

Addiction and depression



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Research Interests: *psychological and neuropharmacological mechanisms involved in the development, persistence and recurrence of behaviours reinforced by chemical and natural rewards.*

Brain Health Wellness Tip: *“Stay active & give to others”*



Addiction and depression

Brain reward threshold & the hedonic tone

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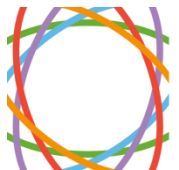
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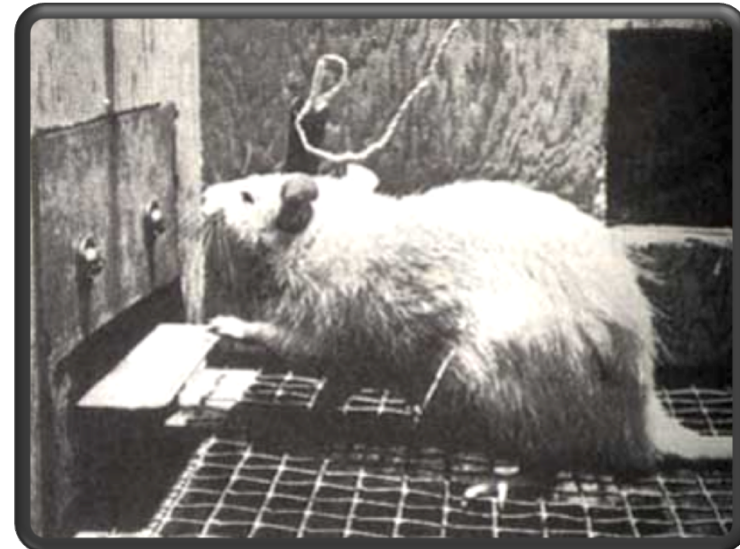


Addiction and depression

Rates of mood disorders among drug abusers and rates of drug abuse among individuals suffering from mood disorders are substantially higher than expected from the individual rates of these disorders

Intracranial self-stimulation

James Olds and Peter Milner 1954



The patient was equipped with a three-button self-stimulating transistorized device... The three buttons... were attached to electrodes in the various deep [brain] sites, and the patient was free to stimulate any of these three sites as he chose....

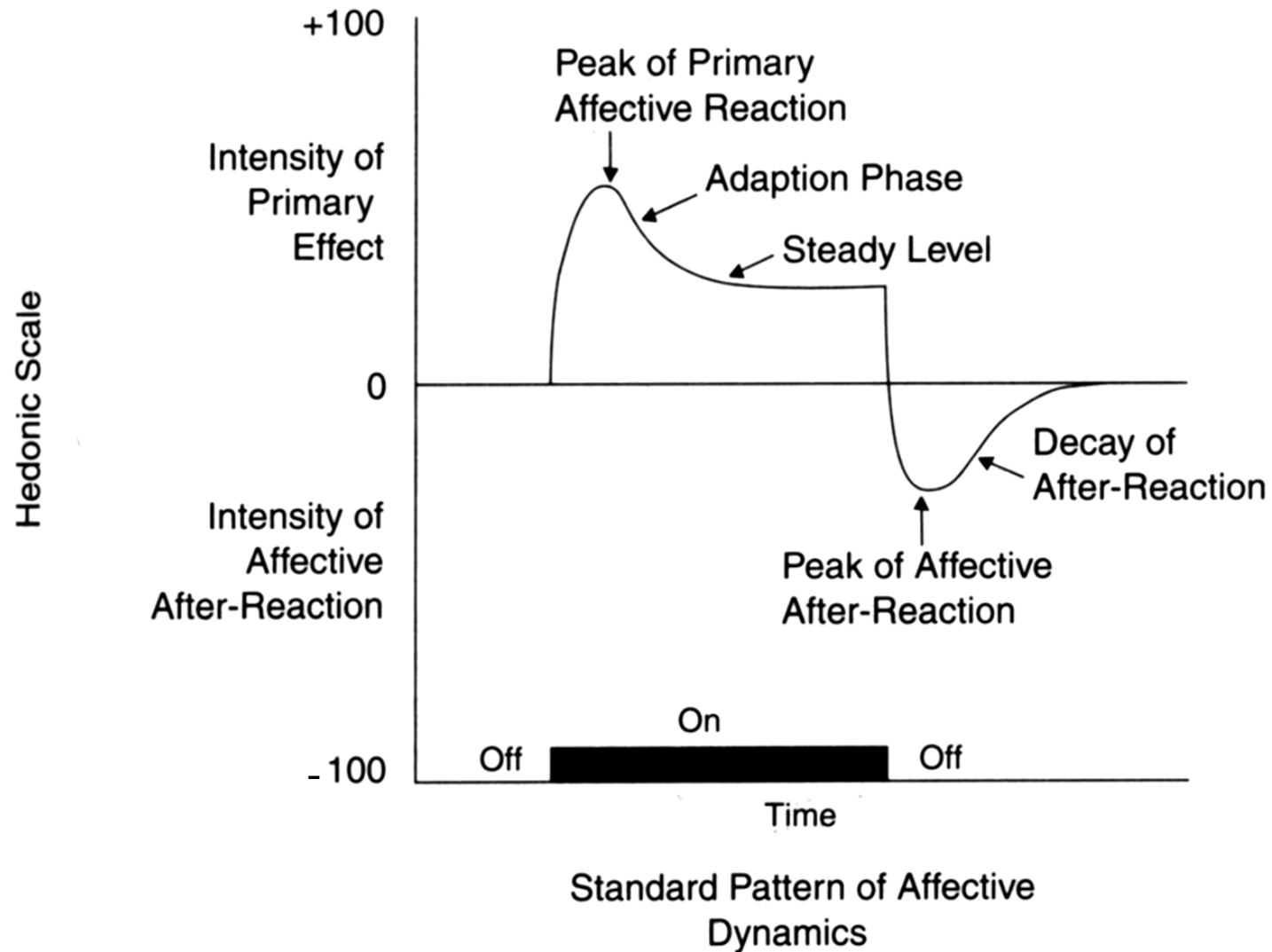
.....He was permitted to wear the device for 3 hours at a time: on one occasion he stimulated his septal region 1,200 times, on another occasion 1,500 times, and on a third occasion 900 times....

....He protested each time the unit was taken from him, pleading to self-stimulate just a few more times... the patient reported feelings of pleasure, alertness, and warmth (goodwill)....

Robert G. Heath 1972



The hedonic tone



Translation & reverse translation

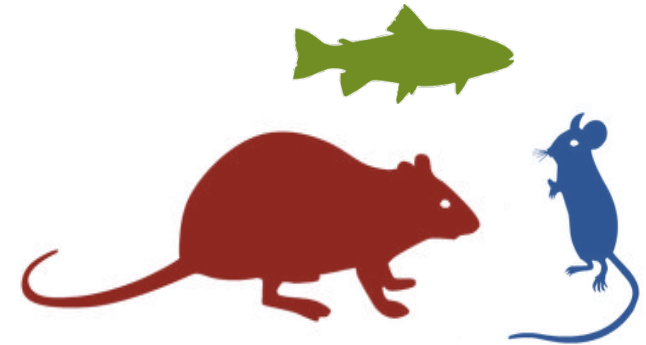
Animal “models” of disease (behaviour, neurochemistry, genetic)



Translation



Reverse translation



Universities

- Dalhousie University
- McGill University
- McMaster University
- Queen's University
- Simon Fraser University
- University of British Columbia
- University of Calgary
- University of Guelph
- University of Ottawa
- University of Michigan
- University of Toronto

Health Science Centres

- Centre for Addiction and Mental Health
- Douglas Mental Health University Institute
- Hotchkiss Brain Institute & Mathison Centre for Mental Health Research and Education
- Providence Care & Kingston Health Sciences Centre
- Queen Elizabeth II Health Sciences Centre
- Rotman Research Institute, Baycrest
- Royal Ottawa Institute of Mental Health Research
- St. Michael's Hospital & Li Ka Shing Knowledge Institute
- St. Joseph's Healthcare Hamilton
- Sunnybrook Research Institute
- University Health Network & Krembil Research Institute
- Vancouver Coastal Health Research Institute

This CAN-BIND study is carried out in partnership with



Major Granting Agencies and Industry Partners



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