

Should Exercise Addiction be a Diagnosis in DSM V

Michael Resnick MD

PVAMC

WHO THINKS “EXERCISE ADDICTION” SHOULD
BE INCLUDED AS A DIAGNOSIS IN DSM V?

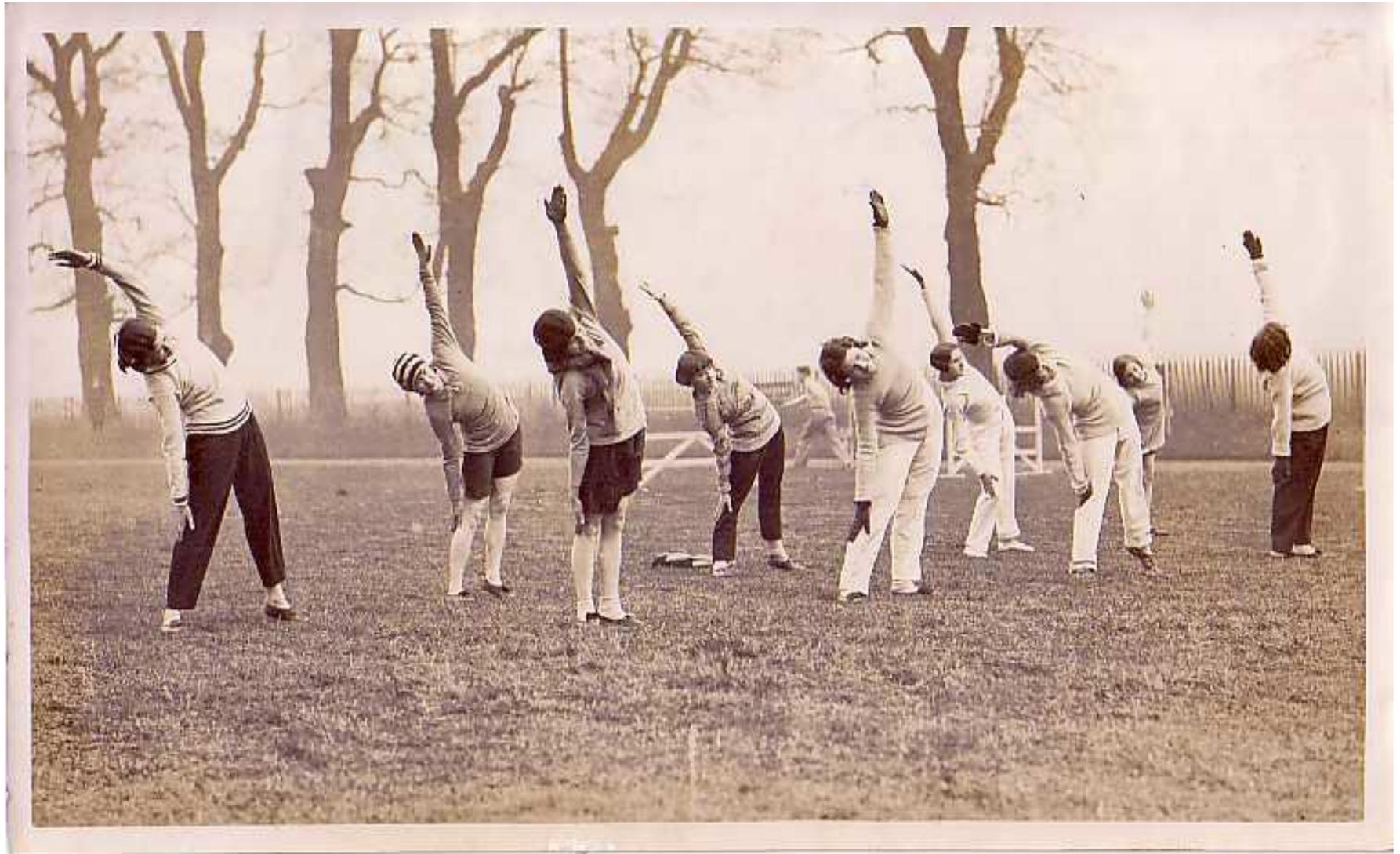
Disclosures

- I have no financial relationships to disclose
- I have never tried to “**C**ut down” on exercising
- No one has ever “**A**nnoyed” me by criticizing my exercising
- Exercising does not make me feel “**G**uilty”
- I have never exercised first thing in the morning as an “**E**ye opener” [except for swimming]

Exercise



Exercise



Exercise?



Exercise??



New York Times 3/29/12

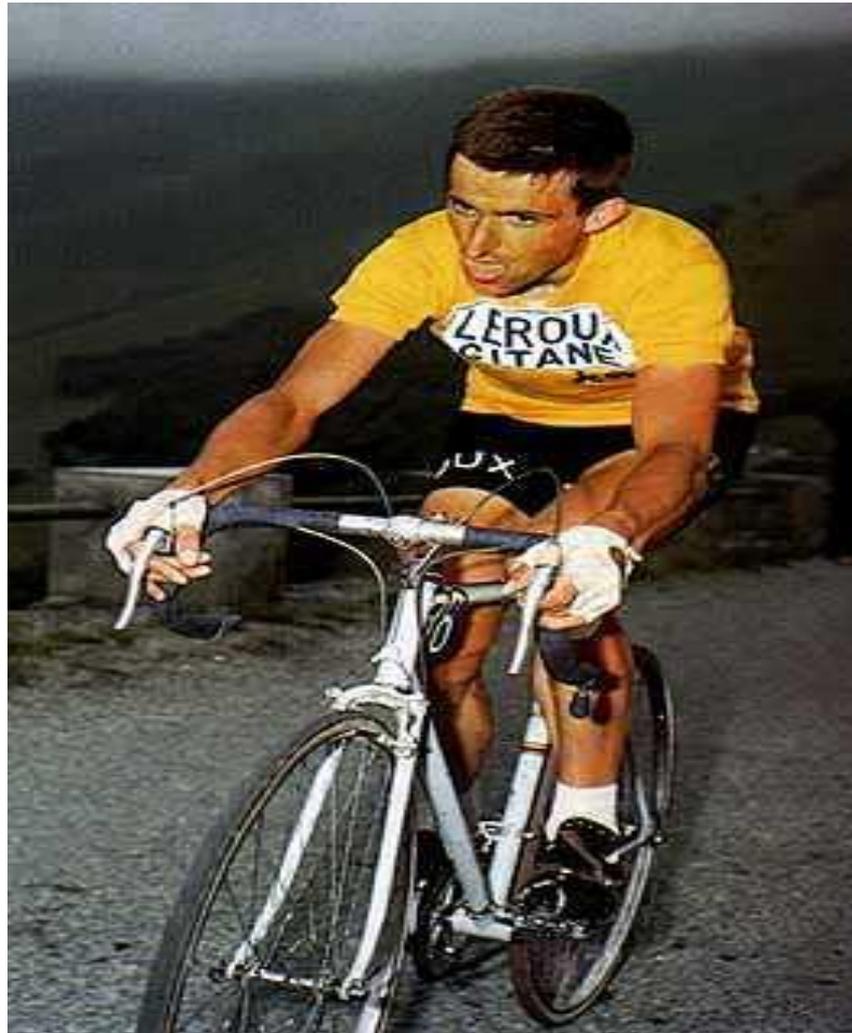
“Some Like it Hotter”-[exercising at high temperatures]

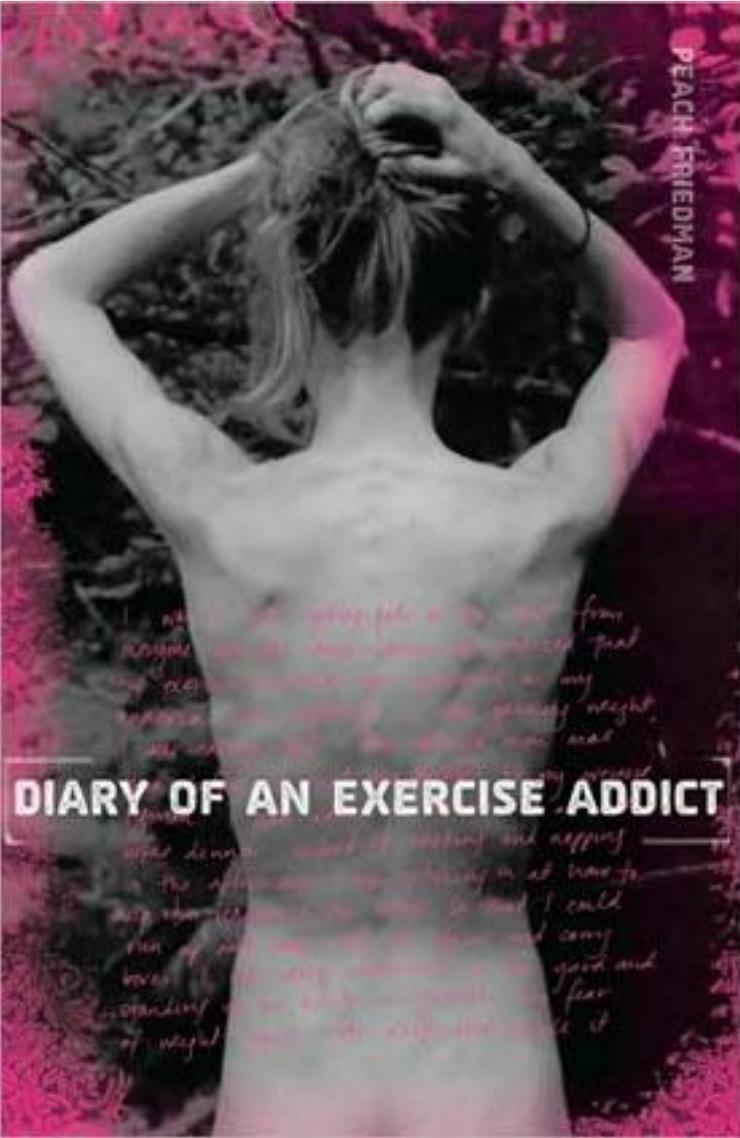
- “for these religious exercisers only sweltering temperatures produce adequate workouts”
- “you don’t waste 3 songs warming up, you can hit it hard from the start”
- “I feel like it totally pushes me to the edge, nothing else can bother me the rest of the day after surviving hell”



MR OLYMPIA

Tour of France 1967





PEACH FRIEDMAN

DIARY OF AN EXERCISE ADDICT

“Outside” Magazine Feb, 2012

- “ENDORPHINS-the only addiction that’s good for you”
- Growth in Triathlon-first event 1974, 2,300,000 entries in 2010
- The first MARATHON 490 B.C. [from Athens] Pheidippides [dies]-500 held worldwide last year
- 518,000 finishers in USA
- 350 souls have run a marathon in all 50 states
- One “record”-running a marathon 159 consecutive weekends

Examples?

- Tony Morgan-12 months into planned 4 year around the world run. 8,766 miles down, 22,302 to go
- Jesper Olsen-completed 16,300 mile around the world run. Plans 2nd longer route @28 miles/day. 19,000 miles down, 6,000 to go.
- Rosie Swale-Pope: since death of her husband in 2003 ran 19,900 miles in 5 years. Plans on 26 marathons in 26 days.

Exercise?-[from Wikipedia]

- In 2010, Stefaan Engels, a Belgian, set out to run the marathon distance every day of the year. Because of an injury he had to resort to a handbike near the end of January 2010. However, on 5 February he was fully recovered and decided to reset the counter back to zero. On 30 March he broke the existing record of Ricardo Abad Martínez, from Spain, who completed 150 marathons in 150 consecutive days in 2009. As of 5 February 2011, Engels had run 365 marathon distances in as many days.

Alternative Terms

- Process/behavioral addictions [proposals include: work, exercise, sex, gambling, eating, video games, shopping, Internet use (Griffiths, 1997, 2002)]
- Dependent, obligatory, morbid, compulsive, at-risk, abusive, fanatic and others
- “Unhealthy” exercise behaviors
- “Problem” exercising
- Glasser “positive addiction” 1976 [activity practiced an hour/day 6 days a week producing euphoria or transcendence]

Effects of Exercise

- Exercise promotes analgesia, sedation, anxiolysis and sense of “well being” which may be consequence of endogenous endorphins and endocannabinoids
- Exercise increases plasticity and neurogenesis in hippocampus
- Exercise is associated with increased dopamine signaling in nucleus accumbens and striatum
- Access to a “running wheel” is re-enforcing in rodents. Exercise attenuates seeking and self administration [competes with] of drugs of abuse [alcohol, cocaine, morphine] and in some instances with food
- In animals whose running wheel is removed withdrawal-like symptoms such as anxiety and aggression ensue and can be precipitated with Naloxone
- Exercise is anti-depressant in some studied populations of humans and rodents
- Exercise reduces withdrawal symptoms and relapse in abstinent smokers
- Exercise variably effects desire to eat [see today’s New York Times]

The Four C's of Addiction

- 1-Loss of Control over use...“Every time I try to limit my use to only once a week, I end up using every day.”
- 2-Continued use despite negative consequences...“I know my drug use caused my HIV but I can't stop using.”
- 3-Compulsion to use....All I do is think about how I am going to score.” Once I want to use, it is like I am on autopilot and I just have to use. I'll do anything to get drugs.
- 4-Craving...“It's like a physical drive or urge to use. I want it from the pit of my stomach; I get sweaty just thinking about it. At times, these urges come out of nowhere,

Contrasting “Healthy vs. “Addictive”

- Sach’s (1981) – “committed” exercisers (1) engage in exercise for extrinsic rewards, (2) view their exercise as an important, but not central part of their lives, and (3) may not suffer severe withdrawal symptoms when they cannot exercise for some reason.
- In contrast, “addicted” exercisers (1) are more likely to exercise for intrinsic rewards, (2) view exercise as the central part of their lives, and (3) experience disturbing deprivation sensations when they are unable to exercise.

“Addicted” vs. “Committed” Exercisers

- Szabo (1995) addicted exercisers experience more withdrawal or deprivation symptoms than committed exercisers do. It is important to pinpoint the separating line between healthy committed and unhealthy “at risk” exercisers, because persons addicted to exercise engage in exercise that detrimentally alters their lifestyle causing physical, medical, financial, and social problems. No correlation was found between addiction and commitment to running, concluded that these are independent concepts.

Addiction vs. Normal Exercise

- Freimuth's "phases of addiction"
- 1-"recreational exercise" is pleasurable and rewarding and adds to the quality of life, is "under control". Negative consequences are rare and 2nd to exercise itself [soreness, minor trauma]
- 2-"at risk exercise" is mood altering and people become "highly engaged". Tolerance and preoccupation occur and exercise begins to "hijack" the reward system making other reinforcements less salient

Phases continued

- With the presence of vulnerabilities [genetic, early environment, psychological makeup] and the primacy of relief of anxiety, dysphoria, low self esteem or stress. Phase 3 may result
- Phase 3-“Problematic exercise” begins when the individual rigidly organizes their day around their exercise. Exercise becomes less social, more motivated to combat withdrawal and more negative consequences ensue. Exercise is “indiscriminate”
- Phase 4-life becomes “unmanageable” with less enjoyment and more of the motivation becomes avoidance of withdrawal. There are increased negative consequences

Components of Process Addictions, Griffiths-2002

- Salience –the activity becomes the most important activity in the person’s life and dominates thinking (preoccupations and cognitive distortions), feelings (cravings), and behavior (deterioration of social activities). Even if the person is not exercising they will be thinking about it.
- Mood modification – exercise causes an arousing “buzz” or a “high”, or may alternatively cause tranquilization, sense of “escape” or “numbing”.
- Tolerance – increasing amounts of the activity are required to achieve the desired effects. For instance running more and more miles to obtain “relaxation”
- Withdrawal symptoms – These are the unpleasant feeling states and/or physical effects which occur when exercise is discontinued or suddenly reduced, e.g., the shakes, moodiness, irritability.
- Conflict – friction between the addict and those around them (interpersonal conflict), conflicts with other activities (job, social life, hobbies and interests) or from within the individual themselves (intrapsychic conflict]
- Relapse –risk of reversion to earlier patterns of exercise, even the most extreme patterns typical of the height of the addiction may be quickly restored after many years of abstinence or control.

DSM-IV “like” Criteria for Exercise Addiction-Hausenblas, Downs; 2002

- Tolerance-need for increasing amts of exercise to obtain desired effect or diminished effect with repeated similar amounts of exercise
- Withdrawal-unpleasant mental, physical or emotional changes [anxiety, irritability, restlessness, sleep problems] when not exercising or using exercise to relieve such changes
- Lack of control-unsuccessful at attempts to reduce exercise or cease exercising for a period of time
- Intention effects-unable to stick to ones intended routine as evidenced by exceeding the amount of time devoted to exercise
- Time-a great deal of time is spent preparing for, engaging in, and recovering from exercise
- Reduction in other activities-as a direct result of exercise social occupational and/or recreational activities occur less often or are stopped
- Continuance-continuing to exercise despite knowing that this activity is creating or exacerbating physical, psychological and/or interpersonal problems

Obligatory Exercise Scale

- **Psychometrics:** *Source reference: Pasma, & Thompson (1988): 90 participants; obligatory runners, obligatory weightlifters and sedentary.* • **Reliability:** *Cronbach's alpha = 0.96* • **Validity:** *Correlated with two Likert Scales (anxiety following inability to exercise for a period of a week ($r = 0.87$) and probability of continuing to exercise following persisting painful injury suffered from exercise ($r = 0.72$)).*
- When I don't exercise I feel guilty", "If I miss a planned workout, I attempt to make up for it the next day", "I have had day- dreams about exercising", and "I will engage in other forms of exercise if I am unable to engage in my usual form of exercise".

Exercise Addiction Inventory

Griffiths, Szabo, Terry; 2005

“Exercise is the most important thing in my life”

“Conflicts have arisen between me and my family and/or my partner about the amount of exercise I do”

“I use exercise as a way of changing my mood ”

“Over time I have increased the amount of exercise I do in a day”

“If I have to miss an exercise session I feel moody and irritable”

“If I cut down the amount of exercise I do, and then start again, I always end up exercising as often as I did before”.

Differential Diagnosis

- Professional athletes-due to frequency, intensity and likelihood of injury differentiation is problematic
- Compulsions-serve primarily to reduce anxiety while behavioral addictions produce + affect and increase self esteem
- Impulse control disorders are generally unplanned and rapid responses to situations while behavioral addictions are planned and practitioners consider but ignore possible negative consequences and develop tolerance and withdrawal

Common Co-occurring Disorders

- Other chemical addictions-somewhat more common [15-20%]
- 39-48% of individuals with an eating disorder have an accompanying exercise d/o. Some have proposed separating the exercise/eating disorders into primary and secondary. Some researchers contend that exercise addiction is always 2nd to an eating d/o
- Exercise addiction may be co-occurring with food disorders, caffeine use, shopping, work and sexual addiction.

How Common is Exercise Addiction

Lejoyeux; 2008

- 300 consecutive members of a Parisian “fitness room” rated on Hausenblas criteria [BMI=21.5 a man 148# and 5’9” or a woman 5’5” 130#]
- 42% met criteria [3 were needed but all had at least 5 criteria], average age 28.6 years
- They did not differ in alcohol use, smoked less, were more likely to be compulsive “shoppers” and 25% fit DSM IV criteria for “hypochondria”
- Bulimia was more prevalent [70%, 47% in the non “addicted”] and co-occurred with compulsive shopping

Prevalence of other Behavioral Addictions

- Pathological gambling 1-2% [Welte]
- Compulsive sexual behavior 5% [Shaffer, Zimmerman]
- Binge eating 2.8% [Hudson]
- Compulsive buying 5-6% [Black]
- Internet addiction, workaholism ?
- Many of the above “light up” the same brain regions as drugs of abuse

What About DSM V ?

- Combine Abuse and Dependence-since “abuse” had low reliability and these are a unidimensional phenomena. Require only two criteria and specifically remove tolerance and withdrawal from prescribed medications from consideration. CALL THE WHOLE THING A “SUBSTANCE USE DISORDER”
- Add “craving”, a common clinical symptom indicating a high level of severity and a “strong desire for the substance”. Craving is a target for pharmaceutical intervention, and has neuro-biologic correlates
- Remove “legal consequences”-a relatively rare clinical finding
- Add a “severity” dimension
- Do not add: shopping exercise or work due to lack of data
- Send eating and sex to committees [workgroups]
- Add “disordered gambling”, due to common presentation, good research on physiologic findings, genetics and treatment availability

How to “Get Into” DSM V

- Mental disorders are clinically significant behavioral or psychological syndromes or patterns that occur in an individual and are associated with distress or disability [impairment]
- New diagnoses will be added only after research has established their credibility not to stimulate research

Proposed DSM V Gambling Disorder Criteria

- Persistent and recurrent maladaptive gambling behavior as indicated by five (or more) of the following:
 - 1. is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble
 - 2. needs to gamble with increasing amounts of money in order to achieve the desired excitement
 - 3. has repeated unsuccessful efforts to control, cut back, or stop gambling
 - 4. is restless or irritable when attempting to cut down or stop gambling
 - 5. gambles as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)
 - 6. after losing money gambling, often returns another day to get even (“chasing” one’s losses)
 - 7. lies to family members, therapist, or others to conceal the extent of involvement with gambling
 - 8. has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling
 - 9. relies on other to provide money to relieve a desperate financial situation caused by gambling
- B. The gambling behavior is not better accounted for by a Manic Episode.
- [American Psychiatric Association Proposed DSM-5 Organizational Structure Recent Updates to Proposed Revisions for DSM-5](#)

Other Non-Substances Considered

- Sexual
- Eating
- Shopping
- Work
- Internet/video gaming
- Exercise

Exercise Dependence Induced by Pramipexole- J “Movement Disorders”; 2010

- 66 y/o man with PD reported “very sedentary lifestyle” after starting Pramipexole began running 20 km each AM and spinning or doing aerobics 3 hours each PM
- Reported needing to do “more exercise” to achieve “well being” and when he attempted to limit he became “antsy, irritated and severely depressed”
- When Pramipexole stopped and L-Dopa substituted this behavior ceased

Bonus slide-new data from NYT 4/11/12 from European J of Neuroscience

- Sedentary rats and rats using running wheels were addicted to cocaine
- Once addicted some of the sedentary rats were given running wheels
- Cocaine availability ended and conditioned place preference measured
- Running rats extinguished slowly if at all
- Sedentary->running rats extinguished most rapidly
- Conclusions: exercise increases learning [both good and bad] and may make acquired addictions harder to quit

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