GGGGGGGGGG EEEEEEEEEEEE NN NN OOOOOOOO VV VV AAAAAAAAAA

GGGGGGGGGGGG EEEEEEEEEEEE NNN NN OOOOOOOOOO VV VV AAAAAAAAAAAA

GG G EE NNNN NN OO OO VV VV AA AA

GG EE NN NN NN OO OO VV VV AA AA

GG EE NN NN NN OO OO VV VV AA AA

GG EE NN NN NN OO OO VV VV AA AA

GG EE NN NN NN OO OO VV VV AA AA

GG EEEEEEEE NN NN NN OO OO VV VV AA AA

GG GGGG EEEEEEEE NN NNNN OO OO VV VV AAAAAAAAAAAA

GG GGGG EE NN NNN OO OO VV VV AAAAAAAAAAAA

GG GG EE NN NN OO OO VV VV AA AA

GG GG EE NN NN OO OO VV VV AA AA

GG GG EE NN NN OO OO V V AA AA

GG GG EE NN NN OO OO VVVV AA AA

GGGGGGGGGGGG EEEEEEEEEEEE NN NN OOOOOOOOOO VVVV AA AA

GGGGGGGGGG EEEEEEEEEEEE NN NN OOOOOOOO VV AA AA

A GENERAL PURPOSE ANALYSIS OF VARIANCE SYSTEM

--- - --

GENOVA IS A FORTRAN 77 PROGRAM FOR ANALYSIS OF VARIANCE

AND GENERALIZABILITY ANALYSES WITH BALANCED DESIGNS

AUTHORS

Joe E. Crick, Ed.D.

Chief Technology & Information Officer

Vice President Applications and Database Services

National Board of Medical Examiners

Philadelphia, PA 19104

Robert L. Brennan, Ed.D.

Director, Iowa Testing Program

University of Iowa

Iowa City, Iowa 52242

VERSION 3.1

January, 2001

GENOVA has been checked for accuracy of output, however the authors

can make no assurances that the program is totally without error.

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reflect NPRDC positions or policy, and no official endorsement should be inferred

GENOVA VERSION 3.1 PAGE 1

CONTROL CARD INPUT LISTING

COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

12345678901234567890123456789012345678901234567890123456789012345678901234567890

STUDY G-Study of 2002 Winter Olympic Ice Skating Results

COMMENT Men's Finals

COMMENT # RECORDS = 24

COMMENT 4 TASKS, 9 JUDGES

COMMENT # VALUES PER RECORD = 36

OPTIONS RECORDS ALL

EFFECT \* P 24 0

EFFECT + T 4 0

EFFECT + J 9 0

FORMAT (36F3.1)

PROCESS

GENOVA VERSION 3.1 PAGE 2

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

EXPANDED MAIN AND INTERACTION EFFECT TABLE

(\*\* = INFINITE) P T J TOTAL DEGREES

SAMPLE SIZE 24 4 9 PRIMARY NUMBER OF

UNIVERSE SIZE \*\*\*\* \*\*\*\* \*\*\*\* INDICES INDICES FREEDOM

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* \* \* \* \*

\* P \* 1 \* 0 \* 0 \* 1 1 23

\* T \* 0 \* 1 \* 0 \* 1 1 3

\* J \* 0 \* 0 \* 1 \* 1 1 8

\* \* \* \* \*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* \* \* \* \*

\* PT \* 1 \* 1 \* 0 \* 2 2 69

\* PJ \* 1 \* 0 \* 1 \* 2 2 184

\* TJ \* 0 \* 1 \* 1 \* 2 2 24

\* \* \* \* \*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\* \* \* \* \*

\* PTJ \* 1 \* 1 \* 1 \* 3 3 552

\* \* \* \* \*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

GENOVA VERSION 3.1 PAGE 3

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

INPUT RECORD LISTING WITH RECORD MEANS

RECORD # 1 5.80000 5.80000 5.70000 5.80000 5.90000 5.80000 5.80000 5.80000

5.80000 5.80000 5.80000 5.80000 5.90000 5.80000 5.90000 5.90000

5.80000 5.90000 5.90000 5.90000 5.90000 5.90000 5.90000 5.90000

5.90000 5.90000 5.90000 5.90000 5.90000 6.00000 6.00000 5.90000

6.00000 5.90000 5.90000 6.00000 5.87222

RECORD # 2 5.30000 5.40000 5.30000 5.40000 5.40000 5.50000 5.30000 5.50000

5.60000 5.60000 5.90000 5.80000 5.70000 5.90000 5.80000 5.80000

5.80000 5.90000 5.80000 5.80000 5.70000 5.90000 5.80000 5.80000

5.80000 5.80000 5.80000 5.70000 5.80000 5.90000 5.80000 5.80000

5.80000 5.90000 5.80000 5.80000 5.70556

RECORD # 3 5.70000 5.50000 5.70000 5.70000 5.70000 5.70000 5.70000 5.60000

5.70000 5.50000 5.50000 5.60000 5.50000 5.50000 5.70000 5.70000

5.60000 5.60000 5.70000 5.60000 5.90000 5.90000 5.80000 5.70000

5.80000 5.80000 5.80000 5.40000 5.40000 5.70000 5.70000 5.70000

5.70000 5.70000 5.70000 5.50000 5.65833

RECORD # 4 5.60000 5.70000 5.50000 5.70000 5.70000 5.60000 5.60000 5.60000

5.70000 5.60000 5.70000 5.70000 5.70000 5.70000 5.60000 5.70000

5.70000 5.70000 5.30000 5.60000 5.70000 5.70000 5.60000 5.60000

5.60000 5.70000 5.50000 5.50000 5.60000 5.80000 5.70000 5.80000

5.60000 5.80000 5.70000 5.70000 5.64722

RECORD # 5 5.50000 5.50000 5.50000 5.50000 5.50000 5.50000 5.70000 5.80000

5.50000 5.50000 5.40000 5.60000 5.50000 5.50000 5.50000 5.60000

5.70000 5.80000 5.50000 5.10000 5.60000 5.50000 5.30000 5.40000

5.70000 5.60000 5.50000 5.70000 5.50000 5.80000 5.60000 5.50000

5.60000 5.70000 5.70000 5.60000 5.55556

RECORD # 6 4.60000 4.90000 5.00000 5.00000 5.00000 4.90000 4.80000 4.70000

5.10000 5.60000 5.70000 5.70000 5.70000 5.70000 5.70000 5.50000

5.50000 5.70000 5.50000 5.30000 5.50000 5.60000 5.50000 5.40000

5.50000 5.50000 5.40000 5.60000 5.50000 5.80000 5.60000 5.70000

5.50000 5.50000 5.60000 5.70000 5.40278

RECORD # 7 5.30000 4.90000 5.20000 5.40000 5.00000 5.10000 5.20000 5.20000

5.20000 5.50000 5.50000 5.60000 5.50000 5.50000 5.50000 5.50000

5.50000 5.50000 5.30000 5.50000 5.70000 5.70000 5.60000 5.60000

5.50000 5.40000 5.40000 5.40000 5.30000 5.70000 5.60000 5.70000

5.50000 5.40000 5.60000 5.50000 5.43056

RECORD # 8 5.00000 5.00000 5.20000 5.30000 5.20000 5.40000 4.90000 5.20000

5.40000 5.50000 5.50000 5.70000 5.50000 5.60000 5.70000 5.70000

5.60000 5.70000 5.40000 5.30000 5.50000 5.50000 5.40000 5.60000

5.60000 5.60000 5.50000 5.30000 5.40000 5.50000 5.50000 5.50000

5.40000 5.60000 5.60000 5.50000 5.43889

GENOVA VERSION 3.1 PAGE 4

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

INPUT RECORD LISTING WITH RECORD MEANS

RECORD # 9 5.40000 5.60000 5.40000 5.60000 5.60000 5.60000 5.40000 5.50000

5.40000 5.40000 5.50000 5.60000 5.60000 5.50000 5.50000 5.20000

5.40000 5.50000 5.20000 5.50000 5.20000 5.40000 5.40000 5.50000

5.40000 5.50000 5.40000 4.90000 5.20000 5.00000 5.40000 5.40000

5.20000 5.40000 5.30000 5.40000 5.40000

RECORD # 10 5.40000 5.30000 5.20000 5.10000 5.20000 5.50000 5.30000 5.30000

5.00000 5.30000 5.10000 5.30000 5.20000 4.90000 5.30000 5.40000

5.20000 5.30000 5.00000 5.40000 5.50000 4.90000 5.20000 5.40000

5.00000 5.30000 5.30000 5.00000 5.30000 5.30000 4.90000 5.20000

5.10000 5.30000 5.10000 5.30000 5.21667

RECORD # 11 4.80000 5.00000 5.10000 5.00000 5.00000 5.10000 4.90000 4.60000

4.90000 5.30000 5.50000 5.50000 5.20000 5.40000 5.40000 5.50000

5.30000 5.30000 4.60000 5.20000 5.10000 5.30000 5.10000 5.20000

4.90000 5.10000 5.10000 5.20000 5.40000 5.10000 5.30000 5.30000

5.20000 5.00000 5.40000 5.40000 5.15833

RECORD # 12 5.00000 5.40000 5.20000 5.10000 4.90000 5.30000 4.80000 5.00000

5.00000 5.00000 5.40000 5.40000 5.10000 4.90000 5.10000 4.80000

5.00000 5.10000 5.10000 5.20000 5.20000 5.30000 5.30000 5.00000

5.10000 5.20000 5.20000 5.10000 5.30000 5.10000 5.10000 5.10000

5.00000 5.10000 5.20000 5.30000 5.12222

RECORD # 13 4.90000 4.50000 5.00000 4.80000 5.00000 4.70000 4.50000 4.90000

5.10000 5.20000 5.00000 5.40000 5.20000 5.30000 5.10000 5.20000

5.30000 5.50000 4.70000 5.30000 5.00000 5.40000 5.00000 4.70000

5.30000 5.20000 5.20000 4.60000 5.20000 5.10000 5.30000 5.20000

4.90000 5.30000 5.30000 5.40000 5.07500

RECORD # 14 4.30000 4.90000 4.70000 4.20000 4.60000 4.70000 4.20000 4.80000

4.70000 4.90000 5.30000 5.30000 4.80000 4.90000 5.20000 5.00000

5.40000 5.30000 4.90000 5.40000 5.30000 5.00000 5.40000 4.80000

5.10000 5.20000 5.20000 4.90000 5.30000 5.30000 4.90000 5.20000

5.10000 5.20000 5.00000 5.30000 4.99167

RECORD # 15 4.80000 4.50000 4.70000 4.60000 4.70000 5.00000 4.70000 5.00000

4.60000 4.60000 4.30000 5.20000 4.60000 5.00000 5.40000 4.90000

5.10000 5.00000 4.70000 5.00000 4.80000 5.10000 4.70000 4.70000

4.80000 4.90000 4.70000 5.00000 5.00000 5.20000 5.20000 5.10000

5.20000 4.90000 5.10000 5.00000 4.88333

RECORD # 16 4.30000 4.10000 4.10000 4.10000 4.50000 4.70000 4.50000 4.30000

4.60000 4.80000 5.10000 4.90000 4.80000 5.00000 4.90000 5.30000

4.70000 5.20000 4.80000 5.30000 5.30000 5.20000 5.00000 5.20000

5.30000 5.50000 5.40000 4.40000 5.30000 4.90000 4.80000 4.90000

4.50000 5.00000 5.00000 5.10000 4.85556

GENOVA VERSION 3.1 PAGE 5

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

INPUT RECORD LISTING WITH RECORD MEANS

RECORD # 17 3.60000 4.60000 4.40000 4.50000 4.40000 4.60000 4.20000 4.10000

4.20000 4.30000 4.90000 5.00000 5.20000 5.00000 5.20000 4.90000

5.00000 5.00000 4.40000 4.80000 4.70000 4.60000 4.90000 4.80000

4.80000 4.90000 4.90000 4.70000 4.90000 4.70000 4.70000 5.20000

4.80000 4.70000 5.20000 4.90000 4.71389

RECORD # 18 4.10000 4.00000 4.20000 3.80000 4.30000 4.80000 4.00000 4.10000

4.20000 5.30000 4.80000 5.00000 5.00000 5.20000 5.20000 4.90000

4.90000 4.90000 4.50000 4.80000 4.80000 4.40000 4.80000 4.80000

4.40000 4.70000 4.70000 4.90000 4.80000 5.00000 5.00000 5.10000

5.00000 4.40000 4.90000 4.90000 4.68333

RECORD # 19 4.10000 4.80000 4.30000 4.30000 4.50000 4.30000 4.20000 4.40000

4.60000 4.70000 4.90000 4.80000 4.60000 4.70000 4.80000 4.70000

4.90000 5.00000 4.60000 4.60000 4.80000 5.00000 5.10000 4.80000

4.70000 4.70000 4.80000 4.50000 4.50000 4.50000 4.80000 5.00000

4.70000 4.80000 4.80000 4.90000 4.67222

RECORD # 20 4.50000 5.10000 5.30000 4.90000 5.00000 5.10000 5.00000 5.00000

4.90000 4.60000 5.20000 5.00000 4.80000 4.80000 5.00000 4.90000

4.80000 5.20000 4.00000 4.40000 3.90000 4.00000 4.30000 4.60000

4.00000 4.00000 4.00000 4.40000 4.40000 3.90000 4.20000 4.70000

4.70000 4.10000 4.00000 4.20000 4.58056

RECORD # 21 4.90000 5.30000 5.10000 4.60000 5.00000 5.10000 4.50000 4.60000

4.80000 4.80000 5.00000 5.10000 5.00000 5.20000 5.10000 4.70000

4.80000 5.10000 3.70000 4.00000 4.00000 3.70000 4.20000 3.50000

3.80000 4.20000 3.80000 4.60000 4.30000 4.20000 4.40000 4.90000

4.20000 4.00000 4.40000 4.10000 4.51944

RECORD # 22 3.80000 4.50000 4.00000 3.70000 4.00000 4.30000 4.10000 3.80000

4.10000 5.10000 5.10000 4.90000 4.40000 4.70000 5.10000 5.10000

4.80000 4.80000 4.30000 4.70000 4.60000 4.60000 4.70000 4.70000

4.50000 4.60000 4.60000 4.20000 4.80000 4.50000 4.50000 4.90000

4.70000 4.60000 4.80000 4.80000 4.53889

RECORD # 23 4.20000 4.30000 4.00000 4.30000 4.30000 4.00000 4.30000 4.00000

4.30000 5.00000 4.80000 4.60000 4.60000 4.60000 4.80000 4.70000

4.60000 4.70000 4.10000 4.50000 4.50000 4.70000 4.90000 4.50000

4.50000 4.80000 4.50000 4.30000 4.40000 4.40000 4.60000 4.80000

4.50000 4.40000 5.00000 4.50000 4.50000

RECORD # 24 4.20000 4.20000 4.60000 4.40000 4.30000 4.50000 4.20000 4.10000

4.30000 4.80000 4.50000 4.90000 4.70000 4.50000 4.80000 4.60000

4.60000 4.80000 3.90000 4.00000 4.10000 4.10000 4.10000 4.00000

4.10000 4.10000 4.00000 4.00000 4.20000 4.30000 4.20000 4.20000

4.10000 4.20000 4.20000 4.30000 4.30833

GENOVA VERSION 3.1 PAGE 6

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

CELL MEAN SCORES

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\* GRAND MEAN = 5.0804398 \*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MEAN SCORES FOR EFFECT: T SUBSCRIPT NOTATION: (T)

(1) = 4.907407 (2) = 5.231944 (3) = 5.064352 (4) = 5.118056

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MEAN SCORES FOR EFFECT: J SUBSCRIPT NOTATION: (J)

(1) = 4.946875 (2) = 5.094792 (3) = 5.112500 (4) = 5.060417

(5) = 5.128125 (6) = 5.117708 (7) = 5.041667 (8) = 5.097917

(9) = 5.123958

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MEAN SCORES FOR EFFECT: TJ SUBSCRIPT NOTATION: (T,J)

(1,1) = 4.795833 (1,2) = 4.950000 (1,3) = 4.933333 (1,4) = 4.866667

(1,5) = 4.945833 (1,6) = 5.033333 (1,7) = 4.825000 (1,8) = 4.870833

(2,1) = 5.154167 (2,2) = 5.225000 (2,3) = 5.308333 (2,4) = 5.158333

(2,5) = 5.200000 (2,6) = 5.304167 (2,7) = 5.216667 (2,8) = 5.208333

(3,1) = 4.870833 (3,2) = 5.091667 (3,3) = 5.095833 (3,4) = 5.100000

(3,5) = 5.125000 (3,6) = 5.050000 (3,7) = 5.045833 (3,8) = 5.133333

(4,1) = 4.966667 (4,2) = 5.112500 (4,3) = 5.112500 (4,4) = 5.116667

(4,5) = 5.241667 (4,6) = 5.083333 (4,7) = 5.079167 (4,8) = 5.179167

(4,9) = 5.170833

GENOVA VERSION 3.1 PAGE 7

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

ANOVA TABLE

(\*\* = INFINITE) P T J

SAMPLE SIZE 24 4 9

UNIVERSE SIZE \*\*\*\* \*\*\*\* \*\*\*\*

------------------------------------------------------------------------------------------------------------------

DEGREES SUMS OF SUMS OF (QF = QUASI F RATIO)

OF SQUARES FOR SQUARES FOR MEAN F F-TEST DEGREES OF FREEDOM

EFFECT FREEDOM MEAN SCORES SCORE EFFECTS SQUARES STATISTIC NUMERATOR DENOMINATOR

------------------------------------------------------------------------------------------------------------------

P 23 22470.83639 170.24582 7.40199 16.32229 QF 23 QF 77 QF

T 3 22312.37718 11.78661 3.92887 8.29960 QF 3 QF 79 QF

J 8 22303.16719 2.57662 .32208 3.66503 QF 8 QF 42 QF

------------------------------------------------------------------------------------------------------------------

PT 69 22512.26556 29.64256 .42960 21.25382 69 552

PJ 184 22481.52750 8.11449 .04410 2.18179 184 552

TJ 24 22316.48958 1.53579 .06399 3.16585 24 552

------------------------------------------------------------------------------------------------------------------

PTJ 552 22535.65000 11.15755 .02021

------------------------------------------------------------------------------------------------------------------

MEAN 22300.59057

------------------------------------------------------------------------------------------------------------------

TOTAL 863 235.05943

------------------------------------------------------------------------------------------------------------------

NOTE: FOR GENERALIZABILITY ANALYSES, F-STATISTICS SHOULD BE IGNORED

GENOVA VERSION 3.1 PAGE 8

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

G STUDY RESULTS

(\*\* = INFINITE) P T J

SAMPLE SIZE 24 4 9

UNIVERSE SIZE \*\*\*\* \*\*\*\* \*\*\*\* QFM = QUADRATIC FORM

-----------------------------------------------------------------------------

M O D E L V A R I A N C E C O M P O N E N T S

DEGREES - - - - - - - - - - - - - - - - - - - - - - -

OF USING USING EMS STANDARD

EFFECT FREEDOM ALGORITHM EQUATIONS ERROR

-----------------------------------------------------------------------------

P 23 .1930140 .1930140 .0581902

T 3 .0159976 .0159976 .0115090

J 8 .0024396 .0024396 .0015125

-----------------------------------------------------------------------------

PT 69 .0454877 .0454877 .0080126

PJ 184 .0059719 .0059719 .0011829

TJ 24 .0018241 .0018241 .0007412

-----------------------------------------------------------------------------

PTJ 552 .0202129 .0202129 .0012145

-----------------------------------------------------------------------------

NOTE: THE "ALGORITHM" AND "EMS" ESTIMATED VARIANCE COMPONENTS WILL BE

IDENTICAL IF THERE ARE NO NEGATIVE ESTIMATES

GENOVA VERSION 3.1 PAGE 9

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

EXPECTED MEAN SQUARE EQUATIONS

(\*\* = INFINITE) P T J

SAMPLE SIZE 24 4 9

UNIVERSE SIZE \*\*\*\* \*\*\*\* \*\*\*\*

EMS(P) = 1.00\*VC(PTJ) + 4.00\*VC(PJ) + 9.00\*VC(PT) + 36.00\*VC(P)

EMS(T) = 1.00\*VC(PTJ) + 24.00\*VC(TJ) + 9.00\*VC(PT) + 216.00\*VC(T)

EMS(J) = 1.00\*VC(PTJ) + 24.00\*VC(TJ) + 4.00\*VC(PJ) + 96.00\*VC(J)

EMS(PT) = 1.00\*VC(PTJ) + 9.00\*VC(PT)

EMS(PJ) = 1.00\*VC(PTJ) + 4.00\*VC(PJ)

EMS(TJ) = 1.00\*VC(PTJ) + 24.00\*VC(TJ)

EMS(PTJ) = 1.00\*VC(PTJ)

GENOVA VERSION 3.1 PAGE 10

G STUDY G-Study of 2002 Winter Olympic Ice Skating Results

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (V)

P T J PT PJ TJ PTJ

P .0033861

T .0000007 .0001325

J .0000000 .0000000 .0000023

PT -.0000161 -.0000027 .0000000 .0000642

PJ -.0000002 .0000000 -.0000001 .0000000 .0000014

TJ .0000000 -.0000001 -.0000001 .0000000 .0000000 .0000005

PTJ .0000000 .0000000 .0000000 -.0000002 -.0000004 -.0000001 .0000015

GENOVA VERSION 3.1 PAGE 11

CONTROL CARD INPUT LISTING

COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

12345678901234567890123456789012345678901234567890123456789012345678901234567890

COLUMNS 1-12 BLANK WHEN NOT EXPECTED: CARD IMAGE =

COMMENT STEP TWO

COMMENT D STUDY 1 VARYING THE NUMBER OF JUDGES

COMMENT

DSTUDY P x T x J DESIGN

DEFFECT $ P

DEFFECT T 4

DEFFECT J 1 3 5 7 9

ENDDSTUDY

GENOVA VERSION 3.1 PAGE 12

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-001

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 1

----------------------------------------------------------------------------------------------------------------------------------

VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

---------------------------------------------------------- -----------------------------------------------------------

VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

----------------------------------------------------------------------------------------------------------------------------------

P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 4 .00400 .00288 .01600 1.0000 4 .00400 .00288

J .00244 1.0000 1 .00244 .00151 .00244 1.0000 1 .00244 .00151

PT .04549 1.0000 4 .01137 .00200 .04549 1.0000 4 .01137 .00200

PJ .00597 1.0000 1 .00597 .00118 .00597 1.0000 1 .00597 .00118

TJ .00182 1.0000 4 .00046 .00019 .00182 1.0000 4 .00046 .00019

PTJ .02021 1.0000 4 .00505 .00030 .02021 1.0000 4 .00505 .00030

----------------------------------------------------------------------------------------------------------------------------------

QFM = QUADRATIC FORM

----------------------------------------------------------------------------------------------------------------------------------

STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .21541 .46412 .05816

LOWER CASE DELTA .02240 .14966 .00231 GENERALIZABILITY COEFFICIENT = .89603 ( 8.61783)

UPPER CASE DELTA .02929 .17115 .00393 PHI = .86824 ( 6.58929)

MEAN .01587 .12598

----------------------------------------------------------------------------------------------------------------------------------

NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 13

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-001

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000002 .0000083

J .0000000 .0000000 .0000023

PT -.0000040 -.0000002 .0000000 .0000040

PJ -.0000002 .0000000 -.0000001 .0000000 .0000014

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 -.0000001 .0000000 .0000001

GENOVA VERSION 3.1 PAGE 14

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-002

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 3

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 4 .00400 .00288 .01600 1.0000 4 .00400 .00288

J .00244 1.0000 3 .00081 .00050 .00244 1.0000 3 .00081 .00050

PT .04549 1.0000 4 .01137 .00200 .04549 1.0000 4 .01137 .00200

PJ .00597 1.0000 3 .00199 .00039 .00597 1.0000 3 .00199 .00039

TJ .00182 1.0000 12 .00015 .00006 .00182 1.0000 12 .00015 .00006

PTJ .02021 1.0000 12 .00168 .00010 .02021 1.0000 12 .00168 .00010

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .20806 .45614 .05816

LOWER CASE DELTA .01505 .12267 .00204 GENERALIZABILITY COEFFICIENT = .92768 (12.82743)

UPPER CASE DELTA .02001 .14146 .00351 PHI = .90606 ( 9.64512)

MEAN .01363 .11676

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 15

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-002

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000002 .0000083

J .0000000 .0000000 .0000003

PT -.0000040 -.0000002 .0000000 .0000040

PJ -.0000001 .0000000 .0000000 .0000000 .0000002

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 16

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-003

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 5

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 4 .00400 .00288 .01600 1.0000 4 .00400 .00288

J .00244 1.0000 5 .00049 .00030 .00244 1.0000 5 .00049 .00030

PT .04549 1.0000 4 .01137 .00200 .04549 1.0000 4 .01137 .00200

PJ .00597 1.0000 5 .00119 .00024 .00597 1.0000 5 .00119 .00024

TJ .00182 1.0000 20 .00009 .00004 .00182 1.0000 20 .00009 .00004

PTJ .02021 1.0000 20 .00101 .00006 .02021 1.0000 20 .00101 .00006

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .20659 .45452 .05816

LOWER CASE DELTA .01358 .11652 .00202 GENERALIZABILITY COEFFICIENT = .93428 (14.21630)

UPPER CASE DELTA .01816 .13474 .00348 PHI = .91402 (10.63117)

MEAN .01319 .11483

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 17

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-003

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000002 .0000083

J .0000000 .0000000 .0000001

PT -.0000040 -.0000002 .0000000 .0000040

PJ .0000000 .0000000 .0000000 .0000000 .0000001

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 18

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-004

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 7

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

----------------------------------------------------------------------------------------------------------------------------------

P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 4 .00400 .00288 .01600 1.0000 4 .00400 .00288

J .00244 1.0000 7 .00035 .00022 .00244 1.0000 7 .00035 .00022

PT .04549 1.0000 4 .01137 .00200 .04549 1.0000 4 .01137 .00200

PJ .00597 1.0000 7 .00085 .00017 .00597 1.0000 7 .00085 .00017

TJ .00182 1.0000 28 .00007 .00003 .00182 1.0000 28 .00007 .00003

PTJ .02021 1.0000 28 .00072 .00004 .02021 1.0000 28 .00072 .00004

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .20596 .45383 .05816

LOWER CASE DELTA .01295 .11378 .00201 GENERALIZABILITY COEFFICIENT = .93714 (14.90807)

UPPER CASE DELTA .01736 .13176 .00347 PHI = .91748 (11.11831)

MEAN .01299 .11399

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 19

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-004

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000002 .0000083

J .0000000 .0000000 .0000000

PT -.0000040 -.0000002 .0000000 .0000040

PJ .0000000 .0000000 .0000000 .0000000 .0000000

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 20

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-005

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 9

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 4 .00400 .00288 .01600 1.0000 4 .00400 .00288

J .00244 1.0000 9 .00027 .00017 .00244 1.0000 9 .00027 .00017

PT .04549 1.0000 4 .01137 .00200 .04549 1.0000 4 .01137 .00200

PJ .00597 1.0000 9 .00066 .00013 .00597 1.0000 9 .00066 .00013

TJ .00182 1.0000 36 .00005 .00002 .00182 1.0000 36 .00005 .00002

PTJ .02021 1.0000 36 .00056 .00003 .02021 1.0000 36 .00056 .00003

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .20561 .45344 .05816

LOWER CASE DELTA .01260 .11224 .00201 GENERALIZABILITY COEFFICIENT = .93873 (15.32229)

UPPER CASE DELTA .01692 .13007 .00346 PHI = .91941 (11.40874)

MEAN .01289 .11353

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 21

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 001-005

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000002 .0000083

J .0000000 .0000000 .0000000

PT -.0000040 -.0000002 .0000000 .0000040

PJ .0000000 .0000000 .0000000 .0000000 .0000000

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 22

D STUDY P x T x J DESIGN

SUMMARY OF D STUDY RESULTS FOR SET OF CONTROL CARDS NO. 001

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V A R I A N C E S

SAMPLE SIZES --------------------------------------------------------

D STUDY ------------------------------------- EXPECTED LOWER UPPER

DESIGN INDEX= $P T J UNIVERSE OBSERVED CASE CASE GEN.

NO UNIV.= INF. INF. INF. SCORE SCORE DELTA DELTA MEAN COEF. PHI

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001-001 24 4 1 .19301 .21541 .02240 .02929 .01587 .89603 .86824

001-002 24 4 3 .19301 .20806 .01505 .02001 .01363 .92768 .90606

001-003 24 4 5 .19301 .20659 .01358 .01816 .01319 .93428 .91402

001-004 24 4 7 .19301 .20596 .01295 .01736 .01299 .93714 .91748

001-005 24 4 9 .19301 .20561 .01260 .01692 .01289 .93873 .91941

GENOVA VERSION 3.1 PAGE 23

CONTROL CARD INPUT LISTING

COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

12345678901234567890123456789012345678901234567890123456789012345678901234567890

COMMENT D STUDY 2 VARYING THE NUMBER OF TASKS

COMMENT

DSTUDY P x T x J DESIGN

DEFFECT $ P

DEFFECT T 2 3 4 5

DEFFECT J 4

ENDDSTUDY

GENOVA VERSION 3.1 PAGE 24

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-001

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 2 4

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 2 .00800 .00575 .01600 1.0000 2 .00800 .00575

J .00244 1.0000 4 .00061 .00038 .00244 1.0000 4 .00061 .00038

PT .04549 1.0000 2 .02274 .00401 .04549 1.0000 2 .02274 .00401

PJ .00597 1.0000 4 .00149 .00030 .00597 1.0000 4 .00149 .00030

TJ .00182 1.0000 8 .00023 .00009 .00182 1.0000 8 .00023 .00009

PTJ .02021 1.0000 8 .00253 .00015 .02021 1.0000 8 .00253 .00015

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .21978 .46880 .05819

LOWER CASE DELTA .02676 .16360 .00402 GENERALIZABILITY COEFFICIENT = .87822 ( 7.21185)

UPPER CASE DELTA .03560 .18868 .00693 PHI = .84428 ( 5.42172)

MEAN .01799 .13414

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 25

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-001

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000003 .0000331

J .0000000 .0000000 .0000001

PT -.0000080 -.0000007 .0000000 .0000161

PJ .0000000 .0000000 .0000000 .0000000 .0000001

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 26

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-002

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 3 4

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

----------------------------------------------------------------------------------------------------------------------------------

P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 3 .00533 .00384 .01600 1.0000 3 .00533 .00384

J .00244 1.0000 4 .00061 .00038 .00244 1.0000 4 .00061 .00038

PT .04549 1.0000 3 .01516 .00267 .04549 1.0000 3 .01516 .00267

PJ .00597 1.0000 4 .00149 .00030 .00597 1.0000 4 .00149 .00030

TJ .00182 1.0000 12 .00015 .00006 .00182 1.0000 12 .00015 .00006

PTJ .02021 1.0000 12 .00168 .00010 .02021 1.0000 12 .00168 .00010

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .21135 .45973 .05816

LOWER CASE DELTA .01834 .13543 .00269 GENERALIZABILITY COEFFICIENT = .91323 (10.52423)

UPPER CASE DELTA .02443 .15632 .00463 PHI = .88763 ( 7.89927)

MEAN .01490 .12207

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 27

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-002

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000002 .0000147

J .0000000 .0000000 .0000001

PT -.0000054 -.0000003 .0000000 .0000071

PJ .0000000 .0000000 .0000000 .0000000 .0000001

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 28

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-003

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 4

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

----------------------------------------------------------------------------------------------------------------------------------

P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 4 .00400 .00288 .01600 1.0000 4 .00400 .00288

J .00244 1.0000 4 .00061 .00038 .00244 1.0000 4 .00061 .00038

PT .04549 1.0000 4 .01137 .00200 .04549 1.0000 4 .01137 .00200

PJ .00597 1.0000 4 .00149 .00030 .00597 1.0000 4 .00149 .00030

TJ .00182 1.0000 16 .00011 .00005 .00182 1.0000 16 .00011 .00005

PTJ .02021 1.0000 16 .00126 .00008 .02021 1.0000 16 .00126 .00008

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .20714 .45513 .05816

LOWER CASE DELTA .01413 .11886 .00202 GENERALIZABILITY COEFFICIENT = .93179 (13.66160)

UPPER CASE DELTA .01885 .13730 .00349 PHI = .91102 (10.23864)

MEAN .01335 .11556

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 29

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-003

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000002 .0000083

J .0000000 .0000000 .0000001

PT -.0000040 -.0000002 .0000000 .0000040

PJ .0000000 .0000000 .0000000 .0000000 .0000001

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 30

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-004

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 5 4

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

----------------------------------------------------------------------------------------------------------------------------------

P .19301 1.0000 1 .19301 .05819 .19301 1.0000 1 .19301 .05819

T .01600 1.0000 5 .00320 .00230 .01600 1.0000 5 .00320 .00230

J .00244 1.0000 4 .00061 .00038 .00244 1.0000 4 .00061 .00038

PT .04549 1.0000 5 .00910 .00160 .04549 1.0000 5 .00910 .00160

PJ .00597 1.0000 4 .00149 .00030 .00597 1.0000 4 .00149 .00030

TJ .00182 1.0000 20 .00009 .00004 .00182 1.0000 20 .00009 .00004

PTJ .02021 1.0000 20 .00101 .00006 .02021 1.0000 20 .00101 .00006

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .19301 .43933 .05819

EXPECTED OBSERVED SCORE .20462 .45234 .05816

LOWER CASE DELTA .01160 .10771 .00163 GENERALIZABILITY COEFFICIENT = .94330 (16.63747)

UPPER CASE DELTA .01550 .12451 .00281 PHI = .92566 (12.45108)

MEAN .01243 .11147

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 31

D STUDY P x T x J DESIGN

D STUDY DESIGN NUMBER 002-004

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P T J PT PJ TJ PTJ

P .0033861

T .0000001 .0000053

J .0000000 .0000000 .0000001

PT -.0000032 -.0000001 .0000000 .0000026

PJ .0000000 .0000000 .0000000 .0000000 .0000001

TJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

PTJ .0000000 .0000000 .0000000 .0000000 .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 32

D STUDY P x T x J DESIGN

SUMMARY OF D STUDY RESULTS FOR SET OF CONTROL CARDS NO. 002

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V A R I A N C E S

SAMPLE SIZES --------------------------------------------------------

D STUDY ------------------------------------- EXPECTED LOWER UPPER

DESIGN INDEX= $P T J UNIVERSE OBSERVED CASE CASE GEN.

NO UNIV.= INF. INF. INF. SCORE SCORE DELTA DELTA MEAN COEF. PHI

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002-001 24 2 4 .19301 .21978 .02676 .03560 .01799 .87822 .84428

002-002 24 3 4 .19301 .21135 .01834 .02443 .01490 .91323 .88763

002-003 24 4 4 .19301 .20714 .01413 .01885 .01335 .93179 .91102

002-004 24 5 4 .19301 .20462 .01160 .01550 .01243 .94330 .92566

GENOVA VERSION 3.1 PAGE 33

CONTROL CARD INPUT LISTING

COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

12345678901234567890123456789012345678901234567890123456789012345678901234567890

COMMENT D STUDY 3 VARYING THE NUMBER OF RATERS

COMMENT

DSTUDY P x T x J DESIGN; T FIXED

DEFFECT $ P

DEFFECT T 4 / 4

DEFFECT J 1 3 5 7 9

ENDDSTUDY

GENOVA VERSION 3.1 PAGE 34

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-001

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 4 INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 1

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .20439 1.0000 1 .20439 .05816

T .01600 1.0000 4 .00400 .00288 .01600QFM0000E+00 4 ------- -------

J .00244 1.0000 1 .00244 .00151 .00290 1.0000 1 .00290 .00150

PT .04549 1.0000 4 .01137 .00200 .04549 .0000E+00 4 ------- -------

PJ .00597 1.0000 1 .00597 .00118 .01103 1.0000 1 .01103 .00114

TJ .00182 1.0000 4 .00046 .00019 .00182 .0000E+00 4 ------- -------

PTJ .02021 1.0000 4 .00505 .00030 .02021 .0000E+00 4 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20439 .45209 .05816

EXPECTED OBSERVED SCORE .21541 .46412 .05816

LOWER CASE DELTA .01103 .10500 .00114 GENERALIZABILITY COEFFICIENT = .94882 (18.53819)

UPPER CASE DELTA .01392 .11799 .00186 PHI = .93623 (14.68214)

MEAN .01187 .10895

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 35

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-001

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P J PJ

P .0033821

J .0000000 .0000023

PJ -.0000001 -.0000001 .0000013

GENOVA VERSION 3.1 PAGE 36

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-002

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 4 INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 3

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .20439 1.0000 1 .20439 .05816

T .01600 1.0000 4 .00400 .00288 .01600QFM0000E+00 4 ------- -------

J .00244 1.0000 3 .00081 .00050 .00290 1.0000 3 .00097 .00050

PT .04549 1.0000 4 .01137 .00200 .04549 .0000E+00 4 ------- -------

PJ .00597 1.0000 3 .00199 .00039 .01103 1.0000 3 .00368 .00038

TJ .00182 1.0000 12 .00015 .00006 .00182 .0000E+00 12 ------- -------

PTJ .02021 1.0000 12 .00168 .00010 .02021 .0000E+00 12 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20439 .45209 .05816

EXPECTED OBSERVED SCORE .20806 .45614 .05816

LOWER CASE DELTA .00368 .06062 .00038 GENERALIZABILITY COEFFICIENT = .98234 (55.61458)

UPPER CASE DELTA .00464 .06812 .00062 PHI = .97780 (44.04641)

MEAN .00963 .09815

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 37

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-002

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P J PJ

P .0033821

J .0000000 .0000003

PJ .0000000 .0000000 .0000001

GENOVA VERSION 3.1 PAGE 38

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-003

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 4 INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 5

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .20439 1.0000 1 .20439 .05816

T .01600 1.0000 4 .00400 .00288 .01600QFM0000E+00 4 ------- -------

J .00244 1.0000 5 .00049 .00030 .00290 1.0000 5 .00058 .00030

PT .04549 1.0000 4 .01137 .00200 .04549 .0000E+00 4 ------- -------

PJ .00597 1.0000 5 .00119 .00024 .01103 1.0000 5 .00221 .00023

TJ .00182 1.0000 20 .00009 .00004 .00182 .0000E+00 20 ------- -------

PTJ .02021 1.0000 20 .00101 .00006 .02021 .0000E+00 20 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20439 .45209 .05816

EXPECTED OBSERVED SCORE .20659 .45452 .05816

LOWER CASE DELTA .00221 .04696 .00023 GENERALIZABILITY COEFFICIENT = .98933 (92.69097)

UPPER CASE DELTA .00278 .05276 .00037 PHI = .98656 (73.41068)

MEAN .00919 .09585

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 39

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-003

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P J PJ

P .0033821

J .0000000 .0000001

PJ .0000000 .0000000 .0000001

GENOVA VERSION 3.1 PAGE 40

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-004

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 4 INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 7

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

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P .19301 1.0000 1 .19301 .05819 .20439 1.0000 1 .20439 .05816

T .01600 1.0000 4 .00400 .00288 .01600QFM0000E+00 4 ------- -------

J .00244 1.0000 7 .00035 .00022 .00290 1.0000 7 .00041 .00021

PT .04549 1.0000 4 .01137 .00200 .04549 .0000E+00 4 ------- -------

PJ .00597 1.0000 7 .00085 .00017 .01103 1.0000 7 .00158 .00016

TJ .00182 1.0000 28 .00007 .00003 .00182 .0000E+00 28 ------- -------

PTJ .02021 1.0000 28 .00072 .00004 .02021 .0000E+00 28 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20439 .45209 .05816

EXPECTED OBSERVED SCORE .20596 .45383 .05816

LOWER CASE DELTA .00158 .03969 .00016 GENERALIZABILITY COEFFICIENT = .99235 (\*\*\*\*\*\*\*\*)

UPPER CASE DELTA .00199 .04459 .00027 PHI = .99036 (\*\*\*\*\*\*\*\*)

MEAN .00900 .09484

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 41

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-004

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P J PJ

P .0033821

J .0000000 .0000000

PJ .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 42

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-005

OBJECT OF MEASUREMENT : P FACETS : T J

G STUDY POPULATION SIZE : INFINITE G STUDY UNIVERSE SIZES : INFINITE INFINITE

D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 4 INFINITE

D STUDY SAMPLE SIZE : 24 D STUDY SAMPLE SIZES : 4 9

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VARIANCE COMPONENTS IN TERMS OF VARIANCE COMPONENTS IN TERMS OF

G STUDY UNIVERSE (OF ADMISSIBLE OBSERVATIONS) SIZES D STUDY UNIVERSE (OF GENERALIZATION) SIZES

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VARIANCE COMPONENTS VARIANCE COMPONENTS

VARIANCE FINITE D STUDY FOR MEAN SCORES VARIANCE FINITE D STUDY FOR MEAN SCORES

COMPONENTS UNIVERSE SAMPLING -------------------------- COMPONENTS UNIVERSE SAMPLING ---------------------------

FOR SINGLE COR- FRE- STANDARD FOR SINGLE COR- FRE- STANDARD

EFFECT OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS OBSERVATIONS RECTIONS QUENCIES ESTIMATES ERRORS

----------------------------------------------------------------------------------------------------------------------------------

P .19301 1.0000 1 .19301 .05819 .20439 1.0000 1 .20439 .05816

T .01600 1.0000 4 .00400 .00288 .01600QFM0000E+00 4 ------- -------

J .00244 1.0000 9 .00027 .00017 .00290 1.0000 9 .00032 .00017

PT .04549 1.0000 4 .01137 .00200 .04549 .0000E+00 4 ------- -------

PJ .00597 1.0000 9 .00066 .00013 .01103 1.0000 9 .00123 .00013

TJ .00182 1.0000 36 .00005 .00002 .00182 .0000E+00 36 ------- -------

PTJ .02021 1.0000 36 .00056 .00003 .02021 .0000E+00 36 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20439 .45209 .05816

EXPECTED OBSERVED SCORE .20561 .45344 .05816

LOWER CASE DELTA .00123 .03500 .00013 GENERALIZABILITY COEFFICIENT = .99404 (\*\*\*\*\*\*\*\*)

UPPER CASE DELTA .00155 .03933 .00021 PHI = .99249 (\*\*\*\*\*\*\*\*)

MEAN .00889 .09428

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NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

GENOVA VERSION 3.1 PAGE 43

D STUDY P x T x J DESIGN; T FIXED

D STUDY DESIGN NUMBER 003-005

VARIANCE - COVARIANCE MATRIX FOR ESTIMATED VARIANCE COMPONENTS (FOR MEAN SCORES) IN UNIVERSE OF GENERALIZATION (W)

P J PJ

P .0033821

J .0000000 .0000000

PJ .0000000 .0000000 .0000000

GENOVA VERSION 3.1 PAGE 44

D STUDY P x T x J DESIGN; T FIXED

SUMMARY OF D STUDY RESULTS FOR SET OF CONTROL CARDS NO. 003

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V A R I A N C E S

SAMPLE SIZES --------------------------------------------------------

D STUDY ------------------------------------- EXPECTED LOWER UPPER

DESIGN INDEX= $P T J UNIVERSE OBSERVED CASE CASE GEN.

NO UNIV.= INF. 4 INF. SCORE SCORE DELTA DELTA MEAN COEF. PHI

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003-001 24 4 1 .20439 .21541 .01103 .01392 .01187 .94882 .93623

003-002 24 4 3 .20439 .20806 .00368 .00464 .00963 .98234 .97780

003-003 24 4 5 .20439 .20659 .00221 .00278 .00919 .98933 .98656

003-004 24 4 7 .20439 .20596 .00158 .00199 .00900 .99235 .99036

003-005 24 4 9 .20439 .20561 .00123 .00155 .00889 .99404 .99249

GENOVA VERSION 3.1 PAGE 45

CONTROL CARD INPUT LISTING

COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

12345678901234567890123456789012345678901234567890123456789012345678901234567890

FINISH