Mental models of decision-making in a healthcare executive

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Background
A mental model is an individual’s implicit understanding of ‘how something is done’, containing both knowledge content and structure (DeChurch & Mesmer-Magnus, 2010). They are context-dependent, shaped by past experiences and strongly intertwined with group norms and influences. A mental model may be held by an individual, shared between individual group members, or internalised as team mental models. Previous studies have highlighted the importance of mental model similarity (across team members) and accuracy (to ‘best practice’) in facilitating high levels of team performance. Indeed, some researchers have called for the implementation of mental model training to improve management performance (e.g., Pfeffer, 2005). However, in a recent review, Mohammad, Forcandi, & Hamilton (2010) highlighted the continuing lack of understanding of the mechanisms underlying the link between mental model similarity/accuracy and performance, evidenced by the mixed findings of studies exploring mediators such as co-ordination, planning and communication patterns. These findings may in part be attributable to study methodology, with a majority of studies using military-style simulations where participant dyads completed specific tasks in a context of high task interdependence (e.g. Stout, Cannon-Bowers, Salas, & Mianovich, 1999).

In light of the limitations of experimental studies, and the push for organisational psychologists to embrace mental models in their practice, I propose that case studies of real contexts of high task interdependence (e.g. Stout, Cannon-Bowers, Salas, & Mianovich, 1999).

Results
Three decision-making models emerged from the data: A) a shared model of explicit (formal) decision-making, comprising the decision memorandum; B) a shared model of implicit (informal) decision-making (Fig. 1); and C) divergent models of ideal decision-making, comprising the existing process, with the addition of a shared vision and implementation planning, and disagreement on the role of peer discussion (Fig. 2).

Despite high mental model similarity for implicit decision-making, participants rated decision process and outcome performance as average (M=6.4, SD =1.3), and provided negative descriptors of the decision-making process (Fig. 3).

Methodology
Participants
Participants comprised a group of senior healthcare managers (N = 8) in a large Australian Healthcare Provider. Participant age ranged from 38 to 62 years, with equal gender representation. Length of group membership ranged from 2 months to 10 years, with representation of all major staffing groups (i.e. administration, clinical, nursing and allied health).

Procedure
Participants were invited to individually participate in a 1-hour semi-structured interview about decision-making processes and general team function with the researcher. All interviews were audio-recorded and transcribed.

Interview Questions
1. Very generally, how would you characterise your experience on the management team to date?
2. If a new staff member arrived today, what would you tell them about how decisions get made by the group?
3. Do you currently have a level of participation that you are happy with?
4. If you had to pick one word to describe the current decision-making process, what would it be?
5. If you had to assess the decision-making process and outcomes, what would you score them on a scale of 1-10?
6. So in an ideal world, what would the management team decision-making process look like?

Limitations
As a case study, this research is limited to conclusions about a single participant group, in a certain industry (i.e. health), at a single time (June/July 2014). As this is the baseline measurement for a longitudinal study, it is hoped that future data collection will allow insight into the naturalistic evolution of mental models over group changes and in response to decision support interventions.

Future Research Directions
Future research should consider the role of mental model elicitation in the transfer of organisational knowledge and the negotiation of group processes during group format or organisational change.

Implications
For practitioners...
Mental models can be quickly and easily elicited using a short, semi-structured interview. This offers efficiency benefits over other methods such as card sorting tasks. Mental models can also be clearly represented in a visual format. This presentation may facilitate the future development of mental model similarity and accuracy, as found in a study by Flore, Queva, & Oser (2003).

For researchers...
In teamwork where there is no one ‘right way’ to perform a task, mental model accuracy and similarity may not provide strong predictive power for group performance. In these situations, similarity between the current process and an individual’s ideal mental model may provide greater predictive power, especially regarding group commitment and implementation success.