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PII: S0166-4328(17)31508-5
DOI: https://doi.org/10.1016/j.bbr.2018.03.018
Reference: BBR 11340

To appear in: *Behavioural Brain Research*

Received date: 8-9-2017
Revised date: 12-3-2018
Accepted date: 13-3-2018

Please cite this article as: Kim T-W, Park H-S, Physical exercise improves cognitive function by enhancing hippocampal neurogenesis and inhibiting apoptosis in male offspring born to obese mother, *Behavioural Brain Research* (2010), https://doi.org/10.1016/j.bbr.2018.03.018

Physical exercise improves cognitive function by enhancing hippocampal neurogenesis and inhibiting apoptosis in male offspring born to obese mother

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HIGHLIGH

- Physical exercise improved learning and memory in male offspring born to maternal obesity.
- Physical exercise enhanced BDNF, TrkB and neurogenesis in male offspring born to maternal obesity.
- Physical exercise inhibited apoptosis and cell death in male offspring born to maternal obesity.

ABSTRACT

Maternal obesity induces hippocampal functional changes and leads to deficits in cognitive functions, such as learning and memory in offspring. We investigated the protective effects of physical exercise against cognitive function deficit in offspring born to obese mothers. Neurotrophic factors, neurogenesis, and apoptosis were analyzed in the hippocampus and dentate gyrus of offspring. Four-week-old female rats were fed a high-fat diet