

## Reviewer's report

**Title:** Implementation science: a role for dual processing models of reasoning?

**Version:** 1 **Date:** 20 February 2006

**Reviewer:** Maggie Toplak

### Reviewer's report:

#### General

This manuscript provides a very interesting potential application of dual-process models of reasoning to medical decision-making. The authors provide a nice overview of dual-process models, leading into a discussion about applications for medical training and practice.

-----  
Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Overall, the idea of this manuscript is good and has the potential to make an important contribution. While the discussion of dual-process theories is well done, the implications for teaching medical trainees could be written in a more coherent manner. Then, the potential applications are not clear – namely, are the authors really suggesting that different medical trainees be taught differently OR that trainees be made aware of their potential biases in practice based on this theory? The authors may give some further thought how this individual differences approach can effectively be implemented in medical education. Finally, it would also have been helpful for the authors to provide more detail on how medical decision-making is not optimal, citing research and more examples. These are all Major Compulsory Revisions.

-----  
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

-----  
Discretionary Revisions (which the author can choose to ignore)

Some additional points in the manuscript, these are Discretionary Revisions that would make the manuscript stronger, but not essential:

1. Page 8, paragraph 2, bottom of page. I would likely have inferred the alternative about those high in faith in intuition and need for cognition with respect to openness to considering evidence-based practice. Namely, someone high in faith in intuition may be affectively attached to his/her current practice, and therefore not be interested in considering new evidence-based approaches. Alternatively, someone high in need for cognition may be more open to evidence-based practice as it is natural for them to consider more alternatives.
2. Page 8, top paragraph. Discussion of research on cognitive style using Myers-Briggs Type Indicator. More detail on this research would be helpful to better illustrate how cognitive style has been implicated in medical decision-making.

Some clarification and reconsideration of the actual implications of dual-process models would greatly improve this manuscript.

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.