

Long-term Productivity's Correlation with Short-term Performance Ratings of Harvester Operators

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Based on a paper that is forthcoming in Croatian Journal of Forest Engineering

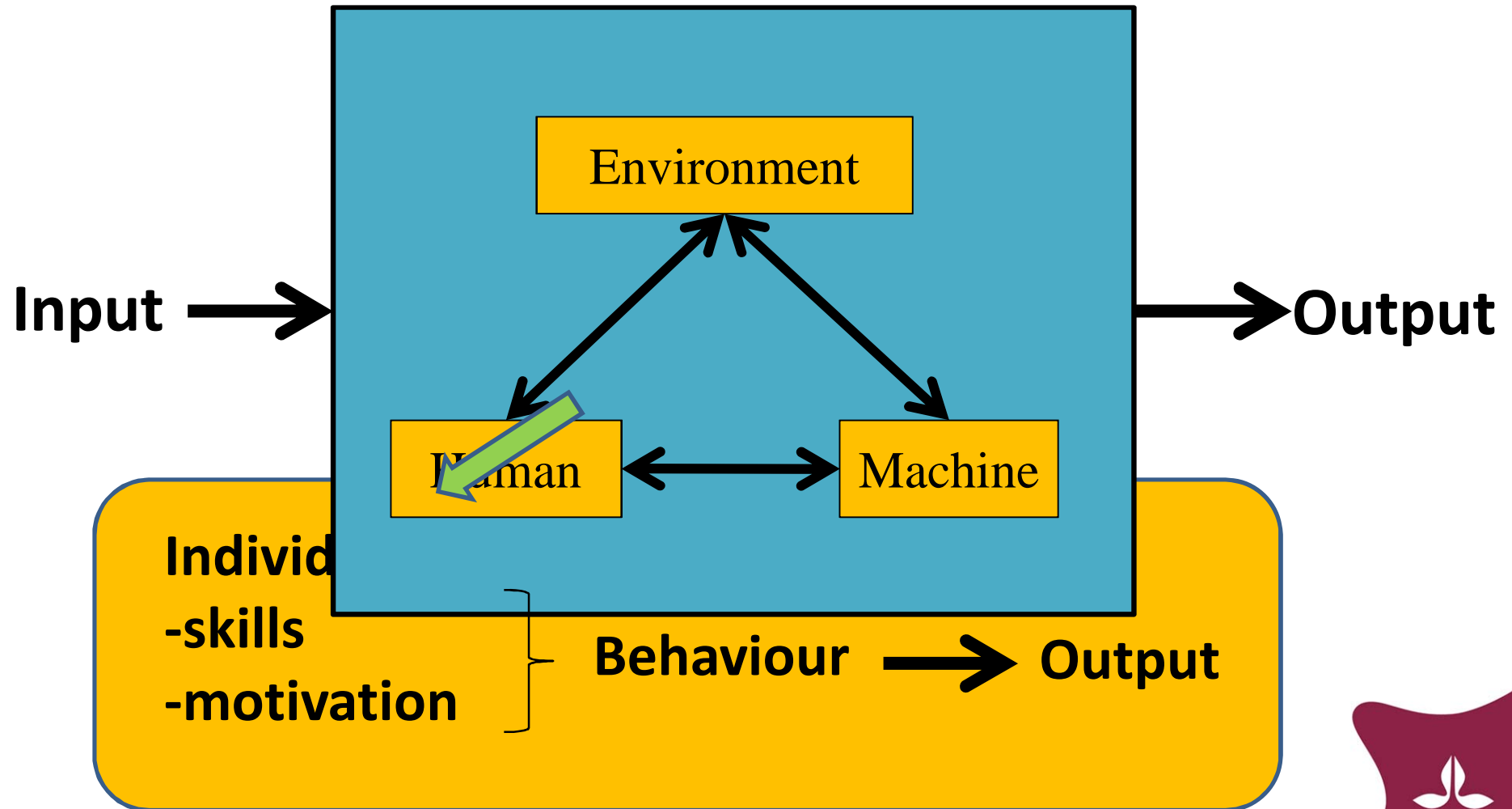
*Austro2011/FORMEC '11, Graz, Austria,
9 -12 October 2011.*



Swedish University of Agricultural Sciences
Dep of Forest Resource Management



The system under evaluation





Why assess individual performance?

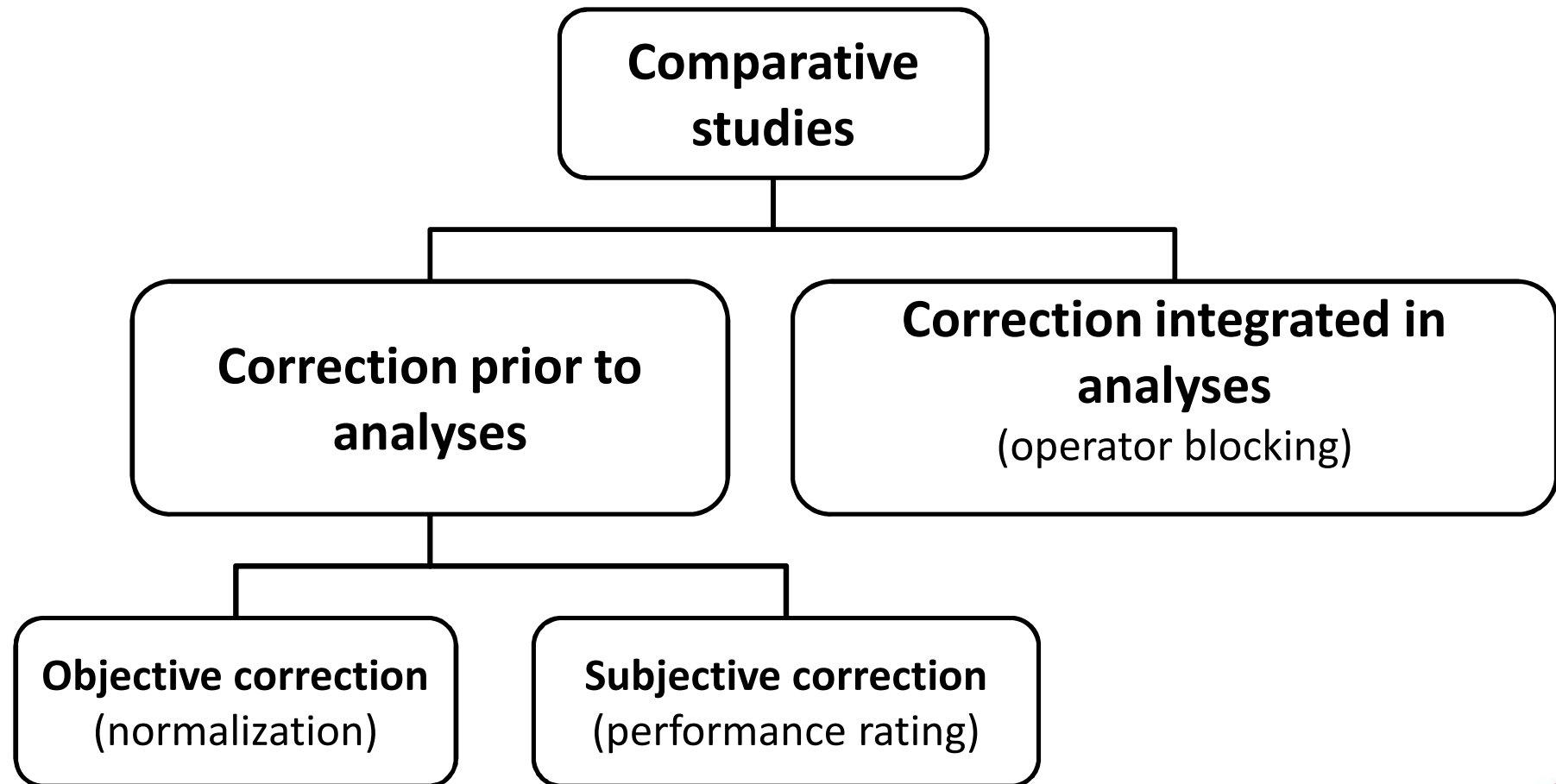
In normal production

- Planning
- Incentives
- Control
- Costings

In research

Minimizing operator effects to enable generalization of results

Alternatives for handling operator effects



Lindroos, O. (2010). Scrutinizing the theory of comparative time studies with operator as a block effect. *International Journal of Forest Engineering* 21(1): 20-30.



Methods for assessment of individual performance

Method	Performance component		Observation length	Subjective elements
	Behaviour (action)	Output (result)		
Time study	x	X	Short	x- X
Performance rating	X	x	Short	X
Follow up	-	X	Long	x

Our hypotheses:

- correlation between short term performance rating and long term follow-up records
- the correlation varies between raters

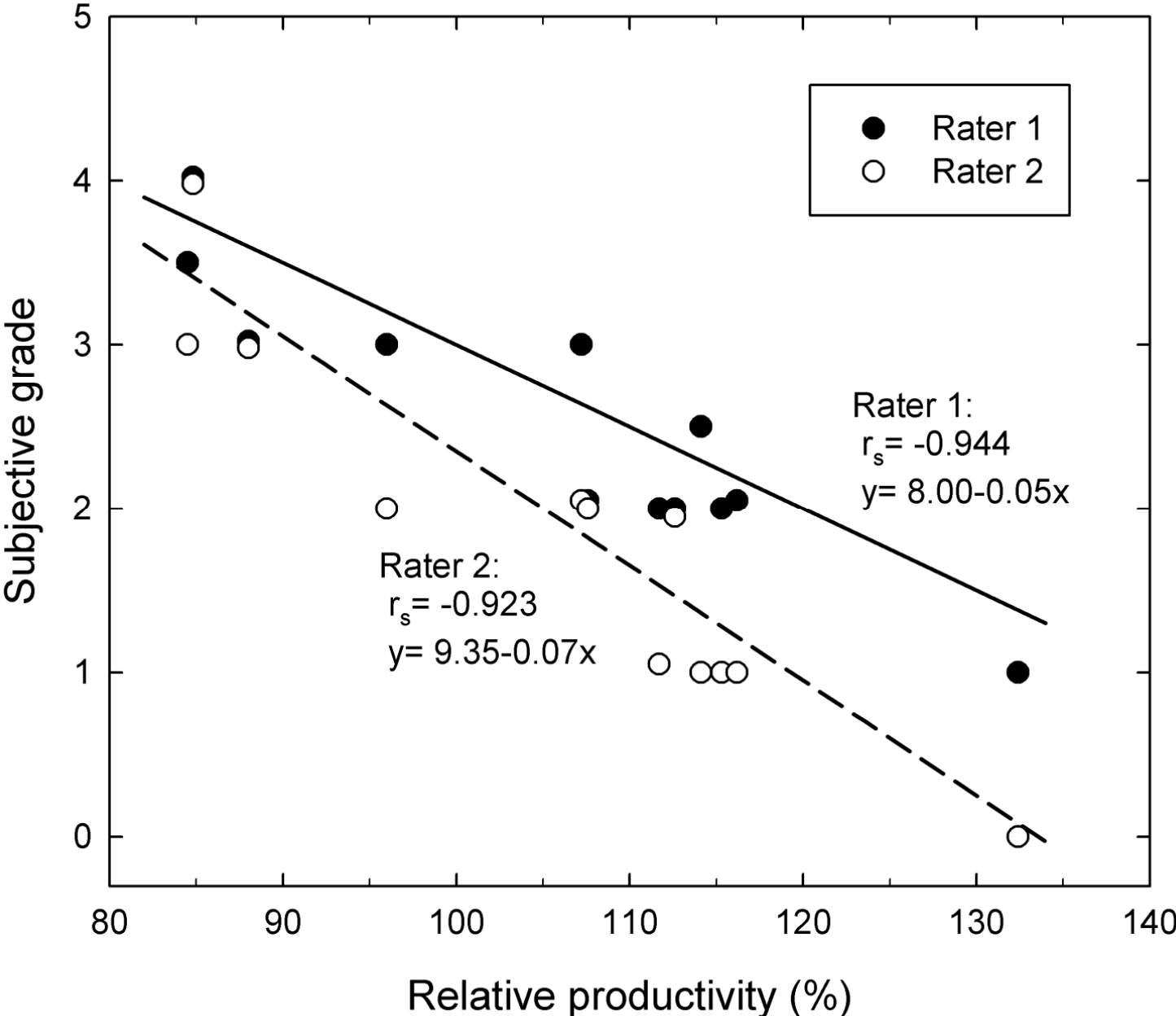


Materials and methods

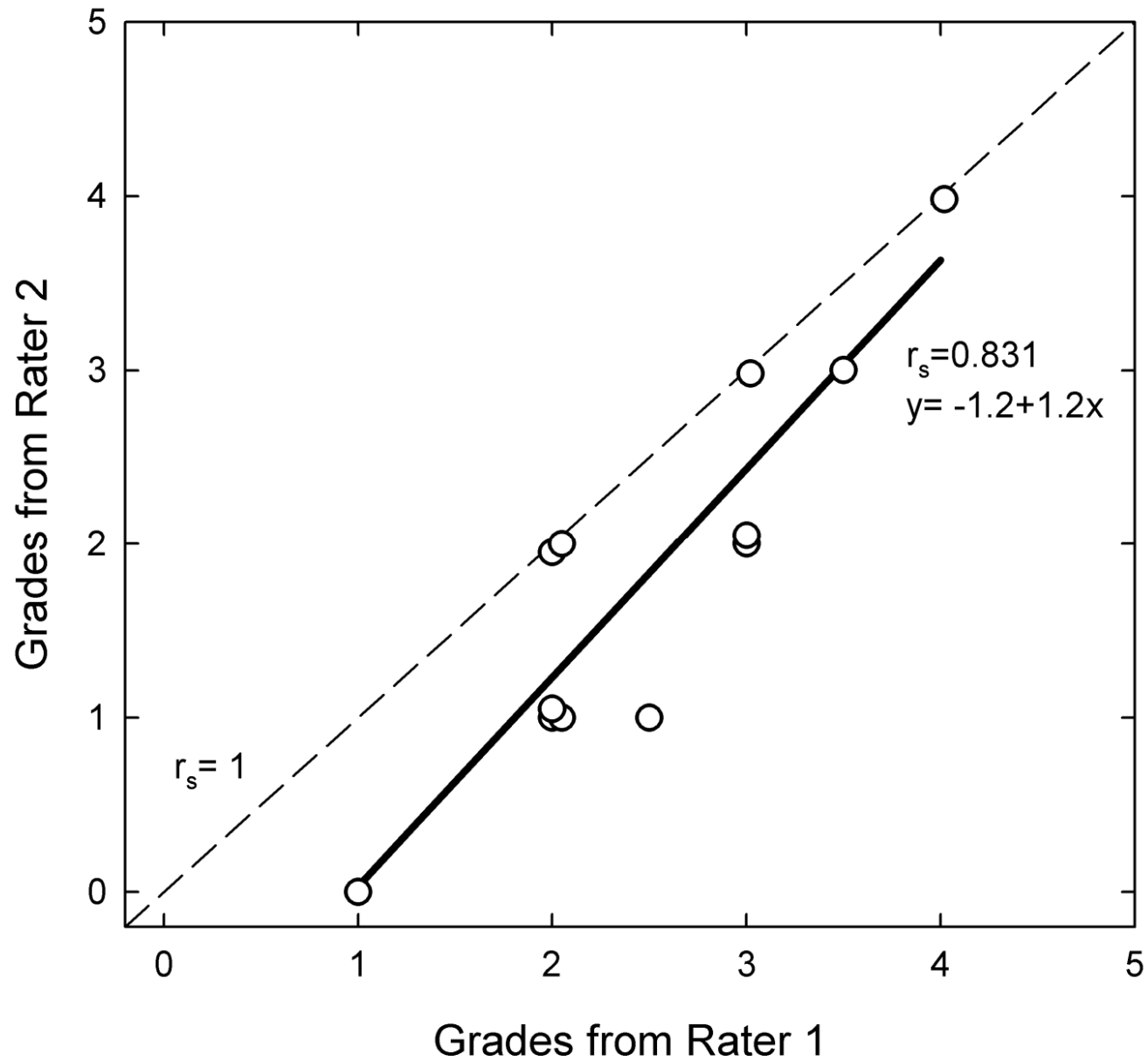
- 12 harvester operators in German thinnings
- 2 raters
- 2-3 h observations/operator
- Rating on a 5-grade overall performance scale (1 is best, 5 worst)
- Relative productivity during 2 months prior to the performance rating
- Productivity norm based on the 12 + 20 operators work in >3000 stands



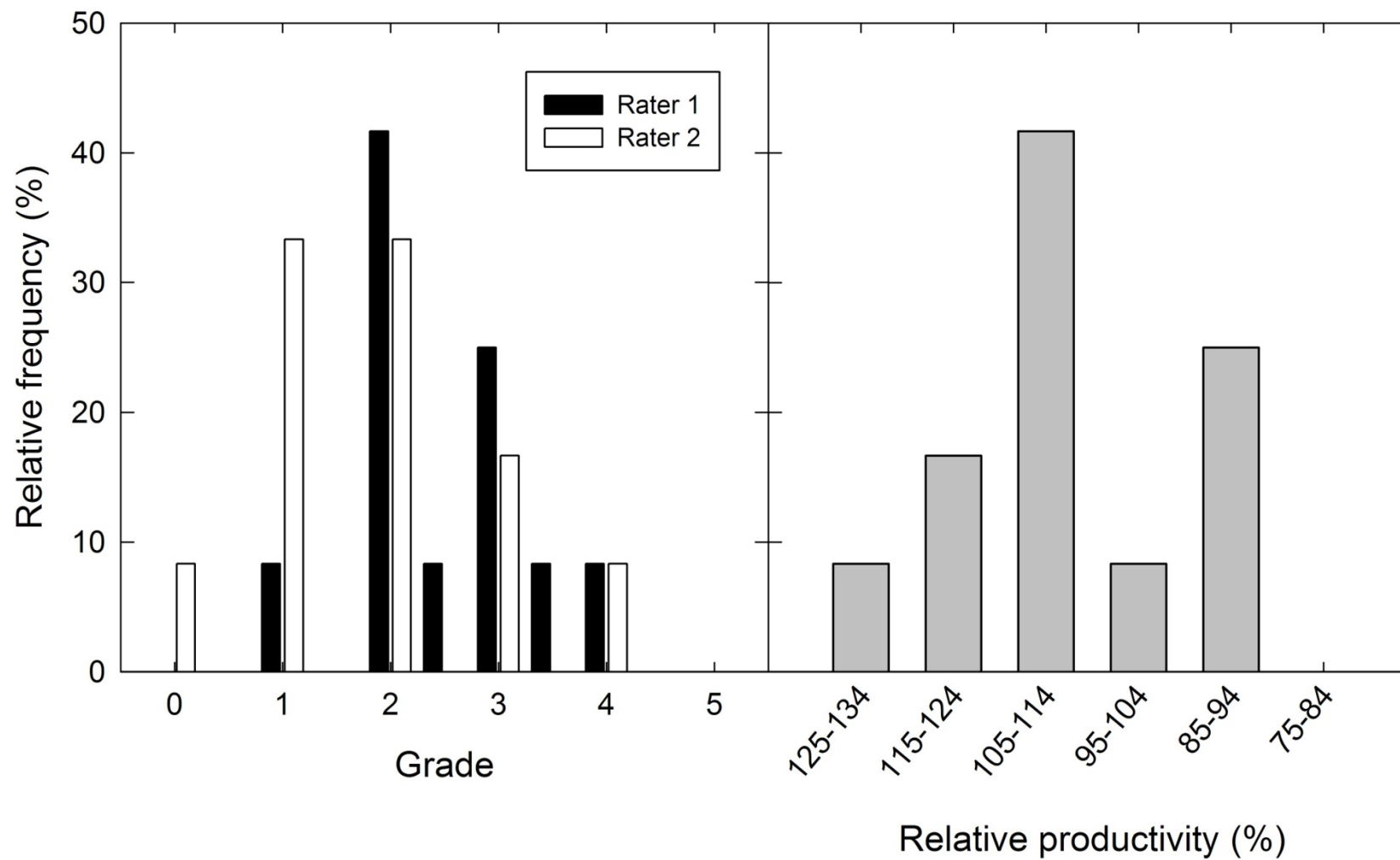
Results 1 – Method correlations



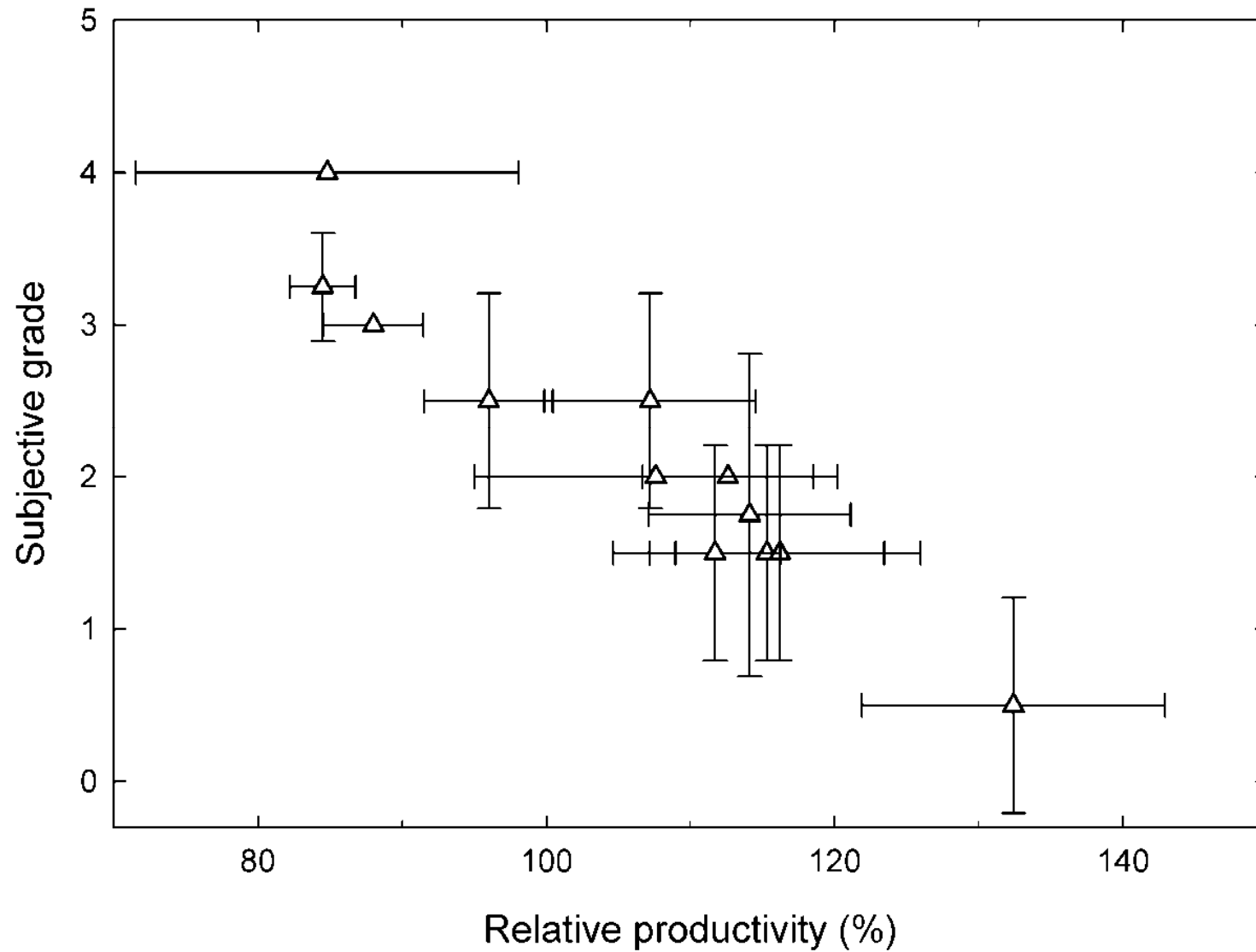
Results 2 – Rater variation



Results 2b – Rater variation



Results 3 – Method variation



Conclusions 1



- Performance rating – fast and cheap. Rater variation.
- Follow up – requires data recording and analysis.

Use in normal production:

Both methods useful to rate individual performance: e.g. to adjust norms to individual levels, or to evaluate training.



Conclusions 2

Usage in research to minimize operator effects:

Neither method is good to correct output data

- uncontrolled variation in the data might decrease or increase.

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