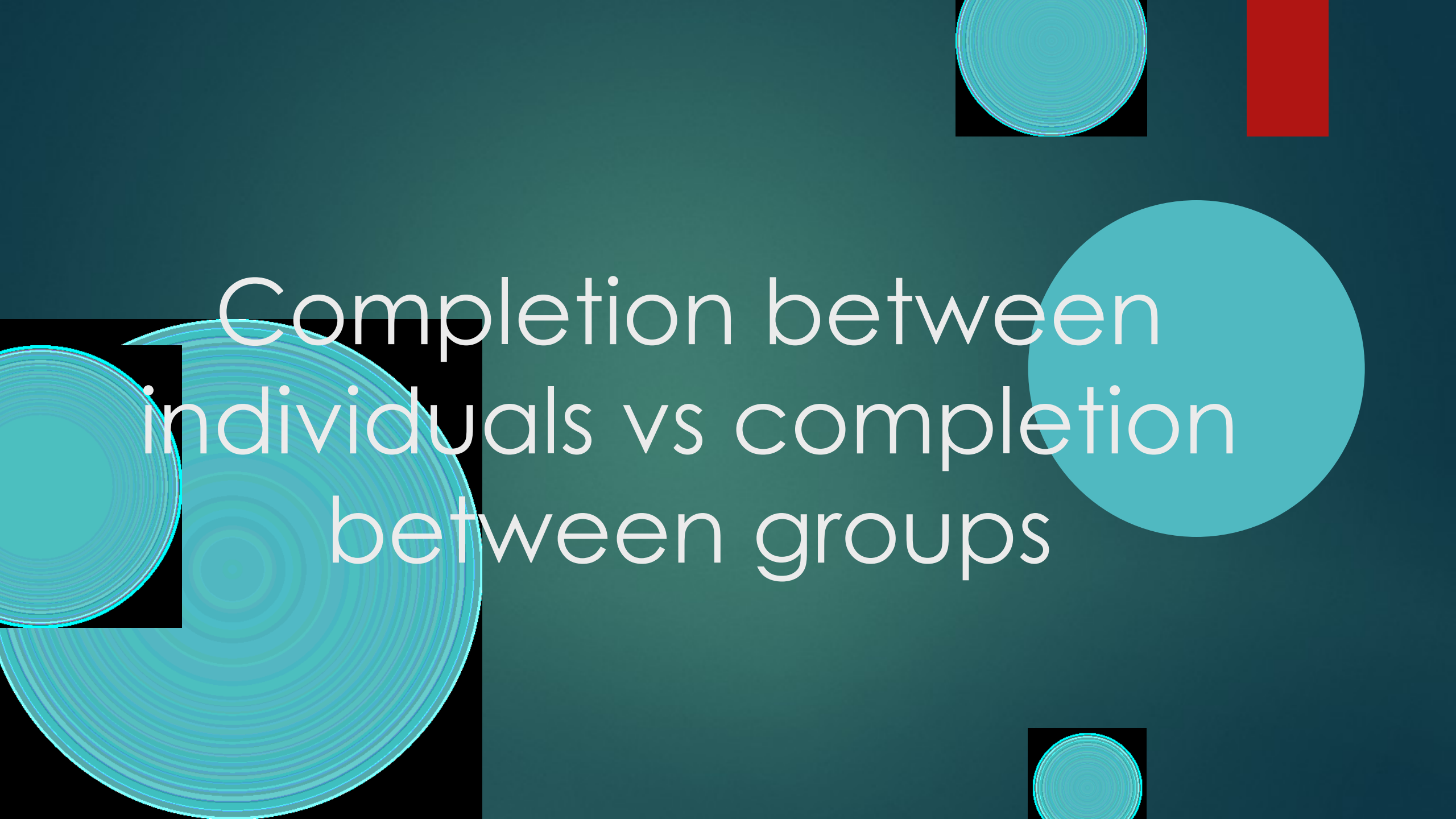




# Performing under Pressure; on the Biology, Psychology and Sociology of stress in high-performance professions

VIII – TEAM-PERFORMANCE UNDER STRESS





Completion between  
individuals vs completion  
between groups

# Competition between individuals

- ▶ Internal struggle between individuals within the group

Struggle over excess to mates, resources and position in the social hierarchy

In its core, egocentricity

- ▶ Testosterone (its not aggression!!)



# Testosterone & interpersonal competition

- ▶ Non-linearity
- ▶ Testosterone & competition, rather than aggression
- ▶ Low levels associated with lower position on the social hierarchy
- ▶ Posturing



Crespi, B. J. (2016). Oxytocin, testosterone, and human social cognition. *Biological Reviews*, 91(2), 390–408. <https://doi.org/10.1111/brv.12175>

Boksem, M. A. S., Mehta, P. H., Van den Bergh, B., van Son, V., Trautmann, S. T., Roelofs, K., ... Sanfey, A. G. (2013). Testosterone Inhibits Trust but Promotes Reciprocity. *Psychological Science*, 24(11), 2306–2314. <https://doi.org/10.1177/0956797613495063>

Edwards, D. A. (2006). Competition and testosterone. *Hormones and Behavior*, 50(5), 681–683. <https://doi.org/10.1016/j.yhbeh.2006.09.005>

Sapolsky, R., & Balt, S. (1996). Reductionism and variability in data: a meta-analysis. *Perspectives in Biology and Medicine*, 39(2).

# Intra-group conflict as a backdrop for inter-group competition

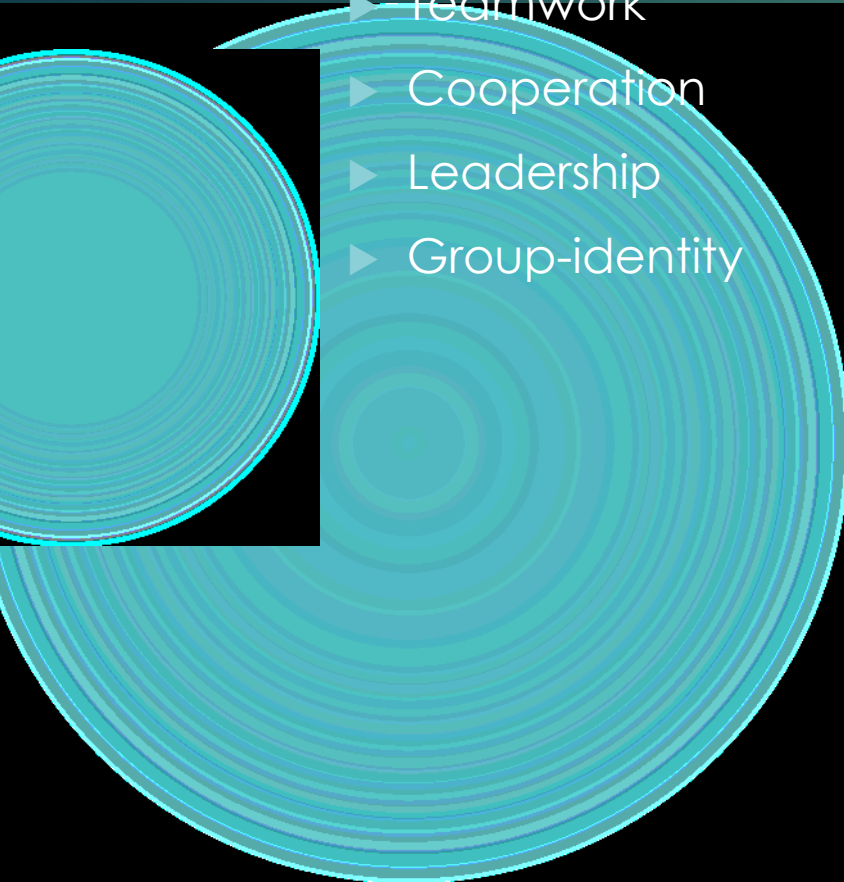
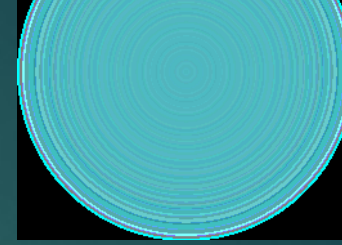
- ▶ Inter-group competition can, and often does, involve efforts to outdo one another in the extent to which victories are gained against otherwise anonymous members of targeted outgroups.



# Intra-group competition

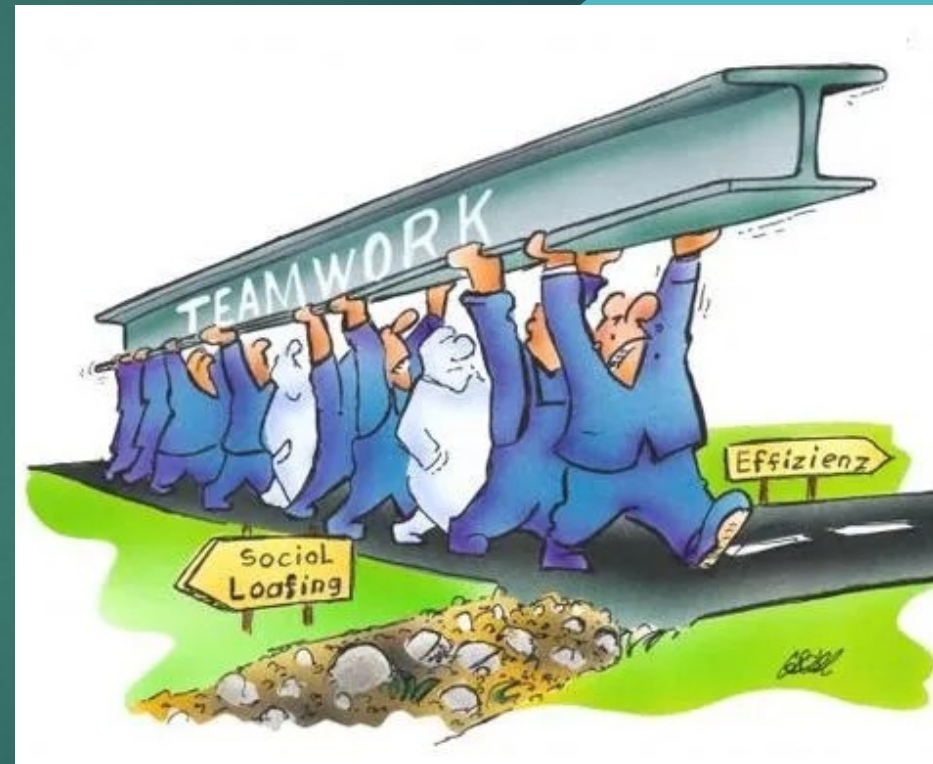
- ▶ In-group coordination

- ▶ Teamwork
- ▶ Cooperation
- ▶ Leadership
- ▶ Group-identity



# Costly signalling and the free rider problem

- ▶ Humans are extremely vulnerable alone but united, we dominate almost any environment we enter.
  - ▶ Teamwork serves the group
  - ▶ But abstaining from cooperation, while reaping the benefits of the team effort serves the individual most
  - ▶ Groups need to control for free riding
    - ▶ Costly signalling
    - ▶ Hard to fake



Sosis, R., & Bressler, E. R. (2003). Signaling Theory of Religion. *CrossCultural Research*, 37(2), 211–239. <https://doi.org/10.1177/1069397103251426>  
Dunbar, R., Barrett, L., & Lycett, J. (2007). *Evolutionary Psychology*.  
Sun, S., Johannis, M., & Rychtář, J. (2020). Costly signalling theory and dishonest signalling. *Theoretical Ecology*, 13(1), 85–92.  
<https://doi.org/10.1007/s12080-019-0429-0>

# Lying and deceit as an attempt to fake cooperation and health

- ▶ Stigmatisation

- ▶ Health cues: Infection, parasites, etc.

- ▶ Social cues: willingness to invest in the collective

- ▶ We are NOT naturally truthful!!!!

- ▶ Ad hoc cost / benefit analysis

Levine, T. R. (2014). Truth-Default Theory (TDT): A Theory of Human Deception and Deception Detection. *Journal of Language and Social Psychology*, 33(4), 378–392. <https://doi.org/10.1177/0261927X14535916>

Verschuere, B., & Shalvi, S. (2014). The Truth Comes Naturally! Does It? *Journal of Language and Social Psychology*, 33(4), 417–423. <https://doi.org/10.1177/0261927X14535394>

McCornack, S. A., Morrison, K., Paik, J. E., Wisner, A. M., & Zhu, X. (2014). Information Manipulation Theory 2: A Propositional Theory of Deceptive Discourse Production. *Journal of Language and Social Psychology*, 33(4), 348–377. <https://doi.org/10.1177/0261927X14534656>



# Leadership, the great undefinable !

- ▶ A minimum of 66 different theories on leadership in the expert literature
- ▶ Massive methodological issues in the field
- ▶ The main problem
  - ▶ Philosophical reflection upon phenomenological observations of behaviour in search of universal tendencies
    - ▶ Ethics?
    - ▶ Transformation?
    - ▶ Service?

# Leadership: an evolved behavioural solution to a specific problem

- ▶ Coordinated action

- ▶ Leadership can only exist, where there is a problem to be solved, i.e. a stressor.

- ▶ Leadership effectively modulates stress reactions

- ▶ The range of human crises, which require communal action, is so large, that it is not feasible that one behavioural action can produce effective leadership in all cases.

- ▶ Observable behavioural and physiological changes in followers

- ▶ Context related behavioural and physiological changes in leaders

# Leadership as an evolutionary tool

- ▶ A means for coordinating action amongst individuals. For people this is extremely important for survival

▶ Leadership occurs in all human, and some non-human cultures.

- ▶ Follow the first to move
- ▶ Follow the dominant male
- ▶ Follow context related competence

# Three levels of analysis

▶ The leader

▶ The followers

▶ Context

Slides 12-16 are based on ongoing research at the Czech University of Defence. For any further information, contact me directly.

# The leader



- ▶ Perceived relevant competences
- ▶ Perceived resillience (if stress is an issue)
- ▶ Perceived value to followers
  - ▶ Care
  - ▶ Reputation
- ▶ Position in the hyrarchy
  - ▶ Endorsment by higher authority
  - ▶ Convention
  - ▶ Previous experience

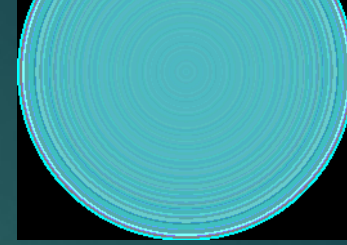


# The followers

- ▶ Can be more or less anyone, but must be willing to, temporarily, suspend their individual initiative, in favour of that of the leader.
  - ▶ Downregulation of critical faculties
  - ▶ Partially passive coping mechanisms
  - ▶ A perceived benefit of doing so for the follower, which cannot be achieved as easily in other ways.



# Context



- ▶ Culture

- ▶ Meaningful symbols, behaviours and competences may be meaningless within other cultural contexts.

- ▶ Immediate context

- ▶ What is the immediate issue that is being addressed.

- ▶ Perceived risk

- ▶ What are risk-levels involved in the activity at hand and how do followers perceive the behaviour of the leader in response to them.



# The main attributes of leadership

▶ Competence

▶ Resilience

▶ Leadership techniques

