Cognitive Buoyancy: Interventions for Reducing Cognitive Biases that Lead to Errors in Shared Medical Decision-Making

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Title
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Background/Purpose of the Workshop
This workshop introduces a novel concept in cognitive science, called Cognitive Buoyancy® (CB), defined as an individual's propensity to access higher-order thinking (e.g. System 2 thinking, critical thinking, clinical reasoning, metacognition, mindful reflection, empathy, etc.). There are scores of cognitive biases, to which all humans are susceptible, that drive cognitive errors in judgment, reasoning, and clinical decision-making (e.g. incomplete history-taking, diagnostic errors, poor discharge communication, etc.). Among the forces at play in these dynamics is the human tendency toward System 1 (automatic) thinking (Kahneman, *Thinking, Fast and Slow*) and others. CB improves our practical ability to ascend to System 2 thinking, which is necessary for clear, conscious, critical thinking characteristic of innovation, clinical reasoning, and shared (patient-clinical team) decision making.

All humans have some degree of CB, naturally. The construct indicates that an individual's CB can be both measured and improved. Measurement can be managed via a self-report assessment, based upon the science of Polarity Management (Johnson, et al), providing a scientifically-validated instrument for administering such. The improvement in CB scores can happen in a number of ways, for example through initial education, ongoing practice, coaching, and repeated triggering (transition from System 1 to System 2) within actual clinical environments (e.g. history-taking, the standard nursing process, diagnostic reasoning, conflict resolution, etc.). Over time and with practice, neuroplasticity helps to solidify these new thinking habits.

Within the past months, CB has garnered significant interest within the healthcare community, and beyond. It has attracted a number of organizations to engage in research, pilot studies, half-day workshops, and/or keynote speaking engagements...including at Hershey Medical Center, U.Minnesota School of Nursing, William James College, ISPIM, ASQ, SIDM (Society to Improve Diagnosis in Medicine), and NASA. Detailed references available upon request.

Learning Objectives
Understand the CB construct and the science that supports it.
Become familiar with CB tools and methods and practice using them.
Learn the patient-safety value of utilizing CB, and the risks/costs of not applying it.
Understand a range of healthcare applications for CB.
Gain confidence to try CB out in real-life scenarios.

Teaching Methods
## Teaching Materials
The workshop will include the following:
- Slide deck
- Workbooks
- Cubie™ 3D models
- Exercise worksheets
- Bibliography

## Evaluation Description
Participants will be able to take the CBA™ (Cognitive Buoyancy Assessment) online both before the workshop and afterwards. This provides each person with “before/after” scores, which indicates the degree to which the workshop’s learning processes had an impact on their cognitive buoyancy, i.e. their propensity to access higher-order thinking in the future.

The assessment contains demographic information, 36 Likert scale questions, and a several open-ended questions, which will be reviewed by the instructor after completion, and utilized in free follow-up coaching and Q&A sessions to be offered to each participant.