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

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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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Development Center (NPRDC); Robert L. Brennan Principal Investigator. GENOVA does not necessarily

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 Women's Finals

COMMENT # RECORDS = 23

COMMENT 4 TASKS, 9 JUDGES

COMMENT # VALUES PER RECORD = 36

OPTIONS RECORDS ALL

EFFECT \* P 23 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 23 4 9 PRIMARY NUMBER OF

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

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

\* \* \* \* \*

\* P \* 1 \* 0 \* 0 \* 1 1 22

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

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

\* \* \* \* \*

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

\* \* \* \* \*

\* PT \* 1 \* 1 \* 0 \* 2 2 66

\* PJ \* 1 \* 0 \* 1 \* 2 2 176

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

\* \* \* \* \*

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

\* \* \* \* \*

\* PTJ \* 1 \* 1 \* 1 \* 3 3 528

\* \* \* \* \*

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

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 5.20000 5.10000 5.60000 5.30000 5.30000 5.50000 5.20000 5.60000

5.50000 5.70000 5.50000 5.70000 5.50000 5.50000 5.70000 5.60000

5.70000 5.70000 5.70000 5.80000 5.80000 5.80000 5.80000 5.80000

5.70000 5.80000 5.80000 5.70000 5.70000 5.80000 5.80000 5.80000

5.80000 5.70000 5.80000 5.80000 5.63333

RECORD # 2 5.80000 5.80000 5.80000 5.70000 5.60000 5.80000 5.80000 5.80000

5.70000 5.70000 5.80000 5.90000 5.80000 5.60000 5.80000 5.90000

5.80000 5.60000 5.70000 5.80000 5.90000 5.80000 5.80000 5.80000

5.80000 5.70000 5.80000 5.60000 5.90000 5.90000 5.80000 5.60000

5.90000 5.70000 5.70000 5.70000 5.76667

RECORD # 3 5.80000 5.70000 5.90000 5.70000 5.50000 5.70000 5.70000 5.70000

5.60000 5.90000 5.90000 5.90000 5.90000 5.90000 5.90000 5.90000

5.90000 5.90000 5.60000 5.70000 5.80000 5.70000 5.60000 5.60000

5.60000 5.70000 5.60000 5.70000 5.80000 5.90000 5.80000 5.80000

5.90000 5.80000 5.80000 5.80000 5.76667

RECORD # 4 5.80000 5.60000 5.70000 5.50000 5.60000 5.60000 5.70000 5.70000

5.60000 5.80000 5.70000 5.80000 5.60000 5.70000 5.80000 5.80000

5.80000 5.80000 5.50000 5.80000 5.70000 5.70000 5.70000 5.60000

5.60000 5.60000 5.60000 5.50000 5.80000 5.80000 5.70000 5.70000

5.80000 5.70000 5.70000 5.70000 5.68889

RECORD # 5 5.60000 5.10000 5.50000 5.20000 5.50000 5.00000 5.20000 5.50000

5.40000 5.60000 5.10000 5.40000 5.00000 5.60000 5.20000 5.30000

5.70000 5.60000 5.50000 5.40000 5.70000 5.40000 5.60000 5.50000

5.50000 5.40000 5.50000 5.60000 5.50000 5.60000 5.30000 5.60000

5.50000 5.50000 5.60000 5.60000 5.43889

RECORD # 6 5.20000 5.70000 5.50000 5.60000 5.00000 5.70000 5.40000 5.40000

5.40000 5.60000 5.80000 5.60000 5.80000 5.60000 5.70000 5.50000

5.60000 5.50000 5.20000 5.60000 5.40000 5.10000 4.90000 5.60000

4.90000 5.30000 5.40000 5.50000 5.60000 5.50000 5.40000 5.20000

5.70000 5.40000 5.50000 5.50000 5.45278

RECORD # 7 5.10000 5.40000 5.30000 5.20000 5.00000 5.40000 4.80000 5.10000

5.20000 5.40000 5.60000 5.40000 5.30000 5.30000 5.40000 5.00000

5.30000 5.50000 5.30000 5.60000 5.30000 5.10000 5.30000 5.40000

5.00000 5.30000 5.30000 5.40000 5.50000 5.60000 5.30000 5.30000

5.50000 5.20000 5.60000 5.50000 5.31111

RECORD # 8 5.50000 5.40000 5.50000 5.40000 5.00000 5.40000 5.50000 5.30000

5.20000 5.30000 5.30000 5.50000 5.20000 5.20000 5.30000 5.20000

5.40000 5.30000 5.40000 5.40000 5.30000 5.20000 5.40000 5.60000

5.10000 5.30000 5.30000 5.30000 5.30000 5.30000 5.30000 5.20000

5.60000 5.00000 5.30000 5.40000 5.32222

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 5.00000 5.10000 5.30000 5.00000 4.70000 5.20000 5.10000 4.80000

5.30000 5.30000 5.40000 5.50000 5.40000 5.10000 5.50000 5.40000

5.10000 5.30000 5.30000 5.50000 5.00000 5.10000 5.10000 5.10000

5.30000 5.10000 4.80000 4.90000 5.60000 5.20000 5.00000 5.10000

5.40000 5.40000 5.30000 4.80000 5.18056

RECORD # 10 5.00000 5.50000 5.10000 4.90000 4.80000 5.30000 5.10000 5.20000

5.10000 5.40000 5.50000 5.60000 5.00000 5.40000 5.60000 5.50000

5.50000 5.40000 4.70000 5.20000 4.70000 4.60000 4.90000 5.00000

4.90000 4.80000 4.90000 5.10000 5.40000 5.00000 5.00000 5.30000

5.30000 5.30000 5.10000 5.20000 5.14722

RECORD # 11 4.10000 4.30000 4.10000 4.50000 4.50000 4.10000 4.30000 4.10000

4.50000 4.80000 5.00000 4.90000 5.00000 5.00000 5.00000 5.10000

4.90000 5.00000 5.20000 5.30000 5.20000 5.30000 4.90000 5.20000

5.20000 4.90000 5.00000 5.40000 5.40000 5.10000 5.30000 5.20000

5.40000 5.40000 5.10000 4.80000 4.90278

RECORD # 12 4.50000 4.50000 5.00000 4.50000 4.30000 4.70000 4.40000 4.40000

4.50000 5.30000 5.20000 5.60000 5.40000 5.30000 5.40000 5.10000

5.20000 5.30000 4.90000 5.30000 5.20000 5.00000 4.80000 5.00000

5.00000 5.00000 5.20000 5.00000 5.20000 5.50000 5.00000 4.80000

5.30000 5.10000 5.20000 5.00000 5.00278

RECORD # 13 5.00000 5.00000 5.60000 5.40000 5.10000 5.20000 5.30000 5.30000

5.40000 5.10000 5.30000 5.60000 5.10000 5.00000 5.30000 5.40000

5.00000 5.40000 4.90000 5.10000 5.30000 5.10000 5.00000 5.40000

4.80000 4.80000 5.10000 4.90000 5.00000 5.50000 4.70000 5.00000

5.30000 4.80000 4.60000 4.90000 5.13056

RECORD # 14 4.40000 4.30000 4.50000 4.40000 4.20000 4.50000 4.40000 4.10000

4.20000 5.20000 5.10000 5.20000 5.00000 5.10000 5.30000 5.30000

4.70000 4.70000 4.80000 4.10000 5.50000 5.00000 5.00000 5.10000

4.90000 4.80000 4.90000 5.00000 5.30000 5.60000 5.10000 5.30000

5.30000 4.90000 4.70000 4.70000 4.85000

RECORD # 15 4.70000 4.90000 5.40000 4.70000 4.80000 4.90000 4.60000 4.40000

4.80000 5.20000 4.90000 5.30000 5.10000 5.30000 5.00000 4.90000

5.10000 5.20000 5.10000 5.10000 5.00000 4.90000 5.20000 5.10000

5.00000 4.90000 5.00000 4.90000 4.80000 5.00000 5.00000 5.00000

5.20000 4.80000 4.60000 4.90000 4.96389

RECORD # 16 5.40000 5.40000 5.20000 5.00000 5.00000 5.30000 5.00000 4.90000

5.30000 5.70000 5.40000 5.50000 5.10000 5.40000 5.50000 5.30000

5.10000 5.50000 4.70000 4.90000 4.80000 4.70000 4.70000 4.60000

4.50000 4.60000 4.70000 4.90000 5.20000 5.20000 4.80000 4.80000

5.10000 5.00000 4.70000 4.80000 5.04722

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 4.80000 4.90000 4.60000 4.60000 4.30000 4.50000 4.40000 4.60000

4.40000 4.80000 5.00000 4.80000 4.80000 4.50000 4.80000 4.50000

4.90000 4.40000 5.30000 5.40000 5.60000 5.20000 5.10000 5.40000

5.10000 5.10000 5.30000 4.80000 5.00000 5.20000 4.60000 4.60000

5.10000 4.60000 4.80000 4.80000 4.85000

RECORD # 18 4.50000 4.40000 3.90000 3.70000 4.10000 4.60000 4.30000 4.40000

5.00000 5.00000 4.80000 4.30000 4.40000 4.30000 4.70000 5.00000

4.80000 4.60000 4.40000 4.60000 4.00000 4.40000 4.20000 4.80000

4.00000 4.40000 4.30000 4.60000 4.90000 4.30000 4.40000 4.20000

5.00000 4.90000 4.70000 4.60000 4.48611

RECORD # 19 3.90000 4.40000 4.50000 4.20000 3.70000 4.30000 3.80000 4.20000

4.30000 4.20000 4.80000 5.00000 4.40000 4.10000 4.60000 3.80000

4.70000 4.70000 4.60000 4.60000 4.90000 4.40000 4.70000 4.90000

4.40000 4.50000 4.70000 4.40000 4.60000 5.10000 4.20000 4.60000

4.80000 4.40000 4.60000 4.70000 4.46389

RECORD # 20 4.40000 4.60000 5.30000 4.00000 4.10000 4.20000 4.30000 3.90000

4.20000 5.10000 4.90000 5.30000 4.30000 4.70000 4.50000 5.00000

4.40000 4.80000 4.60000 4.70000 4.50000 4.50000 4.60000 4.50000

4.30000 4.50000 4.50000 4.60000 4.60000 4.70000 4.30000 4.50000

4.40000 4.50000 4.50000 4.30000 4.53056

RECORD # 21 4.60000 4.40000 5.20000 4.20000 4.10000 4.70000 4.40000 3.80000

4.20000 4.90000 4.90000 5.30000 4.70000 4.60000 5.00000 4.80000

4.60000 4.60000 4.30000 4.50000 4.50000 4.30000 4.30000 4.30000

4.10000 4.30000 4.10000 4.40000 4.70000 4.90000 4.60000 4.30000

4.50000 4.70000 4.30000 4.20000 4.50833

RECORD # 22 4.50000 4.50000 3.80000 4.60000 4.50000 4.90000 4.70000 4.40000

4.50000 4.90000 4.60000 4.50000 4.60000 4.50000 5.10000 4.80000

4.50000 4.60000 4.40000 4.30000 4.00000 4.60000 4.30000 4.40000

4.20000 4.40000 4.20000 4.50000 4.20000 4.10000 4.70000 4.10000

4.40000 4.20000 4.30000 4.40000 4.45000

RECORD # 23 4.00000 4.30000 3.90000 4.10000 4.10000 3.90000 4.10000 3.90000

3.90000 4.50000 4.70000 4.40000 4.40000 4.70000 4.30000 4.80000

4.50000 3.90000 4.20000 3.90000 4.40000 4.20000 4.10000 3.70000

3.70000 4.20000 4.00000 4.10000 3.80000 4.20000 4.10000 4.20000

3.60000 4.00000 4.10000 3.90000 4.13333

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

CELL MEAN SCORES

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

\*\*\* GRAND MEAN = 5.0446860 \*\*\*

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

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

(1) = 4.894203 (2) = 5.181643 (3) = 5.023671 (4) = 5.079227

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

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

(1) = 5.046739 (2) = 5.118478 (3) = 5.170652 (4) = 4.983696

(5) = 4.960870 (6) = 5.130435 (7) = 4.989130 (8) = 4.985870

(9) = 5.016304

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

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

(1,1) = 4.904348 (1,2) = 4.969565 (1,3) = 5.052174 (1,4) = 4.843478

(1,5) = 4.730435 (1,6) = 4.973913 (1,7) = 4.847826 (1,8) = 4.804348

(2,1) = 5.234783 (2,2) = 5.226087 (2,3) = 5.304348 (2,4) = 5.078261

(2,5) = 5.104348 (2,6) = 5.234783 (2,7) = 5.169565 (2,8) = 5.139130

(3,1) = 5.013043 (3,2) = 5.113043 (3,3) = 5.108696 (3,4) = 5.004348

(3,5) = 5.000000 (3,6) = 5.104348 (3,7) = 4.895652 (3,8) = 4.973913

(4,1) = 5.034783 (4,2) = 5.165217 (4,3) = 5.217391 (4,4) = 5.008696

(4,5) = 5.008696 (4,6) = 5.208696 (4,7) = 5.043478 (4,8) = 5.026087

(4,9) = 5.000000

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 23 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 22 21244.45667 172.80329 7.85469 22.22502 QF 22 QF 91 QF

T 3 21080.56203 8.90865 2.96955 9.41882 QF 3 QF 71 QF

J 8 21075.95587 4.30249 .53781 5.66823 QF 8 QF 91 QF

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

PT 66 21273.01556 19.65024 .29773 13.75296 66 528

PJ 176 21262.37000 13.61085 .07733 3.57227 176 528

TJ 24 21085.80522 .94070 .03920 1.81056 24 528

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

PTJ 528 21303.30000 11.43041 .02165

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

MEAN 21071.65338

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

TOTAL 827 231.64662

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

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 23 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 22 .2083688 .2083688 .0630013

T 3 .0128226 .0128226 .0090765

J 8 .0048144 .0048144 .0026185

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

PT 66 .0306758 .0306758 .0056753

PJ 176 .0139215 .0139215 .0020761

TJ 24 .0007629 .0007629 .0004762

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

PTJ 528 .0216485 .0216485 .0013299

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

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 23 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) + 23.00\*VC(TJ) + 9.00\*VC(PT) + 207.00\*VC(T)

EMS(J) = 1.00\*VC(PTJ) + 23.00\*VC(TJ) + 4.00\*VC(PJ) + 92.00\*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) + 23.00\*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 .0039692

T .0000004 .0000824

J .0000000 .0000000 .0000069

PT -.0000081 -.0000014 .0000000 .0000322

PJ -.0000005 .0000000 -.0000002 .0000000 .0000043

TJ .0000000 .0000000 -.0000001 .0000000 .0000000 .0000002

PTJ .0000000 .0000000 .0000000 -.0000002 -.0000004 -.0000001 .0000018

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 : 23 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 .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 4 .00321 .00227 .01282 1.0000 4 .00321 .00227

J .00481 1.0000 1 .00481 .00262 .00481 1.0000 1 .00481 .00262

PT .03068 1.0000 4 .00767 .00142 .03068 1.0000 4 .00767 .00142

PJ .01392 1.0000 1 .01392 .00208 .01392 1.0000 1 .01392 .00208

TJ .00076 1.0000 4 .00019 .00012 .00076 1.0000 4 .00019 .00012

PTJ .02165 1.0000 4 .00541 .00033 .02165 1.0000 4 .00541 .00033

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

QFM = QUADRATIC FORM

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

STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .23537 .48515 .06301

LOWER CASE DELTA .02700 .16432 .00249 GENERALIZABILITY COEFFICIENT = .88528 ( 7.71664)

UPPER CASE DELTA .03521 .18765 .00420 PHI = .85544 ( 5.91732)

MEAN .01844 .13581

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

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 .0039692

T .0000001 .0000051

J .0000000 .0000000 .0000069

PT -.0000020 -.0000001 .0000000 .0000020

PJ -.0000005 .0000000 -.0000002 .0000000 .0000043

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 : 23 D STUDY SAMPLE SIZES : 4 3

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

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

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P .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 4 .00321 .00227 .01282 1.0000 4 .00321 .00227

J .00481 1.0000 3 .00160 .00087 .00481 1.0000 3 .00160 .00087

PT .03068 1.0000 4 .00767 .00142 .03068 1.0000 4 .00767 .00142

PJ .01392 1.0000 3 .00464 .00069 .01392 1.0000 3 .00464 .00069

TJ .00076 1.0000 12 .00006 .00004 .00076 1.0000 12 .00006 .00004

PTJ .02165 1.0000 12 .00180 .00011 .02165 1.0000 12 .00180 .00011

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .22248 .47168 .06299

LOWER CASE DELTA .01411 .11880 .00157 GENERALIZABILITY COEFFICIENT = .93656 (14.76381)

UPPER CASE DELTA .01899 .13780 .00286 PHI = .91649 (10.97399)

MEAN .01455 .12061

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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 .0039692

T .0000001 .0000051

J .0000000 .0000000 .0000008

PT -.0000020 -.0000001 .0000000 .0000020

PJ -.0000002 .0000000 .0000000 .0000000 .0000005

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 : 23 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

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

P .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 4 .00321 .00227 .01282 1.0000 4 .00321 .00227

J .00481 1.0000 5 .00096 .00052 .00481 1.0000 5 .00096 .00052

PT .03068 1.0000 4 .00767 .00142 .03068 1.0000 4 .00767 .00142

PJ .01392 1.0000 5 .00278 .00042 .01392 1.0000 5 .00278 .00042

TJ .00076 1.0000 20 .00004 .00002 .00076 1.0000 20 .00004 .00002

PTJ .02165 1.0000 20 .00108 .00007 .02165 1.0000 20 .00108 .00007

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .21990 .46894 .06299

LOWER CASE DELTA .01154 .10740 .00148 GENERALIZABILITY COEFFICIENT = .94754 (18.06300)

UPPER CASE DELTA .01574 .12547 .00272 PHI = .92976 (13.23620)

MEAN .01377 .11734

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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 .0039692

T .0000001 .0000051

J .0000000 .0000000 .0000003

PT -.0000020 -.0000001 .0000000 .0000020

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 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 : 23 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 .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 4 .00321 .00227 .01282 1.0000 4 .00321 .00227

J .00481 1.0000 7 .00069 .00037 .00481 1.0000 7 .00069 .00037

PT .03068 1.0000 4 .00767 .00142 .03068 1.0000 4 .00767 .00142

PJ .01392 1.0000 7 .00199 .00030 .01392 1.0000 7 .00199 .00030

TJ .00076 1.0000 28 .00003 .00002 .00076 1.0000 28 .00003 .00002

PTJ .02165 1.0000 28 .00077 .00005 .02165 1.0000 28 .00077 .00005

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .21880 .46776 .06298

LOWER CASE DELTA .01043 .10213 .00145 GENERALIZABILITY COEFFICIENT = .95233 (19.97612)

UPPER CASE DELTA .01435 .11980 .00268 PHI = .93556 (14.51889)

MEAN .01343 .11590

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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 .0039692

T .0000001 .0000051

J .0000000 .0000000 .0000001

PT -.0000020 -.0000001 .0000000 .0000020

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

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 : 23 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 .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 4 .00321 .00227 .01282 1.0000 4 .00321 .00227

J .00481 1.0000 9 .00053 .00029 .00481 1.0000 9 .00053 .00029

PT .03068 1.0000 4 .00767 .00142 .03068 1.0000 4 .00767 .00142

PJ .01392 1.0000 9 .00155 .00023 .01392 1.0000 9 .00155 .00023

TJ .00076 1.0000 36 .00002 .00001 .00076 1.0000 36 .00002 .00001

PTJ .02165 1.0000 36 .00060 .00004 .02165 1.0000 36 .00060 .00004

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .21819 .46710 .06298

LOWER CASE DELTA .00982 .09908 .00144 GENERALIZABILITY COEFFICIENT = .95501 (21.22502)

UPPER CASE DELTA .01358 .11653 .00267 PHI = .93882 (15.34504)

MEAN .01325 .11510

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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 .0039692

T .0000001 .0000051

J .0000000 .0000000 .0000001

PT -.0000020 -.0000001 .0000000 .0000020

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

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 23 4 1 .20837 .23537 .02700 .03521 .01844 .88528 .85544

001-002 23 4 3 .20837 .22248 .01411 .01899 .01455 .93656 .91649

001-003 23 4 5 .20837 .21990 .01154 .01574 .01377 .94754 .92976

001-004 23 4 7 .20837 .21880 .01043 .01435 .01343 .95233 .93556

001-005 23 4 9 .20837 .21819 .00982 .01358 .01325 .95501 .93882

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 9

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 : 23 D STUDY SAMPLE SIZES : 2 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 .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 2 .00641 .00454 .01282 1.0000 2 .00641 .00454

J .00481 1.0000 9 .00053 .00029 .00481 1.0000 9 .00053 .00029

PT .03068 1.0000 2 .01534 .00284 .03068 1.0000 2 .01534 .00284

PJ .01392 1.0000 9 .00155 .00023 .01392 1.0000 9 .00155 .00023

TJ .00076 1.0000 18 .00004 .00003 .00076 1.0000 18 .00004 .00003

PTJ .02165 1.0000 18 .00120 .00007 .02165 1.0000 18 .00120 .00007

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .22646 .47587 .06300

LOWER CASE DELTA .01809 .13449 .00285 GENERALIZABILITY COEFFICIENT = .92013 (11.52009)

UPPER CASE DELTA .02508 .15835 .00530 PHI = .89258 ( 8.30948)

MEAN .01683 .12975

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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 .0039692

T .0000002 .0000206

J .0000000 .0000000 .0000001

PT -.0000040 -.0000004 .0000000 .0000081

PJ -.0000001 .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 : 23 D STUDY SAMPLE SIZES : 3 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 .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 3 .00427 .00303 .01282 1.0000 3 .00427 .00303

J .00481 1.0000 9 .00053 .00029 .00481 1.0000 9 .00053 .00029

PT .03068 1.0000 3 .01023 .00189 .03068 1.0000 3 .01023 .00189

PJ .01392 1.0000 9 .00155 .00023 .01392 1.0000 9 .00155 .00023

TJ .00076 1.0000 27 .00003 .00002 .00076 1.0000 27 .00003 .00002

PTJ .02165 1.0000 27 .00080 .00005 .02165 1.0000 27 .00080 .00005

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .22094 .47005 .06299

LOWER CASE DELTA .01257 .11213 .00191 GENERALIZABILITY COEFFICIENT = .94309 (16.57153)

UPPER CASE DELTA .01741 .13195 .00354 PHI = .92288 (11.96746)

MEAN .01444 .12018

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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 .0039692

T .0000001 .0000092

J .0000000 .0000000 .0000001

PT -.0000027 -.0000002 .0000000 .0000036

PJ -.0000001 .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 : 23 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 .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 4 .00321 .00227 .01282 1.0000 4 .00321 .00227

J .00481 1.0000 9 .00053 .00029 .00481 1.0000 9 .00053 .00029

PT .03068 1.0000 4 .00767 .00142 .03068 1.0000 4 .00767 .00142

PJ .01392 1.0000 9 .00155 .00023 .01392 1.0000 9 .00155 .00023

TJ .00076 1.0000 36 .00002 .00001 .00076 1.0000 36 .00002 .00001

PTJ .02165 1.0000 36 .00060 .00004 .02165 1.0000 36 .00060 .00004

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .21819 .46710 .06298

LOWER CASE DELTA .00982 .09908 .00144 GENERALIZABILITY COEFFICIENT = .95501 (21.22502)

UPPER CASE DELTA .01358 .11653 .00267 PHI = .93882 (15.34504)

MEAN .01325 .11510

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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 .0039692

T .0000001 .0000051

J .0000000 .0000000 .0000001

PT -.0000020 -.0000001 .0000000 .0000020

PJ -.0000001 .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 : 23 D STUDY SAMPLE SIZES : 5 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 .20837 1.0000 1 .20837 .06300 .20837 1.0000 1 .20837 .06300

T .01282 1.0000 5 .00256 .00182 .01282 1.0000 5 .00256 .00182

J .00481 1.0000 9 .00053 .00029 .00481 1.0000 9 .00053 .00029

PT .03068 1.0000 5 .00614 .00114 .03068 1.0000 5 .00614 .00114

PJ .01392 1.0000 9 .00155 .00023 .01392 1.0000 9 .00155 .00023

TJ .00076 1.0000 45 .00002 .00001 .00076 1.0000 45 .00002 .00001

PTJ .02165 1.0000 45 .00048 .00003 .02165 1.0000 45 .00048 .00003

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .20837 .45647 .06300

EXPECTED OBSERVED SCORE .21653 .46533 .06299

LOWER CASE DELTA .00816 .09035 .00116 GENERALIZABILITY COEFFICIENT = .96230 (25.52579)

UPPER CASE DELTA .01128 .10620 .00215 PHI = .94865 (18.47327)

MEAN .01253 .11194

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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 .0039692

T .0000001 .0000033

J .0000000 .0000000 .0000001

PT -.0000016 -.0000001 .0000000 .0000013

PJ -.0000001 .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 23 2 9 .20837 .22646 .01809 .02508 .01683 .92013 .89258

002-002 23 3 9 .20837 .22094 .01257 .01741 .01444 .94309 .92288

002-003 23 4 9 .20837 .21819 .00982 .01358 .01325 .95501 .93882

002-004 23 5 9 .20837 .21653 .00816 .01128 .01253 .96230 .94865

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 : 23 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 .20837 1.0000 1 .20837 .06300 .21604 1.0000 1 .21604 .06299

T .01282 1.0000 4 .00321 .00227 .01282QFM0000E+00 4 ------- -------

J .00481 1.0000 1 .00481 .00262 .00501 1.0000 1 .00501 .00262

PT .03068 1.0000 4 .00767 .00142 .03068 .0000E+00 4 ------- -------

PJ .01392 1.0000 1 .01392 .00208 .01933 1.0000 1 .01933 .00205

TJ .00076 1.0000 4 .00019 .00012 .00076 .0000E+00 4 ------- -------

PTJ .02165 1.0000 4 .00541 .00033 .02165 .0000E+00 4 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .21604 .46480 .06299

EXPECTED OBSERVED SCORE .23537 .48515 .06301

LOWER CASE DELTA .01933 .13905 .00205 GENERALIZABILITY COEFFICIENT = .91786 (11.17422)

UPPER CASE DELTA .02434 .15601 .00327 PHI = .89875 ( 8.87628)

MEAN .01524 .12345

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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 .0039671

J .0000000 .0000068

PJ -.0000005 -.0000002 .0000042

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 : 23 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

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

P .20837 1.0000 1 .20837 .06300 .21604 1.0000 1 .21604 .06299

T .01282 1.0000 4 .00321 .00227 .01282QFM0000E+00 4 ------- -------

J .00481 1.0000 3 .00160 .00087 .00501 1.0000 3 .00167 .00087

PT .03068 1.0000 4 .00767 .00142 .03068 .0000E+00 4 ------- -------

PJ .01392 1.0000 3 .00464 .00069 .01933 1.0000 3 .00644 .00068

TJ .00076 1.0000 12 .00006 .00004 .00076 .0000E+00 12 ------- -------

PTJ .02165 1.0000 12 .00180 .00011 .02165 .0000E+00 12 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .21604 .46480 .06299

EXPECTED OBSERVED SCORE .22248 .47168 .06299

LOWER CASE DELTA .00644 .08028 .00068 GENERALIZABILITY COEFFICIENT = .97103 (33.52267)

UPPER CASE DELTA .00811 .09007 .00109 PHI = .96381 (26.62885)

MEAN .01134 .10650

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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 .0039671

J .0000000 .0000008

PJ -.0000002 .0000000 .0000005

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 : 23 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

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

P .20837 1.0000 1 .20837 .06300 .21604 1.0000 1 .21604 .06299

T .01282 1.0000 4 .00321 .00227 .01282QFM0000E+00 4 ------- -------

J .00481 1.0000 5 .00096 .00052 .00501 1.0000 5 .00100 .00052

PT .03068 1.0000 4 .00767 .00142 .03068 .0000E+00 4 ------- -------

PJ .01392 1.0000 5 .00278 .00042 .01933 1.0000 5 .00387 .00041

TJ .00076 1.0000 20 .00004 .00002 .00076 .0000E+00 20 ------- -------

PTJ .02165 1.0000 20 .00108 .00007 .02165 .0000E+00 20 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .21604 .46480 .06299

EXPECTED OBSERVED SCORE .21990 .46894 .06299

LOWER CASE DELTA .00387 .06218 .00041 GENERALIZABILITY COEFFICIENT = .98242 (55.87111)

UPPER CASE DELTA .00487 .06977 .00065 PHI = .97796 (44.38141)

MEAN .01056 .10277

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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 .0039671

J .0000000 .0000003

PJ -.0000001 .0000000 .0000002

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 : 23 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 .20837 1.0000 1 .20837 .06300 .21604 1.0000 1 .21604 .06299

T .01282 1.0000 4 .00321 .00227 .01282QFM0000E+00 4 ------- -------

J .00481 1.0000 7 .00069 .00037 .00501 1.0000 7 .00072 .00037

PT .03068 1.0000 4 .00767 .00142 .03068 .0000E+00 4 ------- -------

PJ .01392 1.0000 7 .00199 .00030 .01933 1.0000 7 .00276 .00029

TJ .00076 1.0000 28 .00003 .00002 .00076 .0000E+00 28 ------- -------

PTJ .02165 1.0000 28 .00077 .00005 .02165 .0000E+00 28 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .21604 .46480 .06299

EXPECTED OBSERVED SCORE .21880 .46776 .06298

LOWER CASE DELTA .00276 .05255 .00029 GENERALIZABILITY COEFFICIENT = .98738 (78.21955)

UPPER CASE DELTA .00348 .05897 .00047 PHI = .98416 (62.13398)

MEAN .01023 .10113

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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 .0039671

J .0000000 .0000001

PJ -.0000001 .0000000 .0000001

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 : 23 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 .20837 1.0000 1 .20837 .06300 .21604 1.0000 1 .21604 .06299

T .01282 1.0000 4 .00321 .00227 .01282QFM0000E+00 4 ------- -------

J .00481 1.0000 9 .00053 .00029 .00501 1.0000 9 .00056 .00029

PT .03068 1.0000 4 .00767 .00142 .03068 .0000E+00 4 ------- -------

PJ .01392 1.0000 9 .00155 .00023 .01933 1.0000 9 .00215 .00023

TJ .00076 1.0000 36 .00002 .00001 .00076 .0000E+00 36 ------- -------

PTJ .02165 1.0000 36 .00060 .00004 .02165 .0000E+00 36 ------- -------

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QFM = QUADRATIC FORM

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STANDARD

STANDARD ERROR OF

VARIANCE DEVIATION VARIANCE

UNIVERSE SCORE .21604 .46480 .06299

EXPECTED OBSERVED SCORE .21819 .46710 .06298

LOWER CASE DELTA .00215 .04635 .00023 GENERALIZABILITY COEFFICIENT = .99015 (\*\*\*\*\*\*\*\*)

UPPER CASE DELTA .00270 .05200 .00036 PHI = .98764 (79.88655)

MEAN .01004 .10021

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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 .0039671

J .0000000 .0000001

PJ -.0000001 .0000000 .0000001

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 23 4 1 .21604 .23537 .01933 .02434 .01524 .91786 .89875

003-002 23 4 3 .21604 .22248 .00644 .00811 .01134 .97103 .96381

003-003 23 4 5 .21604 .21990 .00387 .00487 .01056 .98242 .97796

003-004 23 4 7 .21604 .21880 .00276 .00348 .01023 .98738 .98416

003-005 23 4 9 .21604 .21819 .00215 .00270 .01004 .99015 .98764

GENOVA VERSION 3.1 PAGE 45

CONTROL CARD INPUT LISTING

COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

12345678901234567890123456789012345678901234567890123456789012345678901234567890

FINISH