Raging Bull: First study to find link between testosterone and stock market instability

eurekalert.org/pub_releases/2017-10/ifor-rbf101017.php

Key Takeaway: Increasing testosterone levels in men, who make up the majority of professional stock market traders, causes them to bid up prices, which create price bubbles and crashes.

CATONSVILLE, MD, Oct. 10, 2017 - In the U.S. today, the majority of professional stock market traders are young males and new evidence suggests biology strongly influences their trading behavior. According to a new study in the INFORMS journal *Management Science*, this could be a significant contributor to fluctuations in the market, as high testosterone levels can cause these traders to overestimate future stock values and change their trading behavior, leading to dangerous prices bubbles and subsequent crashes.

The study, "The Bull of Wall Street: Experimental Analysis of Testosterone and Asset Trading," was conducted by Amos Nadler of the Ivey Business School at Western University, Peiran Jiao of the University of Oxford, Paul Zak and Veronika Alexander of the Center for Neuroeconomics Studies at Claremont Graduate University, and Cameron Johnson at the Behavioral Health Institute at Loma Linda.

The double blind study involved 140 young males, each of whom received a topical gel containing either testosterone or a placebo, prior to participating in an experimental asset market in which they were able to post bid and ask prices, as well as buy and sell financial assets to earn real money.

The authors found that among groups that received testosterone relative to those who received a placebo, larger price bubbles formed, mispricing lasted longer, market dynamics changed to reflect increasing bidding and selling volume, and their perception of a stock's value changed despite its being displayed throughout the study. While the traders who received the placebo displayed "buy low to sell high" behavior, those who had received testosterone adhered to "buy high to sell higher."

"This research suggests the need to consider hormonal influences on decision-making in professional settings, because biological factors can exacerbate capital risk," said Nadler. "Perhaps the simplest recommendation is to implement 'cool down' periods to interrupt exceptionally positive feedback cycles and return the focus to assets' fundamental valuations to reduce the possibility of biased decision-making."

"Based on our findings, professional traders, investment advisories, and hedge funds should limit the risk taken by young male traders," continued Nadler. "This is the first study to have shown that testosterone changes the way the brain calculates value and returns in the stock market and therefore - testosterone's neurologic influence will cause traders to make suboptimal decisions unless systems prevent them from occurring."

###

The full study is available here http://pubsonline.informs.org/stoken/default+domain/MNSC-PR-10-2017/full/10.1287/mnsc.2017.2836.

About INFORMS and Management Science

INFORMS is the leading international association for operations research and analytics professionals. Management Science, one of 14 journals published by INFORMS, is a premier academic journal that covers groundbreaking research on all aspects of the practice of management. More information is available at http://www.informs.org or @informs.