

**ZMATH 2015e.00817**

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**Worth the risk? Modeling irrational gambling behavior.**

Math. Enthus. 12, No. 1-3, 31-37 (2015).

Summary: In math class, expected value is often used when deciding whether or not a game is worth playing. A common refrain is that games with negative expected value should be avoided. However, nearly all games of chance have a negative expected value, and a simple expected value analysis fails to explain why these games are so popular. In this article, we consider three psychological factors leading to irrational gambling behavior – the illusion of control, hypersensitivity to reward, and beginner’s luck – and explore how these factors affect an otherwise purely rational model of gambling behavior.

*Classification:* K50 M40 K90

*Keywords:* games of chance; mathematical models; expected values; psychology; stochastics; probability theory; statistics; risk; gambling; roulette; luck; utility; probability

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