

# Science of Productivity

In Agile

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# About me



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# Definitions

- Productivity: “the state or quality of being productive”
- Productive: producing or able to produce large amounts of goods, crops, or other commodities

# Counter Intuitive

- What I have to say may question your beliefs
- You may not believe me
- I have references
- I have some short science video's
- “We were absolutely shocked. We all lost our bets.” – Clifford Nass (Stanford Researcher)

# What we Think Vs Actual

## What we think

- Multi tasking gets more work done
- Lots of pressure helps productivity
- Motivation will get us through the day
- Winging it and doing tasks that come up is our best productivity
- Sleeping on the job is bad

## What Science found

- Multitasking get A LOT less work done
- Stress has significant detrimental effects
- Motivation cannot be depended on and depletes! Ego depletion
- We are terrible at winging it and do “busy work”
- Sleeping on the job is good!

# Multitasking is bad?!?

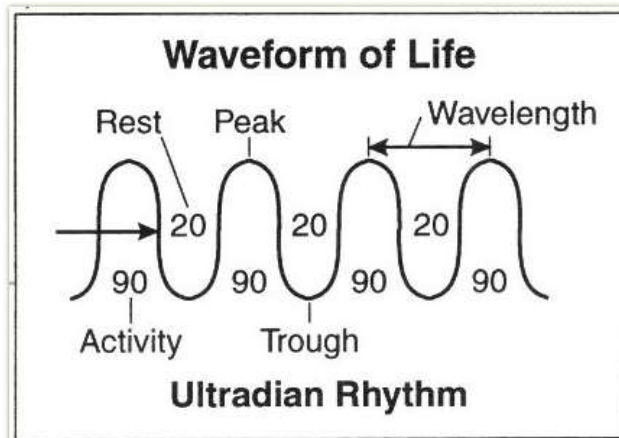
- Multitasking is a myth, we only concentrate on 1 thing at a time
- Participant noted Multitasking made them feel like they were doing more
- What does this mean for Testing?
- [Zheng Wang Study](#)
- [Clifford Nass Interview](#)
- [Economist video](#)

# Zeigarnik Effect

- Participants were given brain buster puzzles to complete but not enough time to complete them.
- Over **90%** of them went on to complete the puzzles even though they were told to stop!
- Zeigarnik Effect
- **So get started!!**

# Ultradian Rhythms - Peretz Lavie

- Biological Rhythm
- Some studies show a 16% improvement in awareness and focus.
- Ultradian Rhythms
- Increased Awareness





# Problem solving and Sleep

- Subjects who napped solved puzzles 60% faster than non nappers were able to do it
- 10-min nap resulted in significantly improved alertness and cognitive performance relative to a no-nap control
- Another study shows people who lapsed into REM sleep solved 40% more puzzles than those who didn't
- [Reference video](#), [another reference video](#)
- [Reference Studies here](#)

# Sitting is bad for us

- Studies show increase in Type 2 diabetes
- A study show correlation between mortality and sitting.
  
- [Reference Video](#)
- [Reference study](#)

# Disciplined

- Busywork is the number 1 enemy of being productive as described by [John Bargh](#)
- An experiment showed that when drug addicts wrote down when and where they would complete an essay were 90% more likely to turn it in.

# Don't Stress

- Reduced immune system
- Inflammation is inhibited
- White blood cells are reduced
- Susceptibility to disease increase
- Some studies even suggest prolonged stress may be involved in development of cancer
- Causes reduced neural networks (in mice) in the memory and learning centre
- [What stress does to us](#)

# Reduce stress

- Positive social interactions release chemical called Oxytocin
  - Reduces stress resilience
  - Repairs the heart
- Reach out to others when stressed
- Change your mind about stress
- Study
- Make stress your friend. Kelly McGonigal

# In Agile

- Agile brings all of the discipline part of increasing productivity
- It reduces harmful stress due to the team environment and team responsibility
- It gives individuals the freedom to work how they want
- Sleep as a problem solving tool.

# Conclusion

- We should work in 90 minute bursts separated by 15-20 minute breaks. (Maybe Meditate)
- We should take power naps when we start feeling drowsy at work
- We should spend more time standing up (stand up desks)

# My own experiences

- Use alarms for taking breaks
  - When taking breaks
  - Don't think about work
  - Take it away from your desk
  - Look out a window, at a garden or listen to birds.
- Plan what you will do in your 90 minutes in the morning or the day before. E.g. I will analyse the requirements and plan test cases for 90mins.



# Do I get questioned

- Yes people have asked me
  - Why do you have so many alarms?
  - Why are you taking a break now?
  - What are you doing out here with your eyes closed in the rain?

“It’s part of my schedule for achieving peak productivity.” Nobody has ever asked further questions... I wish they would.

# More References

- [Sparring Minds](#)
- [Ego depletion](#)
- [Busy Work](#)
- [Zeigarnik Effect](#)
- [Ultradian Rhythms](#)
- [Increased Awareness](#)
- [Sleep Cycle app](#)
- [Sleep and why we need it](#)
- [Caffeine!](#)
- [Watch Scishow](#)
- [Watch AsapScience](#)
- [Watch Smarter Every Day](#)