

Mindset for Resilience

Trent Occupational Medicine Symposium

19 October 2017

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DECLARATION

No conflicts of interest to declare

DISCLAIMER

Views expressed are personal and do not necessarily reflect Rolls-Royce policy

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Fake news is nothing new in medicine

EARLY REPORT

Early report

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Findings Onset of behavioural symptoms was associated, by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities, ranging from lymphoid nodular hyperplasia to aphthoid ulceration. Histology showed patchy chronic inflammation in the colon in 11 children and reactive ileal lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and possible postviral or vaccinal encephalitis (two). There were no focal neurological abnormalities and MRI and EEG tests were normal. Abnormal laboratory results were significantly raised urinary methylmalonic acid compared with age-matched controls ($p=0.003$), low haemoglobin in four children, and a low serum IgA in four children.

Interpretation We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.

Lancet 1998; 351: 637–41
See Commentary page 611

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Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features of these children.

Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology with a history of a pervasive developmental disorder with loss of acquired skills and intestinal symptoms (diarrhoea, abdominal pain, bloating and food intolerance), were investigated. All children were admitted to the ward for 1 week, accompanied by their parents.

Clinical investigations

We took histories, including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 cases the history was obtained by the senior clinician (JW-S). Neurological and psychiatric assessments were done by consultant staff (PH, MB) with HMS-A criteria. Developmental histories included a review of prospective developmental records from parents, health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SHM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum; ascending, transverse, descending, and sigmoid colons, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) including visual, brain stem auditory, and sensory evoked potentials (where compliance made these possible), and lumbar puncture were done.

Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal-fluid lactate were measured to exclude known causes of childhood neurodegenerative disease. Urinary methylmalonic acid was measured in random urine samples from eight of the 12 children and 14 age-matched and sex-matched normal controls, by a modification of a technique described previously.⁷ Chromatograms were scanned digitally on computer, to analyse the methylmalonic-acid zones from cases and controls. Urinary methylmalonic-acid concentrations in patients and controls were compared by a two-sample *t* test. Urinary creatinine was estimated by routine spectrophotometric assay.

Children were screened for antiendomyxal antibodies and boys were screened for fragile-X if this had not been done



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Fake news and psychology



Dorothy Martin

21 Dec 1954



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Cognitive Dissonance

- When beliefs and the facts/actions don't match
 - Change beliefs
 - Change the facts/action



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Facts?

M News ▶ World news ▶ United Airlines

United Airlines sees £1.1billion wiped off its share price after dragging passenger off overbooked flight

After Dr David Dao was filmed with blood pouring from his face as he was ejected from the plane the airline's CEO was accused of a 'tone deaf' response



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Alternative Facts?

- Conditions of carriage are a contract we sign up to every time we fly – we have all agreed to overbooking and the risk of being ‘bumped’
- Carriers are required by federal law to bump passengers to accommodate crew deployment to prevent disruption for the majority
- The passenger was manhandled by airport authority personnel, not United Airlines staff
- Airside is a highly regulated security environment – compliance with orders from a federal enforcement officer is not optional



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Enter the leader...



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Mindset



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What is “mindset”?

- Literally the “setting of your mind”
- A *belief* that biases how you *think*, *feel* and *act* – a *filter* that you see everything through



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The Growth Mindset



Fixed v growth
mindsets



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People with a Fixed Mindset

- Tend to see things as win or lose
- Either good at something or you're not
- Focus on success as winning or achieving
- Avoid challenge
- Give up easily
- Ignore feedback
- Feel threatened by others' success



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People with a Growth Mindset

- Focus on mastery and competence, not simply winning
- More likely to feel intrigued when they encounter something that contradicts their expectations
- More likely to say they think it's virtuous to test their own beliefs
- Find inspiration in others' successes
- Embrace challenges
- Persist in the face of setbacks
- Learn from feedback
- Not afraid to fail
- Will experiment when faced with setbacks



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Rhonda Cornum

- “No-one ever died from pain”
- When asked about her mistreatment during captivity she explained that a fellow captive had it much worse in his torture by electricity.
- "There is no positive spin to being held a prisoner--I do not recommend it. But, it was better than the alternative, so there was no point in dwelling on it. You're in it anyway."
- "This thing happened anyway," Rhonda said in regard to her captivity. "Adverse things happen to everyone. The key is figuring out how to find something good about it or make it into something you can use."



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John McCain

- 26 October 1967
- Shot down over Vietnam
- 2 broken arms, 1 broken leg, crushed shoulder
- Denied any medical treatment
- Tortured
- 5 ½ years as a POW, 2 years in solitary confinement
- Turned down early release after 1 year
- Released March 14th, 1971



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What distinguishes these people?

- Ability to see beyond the immediate
- Ability to rationalise, not catastrophise

**OPTIMISTIC and POSITIVE
mindset**

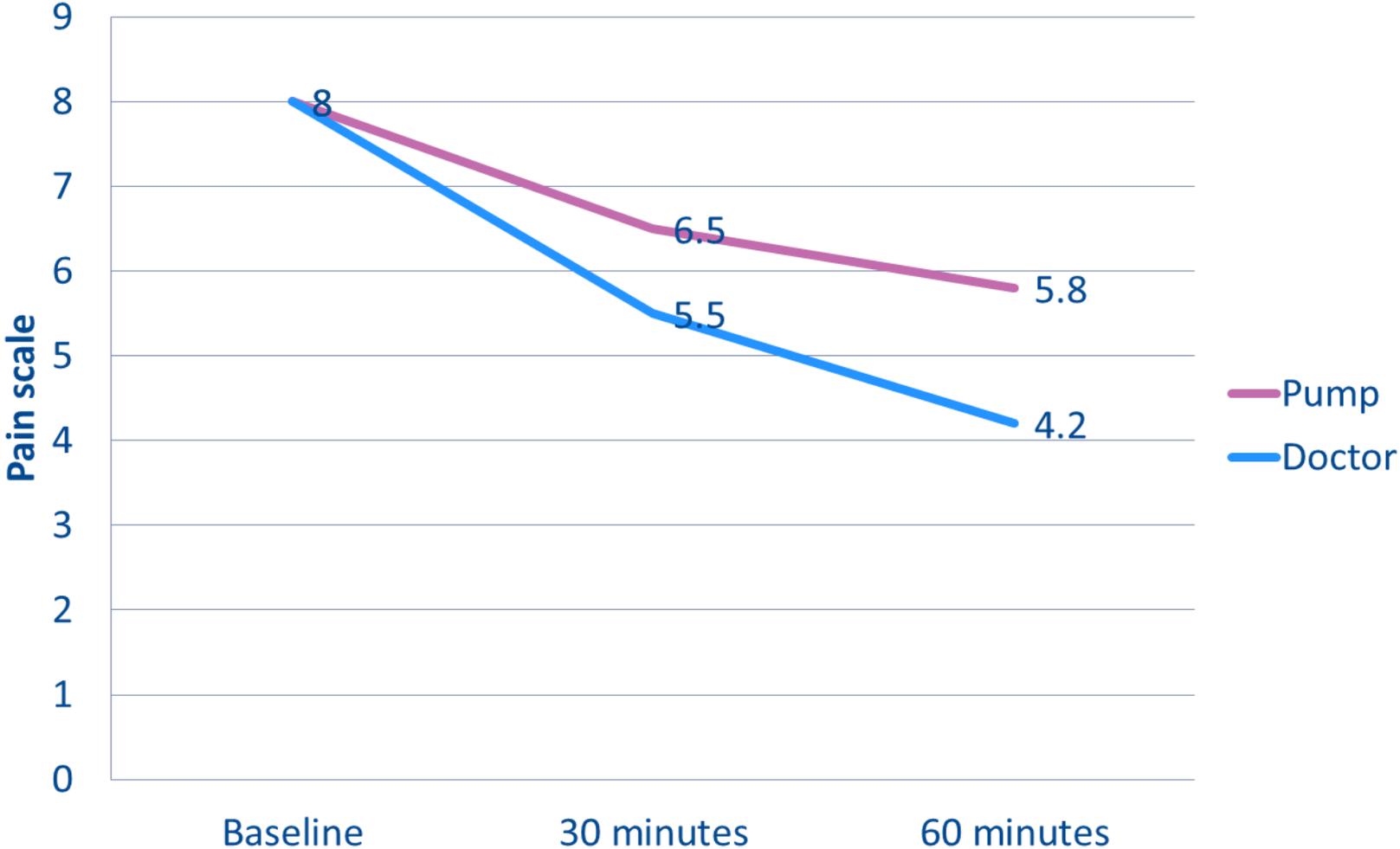


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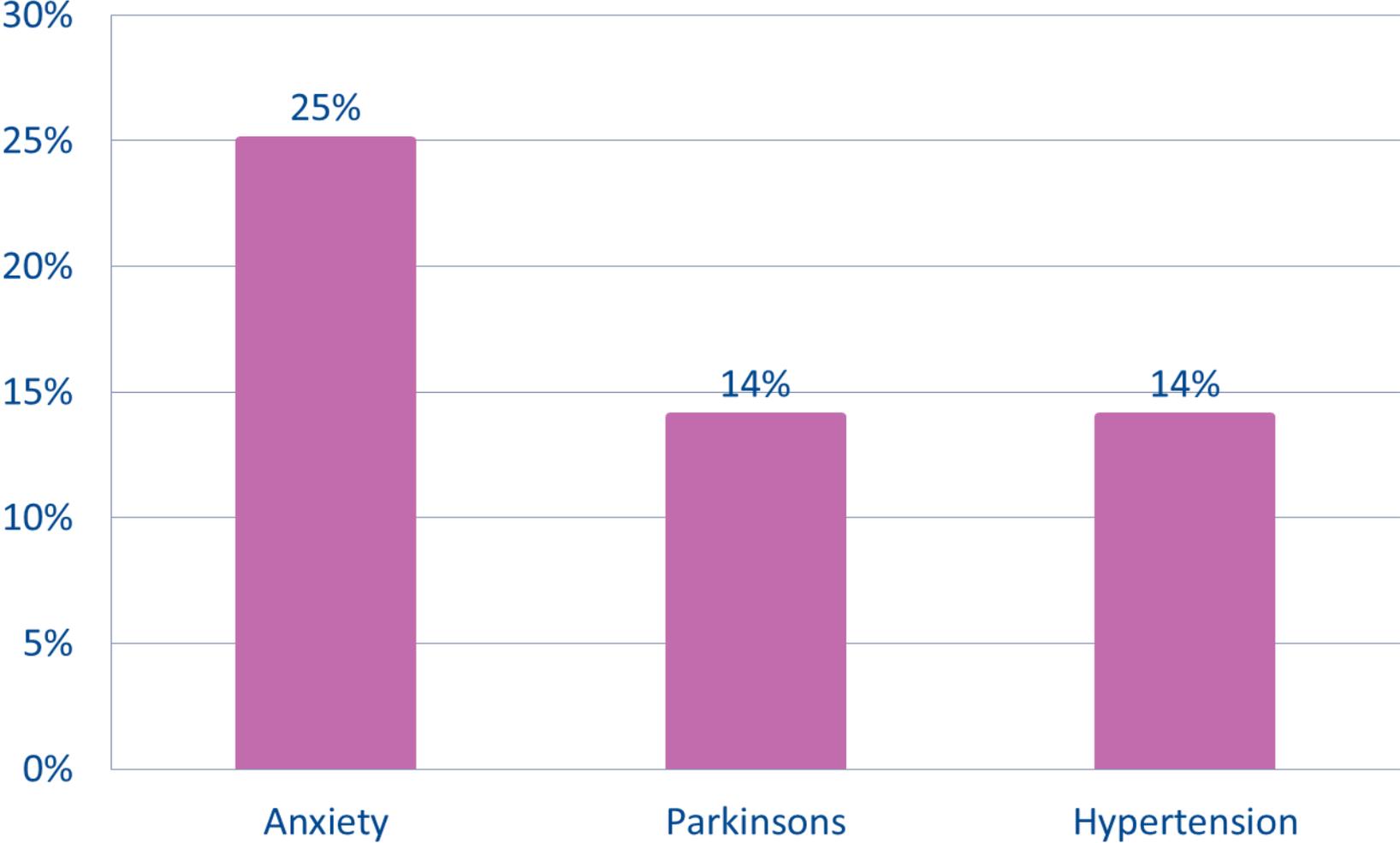
Mindset and stress

- 30 000 people followed up over 8 years
- 2 questions:
 - How much stress have you experienced in the last year?
 - Do you believe that stress is harmful for your health?
- People who experienced a lot of stress in the previous year had a 43% increased risk of dying
- But that was **only true** for the people who also believed that stress is harmful for your health
- People who experienced a lot of stress but did not view stress as harmful were no more likely to die. In fact, they had the lowest risk of dying of anyone in the study, including people who had relatively little stress

Pain relief



Percentage improvement with treatment



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The effect you expect is the effect you get

- When the patients were aware of receiving the treatment and were expecting the benefit, the patients experienced significantly better outcomes
- “Mindset”, in this case the expectation to heal
- What does this mean in the context of leadership....?



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Counterfactual

- For every situation your brain *invents* a counterfactual
- An alternate scenario to help us evaluate and make sense of what really happened
- Because it's invented, we have the power in any given situation to select a positive counterfactual
- The way we present counterfactual is called our “*explanatory style*”



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What is your explanatory style?

- Optimistic explanatory style – interpret adversity as being local and temporary
- Pessimistic explanatory style – interpret adversity as more global and permanent



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Explanatory styles at MetLife

- \$75M per year
- All salespeople tested for explanatory style
 - +37% average (+88%)
- Hiring policy changed
 - Sales +27% in first year
 - Sales +57% in second year

MetLife[®]



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Social belonging

- Feeling like you don't belong is widespread
- Changes how you interpret experiences – conversations, setbacks, misunderstandings...
- Feeds destructive states of mind:
 - Imposter syndrome (*I'm a fraud and everyone will find out*)
 - Stereotype threat (*Everyone expects me to fail*)
 - Self-handicapping (*Why bother trying?*)
- Which leads to self-destructive behaviours:
 - Avoiding challenge
 - Hiding problems
 - Ignoring feedback
 - Not forming supportive relationships



Social belonging

- 49 African-American freshmen
- Given excerpts from a survey of previous students communicating the message that everyone struggles with social belonging initially but this changes over time
- Asked to write an essay reflecting on how their own experiences were similar to those expressed
- Participate in an induction infomercial for the following years intake
- *“As you probably know, it can be difficult to come into a new situation not knowing what to expect and you, as an older student who has just gone through the same experience, are in a great position to help these freshmen out. Do you think you would be able to do this?”*

Gregory M. Walton, *et al.*

**A Brief Social-Belonging Intervention Improves
Academic and Health Outcomes of Minority Students**

Science 331, 1447 (2011);



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Social belonging - results

- Over three years...
- Improved academic performance, health and happiness
- Significantly higher GPAs at graduation than peers
- Closed the GPA gap between minority and non-minority students
- More likely to find a mentor and establish close relationships

Repeated at another college:

- Boosted retention rates more than a \$3500 scholarship

Gregory M. Walton, *et al.*

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Rosenthal–Jacobson study

- 1965 – experiment in a public elementary school, telling teachers that certain children (~ 20%) could be expected to be "intellectual bloomers," that year based on the students' results on the Harvard Test of Inflected Acquisition
- The "bloomers" names were made known to the teachers but their scores were not disclosed
- In reality the children designated as "bloomers" were chosen at random
- At the end of the study, the students significantly outperformed their peers
- **Pygmalion Effect – when our belief in another person's potential brings that potential to life**

Theory X and Theory Y

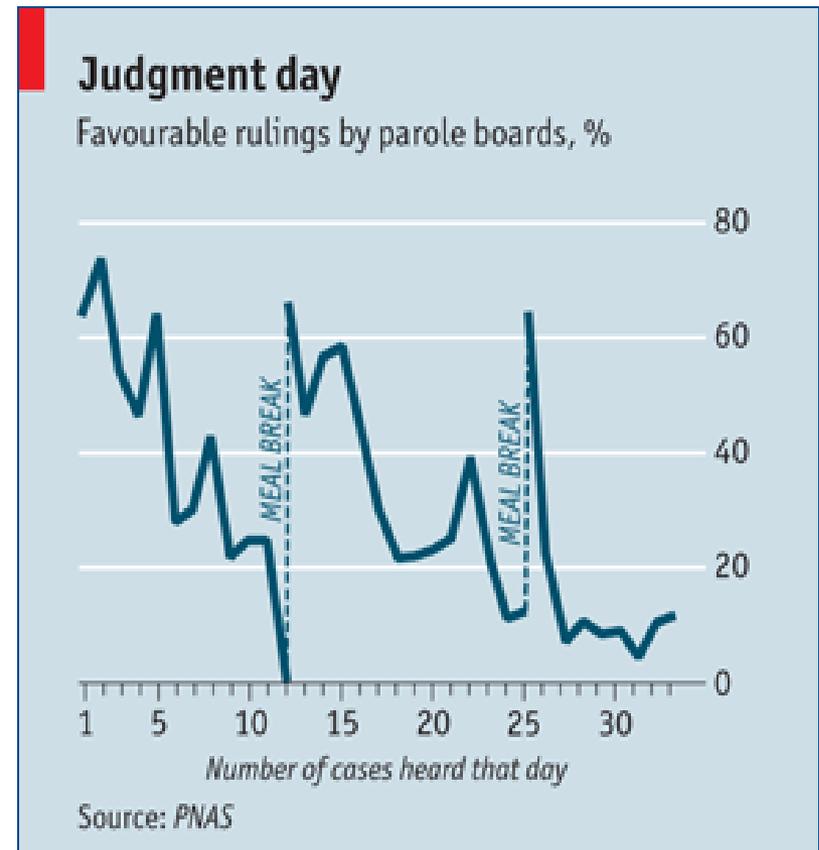
- Theory X – people work because you pay them and they need constant supervision
- Theory Y – people work for intrinsic motives
- Leaders' expectations become a self-fulfilling prophecy!
- **Leader expectation correlates positively with follower performance**



Food for thought



Extraneous factors in judicial decisions
Shai Danziger,1, Jonathan Levav,1,2, and
Liora Avnaim-Pesso



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Questions & Answers



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