

Effects on reversing a 5 point vertically oriented satisfaction question, results from 3 studies using bipolar and unipolar satisfaction scales

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Q1: Single select

Overall, how satisfied are you with [PRODUCT]?

Very satisfied

Somewhat satisfied

Neither satisfied nor dissatisfied

Somewhat dissatisfied

Very dissatisfied

+ ADD ANSWER

How it started

Colleague 1:

According to Tourangeau, Couper and Conrad (2004) respondents use the heuristic "Top means first"

Colleague 2:

There is bias from primacy effect (Yan, Keusch and He, 2018) so you should randomly reverse the question order

Q1: Single select

Overall, how satisfied are you with [PRODUCT]?

Very satisfied

Somewhat satisfied

Neither satisfied nor dissatisfied

Somewhat dissatisfied

Very dissatisfied

+ A

Answer order*

Standard

Random

Randomly reversed

Send users to different questions by

Prior work

Results from prior work are mixed (e.g. Yan, Keusch and He, 2018) also because of the following question characteristics that can affect the results

- Visual vs. Auditory presentation of answer scale
- Agree Disagree vs. Item Specific Scales
- Fully labeled vs. EndPoint labeled
- Number of scale points
- Vertical vs. horizontal presentation
- Unipolar vs. Bipolar scales

Part I: impact of reversing satisfaction questions

Google Opinion Rewards

How satisfied are you with this application (Google Opinion Reward)?

- Very satisfied
- Somewhat satisfied
- Neither satisfied nor dissatisfied
- Somewhat dissatisfied
- Very dissatisfied

SUBMIT

Satisfied first

Google Opinion Rewards

How satisfied are you with this application (Google Opinion Reward)?

- Very dissatisfied
- Somewhat dissatisfied
- Neither satisfied nor dissatisfied
- Somewhat satisfied
- Very satisfied

SUBMIT

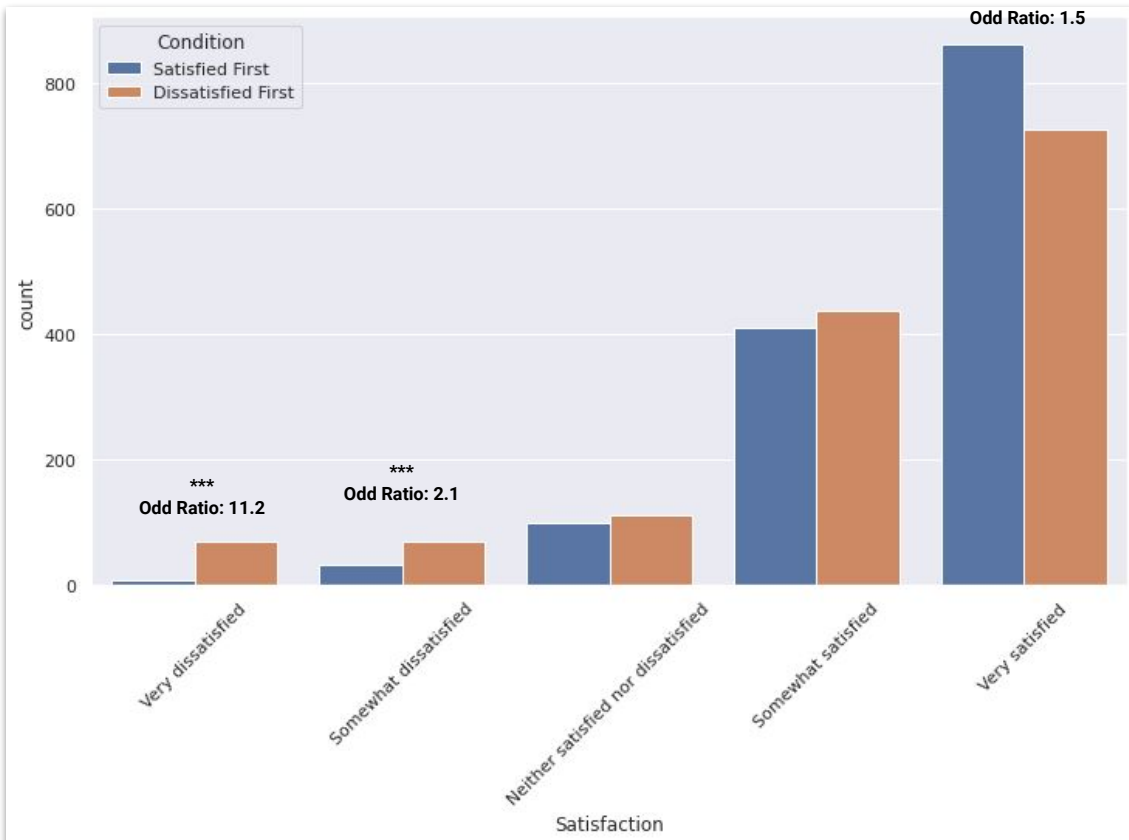
Dissatisfied first

Satisfied First

Dissatisfied First

Google Surveys via the Google Opinion Reward app

n=1,500 per survey



With very dissatisfied first

5% instead of 0.5% very dissatisfied

5% instead of 2% somewhat dissatisfied

51% instead of 61% very satisfied

Fisher's Exact test: p<0.001

Reversed scale impact

Very dissatisfied picked 10 times more frequently!

- **5%** instead of **0.5%** of responses are *very dissatisfied*

Lower satisfaction and slower responses

- **82%** versus **90%** top-2 box satisfaction
- **8.1 sec** versus **7.5 sec** median response time

Differences are statistically significant at alpha=0.05

Do respondents click *very dissatisfied* by accident?

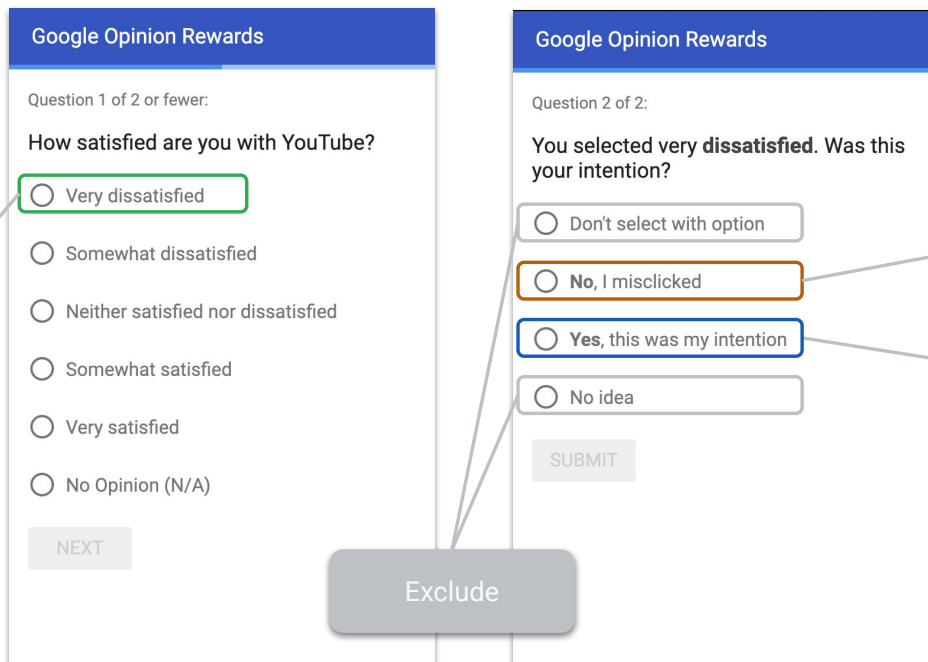
Anecdotally, we had noticed in other studies that **when following up** with an open-ended question about dissatisfaction reasons, some **respondents mention actually not being dissatisfied**.

Respondent **thought** they had clicked "extremely satisfied" but **accidentally clicked "extremely dissatisfied"**.

Part II: increased prevalence of *very dissatisfied*



Condition A Dissatisfied on top



Survey was launched in Germany, since rate of dissatisfaction was expected to be higher

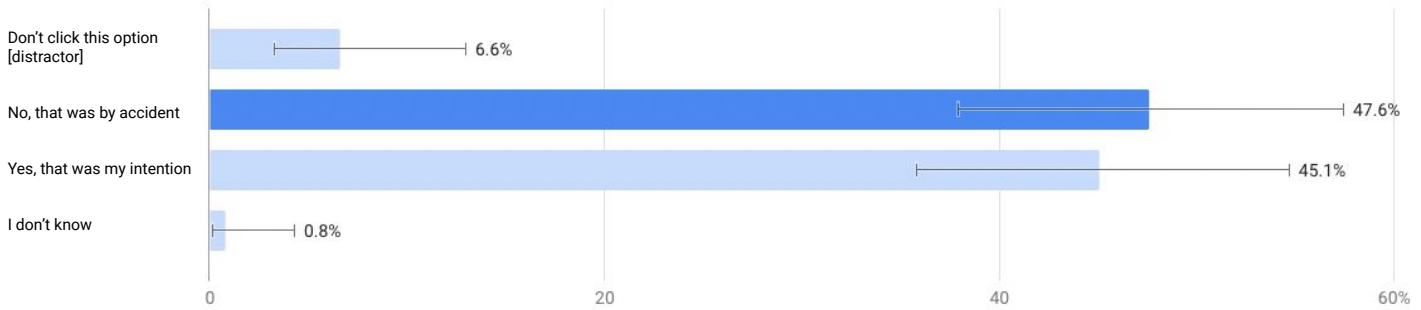
Google Surveys via Google Opinion Reward to users with English Language Setting for the app

n=100 per survey

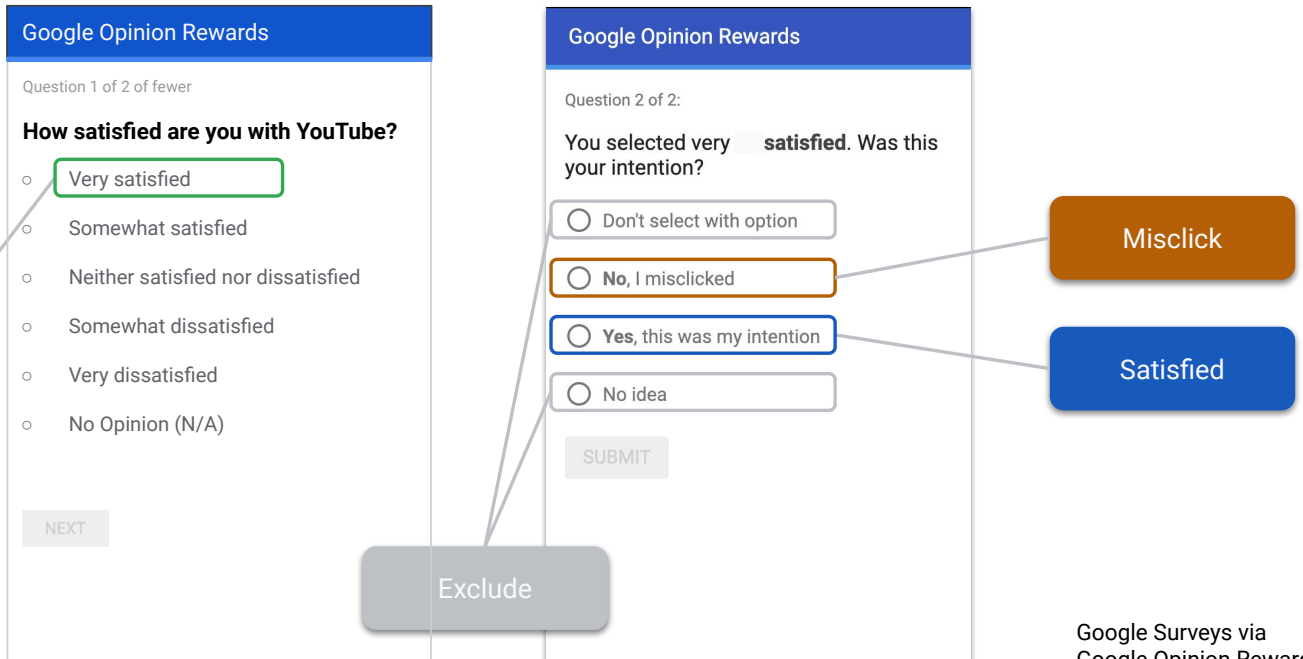
When dissatisfied on top 50% of *very dissatisfied* selected by accident

2. You selected **very dissatisfied**. Was that your intention?

99 respondents



Condition B Satisfied on top

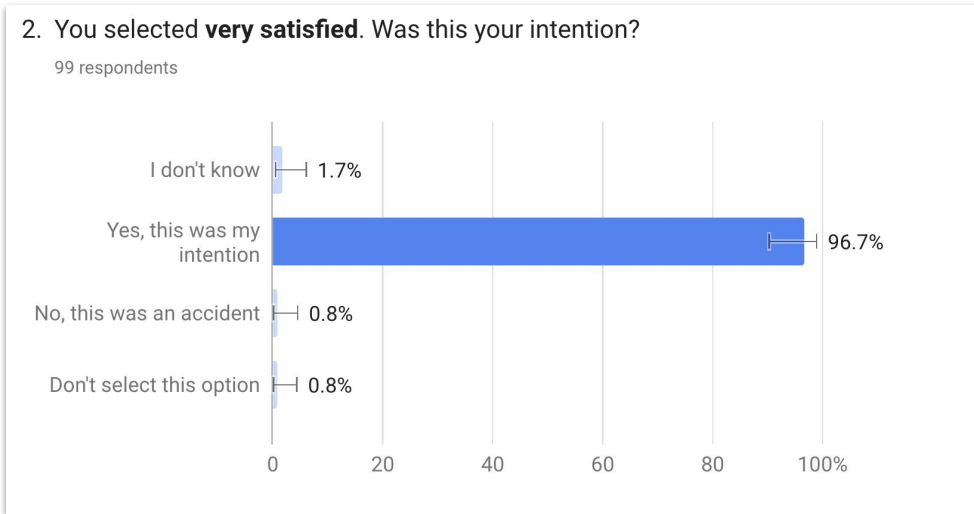


Google Surveys via Google Opinion Reward

n=100 per survey

Survey was launched in Germany, since rate of dissatisfaction was expected to be higher

When satisfied is on top effect does not occur



Follow-up testing the % of misclicks on *very satisfied* when survey is in standard order (*very satisfied* on top)

Part IIb: increased prevalence of *very dissatisfied* [in product survey]

Replication on fonts.google.com via in-product survey [intercept], dissatisfied first condition only

Proprietary + Confidential

<p>Q1: Single select</p> <p>Overall, how satisfied are you with Google Fonts?</p> <p><input type="radio"/> Very dissatisfied</p> <p><input type="radio"/> Somewhat dissatisfied</p> <p><input type="radio"/> Neither satisfied nor dissatisfied</p> <p><input type="radio"/> Somewhat satisfied</p> <p><input type="radio"/> Very satisfied</p>	<p>Q2: Single select</p> <p>You selected "Q1_ANSWER". Was this your intention?</p> <p><input type="radio"/> I don't know</p> <p><input type="radio"/> Yes, this was my intention</p> <p><input type="radio"/> No, this was an accident</p> <p><input type="radio"/> Placeholder option</p>	<p>Q3: Single select</p> <p>What did you want to select instead?</p> <p><input type="radio"/> Very dissatisfied</p> <p><input type="radio"/> Somewhat dissatisfied</p> <p><input type="radio"/> Neither satisfied nor dissatisfied</p> <p><input type="radio"/> Somewhat satisfied</p> <p><input type="radio"/> Very satisfied</p>
<p>Q4: Open text</p> <p>Optionally, what caused you to select the incorrect option?</p> <p>Placeholder text</p>		

Dataset Statistics

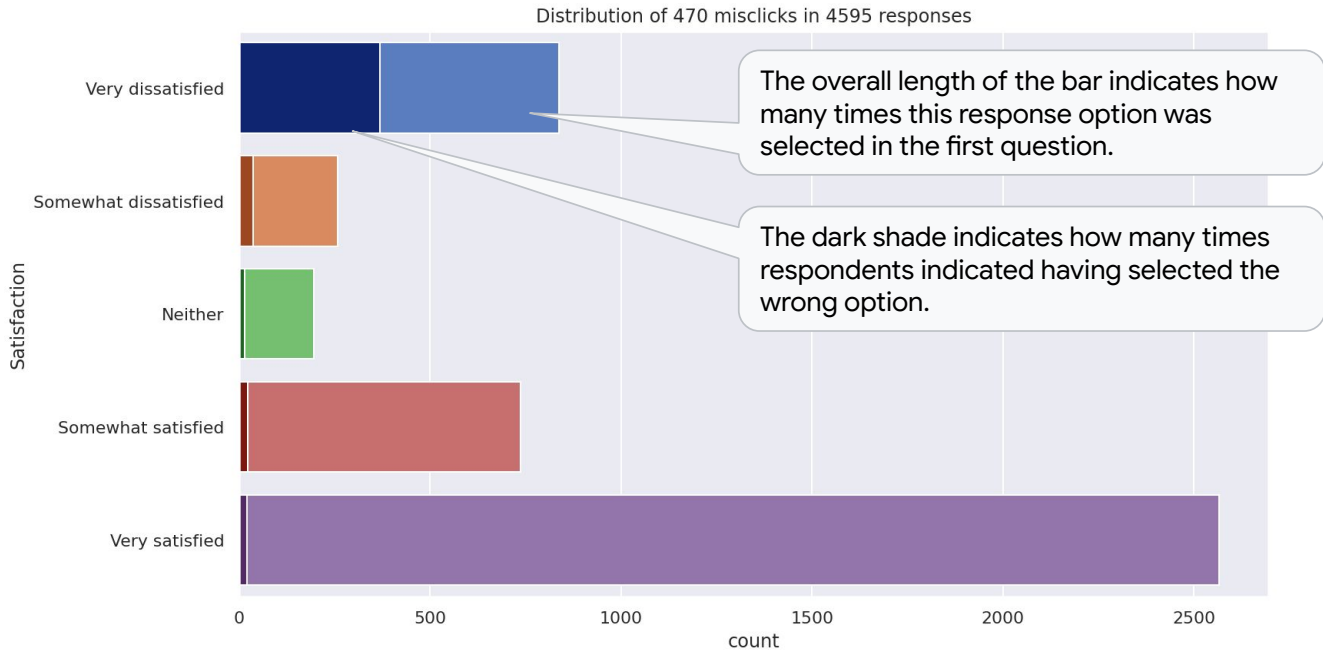
Proprietary + Confidential

8,951 responses to the survey

4,595 (51.3%) respondents indicated whether or not their responses were intended

10.2% of those 4,595 indicated that they clicked the wrong option $CI_{95\%} [9.4\%-11.1\%]$

Prevalence of Responses / Fraction of Misclicks



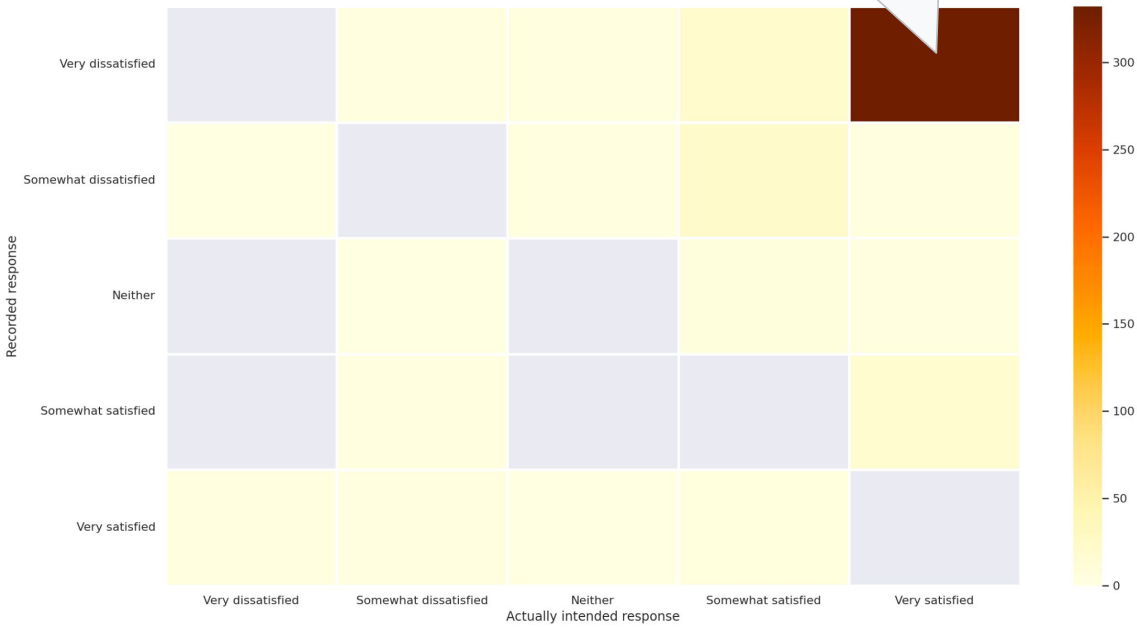
Misclicks by initially recorded satisfaction level

Very dissatisfied	370 of 837	(44.6%)	CI _{95%} [40.9%-47.6%]
Somewhat dissatisfied	38 of 258	(14.7%)	CI _{95%} [10.9%-19.6%]
Neither	16 of 197	(8.1%)	CI _{95%} [5.0%-12.9%]
Somewhat satisfied	24 of 737	(3.3%)	CI _{95%} [2.2%- 4.8%]
Very satisfied	22 of 2566	(0.9%)	CI _{95%} [0.6%- 1.3%]

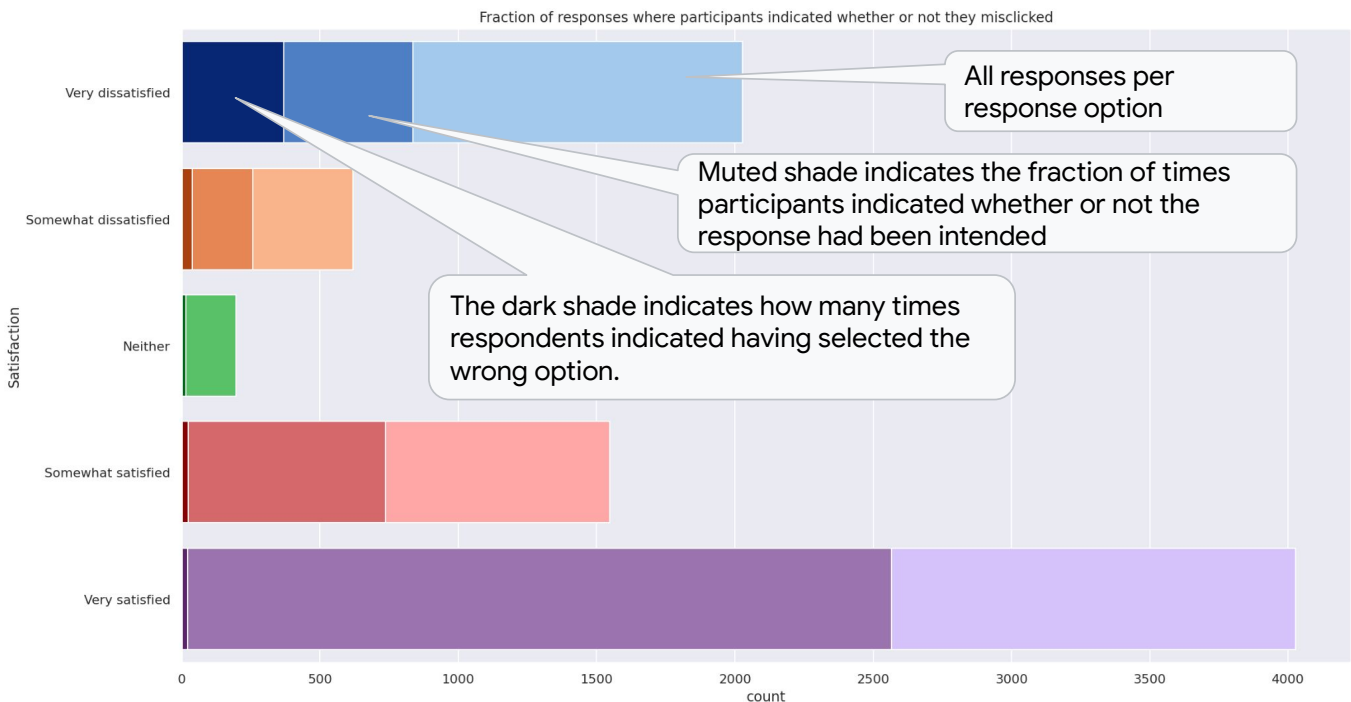
How to read the results: if a respondent indicated to be very dissatisfied, they did not intend that answer in 44.6% of the cases.

Corrected response

Selecting **very dissatisfied** instead of **very satisfied** is the bar far most frequent mistake.



Issue is potentially even larger when looking at respondents who did not indicate whether response was intended



People expect the top option to be positive

Satisfaction	SatCorrected	Reason
Very dissatisfied	Somewhat satisfied	missclick
Very dissatisfied	Very satisfied	wrong click
Very dissatisfied	Somewhat satisfied	突然日本語から英語に変わって文章を理解出来なかったから。
Very dissatisfied	Very satisfied	I think it wwas a matter of hierarchy
Very dissatisfied	Very satisfied	ACCIDENT!!
Very dissatisfied	Very satisfied	lake of attention
Very dissatisfied	Very satisfied	The placement
Very dissatisfied	Very satisfied	I clicked without reading the entire sentence.
Very dissatisfied	Very satisfied	it was on top-quick glance
Very satisfied	Very satisfied	Trying out the UX ;)
Very dissatisfied	Very satisfied	A mistake.
Very dissatisfied	Somewhat satisfied	it was first...
Very dissatisfied	Very satisfied	Misclick
Very dissatisfied	Very satisfied	exhaustion and to be the first option
Very dissatisfied	Very satisfied	misclicked
Somewhat satisfied	Somewhat dissatisfied	sss
Somewhat satisfied	Somewhat dissatisfied	wheres the ttf file

Summary

Summary & Recommendation

Randomly reversing bipolar satisfaction item causes participants to select *very dissatisfied* instead of *very satisfied* unintentionally.

- **10x** *very dissatisfied* in reversed order
- **8 percentage point drop** in top-box satisfaction
- **44.6%** of respondents indicate they clicked *very dissatisfied* by accident
- Open-ended feedback indicates expectation of ***very satisfied on top***

⇒ **Keep bipolar satisfaction questions in positive order (very satisfied on top)**



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