

November 8, 2018

## **Black Friday Math Fail: Three-Quarters of Americans Lose Money Because of Poor Math Skills Leading to Suboptimal Purchase Decisions**

**A shocking number of Americans are unable to calculate percentage discounts without a calculator. This means holiday shoppers, already stressed by the demands of the season, are often not making the best decisions when comparing retail offers**

The numbers say it all: 73.1 percent of Americans can't perform the math necessary to determine the real value of an advertised sale. And by extension, these same individuals will have a tough time distinguishing a good offer from a great one. "Unfortunately, it seems that our brains were not made to understand percentages easily. And many have forgotten how to calculate percentages since school," says Tim Lilling, researcher at BlitzResults.

Part of the problem is that seemingly big discount numbers and catchy, energetic slogans appeal to consumers' emotions, while the logical portion of the brain checks out. Retailers and marketers understand this; they carefully craft sale offers to benefit their bottom lines more so than consumers' pocketbooks. This practice is known as "price framing," and successful retailer operations have it down to a science. Black Friday just happens to be the most egregious example of this phenomenon.

"We already know that retailers are using price framing regularly from scientific publications. But the inability of customers to understand and calculate retail offers correctly is additionally concerning. It provides even more leeway to retailers to trick us easily," says Lilling.

An example of price framing might be displaying a 25 percent discount rather than \$20 off an item's normal price, merely because 25 is the bigger number. It's possible that \$20 off is the superior deal, but the larger number grabs most people's attention.

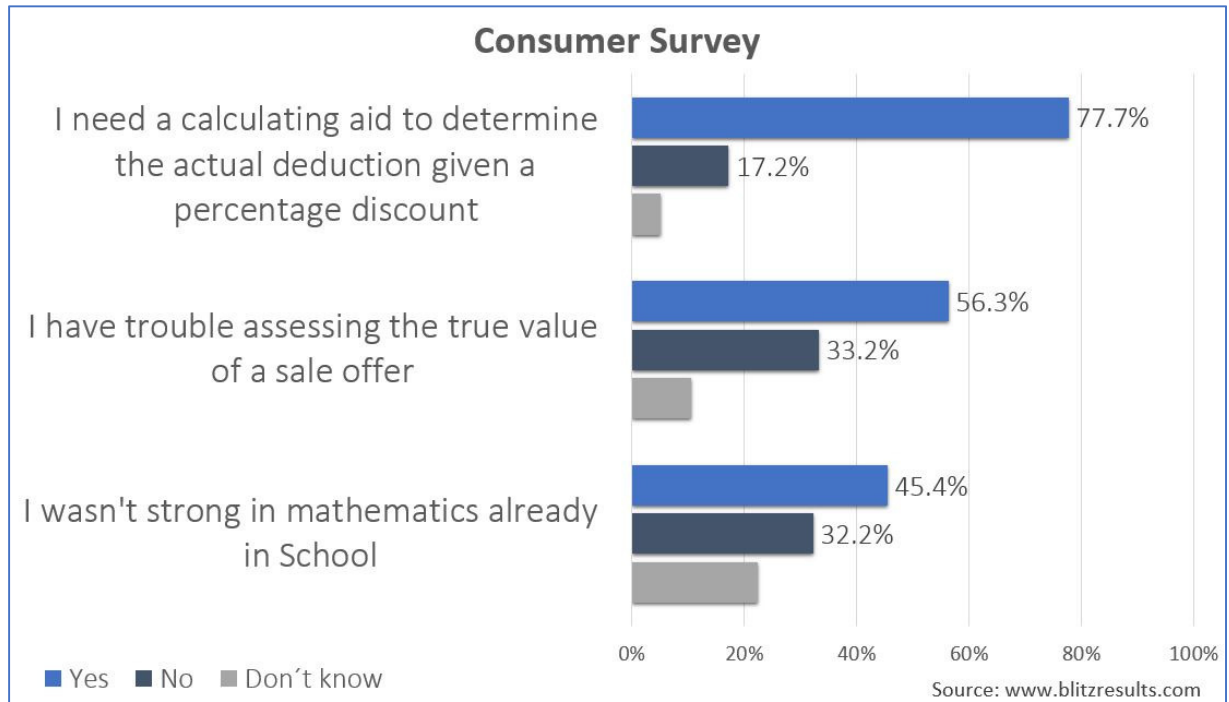
The recent BlitzResults.com survey presented nearly 5,000 consumers with a series of math- and shopping-related statements. Nearly 78 percent said they would need a calculating aid to determine the actual deduction given a percentage discount. Another 56 percent agreed they would have trouble assessing the true value of a sale offer. Ironically, one-third of respondents claimed to have done well in math classes.

The BlitzResults.com survey reveals the need for holiday shoppers to arm themselves not only with knowledge, but also with tools for filtering out the advertising hype and discovering the bona fide bargains. To that end, BlitzResults.com includes a set of free, easy calculators (<https://www.blitzresults.com/en/discount/>) to help people quickly see actual savings amounts in just a few clicks. The site's calculators are optimized for mobile devices, which means savvy consumers can take them along on Black Friday, Cyber Monday, or any shopping trip.

### **The results of the study in detail**

- 72.4 % of the survey participants have difficulties to calculate percentage discounts
- 14.9 % cannot calculate simple percentage calculations like 10% of 20 USD
- 77.7% say they need a calculation aid to calculate percentage reductions
- 56.3% of the participants state that they have difficulties to calculate the actual saving of discount offers
- 32.2% however say that they had been good in Math in School

## Infographics



Consumer study conducted by BlitzResults.com: 4813 consumers were asked in an online panel. Confidence level 95 %.

Questions	Answers			
	Correct	False	False	False
What is 37% of 50 USD	Correct	False	False	False
What is 25% of 40 USD	Correct	Correct	False	False
What is 10% of 20 USD	Correct	Correct	Correct	False
<b>Percent of participants</b>	<b>27.6%</b>	<b>37.3%</b>	<b>20.2%</b>	<b>14.9%</b>

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## **About [www.blitzresults.com](https://www.blitzresults.com)**

BlitzResults is an open source educational platform with focus on science, consumer affairs and technology. A wide variety of tools, converters and checklists help users to calculate optimal results. All tools were created in collaboration with educational institutions and every infographic is licensed under creative commons and may be used free of charge in educational context.

### **Contact**

Tim Lilling

[tim@blitzresults.com](mailto:tim@blitzresults.com)

<https://www.blitzresults.com>

<https://twitter.com/blitzresultscom>