

Making Bad Behavior Rational: Criminals Regard Risk Differently Than Everyone Else



By Hank Campbell — September 7, 2018



Credit: Roblox [1]

Award-winning director Azel James and his crew are currently filming "Big Fears, Little Risks", which is just what it sounds like - how humans are generally bad at assessing risk. We are all likely bad at assessing data regardless of our occupations. Dr. Alex Berezow wrote [how senior scientists are just as prone to biases in decision-making](#) [2], unconscious emotions toward unfamiliar data, and over-reliance on intuition as everyone else. (1)

But that does not mean we are all bad at assessing risk in the same way. A new paper in [the Journal of Experimental Psychology](#) [3] used [fuzzy trace analysis](#) [4], a kind of psycholinguistic framework using "gist" and "verbatim" thinking, to correlate neural substrates of risk preferences and criminality. That means they started with functional magnetic resonance imaging (fMRI), which is generally just looking at changes in the brain, making subjective interpretations about what differences in the pretty pictures mean, and drawing conclusions **(2)** - exactly the problem with bias in assessment Alex discussed in his article **(3)** - but just like we can see a distinction between absolute and relative risk when placed in context, if the focus of the experiment is narrow and the brains are criminals and law-abiding people, there may be something to it.

In this case the criminal and law-abiding behavior was self-reported **(4)** but they both undertook the same experiment; they could win \$20 guaranteed or gamble on a coin flip for double or nothing. If you want to just hand me \$20, I am taking it, no questions asked, but the [House Money Effect](#) [5] is well-known because it is real. Many people are more risky when they are playing with profits above their original bet.**(5)**

So it is no surprise people who reported criminal behavior engaged in more "verbatim" decision-

making, they focused on the fact that \$40 is more than \$20. Even in a study of just honest people a whole lot would do the same thing, but when the situation was reversed is where it got interesting. When given a choice to lose \$20 or flip a coin and lose nothing or lose \$40, most people engaged in "gist" rationalization. They decided that a chance of losing nothing is better than guaranteed to lose something. Yet people with criminal tendencies still stayed in that verbatim mindset. The \$40 was still more than \$20 and this time they took a sure loss over the gamble on an even greater one.

And that showed in the fMRI. When non-criminals were taking these risks, the amygdala (emotional reactivity) and striatal (reward motivation) areas were more active, whereas in criminals there was greater activation of brain areas involved in reasoning and cognitive analysis, such as the insula. The higher the self-reported criminal behavior, the more activation they saw in the reasoning areas of the brain while making decisions.

What does that mean about paranoid risk concerns when it comes to chemophobia, anti-vaccine worries, organic food shopping and more? Their consumers are not rational enough to be criminals, but maybe the marketing executives at places like Whole Foods and Greenpeace are. They are robbing people of their money and using cognitive bias to do so.

[Big Fears, Little Risks is in production now](#) [6]. Like everything we do, it is funded by foundations and donors. If you want to make a donation toward it, [you can do so here](#) [7]. You can even become a sponsor and get a "thank you" in the end credits. For that, **write tgolab@acsh.org** [8]

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Big Fears Little Risks (2018)

E | 48min | Documentary | 10 September 2018 (USA)



A documentary that looks at environmental claims about trace chemicals, foods and medicine and the efforts science takes to combat scaremongering.

Director: [Azal James](#)

Writers: [Hank Campbell](#), [Ana Dolaskie](#)

Stars: [Francis Collins](#), [Bruce Ames](#), [Michelle Minton](#) | [See full cast & crew >](#)

Production Notes from IMDbPro

Status: Filming | [See complete list of in-production titles >](#)

[6]

NOTES:

(1) [Some with particularly strong political biases](#) [9] even found subjective reasons to object to his article - because he wrote it here, and our content is not "liberal" enough for their taste. These are [the same academic conspiracy theorists](#) [10] who insist I control the entire pro-science Internet that is immune to their ideological beliefs, and by extension the American Council on Science and Health does, all for under \$2 million per year.

Sorry, activists, science is still not a conservative conspiracy. It is just science, and you are often on the wrong side of it.

(2) [If the software is even working properly](#) [11].

(3) The *New York Times* loves fMRI, because they get to produce headlines like [You love your iPhone, literally](#)" [12]

(4) Criminals can be honest in odd ways, thus the semi-apocryphal story of the man alleged to have stolen wallets who, when asked if he wanted a trial by jury or by a judge replied, 'Give me the

judge, I don't want 12 pickpockets deciding my fate.'

(5) If you have watched Poker tournaments on television, or read a book on Blackjack, you know that it can sometimes be smart to bet big. But just like in the stock market, if you don't know what you are doing, it is best to stay consistent and even out volatility.

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Links

[1] <https://www.roblox.com/library/158819950/Become-a-criminal>

[2] <https://www.acsh.org/news/2018/09/05/why-good-science-hard-do-13385>

[3] <http://psycnet.apa.org/record/2018-32180-005>

[4] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4268540/>

[5]

[http://faculty.chicagobooth.edu/Richard.Thaler/research/pdf/Gambling%20with%20the%20House%20Money%20and%](http://faculty.chicagobooth.edu/Richard.Thaler/research/pdf/Gambling%20with%20the%20House%20Money%20and%20)

[6] <https://www.imdb.com/title/tt7543968/>

[7] <https://interland3.donorperfect.net/weblink/weblink.aspx?name=acsh&id=1>

[8] <mailto:tgolab@acsh.org>

[9]

https://www.science20.com/hank_campbell/nyu_journalism_department_scandal_grows_fraud_conflicts_of_interest_d
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[10] <https://www.deniersforhire.com/bad-journalists/charles-seife/>

[11] <https://www.sciencealert.com/a-bug-in-fmri-software-could-invalidate-decades-of-brain-research-scientists-discover>

[12] http://www.nytimes.com/2011/10/01/opinion/you-love-your-iphone-literally.html?_r=1