Why are some groups smarter than others?

Exploring the role of collective intelligence in small group performance.

SCIENCE OF LEARNING RESEARCH CENTRE

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Background: Traditional notions of 'intelligence' are predicated on individual mental abilities that predict performance in many academic, occupational, and personal settings.[1] Until recently,[2] few had asked whether groups exhibit their own form of intelligence, or 'collective intelligence.' We report on a quasi-experimental, correlational study that seeks to explore this issue. Our findings suggest that groups exhibit a form of collective intelligence that is analogous, but largely unrelated, to the intelligence of individual group members. Instead we find factors such as group size, personality (conscientiousness, openness), common language (e.g., English), conversational sharing, and social sensitivity making significant contributions to what it takes to become a 'smart group.'

Question:

Does collective intelligence exist?

Participants:

85 adults allocated to 29 groups

- 96% students, 71% female, 93% OS born
- Quasi-experimental, correlational
  - Classroom Laboratory
- University of Melbourne, Australia

Procedure:

Individual IQ Test

+

Group IQ Test

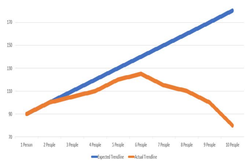
Results:

Yes, collective intelligence does exist!

Implication 1: What may help groups become smarter?

Communication

- Conversational turn-taking, sharing leadership and distributing dominance all helps; as does sharing skills at a common language (e.g., English)



Size Matters

- Group performance is a nonlinear function of size (the 'Inverted-U' applies)

Personality

- Openness and Conscientiousness help; extraversion & agreeableness do not.

Social Sensitivity & Theory of Mind

- Accurately reading and responding to others' emotional states

Individual IQ

- A higher average IQ likely helps; but is marginal at best.
- The group's brightest individual has no significant link.

Implication 2: What may not help groups become smarter?

Group Satisfaction

No significant link

Group Cohesion

No significant link

Motivation

No significant link

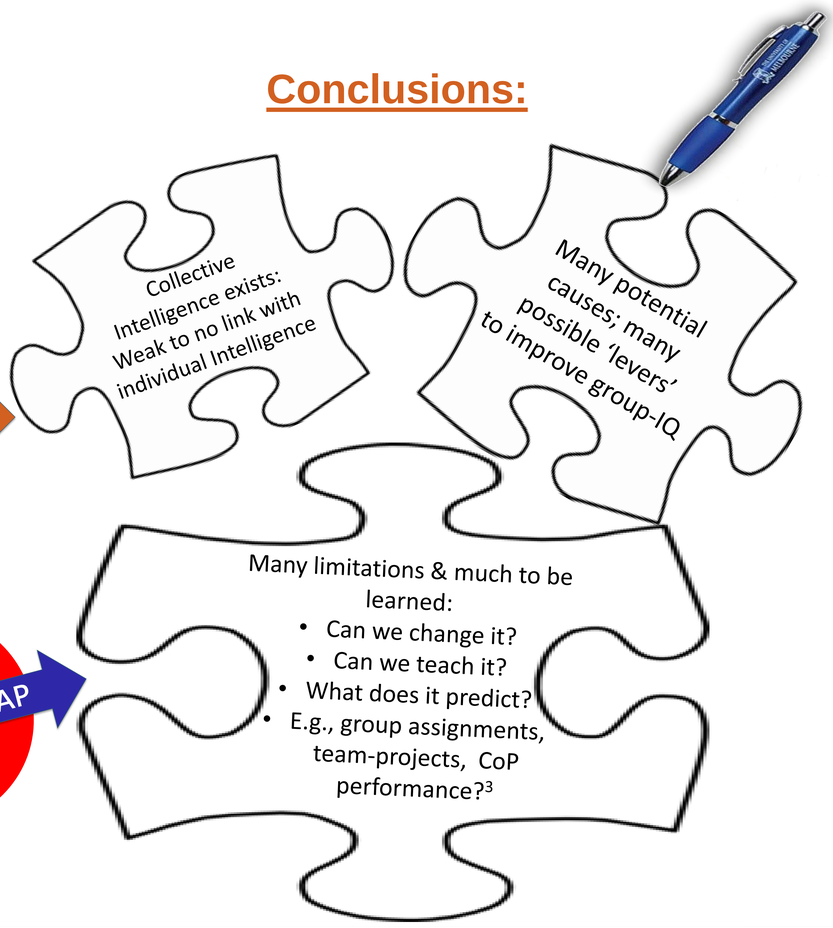
Emotional Intelligence

No significant link

Gender Composition

No significant link

Conclusions:



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2. Woolley, A. W., Chabris, C. F., Pentland, A., Hashmi, N., & Malone, T. W. (2010). Evidence for a collective intelligence factor in the performance of human groups. *Science*(6004), 686.
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