

# Correlation study between a university exam and a proficiency test in Norwegian as a foreign language

---

*Reidun Oanæs Andersen*, Univ. of Bergen

Statistical analysis:

dr. *Feliana Kaftandjieva*, Univ. of Sofia

The Fourth Annual EALTA Conference

Stiges, Spain

15th – 17th June 2007

# Two possibilities

---

## **LEVEL 3 EXAM,**

- university course
- offered at all univ. and colleges
- developed and mostly assessed locally

## **BERGEN-TEST,** proficiency test

- advanced level
  - offered in all parts of the country
  - produced and assessed centrally
-

# Marking and requirements

---

## **LEVEL 3 exam**

- Int. marking system: F – A
- E accepted for university entrance

## **BERGEN-test**

- scale from 150 to 700 points
  - 450 accepted for university entrance
-

# PURPOSE of the study

---

- 1. Is there significant correlation between the requirements at the LEVEL 3 exam and the Bergen-test?**
  - 2. Is there significant correlation between the LEVEL 3 assessments at the different universities?**
-

# Method

---

- 352 students
  - from 8 universities and colleges
  - took both test and exam
  - May 2006
-

# Data collection for statistical analysis

---

## **LEVEL 3 exam**

- final mark
- scores from written and oral part

## **BERGEN-test**

- final score
- scores from 5 subtests

## **BIODATA/BACKGROUND**

---

# MAIN FINDINGS 1

---

## **High correlation between the exam and the test (0.82 to 0.93)**

- Same construct
  - Both measure general language competence in Norwegian
  - Students ranked in the same order
-

# MAIN FINDINGS 2

---

## **Different requirements for the pass mark/rate at the university exam and the Bergen-test**

- 30% of the students who passed the exam, failed at the test
-

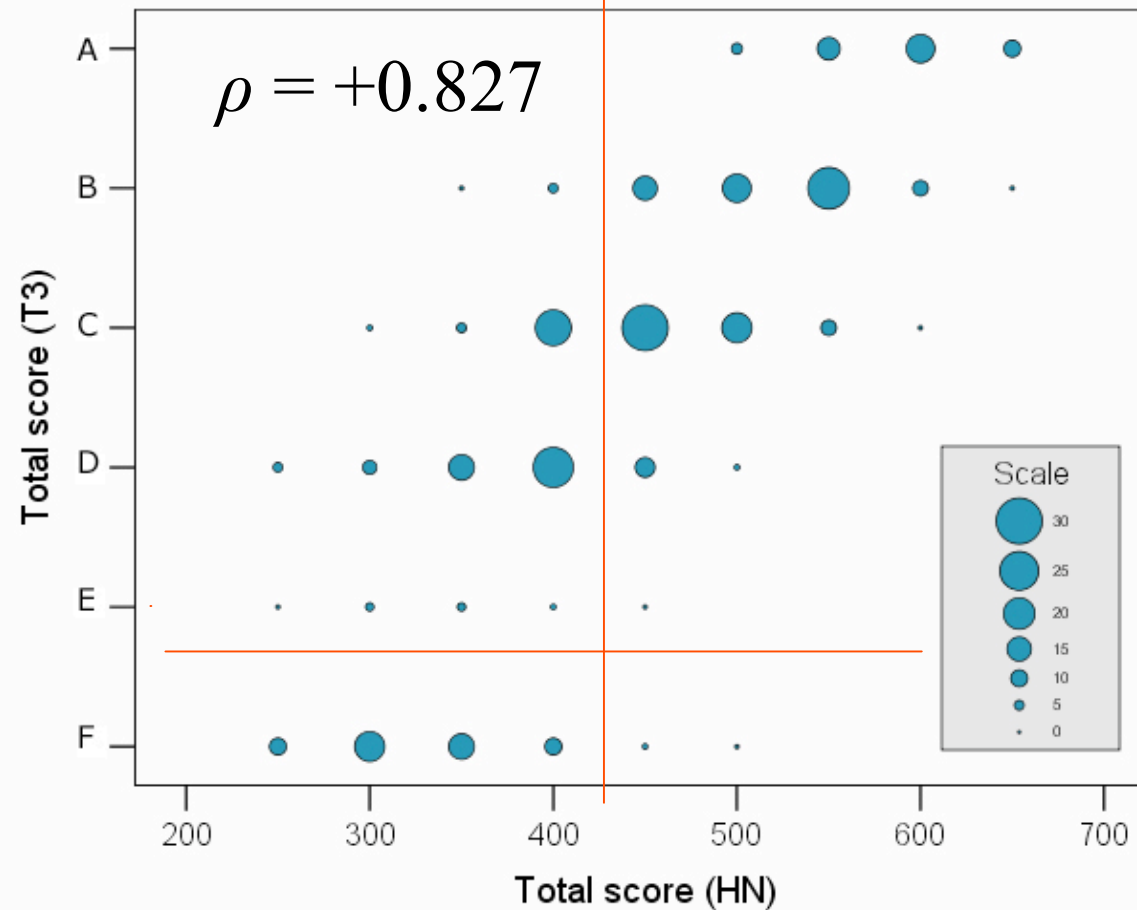


# Correlation Analysis: Pass Rate (1)

- Agreement:
  - Exact agreement: 70%
  - Chance agreement:  
 $\kappa = 0.36$
- Consistency:
  - $\varphi = 0.60$

EXAM TEST	= F	$\geq E$	Total
<450	55 15%	102 29%	157 44%
$\geq 450$	3 1%	192 55%	195 56%
Total	58 16%	294 84%	352 100%

# Correlation Analysis



# MAIN FINDINGS 3

---

**Higher correlation (0.85) if the pass mark/rate is raised**

EXAM: B

TEST: 500 points

---

# Correlation Analysis: Pass Rate (2)

- Agreement:
  - Exact agreement: 85%
  - Chance agreement:  $\kappa = 0.68$
- Consistency:
  - $\varphi = 0.68$

EXAM TEST	$\leq C$	$> C$	Total
<500	196 56%	21 6%	217 62%
$\geq 500$	32 9%	103 29%	135 38%
Total	58 65%	294 35%	352 100%

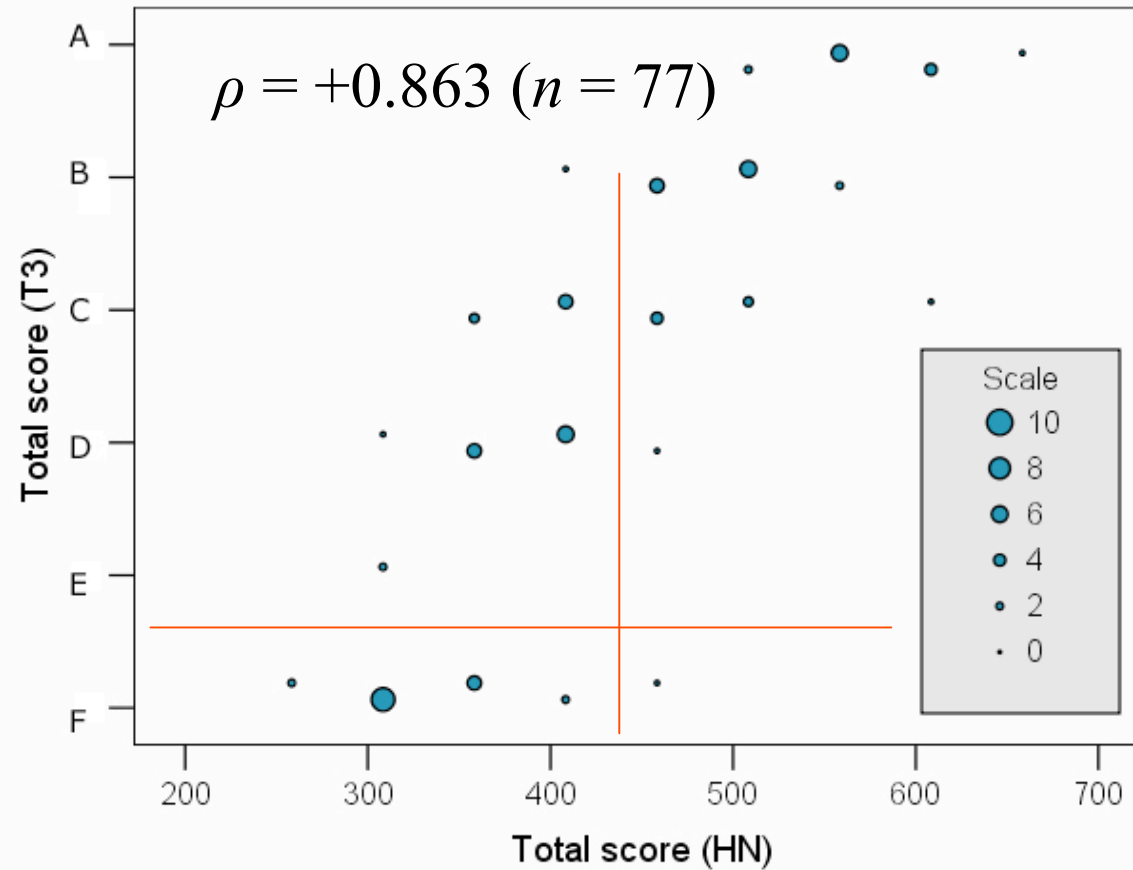
# MAIN FINDINGS 4

---

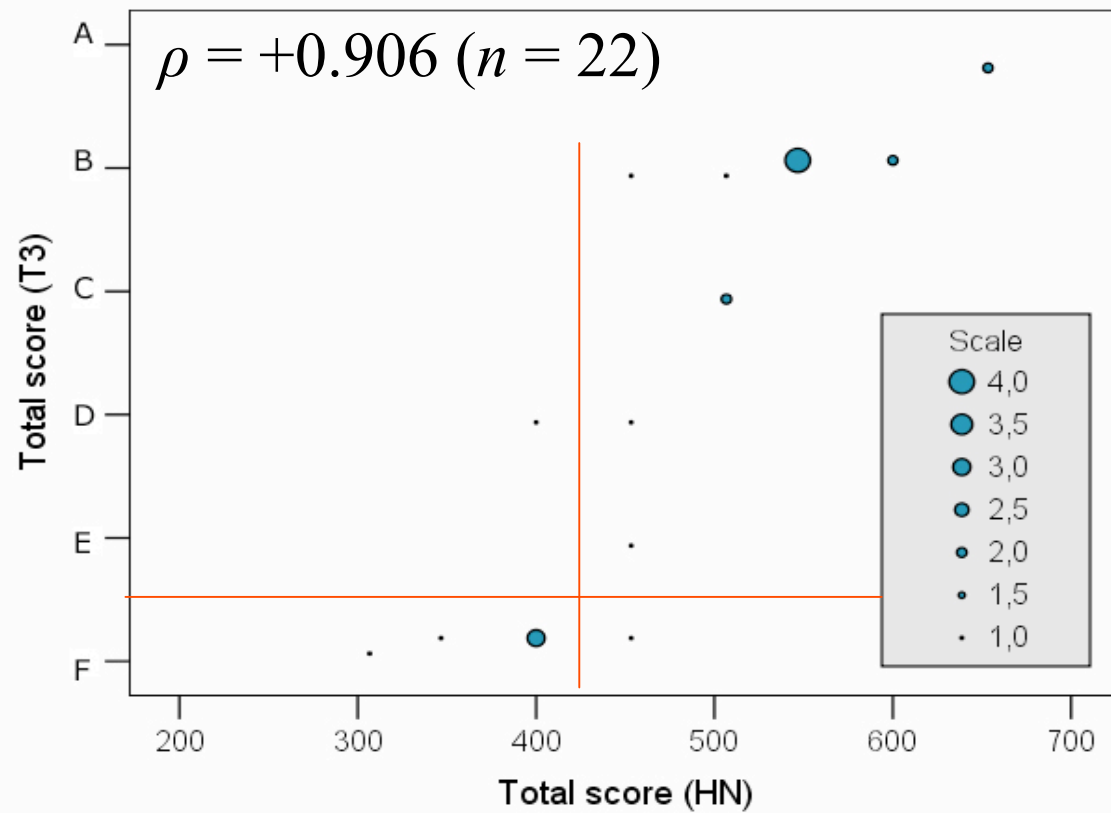
## **No significant correlation between the assessments at the university exams**

- ❑ Criteria used differently
  - ❑ 450 points on the test correlate with marks from E to A on the exam
  - ❑ B-students get from 350 to 650 points on the Bergen-test
-

# University: Oslo



# University: Tromsø



# Optimal cut-off mark/score

---

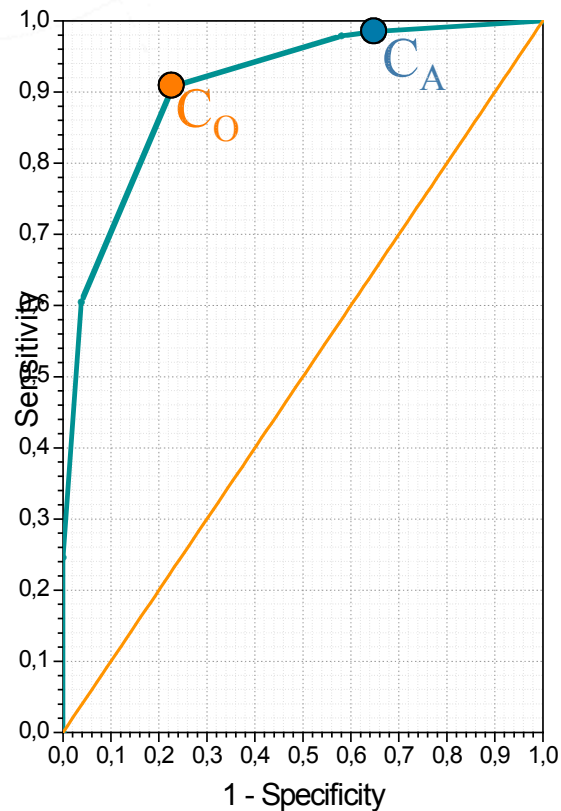
□ University exam:  $>-3$

□ Bergen-test: 450 points

---



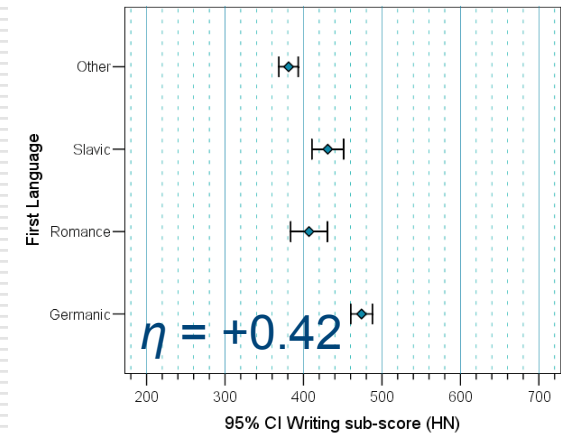
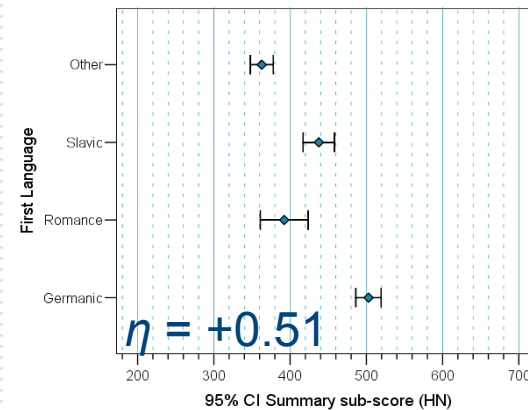
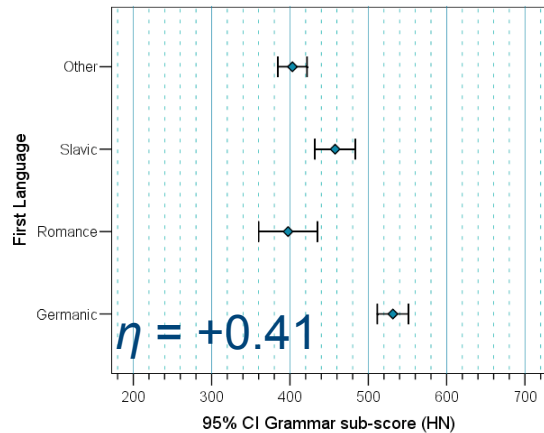
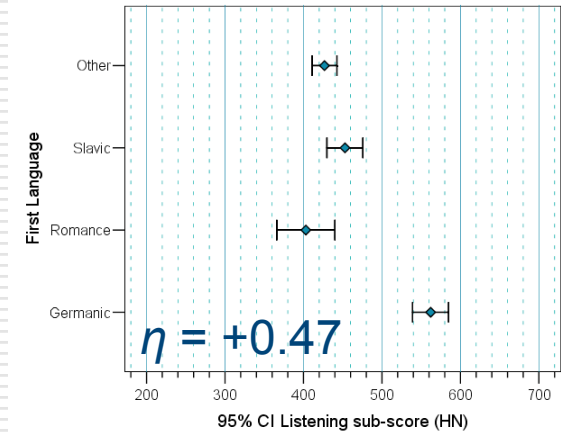
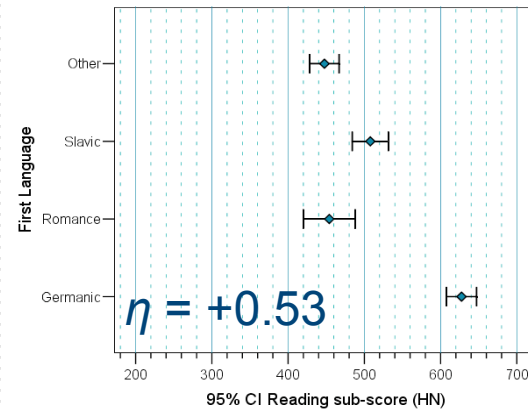
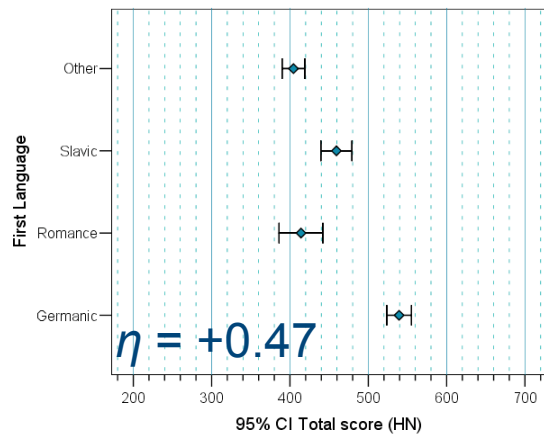
# Predictor: T3; Decision Rule: $HN \geq 450$



- $AUC_{T3} = 0.908$  ( $p < 0.01$ )
- Actual cut-off score:  $C_A \geq 1$ 
  - Sensitivity = 0.985
  - Specificity = 0.350
  - Youden's index = 0.335
  - Accuracy = 70%
  - Kappa = 0.357
  - Rho = 0.449
- Optimal cut-off score:  $C_0 \geq 3$ 
  - Sensitivity = 0.908
  - Specificity = 0.771
  - Youden's index = 0.679
  - Accuracy = 85%
  - Kappa = 0.686
  - Rho = 0.690

# MAIN FINDINGS 5

## Background: First Language (L1)



# Conclusion

---

- ❑ 1. Discrepancy in the requirements for university entrance. The practice is unfair to many students.
  - ❑ 2. Low correlation in the assessments at the university exams.  
Lack of reliability results in unfairness for the students.
-

## Phase 2: Follow-up study

---

- Validity study
  - Aim: Which level of competence should be required to meet the linguistic needs of the students?
  - Dr. Cecilie Carlsen, Univ. of Bergen
-