Reading Literary Fiction Improves Theory of Mind: What is the Evidence?

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Background

Theory of Mind

Theory of Mind (TOM):

Humans' ability to attribute mental states, such as beliefs, knowledge and emotions, to themselves and to realize that other people also have mental states, which may differ from their own.

Cognitive TOM: inferring and representing others' intentions and beliefs

Affective TOM: detecting and understanding others' emotions

Literary fiction and TOM

Kidd & Castano's (2013) hypothesis:

Reading literary fiction enhances affective TOM compared to popular fiction.

Results Kidd & Castano (2013)

Issues K&C (2013)

- Large effect considering treatment & participants' TOM experience
- No clear distinction between literary fiction and popular fiction
- P-curve analysis showed no evidential value

Experiment	Literary fiction	Popular fiction	No reading	Nonfiction
Exp. 1 RMET	25.90 ± 4.38^a [24.55, 27.24]	X	X	23.47 ± 5.17^a [22.13, 24.82]
Exp. 2 DANVA2-AF	4.70 ± 2.31^{ab} [3.79, 5.61]	5.85 ± 2.93^a [4.96, 6.74]	5.86 ± 2.89^b [5.00, 6.72]	X
Exp. 3 RMET	25.92 ± 4.07^a [23.99, 27.86]	23.22 ± 6.16^a [21.34, 25.09]	X	X
Exp. 4 RMET	26.19 ± 5.43^a [24.52, 27.85]	23.71 ± 5.08^a [22.18, 25.24]	X	X
Exp. 5 RMET	26.21 ± 3.59^{ab} [25.45, 26.97]	24.96 ± 4.60^a [24.18, 25.74]	25.20 ± 4.69^b [24.99, 25.91]	X

Study: replication of K&C (2013, exp. 5)

Participants and design

526 participants from Amazon's Mechanical Turk platform. After applying the same exclusion criteria as Kidd & Castano (2013) the final sample consisted of 300 participants: 150 randomly assigned to the popular fiction condition and 150 to the literary fiction condition. The two conditions were comparable in proportion of women, mean age, ethnicity and highest level of education.
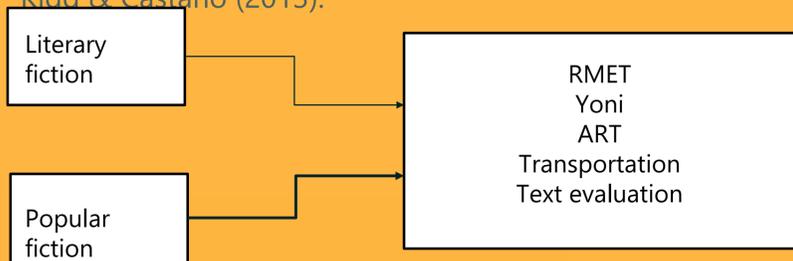
Materials

Three literary fiction texts and 3 popular fiction texts taken from Experiment 5 by Kidd & Castano (2013). Affective TOM was measured using Yoni tasks (first and second order)[1] and RMET. An Author Recognition Test, transportation, and two text evaluation questions (i.e., is this text a good example of literature?, did you enjoy reading the text?)

Procedure

The procedure was identical to that in Experiment 5 of Kidd & Castano (2013):

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Literary fiction  ─┐
                   ├──► RMET
                   │    Yoni
                   │    ART
Popular fiction  ──┘    Transportation
                        Text evaluation
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Results & Conclusion

Results

Story	n	Yoni Affective First Order M (sd)	Yoni Affective Second Order M (sd)	RMET M (sd)
Corrie (L)	50	.97 (.05)	.92 (.07)	28.54 (4.11)
Uncle Rock (L)	53	.97 (.06)	.91 (.07)	27.47 (3.76)
The Vandercook (L)	47	.96 (.06)	.91 (.08)	27.28 (3.39)
Total L	**150**	**.97 (.06)**	**.92 (.07)**	**27.78 (3.79)**
Jane (P)	46	.97 (.06)	.89 (.09)	26.98 (4.38)
Space Jockey (P)	59	.98 (.04)	.91 (.08)	27.15 (4.04)
Too Many Have Lived (P)	45	.97 (.04)	.92 (.07)	27.67 (4.10)
Total P	**150**	**.97 (.05)**	**.91 (.08)**	**27.23 (4.15)**

Conclusion

- Reading literary fiction did not enhance affective TOM relative to reading popular fiction
- Our results are consistent with other (direct) replications of K&C (2013), i.e., Samur et al., (2017) and Panero et al. (2017).

References
Kidd, D. C., & Castano, E. (2013). Reading literary fiction improves theory of mind. *Science, 342(6156)*, 377–380
Panero, M. E., Weisberg, D. S., Black, J., Goldstein, T. R., Barnes, J. L., Brownell, H., & Winner, E. (2016). Does reading a single passage of literary fiction really improve theory of mind? An attempt at replication. *Journal of Personality and Social Psychology, 111(5)*, e46–e54
Samur, D., Tops, M., & Koole, S. L. (2017). Does a single session of reading literary fiction prime enhanced mentalising performance? Four replication experiments of Kidd and Castano (2013). *Cognition and Emotion*, 1-15.

[1] In first order Yoni tasks, participants need to indicate which object (out of four) a central character "Yoni" is referring to based on verbal and gaze cues. In second order Yoni tasks, participants indicate to which object (out of four) someone (out of four) that Yoni refers to is looking.

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