



**NEW
MINDSET**



**NEW
RESULTS**



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Can forensic laboratories reduce contextual information bias and increase happiness at work?

FORENSIC SCIENCE
ERROR MANAGEMENT
INTERNATIONAL
FORENSICS SYMPOSIUM
July 24-27, 2017 @NIST, Gaithersburg, MD



Scientists role requires their work focuses on the science and be isolated as much as possible from the adversarial judicial system and the criminal investigation.

Limiting Contextual Information

Solutions

- Role of forensic examiner is administrator of laboratory test
- Identify/limit task relevant/irrelevant information
- Still have examiners involved with investigation but they are not the same examiners performing the testing (case manager approach)

Objections

- Examiners view themselves as investigators
- Forensic examiner cannot be isolated due to practical and pragmatic considerations
- Forensic examiners need to contribute to the investigation from initial stages through court
- Could hurt rapport with stakeholders
- Case manager could bias examiner doing testing

Limiting the role of the forensic examiner makes their job BORING

“...examiners want to read investigative reports or talk to investigators before or while they examine a case... such interest merely provides some personal satisfaction which allows them to **enjoy their jobs**... admittedly, many tasks performed by forensic examiners can be tedious, mundane, and to many people just not interesting or diverse enough to interest them in doing it.”

Butt L. (2013). Forensic confirmation bias: problems, perspectives, and proposed solutions: commentary by a forensic examiner. *J. Appl. Res. Mem. Cogn.* 2, 44-45.

Why happiness at work matters

Happy people are 12% more productive

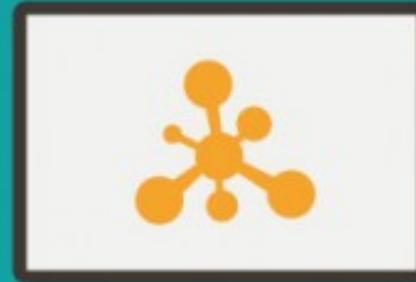
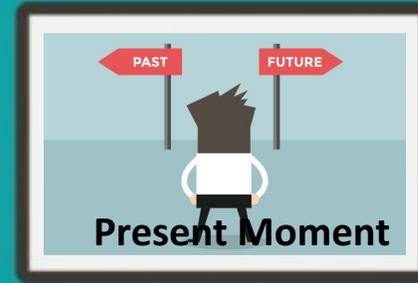
Happy people solve difficult problems faster

Unhappy employees are more error prone

Unhappy employees waste time and call in sick more



Increase Happiness @ work





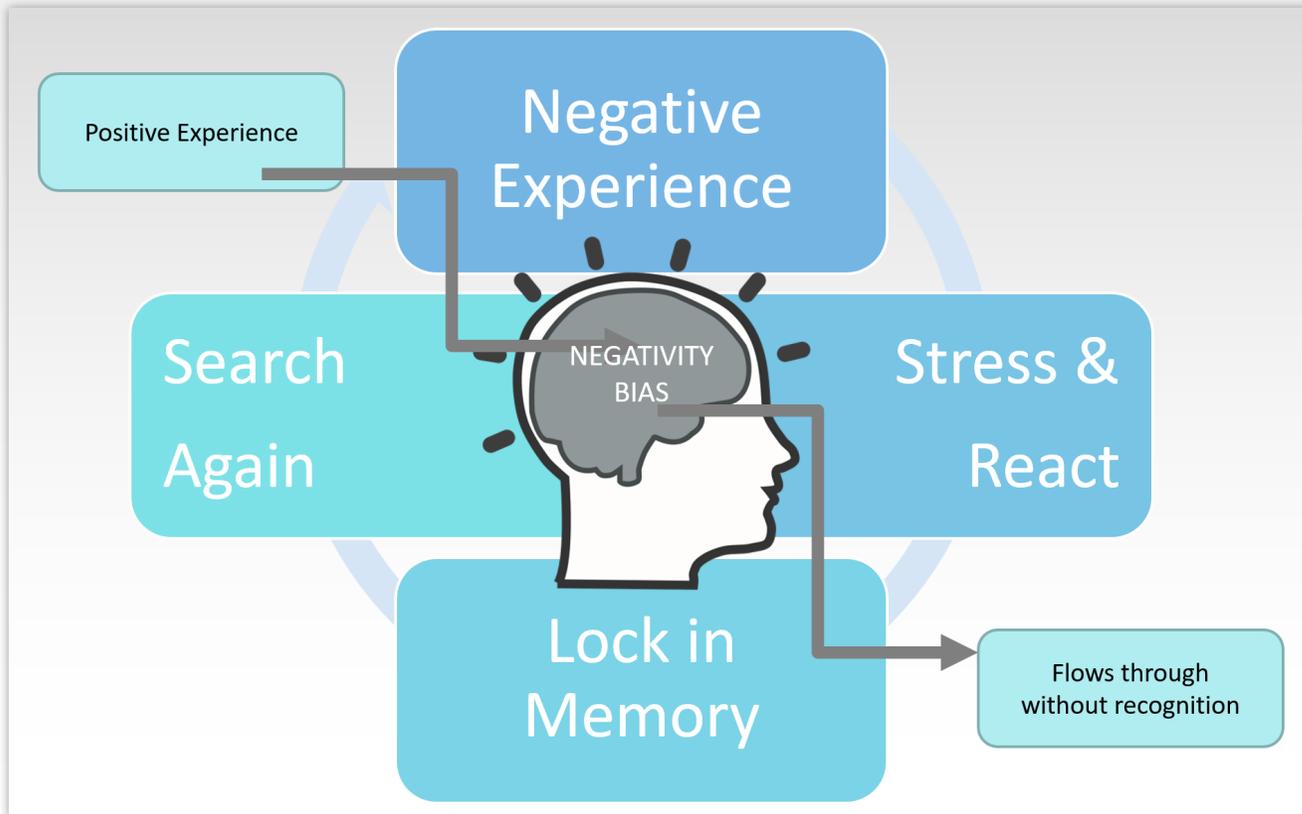
Emotional Connection

The meaning behind the work we do drives motivation & happiness

Convey Connection

1. The right message
2. The correct package
3. Repetition

Focus on the Wins



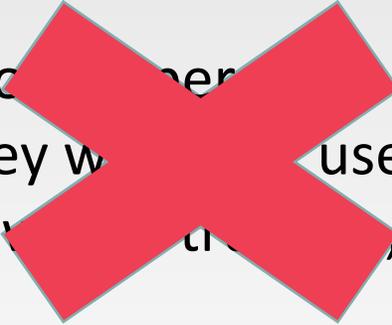
- Reinforce positive
- Highlight everything that is working right
- Spotlighting success creates the right mindset for future achievement
- Build a catalog of stories of people helped

Research Study



Grant, Adam M., Campbell, Elizabeth M., Chen, Grace, Cottone, Keenan, Lapedis, David, and Lee, Karen. (May 2007). Impact and the art of motivation maintenance: The effects of contact with beneficiaries on persistence behavior. *Organizational Behavior and Human Decision Process*. 103 (1): 53-67.

Motivating callers who were raising money for their University

- Current methods  would describe how the money was used to improve the school (i.e. new buildings, top professors, sports)
- Experiment:
 - A group of callers read a letter from a scholarship student thanking them and describing how the money changed his life
 - A group of callers met the scholarship winner and heard his story in person
 - A group of callers did not meet the winner or read the letter

Research Study



Motivating callers who were raising money for their University

The callers that had read the letter or had no contact with the scholarship winner demonstrated no change with work happiness or success.

The callers that met the scholarship winner were able to connect personally/emotionally. After 30 days of the meeting, this group raised an average of 171% more money and spent more time on the phone.



Emotional Connection

Investigator

Victim

Attorney

Judge

Exoneree

Chief of
Police

Survivors

Advocates

Politicians

Forensic
Scientists

Connect

- A personal/emotional connection to a success story fuels happiness and success
- Hearing directly from those impacted by work is an ideal way to share success stories
- Reinforce messages: video, social media, bulletin boards, email, meetings



Appreciative Inquiry

Deficit Model: Look at what we're missing!

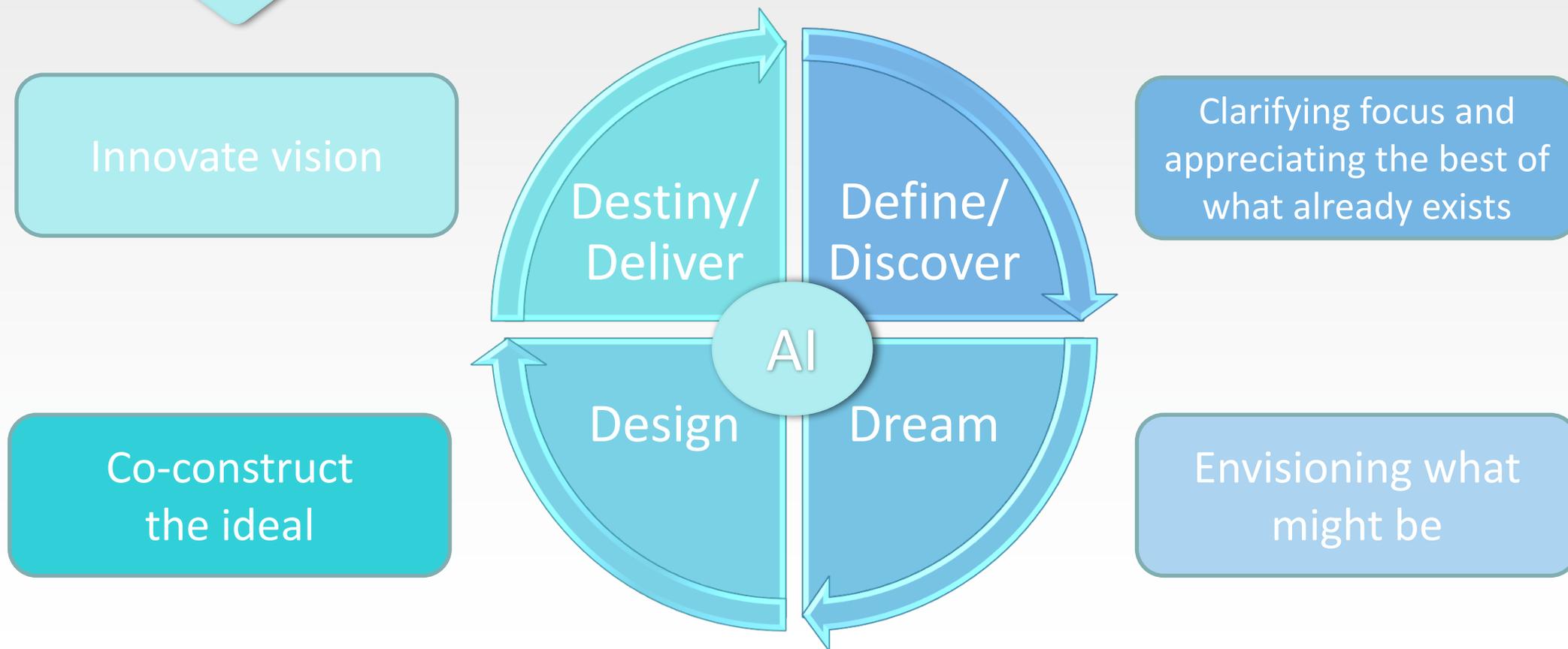
Appreciative Model: Look at what we got!

Positive Questioning

Coevolutionary search for the best in an organization through crafting of unconditional positive questions

1. Remember
2. Reinforce
3. Amplify

Appreciative Inquiry Model



Research Study



Cooperrider, D. L., & Whitney, D. (2005). *Appreciative inquiry: A positive revolution in change*. San Francisco, CA: Berrett-Koehler Publishers.

The Positive Change Network

- Issue: GTE (Verizon): Following acquisition, consolidation, legislation changes for telecommunications resulted in unhappy employees, toxic conversations, negative mindsets. 90% of the company reported low engagement.
- Experiment:
 - Train staff in basics of Appreciative Inquiry
 - Each employee completed interviews to find positive examples of what was working well

Research Study



The Positive Change Network

Engaging employees in AI generated over 10,000 ideas on how to create a flourishing culture

Answering AI questions enabled employees to shift their focus and change the way they viewed and valued their company

New communication pattern was better for employees both mentally and physically and was more productive overall for the organization



Appreciative Inquiry

AI provides an alternative 'habit of discourse'

What is the worst that can happen?

vs.

What is the best that can happen?

AI Exercise

What do you value most about your work?

When have you felt the most engaged?

What core factors give life to the lab?

Tell a story about when morale was high?

What were the circumstances that supported a past positive environment?

What three wishes do you have to enhance vitality of the lab?

An illustration of a person with spiky brown hair, wearing a white shirt and black pants, standing with their back to the viewer. They are positioned between two red signs on poles. The sign on the left is an arrow pointing left with the word 'PAST' written on it. The sign on the right is an arrow pointing right with the word 'FUTURE' written on it. The background is a light blue gradient.

PAST FUTURE

Present Moment Awareness

“Mindfulness helps you go home to the present. And every time you go there and recognize a condition of happiness that you have, happiness comes.”

– Thich Nhat Hanh

Be. Present. Now.

Pattern interrupt which helps take control of the agitated mind and let go of unbeneficial mental patterns

1. Awareness and intentionality to the present moment
2. Without judgement
3. On purpose

Present Moment Awareness

CHANGE THE BRAIN + BODY

SCIENCE

Greater expression of 'gene boosting' immunity

Increase gray matter in brain's hippocampus for reduced stress response

Telomere preservation



Slow breathing for 'rest and relax' responses

Activate ACC region in brain to direct attention and behavior

Neurons that fire together, wire together

Research Study



Killingsworth, Matthew A. and Gilbert, Daniel T. (Nov 2010). A Wandering Mind is an Unhappy Mind. *Science*. 330 (6006): 932.

Track Your Happiness App

- App pinged users throughout the day asking them to take a 1 minute survey
- Survey asked users (N= 2250, ages 18-88):
 - How happy you are
 - What you're doing at the moment
 - Whether you exercised recently
 - Whether you're alone
 - Whether your mind is wandering or in the moment

Research Study



Track Your Happiness App

46.9% of people's time is spent thinking about something other than what they're doing

The activity the person was engaged in only accounted for about 5 % of a person's happiness

Main cause of people's unhappiness is how frequent their minds wander

An illustration of a person with spiky brown hair, wearing a white shirt and black pants, standing with their back to the viewer. They are positioned between two red signs on poles. The sign on the left is labeled 'PAST' and points to the left. The sign on the right is labeled 'FUTURE' and points to the right. The background is a light blue gradient.

Present Moment Awareness

When we become more mindful, there are gaps that are created to choose responding over reacting.

Mindfulness creates a realization that we have control and influence over our own life by cultivating a more peaceful internal environment.

Cultivate at Work

1. Start every meeting with 1 minute of silence
2. Consciously slow breathing during chosen activity
3. Eat in silence with no distractions
4. Turn off notifications
5. Stop multi-tasking
6. Train staff in mindfulness (1/2 day to 8 weeks)

Conclusions



Control for Contextual Information & Increase Happiness at Work

The meaning behind the work we do drives motivation & happiness. Providing examples of personal/emotional connections to the work a forensic examiner does can increase engagement and productivity.

Highlight everything that is working right. Using appreciative information questioning can shift focus and propagate positive results

A wandering mind is an unhappy mind. It isn't as important about what we are doing but, where our mind is focused when we are performing a task.

Controlling contextual information does not need to lead to negative effects on work enjoyment. There are other means to highlight engagement and increase happiness even when introducing major changes. Dedication to positive culture and personal development may be key to success during change.



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