



More difficult items by limiting time – can it
work?

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1st RCEC Workshop on IRT and Educational Measurement

- Computerized testing has made it possible to measure RT for any item, person, and kind of test, with high precision at no additional cost; this has inspired an increasing flow of research.
- Computerized testing also allows to manipulate the time allowance for each item, while avoiding many of the usual problems associated with speeded tests; however, this does not seem to have inspired much research.
- Some possible questions:
 - ◆ Can we use these possibilities as a sort of item generation device?
 - ◆ What will happen to reliability and validity?
 - ◆ Is there any potential for practice?

Introduction

An earlier attempt

Linearized plots

Afterthoughts

Speededness

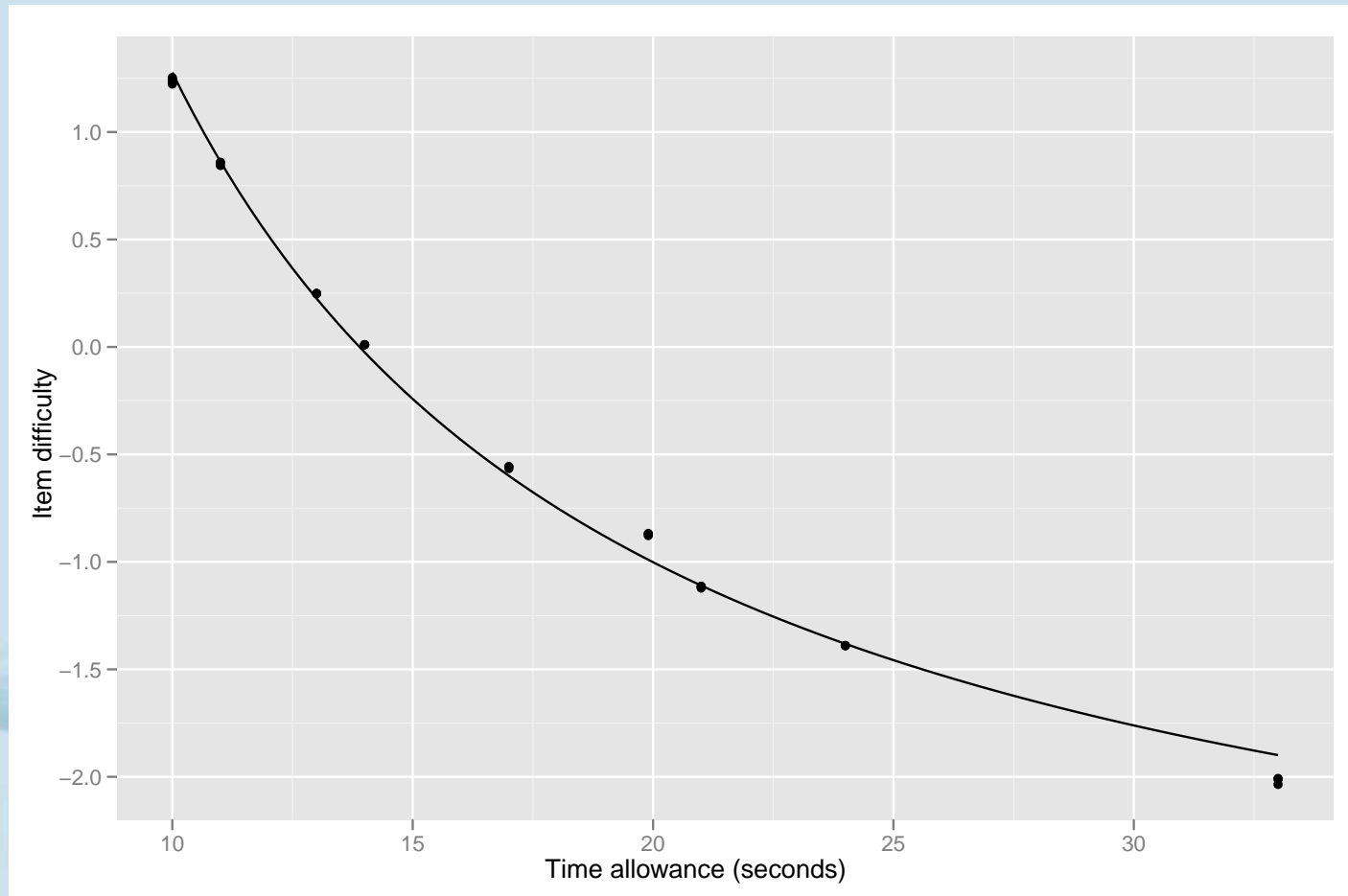
Swinging tracelines

Discriminations

Difficulties

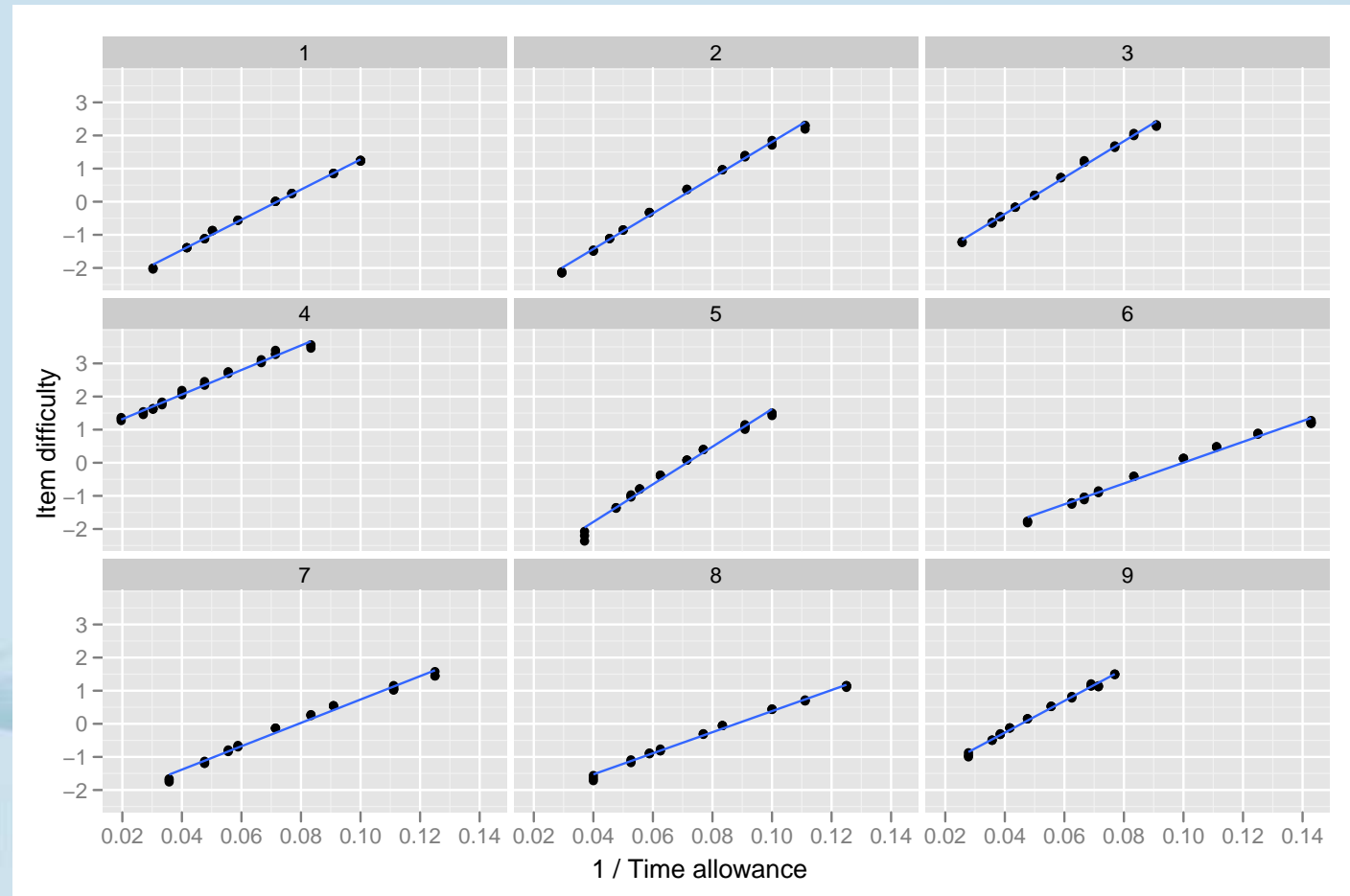
Conclusions

An earlier attempt



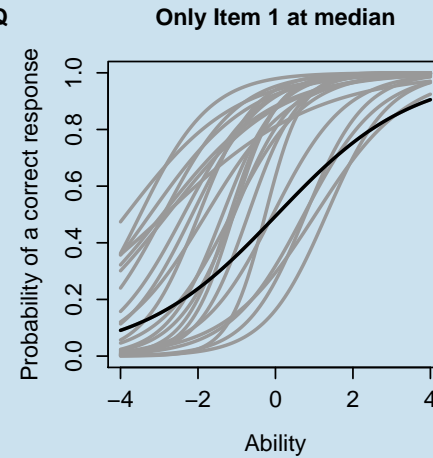
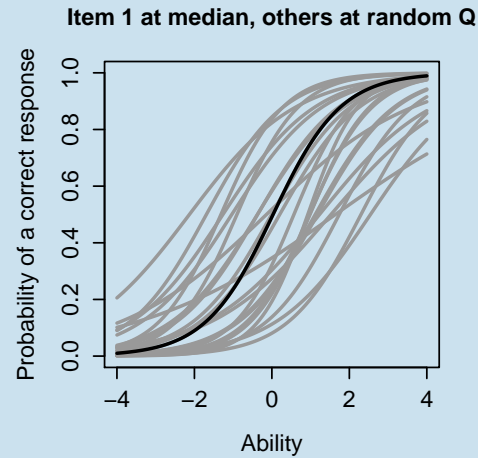
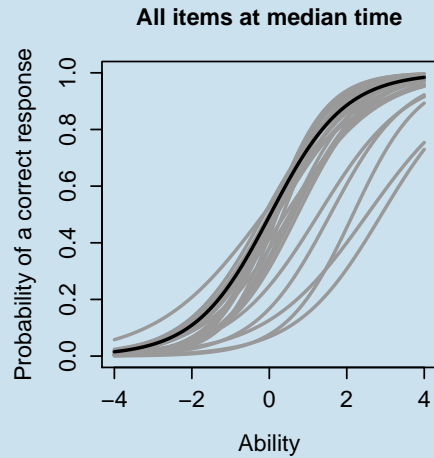
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Linearized plots for the first 9 items



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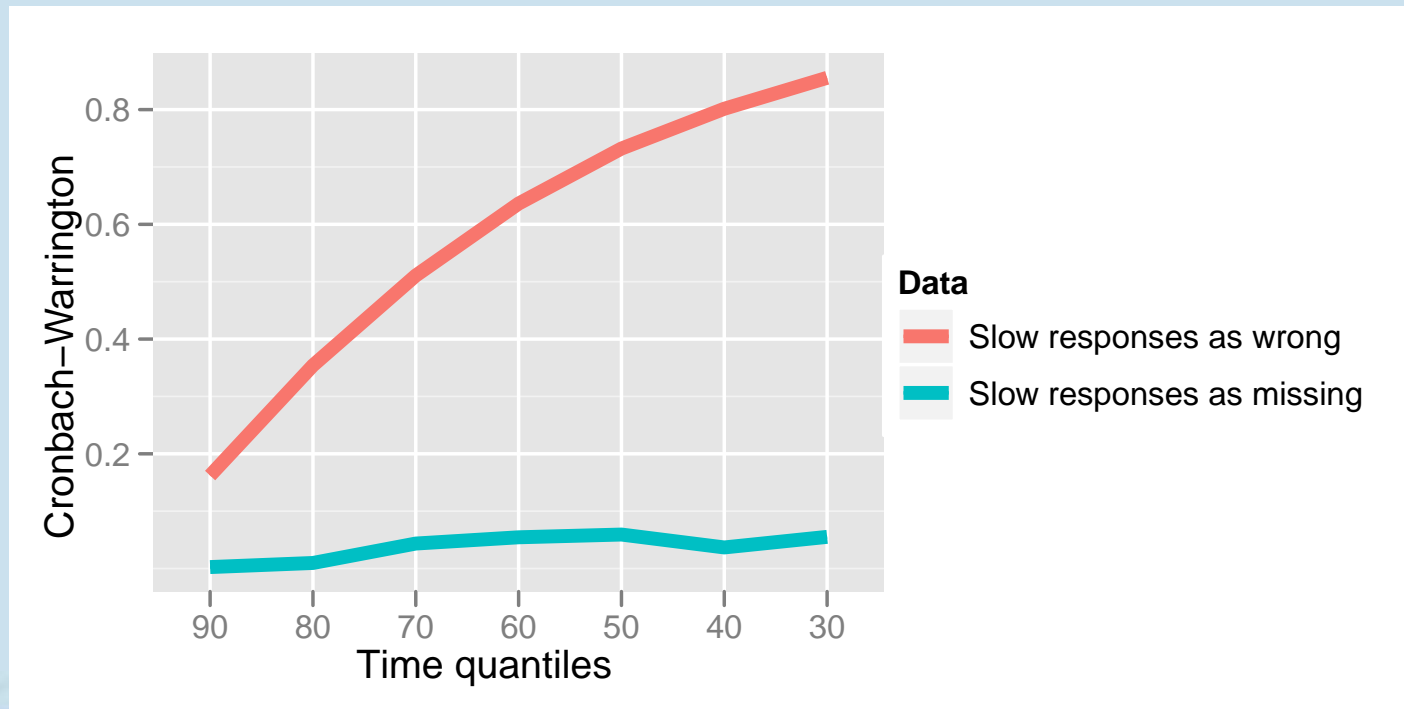
Some afterthoughts



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A classical measure of speededness



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$$\tau = 1 - \frac{r_{A_t B_p} r_{A_p B_t}}{r_{A_t B_t} r_{A_p B_p}}$$

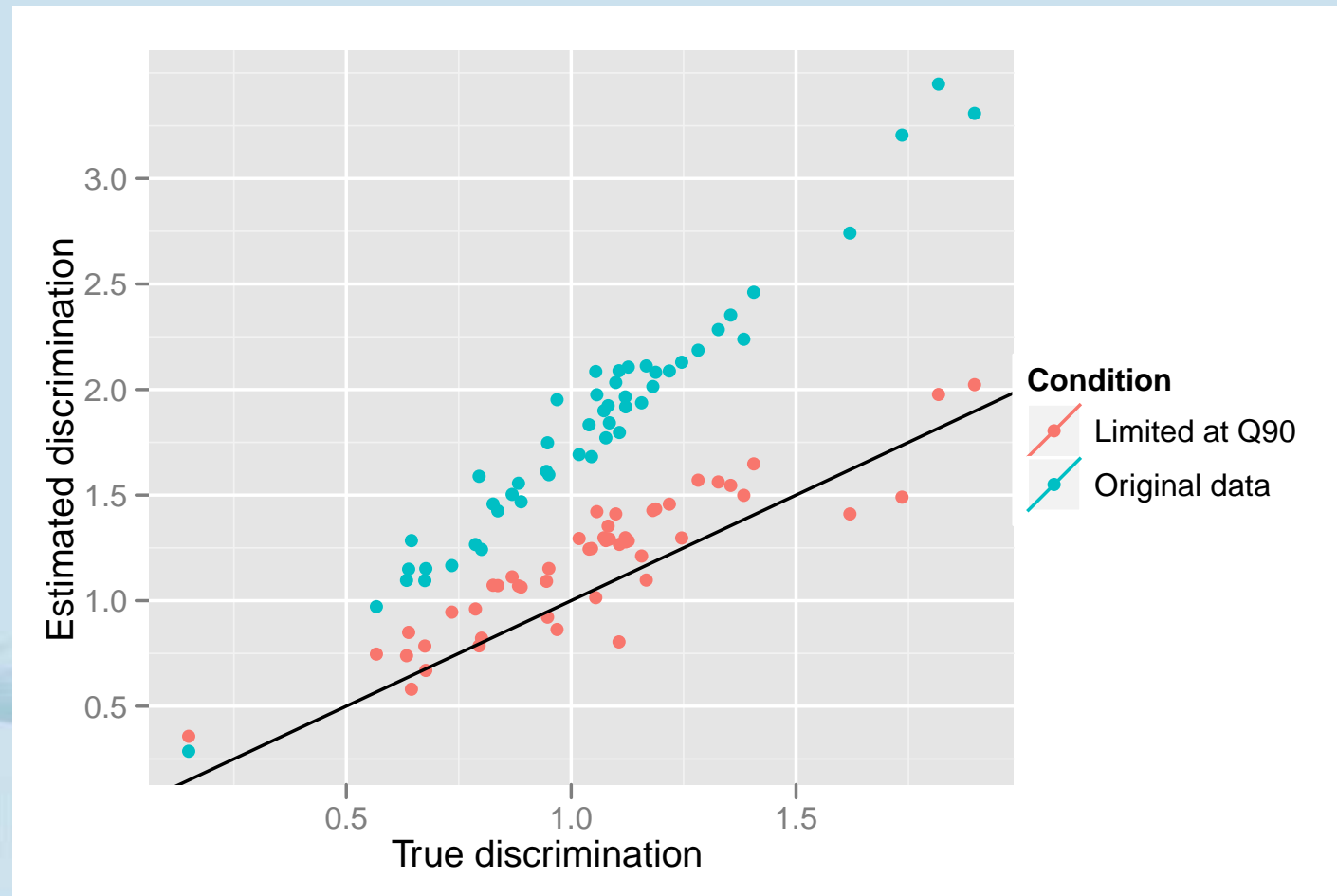
(Cronbach & Warrington, 1951)

The swinging traceline

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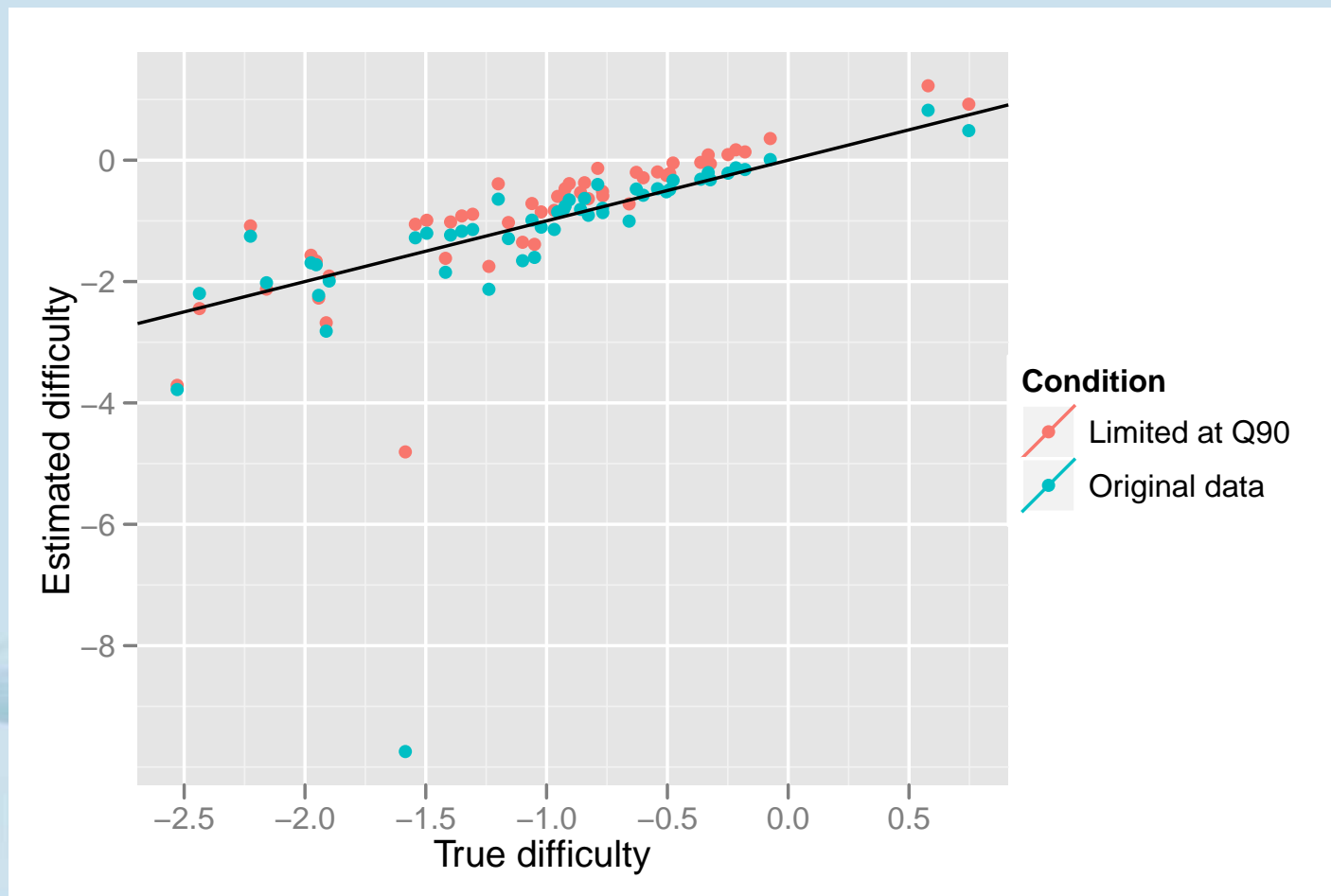


Modest speeding and item discrimination



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Modest speeding and item difficulty



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- We cannot do everything we would like
- Provided that we can accept a small change to the construct, we can still solve some practically relevant problems
- We need further research on the topic, particularly experiments with real subjects

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