Effect of Exercise on Mood Dynamics and Resilience

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How do cardio exercises affect you?









Mental Health

- Reducing anxiety
- Reducing depression
- Improved mood
- Improved self esteem

Signals the motivation of an outcome

Dopamine

Signals brain and body for action

Norepinephrine

Somehow mediates mood

Serotonin

Questions

- Can we see this behavior on Twitter?
- Are people generally happier right after their exercise?
- Is there an effect of too much exercise? Possible diminished returns or concave relationship...
- Is there a difference by population? Marathon runners, sprinters, runners, beginners...
- Is there an effect by type of exercise?

Fitness Wearables



Distance Time Cadence Energy Expenditure Real time and Average Heart Rate Sleep Time VO2 max



Observatory on Social Media

OSoMe (awe-some) is a joint project of the Network Science Institute (IUNI), the Center for Complex Networks and Systems Research (CNetS) at SICE, and the Media School at Indiana University. OSoMe unites data scientists and journalists in studying the role of media and technology in society, and curbing the spread of misinformation online and the manipulation of social media. Here we highlight tools, findings, publications, and resources.

Research from @TruthyAtIndiana



"UNetSci "How to slay a bot" -- BotSlayer as seen in @SciNode @OSoMe_IU

Read now: sciencenode.org/feature/Botsla...



What is an exercise tweet?

I just finished running **5.2 km #**Nikerunning **#**5k **#**gettingbettereveryday <u>http://t.co/SHAypaVD4P</u>

Can also have :

- Overall time
- Exact Time





- Keep distances (0,50) km .
- Keep times (0,4) hours .
- Keep velocities (0,20) km/hour •

Aggregating Data - NO EXERCISE TWEETS



3 users superimposed onto one timeline







Users are posting a custom message about the tweet before they allow their wearable to post the official tweet

"I ran 5.480 @CharityMiles for @everymomcounts! Thx2 @Humana for sponsoring me! #MCON14 #EveryMileMatters #beataverage <u>http://t.co/SHAypaVD4P</u>"

Doesn't fit exercise tweet qualification

How to proceed

- 1. Keep users with middle 95th percentile of exercise/non exercise tweet ratio
- 2. Filter out all tweets mentioning exercises. We are looking for general sentiment WITHOUT mention of exercise
- 3. Find exact times when exercise is not happening (if possible)
- 4. Separate users by intensity combination of IET and consistency

Thank you!

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