Transcript for Professor Gernsbacher's Lecture Video: "Judgment and Decision Making on the Internet"

How do we make decisions about information on the Internet, be it judging which restaurant to go to, based on online reviews
OR judging which package deal gives us the most bang for our buck;
OR judging what all our friends must be doing, given their social media updates?

Little to no evidence suggests that our judgment and decision making about information on the Internet differs from our judgment and decision making about information not on the Internet. Both offline and online, we tend to use what are known as

CLICK – Heuristics, which in psychology, refer to cognitive shortcuts or mental rules of thumbs that guide our judgment and decision making. Heuristics are QUOTE "judgmental shortcuts that generally get us where we need to go – and [get us there] quickly – but at the cost of occasionally sending us off course."

In this video, I will be talking about THREE fundamental judgment and decision making heuristics, drawn from the work of psychologists and Nobel laureates, Daniel Kahneman and Amos Tversky.

The three heuristics I'll discuss

CLICK - are the Representativeness Heuristic

CLICK - The Availability Heuristic, and

CLICK - The Anchoring and Adjustment Heuristic, and some of the illustrations I'll provide are drawn from an excellent website called

CLICK - Thinker, which was constructed by Bart Everson & Elliott Hammer of Xavier University in Louisiana. Everson & Hammer introduce

CLICK - The Representativeness Heuristic with the following demonstration: In a fictional town, every person is either

CLICK - a truck driver or a professor. In fact,

CLICK - 90% of the total population are truck drivers,

CLICK – and only 10% of the total population are professors. Participants then reed descriptions of 10 RANDOM residents of this fictional town.

After reading each description, participants judge whether the person just described is a truck driver or a professor. For example,

CLICK – Buck likes football, lives in the town he was born in, and has been divorced three times. Is Buck a truck driver or a professor?

CLICK – Tom has a favorite oily baseball cap, uses a CB radio, and has a bushy beard. Truck driver or professor?

CLICK – Hank has long hair, likes to hunt, and often wears his favorite flannel jacket. Truck driver or professor?

CLICK – Jerry has a rebel flag on his vehicle, uses curse words a lot, and enjoys rock music. Truck driver or professor?

CLICK – Jake always wears jeans, speaks in a Southern accent, and drinks a lot of coffee. Truck driver or professor?

CLICK – Vincent wears glasses, is clumsy, and is long-winded when he talks. Truck driver or professor?

CLICK – Francis carries a laser pointer, is not very athletic, and likes classical music. Truck driver or professor?

CLICK – William goes to the opera, spends a lot of time on the computer, and has visited 28 countries. Truck driver or professor?

CLICK – Alfred is balding, wears a tweed jacket, and uses big words. Truck driver or professor? And the last description.

CLICK – Harold smokes a pipe, reads a lot, and often has chalk dust on his hands. Truck driver or professor?

Most people tend to judge

CLICK - half of the descriptions I just read to be of truck drivers and half to be of professors. We make these judgments according to our internal Representativeness Heuristic. We judge that someone who

CLICK - likes football, lives in the town he was born in, uses a CB radio, likes to hunt, wears a flannel jacket, or has a rebel flag on his vehicle is most likely a truck driver because these descriptions tend to represent truck drivers in our mind. These descriptions are representative of how we think about truck drivers. And we use representativeness to guide our judgments. In contrast, we tend to think that someone who

CLICK - wears glasses, is clumsy, carries a laser pointer, likes classical music, spends time on the computer, or uses big words is most likely a professor because **these** descriptions tend to represent professors in our minds. Thus, we again use Representativeness to guide our judgment.

CLICK - But Heuristics, like the Representativeness Heuristic, are mental short cuts. And taking a mental short cut isn't always the most accurate way to make a decision. Indeed, when we rely on the Representativeness Heuristic, we tend to forget the most important piece of information for making decisions on probability, and that is the base rate.

In the Truck Driver OR Professor demonstration, we were told from the beginning that in this fictional town,

CLICK - 90% of the total population are truck drivers, and only 10% are professors. Therefore, in any random sample of residents from this town, such as the random sample we were given, there should be 90% truck drivers and only 10% professors, not half and half.

We assumed half and half because we disregarded the objective information, the base rate, and we made our judgment based on stereotypes that we thought were representative. We fell prey to the Representativeness Heuristic.

We also fall prey to the Representativeness Heuristic on the Internet.

CLICK - Consider our purchasing decisions based on online ratings and reviews. Empirical studies demonstrate that most Internet-shoppers are heavily biased by the strength of an item's positive rating (*Flanagin et al., 2014)*.

For example, they judge an item that's received an average rating of five stars as being a better purchase than a similar item that's received an average rating of only four stars.

But what most Internet-shoppers fail to take into account are the base rates, which are incredibly important. In the case of Internet shopping and product ratings, the base rate is the number of ratings that go into the average. If the five-star rating

CLICK - is based on only two ratings, it's a much more biased source of information

CLICK - than a four-star rating based on 200 ratings. Similarly, other studies have shown that Internet-shoppers are heavily biased by one really positive review *(Ziegel & Weber, 2015*) rather than considering the base rate of multiple not-so-positive reviews.

And similarly, Internet-shoppers are heavily biased by one really negative review *(Qiu et al., 2012)* rather than considering the base rate of multiple not-so-negative reviews. The Representativeness Heuristic affects our judgment and decision making on the Internet.

CLICK – Similarly, the Availability Heuristic, also affects our judgment and decision making on the Internet.

Availability refers to the salience of an idea or an event. If an idea or event is salient to us – if it's more available in our minds -- we tend to over-estimate how likely it is to occur. Bart Everson & Elliott Hammer of Xavier University illustrate the Availability Heuristic in the following way.

CLICK - They ask half of their participants to read a news story about a man being attacked by a shark.

CLICK - And they ask the other half of their participants to read a news story about a man winning the lottery.

CLICK – Then they ask both groups of participants to estimate the probability that they will be attacked by a shark or that they will win the lottery.

CLICK – If participants read a news story about a man being attacked by a shark, they overestimate the probability that of being attacked by a shark, and they underestimate the relative probability of winning the lottery. In contrast,

CLICK – If participants read a news story about a man winning the lottery, they overestimate the probability of winning the lottery, and they underestimate the relative probability of being attacked by a shark.

In both instances, the availability of the information biases the participants' judgment, and that's what we mean by the Availability Heuristic.

We also fall prey to the Availability Heuristic on the Internet.

CLICK – Studies have shown that if teenagers view a Facebook picture of their friends drinking alcohol, they overestimate the probability of other teens drinking alcohol.

CLICK – Similarly, if people are shown a Facebook picture of their friends going on vacation, they overestimate the probability of other families going on vacation. Both offline and online, the Availability Heuristic affects our judgment and decision making.

CLICK – Lastly, let's turn to talk about the Anchoring & Adjustment Heuristic. When we are biased by an anchoring and adjustment heuristic, we allow a starting number, considered an anchor, to affect our adjustment of other numbers. Let me give you a couple of examples.

CLICK – If someone tells us that the average person has about 120,000 hairs on their head.

CLICK – And then they ask us, How many hairs do you think you have on your head? We are likely to take the number 120,000 as our anchor and then adjust from that number depending on whether we think we have relatively thick or relatively thin hair.

The same anchoring and adjustment happens

CLICK – If someone tells us that the average person has about 80,000 hairs on their head.

CLICK – And also asks us, How many hairs do you think you have on your head? If we are given the number 80,000 as our anchor, we are likely to adjust from that number, depending on whether we think we have relatively thick or thin hair.

Like most heuristics, anchoring and adjustment can be a short cut, but if the anchor is misleading or not informative, anchoring and adjustment can lead us down the wrong path.

CLICK - We also fall prey to the Anchoring and Adjustment Heuristic on the Internet, particularly when trying to select package deals.

Psychologist Dan Ariely demonstrated the power of Anchoring and Adjustment when he asked 100 economics majors at MIT to select one of the following subscription packages for the journal The Economist.

CLICK – One option, the Basic Plan, was a one-year subscription to the journal that granted access to all of the articles online. The price was $59.

CLICK – A second option, the Premium Plan, was also a one-year subscription to the journal, but the buyer would receive that year's issues in print, aka hard copy format. The price was $125.

CLICK – A third option, the Premium Plus Plan, was again a one-year subscription to the journal, and the buyer would receive all of the issues in print plus access to all of the articles online. That price was also $125.

CLICK - Ariely found that 16% of the economics students chose the Basic Plan

CLICK – none, zero percent, chose the Premium Plan,

CLICK – and 84% chose the Premium Plus plan, thinking it was the best deal.

CLICK – Then, Ariely, removed the unattractive middle plan, and renamed the Premium Plus plan to be simply the Premium Plan. What happened?

The prospective buyers' judgments reversed!

CLICK – Now, the majority, 68% chose the Basic Plan,

CLICK – and only 32% chose the Premium plan. Why did that happen? Because of Anchoring and Adjustment.

CLICK – Heat maps of prospective buyers' cursor movements illustrate just how much the Anchoring and Adjustment heuristic was at play. When the middle plan was available, it served as an anchor, which is why the heat maps show prospective buyers' cursors hanging in the middle, as they weighed out the benefits of the two other plans. Having the middle plan available, anchored judgments and made the Premium Plus plan look like a great deal. But without the middle plan, the Premium Plus plan lost its luster.

CLICK – Thus, Heuristics, which in psychology, refer to cognitive shortcuts or mental rules of thumbs, play just as much of a role in our judgment and decision making on the Internet as they do off the Internet.

CLICK – the Representativeness Heuristic

CLICK - The Availability Heuristic and

CLICK - The Anchoring and Adjustment Heuristic, all affect our judgment and decision making on the Internet.