

Do female testosterone levels have influences on the distrust game,
the beauty contest game, and risk-aversion?

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Abstract

Currently various research on neuroscientific foundations of economic decision makings is booming out. Among the most famous papers is the one presented in American Economics Review in 2005, in which Zak *et al.* reported that only male (but not female) players who received high distrust signals from the opponent players showed increases of their dehydro-testosterone levels.

Although dehydro-testosterone is chemically different from testosterone, the latter is easier to measure and the former is produced from the latter with enzyme 5 alpha reductase. Therefore, besides reassuring results shown above, we predicted that, since testosterone is a hormone causing aggressive behaviors, even female testosterone levels may have some influences on the results of the beauty contest game and their degree of risk aversion.

Using female college students, our results show that 1. There is no relation between the distrust signals and the receivers' testosterone levels, as was reported in Zak *et al.*, 2. Female players with higher testosterone levels reported lower beauty contest values, i.e., they are more conscious about others' strategies, 3. There is positive but not significant relation between testosterone levels and risk aversion, which is contrary to our initial prediction.