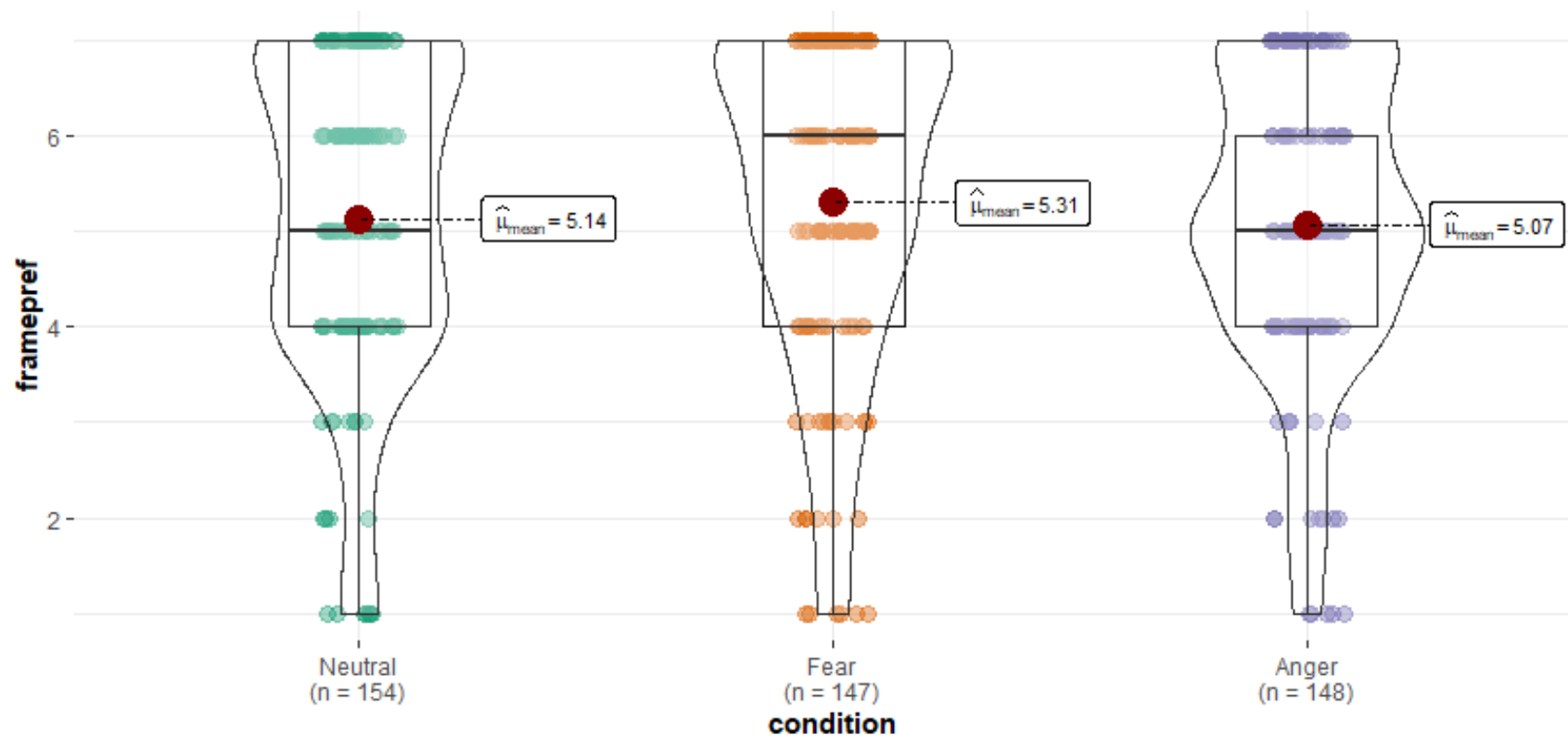
Which way would you choose to describe Option A?

KEY RESULTS

Preg'ed pilot: insig. emotion effect

Frame preference

$F_{\text{Welch}}(2, 296.82) = 0.78, p = 0.459, \hat{\omega}_p^2 = -1.46\text{e-}03, \text{CI}_{95\%} [0.00, 0.00], n_{\text{obs}} = 449$



$\log_e(\text{BF}_{01}) = 3.59, R^2_{\text{posterior Bayesian}} = 0.00, \text{CI}_{95\%}^{\text{HDI}} [0.00, 0.00], r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

Pairwise test: Games-Howell test; Comparisons shown: only significant

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.

Incidental Emotions and Framing / Study 2

Public registration ▾

Overview
Files
Wiki
Components 0
Links 0
Analytics
Comments 0

Preregistration Template from AsPredicted.org

Data collection
Have any data been collected for this study already? Note: 'Yes' is a discouraged answer for this preregistration form.
No, no data have been collected for this study yet.

Hypothesis
Our main hypothesis concerns the relationship between trait worry and framing. However, we also include trait anger to examine whether trait worry and trait anger, both of which are negative-valence emotions, have similar or different effects on framing. According to the Appraisal Tendency Framework (ATF; Lerner & Keltner, 2001), these two emotions have opposite effects on risk taking and optimism due to their unique appraisals. Thus, we want to test whether the same prediction holds in our framing tasks. Namely, whether fearful people choose negative frames and angry people positive frames.

Hypothesis 1: Trait worry will be negatively related to positive framing.

Hypothesis 2: Trait anger will be positively related to positive framing.

We also have the following more exploratory predictions concerning the role of trait time perspective:

Hypothesis 3: Trait future time perspective will be positively related to positive framing. This hypothesis is based on research suggesting that future time perspective is positively related to self-regulatory behavior, optimism, and use of adaptive emotion regulation strategies. Thus, people who are focused on the present may be more likely to select frames that emphasize chances of failure (vs. success). We found some evidence for this prediction in our pilot study.

Hypothesis 4a: Trait future time perspective will moderate the relationship between trait worry and framing, such that a) trait worry will be negatively related to positive framing at low levels of future time perspective, and b) trait worry will be positively related to positive framing at high levels of future time perspective.

Contributors
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Description
This is a follow-up to a pilot test that examined the effect of manipulated incidental fear and anger on risky frame selection (preregistration link: <https://osf.io/3e98a>). We found no evidence for our predicted effects of fear and anger on frame selection. Nevertheless, exploratory analysis revealed that trait future time perspective had a positive main effect.

Show more ▾

Registration type
Preregistration Template from AsPredicted.org

Date registered
October 2, 2021

Date created
October 2, 2021

Registered from
osf.io/3e98a

Internet Archive
<https://archive.org/registrations-r9qc>

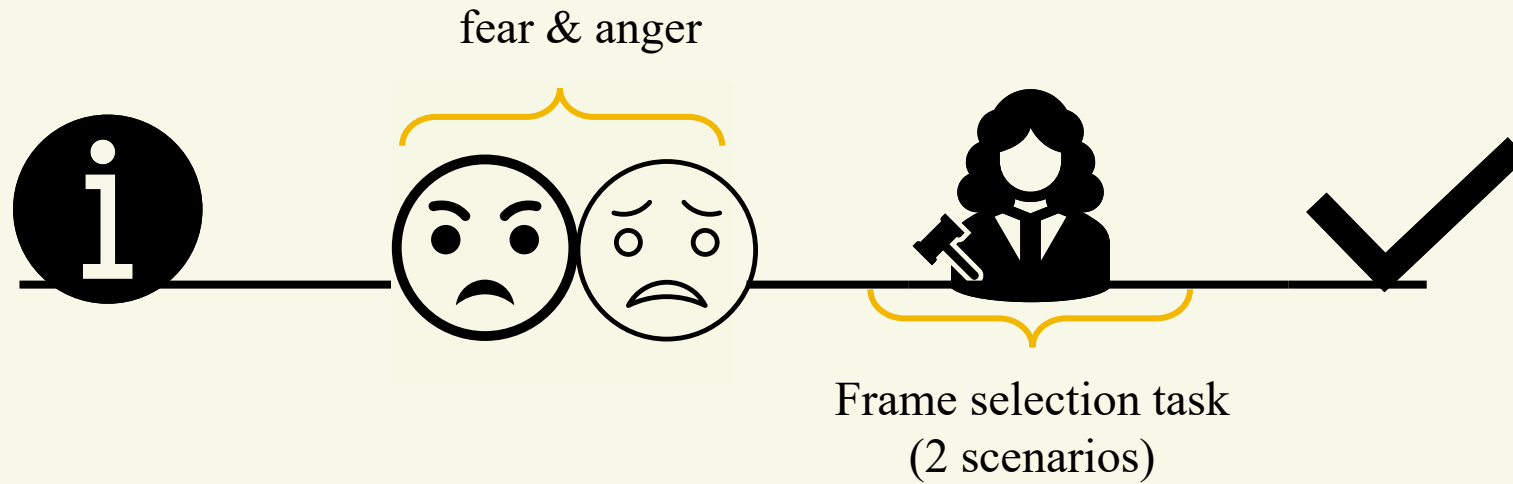
Category
Project

Registration DO

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preregistration



Design



Trait anger

1. I rarely get angry at my friends.
2. I am rarely frustrated by other people.
3. I often find myself feeling angry.
4. I get mad easily.
5. It's rare for me to get enraged.
6. I am often mad at someone or something.
7. Other drivers on the road infuriate me.
8. I often blame others before blaming myself.
9. A lot of people annoy me.
10. I'd like to tell people how much they anger me.

Trait worry

1. If I do not have enough time to do everything, I do not worry about it.
2. My worries overwhelm me.
3. I do not tend to worry about things.
4. Many situations make me worry.
5. I know I should not worry about things, but I just cannot help it.
6. When I am under pressure, I worry a lot.
7. I am always worrying about something.
8. I find it easy to dismiss worrisome thoughts.
9. As soon as I finish one task, I start to worry about everything else I have to do.
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?

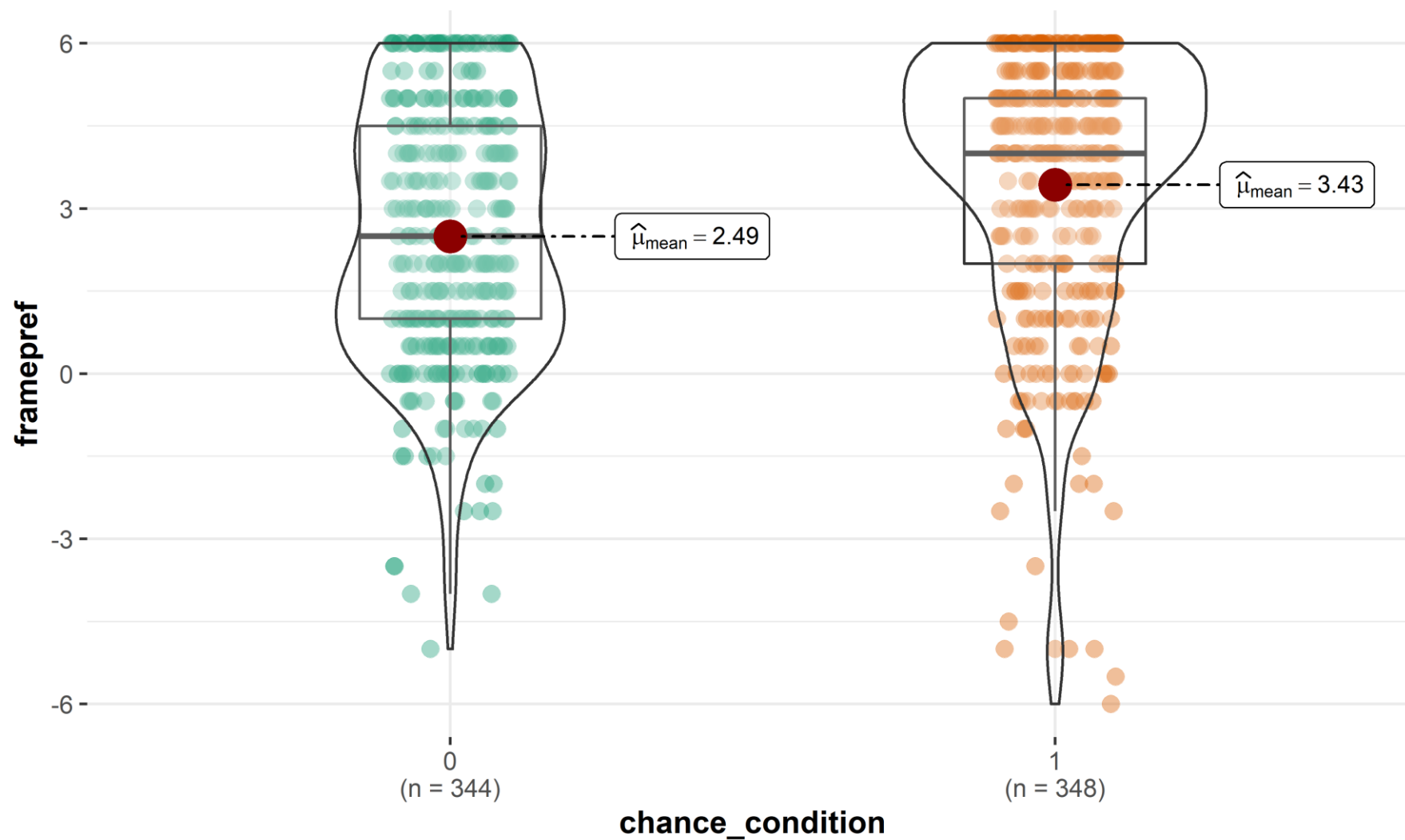
A: This treatment has a 40% [20%] chance of failure.

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

KEY RESULTS

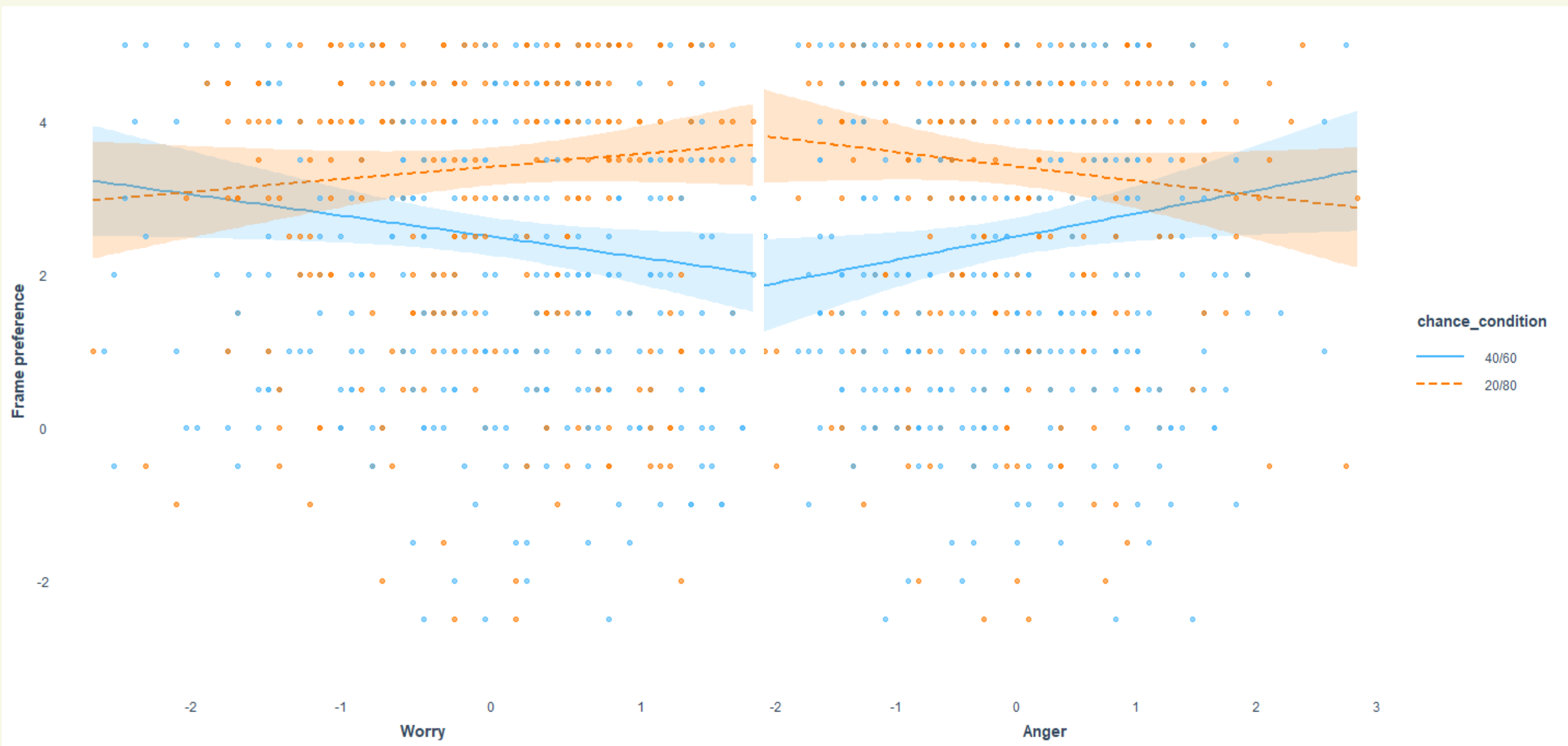
Average frame preference across chance conditions

$t_{\text{Welch}}(688.99) = -5.21, p = 2.5\text{e-}07, \hat{g}_{\text{Hedges}} = -0.40, \text{CI}_{95\%} [-0.55, -0.25], n_{\text{obs}} = 692$



$\log_e(\text{BF}_{01}) = -10.59, \hat{\delta}_{\text{difference}}^{\text{posterior}} = 0.92, \text{CI}_{95\%}^{\text{HDI}} [0.59, 1.27], r_{\text{Cauchy}}^{\text{JZS}} = 0.71$

<i>Predictors</i>	Frame preference		Frame preference	
	<i>Estimates</i>	<i>CI</i>	<i>Estimates</i>	<i>CI</i>
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	
* $p < 0.05$ ** $p < 0.01$ *** $p < NA$				



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.



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