

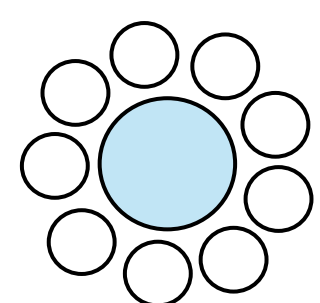
Q. Where should I place this poster to get the best feedback?

Next to less attractive posters (*Contrast effect*) or outstanding ones (*Assimilation effect*)? The same question applies when choosing the right friend to bring to a bar, positioning a talk in a lineup, or sequencing policies for public presentation.

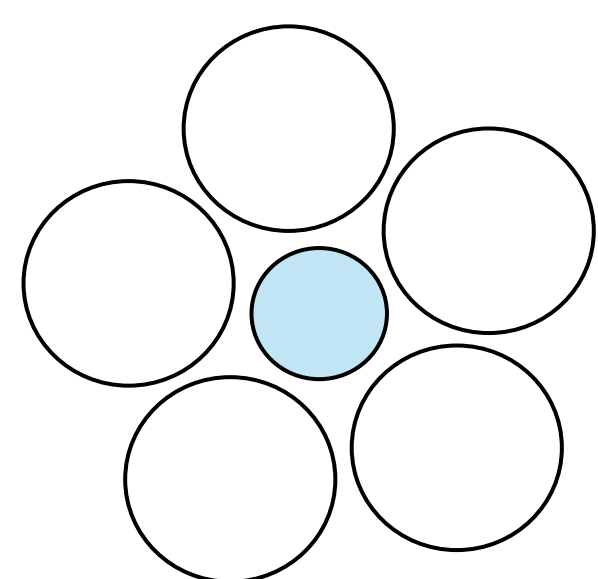
Motivation and Goal

Leading models of decisions under risk often overlook contextual influences, while recent studies show both contrast and assimilation effects in similar settings. This paper clarifies the conditions that determine the relative importance of these opposing effects in decisions under risk.

The Contrast and Assimilation Effects (Sherif et al., 1958)



The two blue circles are identical, yet the upper one seems bigger. Even knowing this optical illusion, it's hard to shake that perception. This demonstrates the **Contrast Effect**, where a target stimulus is perceived **in contrast** to its surroundings.



But does this shiny apple seem much tastier surrounded by rotten ones? Probably the opposite. This illustrates the **Assimilation Effect**, where a target stimulus blends in and is perceived as **more similar** to its surroundings.



Method

Online participants completed 50 description-based choice tasks: half were “**target tasks**” and half were “**surrounding tasks**.” The target tasks, consistent across studies, served as the blue circle, while the surrounding tasks acted as the white circles. The tasks were intermixed and randomly ordered, with participants incentivized based on performance.

The “Relative Benefit” Hypothesis

When the benefit of risk-taking clearly differs between the target and surrounding tasks, in terms of expected value:

Contrast Effect (Study 1).

Otherwise, and even if the tasks differ in other aspects (payoff domain):

Assimilation Effect (Study 2).

The Target Task

We focused on the choice rate in the risky option of this **fair-mixed** task:

Please Choose

Zero for sure
(Safe)

Equal chances to either
gain or lose 10
(Risky)

Main Results

	Surrounding Tasks		Target Task		Effect
	Safe	Risk	Risk rate	Risk rate	
Study 1	0 for sure	10, .6; -10	.79	↑ ↓ .53	Contrast
	0 for sure	10, .4; -10	.49	↓ ↑ .80	
Study 2	16 for sure	26, .5; 6	.39	↓ ↓ .44	Assimilation
	-16 for sure	-6, .5; -26	.60	↑ ↑ .77	
Control	-	-	-	.78	

Discussion

→ We highlight the impact of contextual factors often **overlooked** by leading descriptive models (e.g., PT) assuming “isolated within-task computations”.

→ These factors triggered a strong contrast effect, dropping risk rates in fair-mixed tasks from **80% to 53%** (Study 1), and a strong assimilation effect, reducing them from **77% to 44%** (Study 2).

→ **An Effort-Saving Strategy:** Decision-makers seem to evaluate the median expected benefit of risk-taking (EBR1) during the first m trials. Afterward, in trials $t > m$, they follow the rule: take the risk if the expected benefit exceeds EBR1; choose the safe option if it's lower; and if similar, repeat the choice from trial m .

Answer. It depends

on the audience’s focus. We propose that a clear difference in the key feature (like expected value in decisions under risk) triggers a contrast effect, whereas a shared key feature (e.g., the basket in the apples’ example) triggers an assimilation effect.

Scan me for the full paper

