

EXPERIMENT #1 · ANCHORING

Does the Asking Price Anchor What Something Is Worth to You?

A pilot study on price anchoring in consumer valuation

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Abstract

This study examines whether a seller's stated asking price affects what potential buyers value the item at, extending prior anchoring research to an everyday online survey. Drawing on Tversky and Kahneman's (1974) anchoring heuristic, we predicted that participants shown a higher asking price would report a higher fair value estimate than those shown a lower one. Forty-two participants were recruited via Reddit, Instagram, and my personal network and were randomly assigned to one of two conditions: a high anchor (\$525) or a low anchor (\$250). Each participant was given the same description of a used DSLR camera listed by a fictional seller. A two-tailed Welch's independent samples t-test revealed a statistically significant difference in mean fair value estimates between the two groups ($t = 3.101$, $df = 39.42$, $p = .004$), with the high-anchor group reporting a mean of \$468.75 compared to \$336.77 in the low-anchor group. Effect size was large (Cohen's $d = 0.953$), and a 95% confidence interval for the difference in means excluded zero (\$45.93, \$218.03), further confirming the result. These findings are consistent with anchoring theory and prior work by Northcraft and Neale (1987), suggesting that stated asking prices function as powerful reference points in consumer valuation, even when they carry no objective information about true market value. Limitations of this pilot study, including small sample size, convenience sampling, and demand characteristics, are discussed alongside directions for future research.

Introduction

When someone values something under uncertainty, they rarely start from scratch. Instead, the mind latches onto the first number it encounters and builds an estimate around it, adjusting outward from there, but usually not by enough. This is the anchoring heuristic, first formally identified by Tversky and Kahneman in 1974. They showed that an initial numerical value, even an arbitrary one, can significantly shape subsequent judgment. The mechanism is straightforward: when people lack a reliable basis for knowing what something is worth, the first number they see fills that gap and becomes a reference point they unconsciously anchor to.

Northcraft and Neale (1987) demonstrated how consequential this effect can be in the real world. Both professional real estate appraisers and amateur buyers gave systematically higher property valuations when shown a higher listing price, even when they explicitly denied being influenced by it. The fact that trained professionals were just as susceptible as amateurs suggests anchoring is not a product of inexperience or naivety, but a deeply embedded feature of how people assign value under uncertainty.

Most prior anchoring research has relied on controlled lab settings or professional populations. This study tests the effect on everyday people via an online survey, asking whether a seller's stated asking price anchors a general sample's perception of fair value for a used consumer product. If anchoring theory holds, participants shown a higher asking price should report a meaningfully higher fair value than those shown a lower one, regardless of the product's objective worth.

Research Question

Does the seller's stated asking price anchor a buyer's perception of fair value?

Hypothesis

Respondents shown a higher anchor will report a higher fair price, on average, than those shown a lower anchor, consistent with Tversky and Kahneman's (1974) anchoring heuristic.

Method

Participants were given a description of a used camera that a fictional seller named David wanted to sell, and were asked to provide what they considered a fair value for it. The following text was shown to every participant:

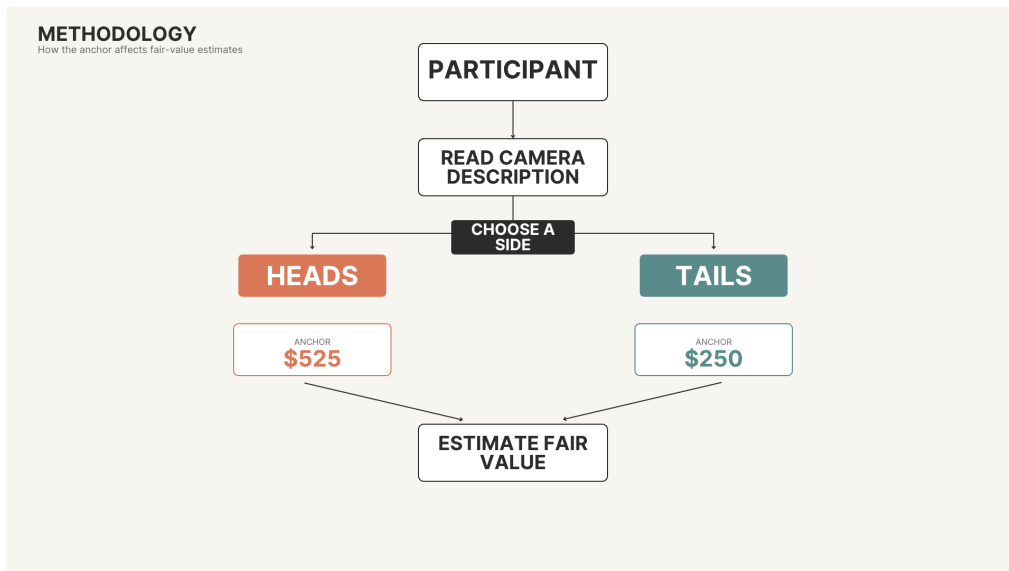
“What would you pay for this camera? It shoots in full 1080p, handles low light exceptionally well, and produces professional quality photos straight out of the box. David purchased it two years ago for around \$800. The camera still performs well, but it's an older model at this point and has a few scratches on the body.”

The study used two between-subjects treatment conditions. Participants in the high-anchor condition were told David priced the camera at \$525 before being asked for a fair value. Participants in the low-anchor condition were told David priced it at \$250 before being asked the same question. Treatment assignment was determined by participants selecting heads or tails at the start of the survey, with the order of options randomized. Those who selected heads were shown the \$525 anchor; those who selected tails were shown the \$250 anchor.

The survey ended with 42 participants that were recruited via Reddit posts (adhering to sub-reddit guidelines), an Instagram reel, and my personal network. All participants saw an identical camera description. The only manipulated variable was the stated anchor price (\$250 vs. \$525.)

Figure 1

Participant flow from treatment assignment to fair-value estimation.



Results

G1 = group given the low anchor (\$250). G2 = group given the high anchor (\$525).

Descriptive Stats

Table 1*Descriptive statistics for fair-value estimates by condition.*

Descriptive Stats	G1 (Low Anchor - \$250)	G2 (High Anchor - \$525)
Mean	\$336.77	\$468.75
Median	\$360	\$500
Standard Deviation	\$152.74	\$122.51
Sample Size (n)	22	20
Range	\$550	\$435
Interquartile Range (IQR)	\$200	\$162.50
Outliers (1.5 × IQR Rule)	None	None

H0: There is no difference in mean fair-value estimates between the low-anchor and high-anchor groups. $\mu_1 = \mu_2$

H1: There is a difference in mean fair value estimates between the low-anchor and high-anchor groups. $\mu_1 \neq \mu_2$

A two-tailed test was conducted because it does not assume the direction of the effect in advance, making it the more conservative and widely accepted standard, especially appropriate given the small sample size of this pilot study.

Alpha level: .05

Name: two-tailed Welch's independent samples t-test

Conditions:

1. Random – Subjects were not randomly chosen, rather it was a voluntary sample with some elements of a convenience sample. Participants did randomly choose treatments via a heads/tails question, leading to a 22-20 split; but, this self-selected assignment does not constitute true random assignment.
2. 10% – Easily met, $n = 20$ and $n = 22$ is much lower than 10% of all potential buyers of a used camera.
3. Normal – Both plots show roughly unimodal, somewhat symmetric distributions with no severe skew, supporting the normality condition well enough to proceed.

Figure 2

Fair-value estimates, low-anchor group (\$250).

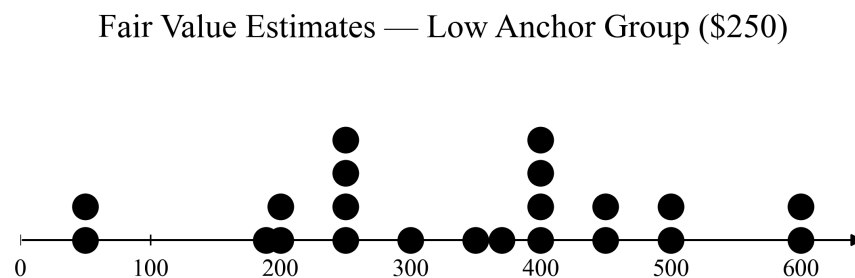
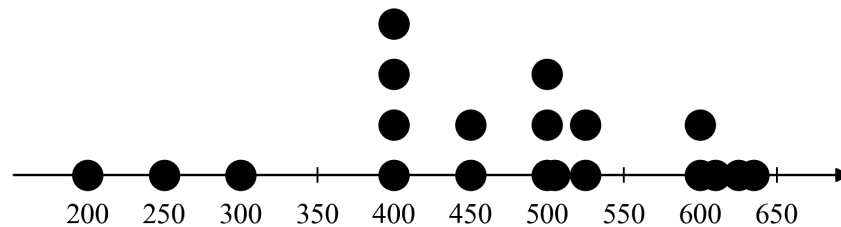


Figure 3*Fair-value estimates, high-anchor group (\$525).***Fair Value Estimates — High Anchor Group (\$525)**

$t = 3.101$ with $df = 39.42$

$p = 0.00355$ ($< .05$, below alpha)

Since the calculated p value of .00355 is less than our stated alpha level of .05, we reject the null hypothesis. We found statistically significant evidence to suggest that the group given the higher anchor price of \$525 reported a higher average “fair value” for the used camera than the group given the lower anchor price of \$250, consistent with anchoring theory.

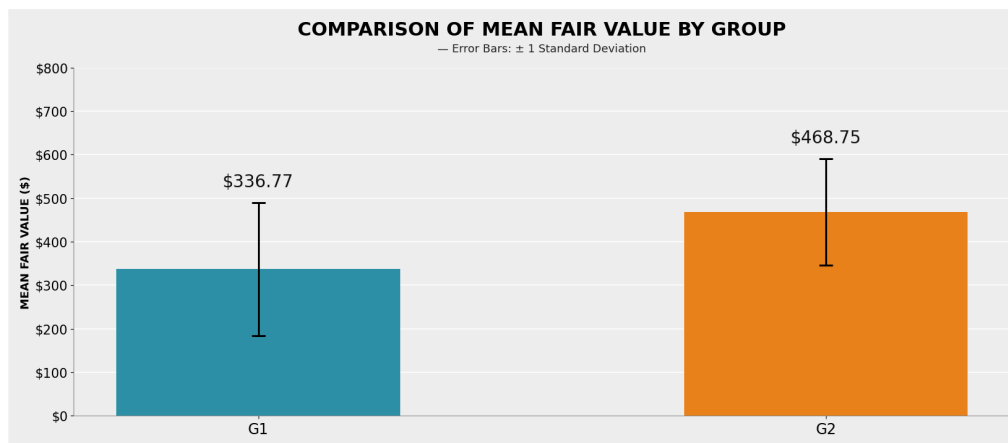
Practicality: To assess the practical significance of the result, Cohen's d was calculated using the means and standard deviations of both groups. Cohen's $d = 0.953$, which indicates a large effect by Cohen's (1988) conventions (small = 0.2, medium = 0.5, large = 0.8). This suggests that the difference in fair value estimates between the two anchor groups was not only statistically significant but also practically meaningful. The anchor price had a strong influence on participants' responses, not just a statistically detectable one.

Confidence Interval

A 95% confidence interval for the difference in mean fair value estimates ($G2 - G1$) was calculated as (\$45.93, \$218.03). This means we are 95% confident that the true difference in mean fair value estimates between the high-anchor and low-anchor groups falls between \$45.93 and \$218.03.

Figure 4

Comparison of mean fair value by group. Error bars show ± 1 SD.



Discussion

My findings support the hypothesis. The group shown the \$250 anchor reported a mean fair value of \$336.77, while the group shown the \$525 anchor reported a mean fair value of \$468.75. The price David set carries no objective information about the camera's true market value, yet we found significant evidence that people used it as a reference point when forming their estimate. This is the anchoring heuristic in action.

My findings are consistent with what Tversky and Kahneman found in 1974. They argued that people rely heavily on the first piece of information presented when making decisions under uncertainty, and adjust insufficiently away from it. Our participants had no reliable basis for knowing what a used DSLR camera is worth, so the anchor filled that gap.

The findings also connect to Northcraft and Neale's 1987 real estate experiment. Professional appraisers and amateur buyers both gave higher home valuations when shown a higher listing price, even though they explicitly stated that the listing price had not influenced them. My survey mirrors this. A camera valuation was higher when people were shown a higher asking price, suggesting the anchoring effect is robust across different asset types and contexts.

The real-world implications span numerous domains. In real estate, the listing price sets the anchor and shapes every offer that follows. In negotiation, whoever states a number first gains an advantage. In e-commerce, showing a crossed-out original price next to a sale price is anchoring by design. Online, people mirror their reviews to the first review a product receives. People demonstrate a robust tendency to evaluate value relative to whatever reference point they encountered first.

Limitations

1. If someone with knowledge about cameras answered the survey there would be no way for me to detect it. Their knowledge would likely reduce the effect of the anchor, but I cannot track that.
2. If anyone took the survey twice and saw both treatments, it could contaminate responses.
3. Because my Instagram account is framed as a behavioral economics account, and I posted in Reddit forums such as r/behavioraleconomics along with more general subreddits such as r/samplesize and r/takemysurvey, some participants likely went into the survey already expecting some form of psychological trick. This is made worse by the fact that the anchor price was shown right next to the fair value question, so participants may have noticed it and tried to overcorrect rather than being anchored unconsciously.

4. My recruitment platforms (Instagram, Reddit, and my personal network) likely produce three systematically different participant populations that differ in age, income, and camera knowledge, yet they were not randomly distributed across treatments.
5. Treatment assignment was determined by participants choosing heads or tails themselves rather than being assigned by me. Even though this produced a rather balanced 22-20 split, self-selected assignment is not equivalent to true random assignment. Some trait that makes a person more likely to pick heads over tails could differ systematically between groups in a way unrelated to the treatment itself.

Future Direction

Ways this experiment could be improved are as follows. My sample size needs to be substantially larger, ideally upwards of 100 participants per group to improve statistical power and allow for more reliable replication. I would also add a control group shown no anchor at all, establishing a true baseline. Other directions include measuring participants' familiarity with cameras to test whether the anchoring effect varies by knowledge level, using multiple anchors spaced at equal intervals to model whether the relationship between anchor price and fair value estimate is linear, testing whether a precise anchor like \$289 moves estimates more than a round one like \$250, and examining whether anchor source credibility matters by comparing David's stated price against a professional appraiser's valuation.

References

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.

- Northcraft, G. B., & Neale, M. A. (1987). Experts, amateurs, and real estate: An anchoring-and-adjustment perspective on property pricing decisions. *Organizational Behavior and Human Decision Processes*, 39(1), 84–97.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185(4157), 1124–1131.