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.

 GENOVA was developed in part under contract No. N00123-78-C-1206 with the Navy Personnel Research and

 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 P x R x T DESIGN -- G STUDY OF RANDOM EFFECTS

 COMMENT STEP ONE

 COMMENT # RECORDS = 8

 COMMENT # VALUES PER RECORD = 9

 OPTIONS RECORDS ALL

 EFFECT \* P 8 0

 EFFECT + T 3 0

 EFFECT + R 3 0

 FORMAT (9F2.0)

 PROCESS

 GENOVA VERSION 3.1 PAGE 2

 G STUDY P x R x T DESIGN -- G STUDY OF RANDOM EFFECTS

 EXPANDED MAIN AND INTERACTION EFFECT TABLE

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

 SAMPLE SIZE 8 3 3 PRIMARY NUMBER OF

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

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

 \* \* \* \* \*

 \* P \* 1 \* 0 \* 0 \* 1 1 7

 \* T \* 0 \* 1 \* 0 \* 1 1 2

 \* R \* 0 \* 0 \* 1 \* 1 1 2

 \* \* \* \* \*

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

 \* \* \* \* \*

 \* PT \* 1 \* 1 \* 0 \* 2 2 14

 \* PR \* 1 \* 0 \* 1 \* 2 2 14

 \* TR \* 0 \* 1 \* 1 \* 2 2 4

 \* \* \* \* \*

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

 \* \* \* \* \*

 \* PTR \* 1 \* 1 \* 1 \* 3 3 28

 \* \* \* \* \*

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

 GENOVA VERSION 3.1 PAGE 3

 G STUDY P x R x T DESIGN -- G STUDY OF RANDOM EFFECTS

 INPUT RECORD LISTING WITH RECORD MEANS

 RECORD # 1 4.00000 4.00000 4.00000 5.00000 5.00000 6.00000 5.00000 6.00000

 6.00000 5.00000

 RECORD # 2 6.00000 7.00000 6.00000 7.00000 9.00000 5.00000 8.00000 9.00000

 5.00000 6.88889

 RECORD # 3 8.00000 7.00000 7.00000 4.00000 3.00000 2.00000 4.00000 4.00000

 3.00000 4.66667

 RECORD # 4 6.00000 8.00000 7.00000 9.00000 11.00000 7.00000 9.00000 9.00000

 8.00000 8.22222

 RECORD # 5 2.00000 1.00000 1.00000 5.00000 5.00000 3.00000 5.00000 6.00000

 4.00000 3.55556

 RECORD # 6 5.00000 4.00000 4.00000 7.00000 6.00000 5.00000 7.00000 7.00000

 5.00000 5.55556

 RECORD # 7 4.00000 5.00000 6.00000 6.00000 8.00000 9.00000 7.00000 8.00000

 8.00000 6.77778

 RECORD # 8 7.00000 7.00000 6.00000 5.00000 9.00000 9.00000 6.00000 9.00000

 9.00000 7.44444

 GENOVA VERSION 3.1 PAGE 4

 G STUDY P x R x T DESIGN -- G STUDY OF RANDOM EFFECTS

 CELL MEAN SCORES

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

 \*\*\* GRAND MEAN = 6.0138889 \*\*\*

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

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

 (1) = 5.250000 (2) = 6.250000 (3) = 6.541667

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

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

 (1) = 5.875000 (2) = 6.541667 (3) = 5.625000

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

 MEAN SCORES FOR EFFECT: TR SUBSCRIPT NOTATION: (T,R)

 (3,1) = 6.375000 (3,2) = 7.250000 (3,3) = 6.000000

 GENOVA VERSION 3.1 PAGE 5

 G STUDY P x R x T DESIGN -- G STUDY OF RANDOM EFFECTS

 ANOVA TABLE

 (\*\* = INFINITE) P T R

 SAMPLE SIZE 8 3 3

 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 7 2760.33333 156.31944 22.33135 3.21021 QF 7 QF 21 QF

 T 2 2626.04167 22.02778 11.01389 2.13582 QF 2 QF 13 QF

 R 2 2614.79167 10.77778 5.38889 2.01484 QF 2 QF 11 QF

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

 PT 14 2853.00000 70.63889 5.04563 7.72948 14 28

 PR 14 2807.00000 35.88889 2.56349 3.92705 14 28

 TR 4 2639.87500 3.05556 .76389 1.17021 4 28

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

 PTR 28 2921.00000 18.27778 .65278

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

 MEAN 2604.01389

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

 TOTAL 71 316.98611

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

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

 GENOVA VERSION 3.1 PAGE 6

 G STUDY P x R x T DESIGN -- G STUDY OF RANDOM EFFECTS

 G STUDY RESULTS

 (\*\* = INFINITE) P T R

 SAMPLE SIZE 8 3 3

 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 7 1.7083333 1.7083333 1.1907667

 T 2 .2440476 .2440476 .3334846

 R 2 .1130952 .1130952 .1643823

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

 PT 14 1.4642857 1.4642857 .5972820

 PR 14 .6369048 .6369048 .3072900

 TR 4 .0138889 .0138889 .0590176

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

 PTR 28 .6527778 .6527778 .1685465

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

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

 IDENTICAL IF THERE ARE NO NEGATIVE ESTIMATES

 GENOVA VERSION 3.1 PAGE 7

 G STUDY P x R x T DESIGN -- G STUDY OF RANDOM EFFECTS

 EXPECTED MEAN SQUARE EQUATIONS

 (\*\* = INFINITE) P T R

 SAMPLE SIZE 8 3 3

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

 EMS(P) = 1.00\*VC(PTR) + 3.00\*VC(PR) + 3.00\*VC(PT) + 9.00\*VC(P)

 EMS(T) = 1.00\*VC(PTR) + 8.00\*VC(TR) + 3.00\*VC(PT) + 24.00\*VC(T)

 EMS(R) = 1.00\*VC(PTR) + 8.00\*VC(TR) + 3.00\*VC(PR) + 24.00\*VC(R)

 EMS(PT) = 1.00\*VC(PTR) + 3.00\*VC(PT)

 EMS(PR) = 1.00\*VC(PTR) + 3.00\*VC(PR)

 EMS(TR) = 1.00\*VC(PTR) + 8.00\*VC(TR)

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

 GENOVA VERSION 3.1 PAGE 9

 CONTROL CARD INPUT LISTING

 COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 COMMENT STEP TWO

 COMMENT D STUDY (a)

 DSTUDY P X T X R -- Random Effects, 2 Raters

 DEFFECT $ P

 DEFFECT T 2 3 4

 DEFFECT R 2

 ENDDSTUDY

 GENOVA VERSION 3.1 PAGE 10

 D STUDY P X T X R -- Random Effects, 2 Raters

 D STUDY DESIGN NUMBER 001-001

 OBJECT OF MEASUREMENT : P FACETS : T R

 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 : 8 D STUDY SAMPLE SIZES : 2 2

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

 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 1.70833 1.0000 1 1.70833 1.19077 1.70833 1.0000 1 1.70833 1.19077

 T .24405 1.0000 2 .12202 .16674 .24405 1.0000 2 .12202 .16674

 R .11310 1.0000 2 .05655 .08219 .11310 1.0000 2 .05655 .08219

 PT 1.46429 1.0000 2 .73214 .29864 1.46429 1.0000 2 .73214 .29864

 PR .63690 1.0000 2 .31845 .15365 .63690 1.0000 2 .31845 .15365

 TR .01389 1.0000 4 .00347 .01475 .01389 1.0000 4 .00347 .01475

 PTR .65278 1.0000 4 .16319 .04214 .65278 1.0000 4 .16319 .04214

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

 QFM = QUADRATIC FORM

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

 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 1.70833 1.30703 1.19077

 EXPECTED OBSERVED SCORE 2.92212 1.70942 1.17496

 LOWER CASE DELTA 1.21379 1.10172 .33378 GENERALIZABILITY COEFFICIENT = .58462 ( 1.40744)

 UPPER CASE DELTA 1.39583 1.18145 .34344 PHI = .55034 ( 1.22388)

 MEAN .54731 .73980

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

 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 12

 D STUDY P X T X R -- Random Effects, 2 Raters

 D STUDY DESIGN NUMBER 001-002

 OBJECT OF MEASUREMENT : P FACETS : T R

 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 : 8 D STUDY SAMPLE SIZES : 3 2

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

 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 1.70833 1.0000 1 1.70833 1.19077 1.70833 1.0000 1 1.70833 1.19077

 T .24405 1.0000 3 .08135 .11116 .24405 1.0000 3 .08135 .11116

 R .11310 1.0000 2 .05655 .08219 .11310 1.0000 2 .05655 .08219

 PT 1.46429 1.0000 3 .48810 .19909 1.46429 1.0000 3 .48810 .19909

 PR .63690 1.0000 2 .31845 .15365 .63690 1.0000 2 .31845 .15365

 TR .01389 1.0000 6 .00231 .00984 .01389 1.0000 6 .00231 .00984

 PTR .65278 1.0000 6 .10880 .02809 .65278 1.0000 6 .10880 .02809

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

 QFM = QUADRATIC FORM

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

 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 1.70833 1.30703 1.19077

 EXPECTED OBSERVED SCORE 2.62368 1.61978 1.17076

 LOWER CASE DELTA .91534 .95674 .24991 GENERALIZABILITY COEFFICIENT = .65112 ( 1.86633)

 UPPER CASE DELTA 1.05556 1.02740 .25663 PHI = .61809 ( 1.61842)

 MEAN .46817 .68423

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

 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 14

 D STUDY P X T X R -- Random Effects, 2 Raters

 D STUDY DESIGN NUMBER 001-003

 OBJECT OF MEASUREMENT : P FACETS : T R

 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 : 8 D STUDY SAMPLE SIZES : 4 2

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

 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 1.70833 1.0000 1 1.70833 1.19077 1.70833 1.0000 1 1.70833 1.19077

 T .24405 1.0000 4 .06101 .08337 .24405 1.0000 4 .06101 .08337

 R .11310 1.0000 2 .05655 .08219 .11310 1.0000 2 .05655 .08219

 PT 1.46429 1.0000 4 .36607 .14932 1.46429 1.0000 4 .36607 .14932

 PR .63690 1.0000 2 .31845 .15365 .63690 1.0000 2 .31845 .15365

 TR .01389 1.0000 8 .00174 .00738 .01389 1.0000 8 .00174 .00738

 PTR .65278 1.0000 8 .08160 .02107 .65278 1.0000 8 .08160 .02107

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

 QFM = QUADRATIC FORM

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

 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 1.70833 1.30703 1.19077

 EXPECTED OBSERVED SCORE 2.47445 1.57304 1.17181

 LOWER CASE DELTA .76612 .87528 .21298 GENERALIZABILITY COEFFICIENT = .69039 ( 2.22985)

 UPPER CASE DELTA .88542 .94097 .21831 PHI = .65863 ( 1.92941)

 MEAN .42860 .65468

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

 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 16

 D STUDY P X T X R -- Random Effects, 2 Raters

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

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

 V A R I A N C E S

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

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

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

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

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

 001-001 8 2 2 1.70833 2.92212 1.21379 1.39583 .54731 .58462 .55034

 001-002 8 3 2 1.70833 2.62368 .91534 1.05556 .46817 .65112 .61809

 001-003 8 4 2 1.70833 2.47445 .76612 .88542 .42860 .69039 .65863

 GENOVA VERSION 3.1 PAGE 17

 CONTROL CARD INPUT LISTING

 COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 COMMENT D STUDY (b)

 DSTUDY P X T X R -- Random Effects, 3 Raters

 DEFFECT $ P

 DEFFECT T 2 3 4

 DEFFECT R 3

 ENDDSTUDY

 GENOVA VERSION 3.1 PAGE 18

 D STUDY P X T X R -- Random Effects, 3 Raters

 D STUDY DESIGN NUMBER 002-001

 OBJECT OF MEASUREMENT : P FACETS : T R

 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 : 8 D STUDY SAMPLE SIZES : 2 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

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

 P 1.70833 1.0000 1 1.70833 1.19077 1.70833 1.0000 1 1.70833 1.19077

 T .24405 1.0000 2 .12202 .16674 .24405 1.0000 2 .12202 .16674

 R .11310 1.0000 3 .03770 .05479 .11310 1.0000 3 .03770 .05479

 PT 1.46429 1.0000 2 .73214 .29864 1.46429 1.0000 2 .73214 .29864

 PR .63690 1.0000 3 .21230 .10243 .63690 1.0000 3 .21230 .10243

 TR .01389 1.0000 6 .00231 .00984 .01389 1.0000 6 .00231 .00984

 PTR .65278 1.0000 6 .10880 .02809 .65278 1.0000 6 .10880 .02809

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

 QFM = QUADRATIC FORM

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

 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 1.70833 1.30703 1.19077

 EXPECTED OBSERVED SCORE 2.76157 1.66180 1.17387

 LOWER CASE DELTA 1.05324 1.02628 .31447 GENERALIZABILITY COEFFICIENT = .61861 ( 1.62198)

 UPPER CASE DELTA 1.21528 1.10240 .32384 PHI = .58432 ( 1.40571)

 MEAN .50723 .71220

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

 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 20

 D STUDY P X T X R -- Random Effects, 3 Raters

 D STUDY DESIGN NUMBER 002-002

 OBJECT OF MEASUREMENT : P FACETS : T R

 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 : 8 D STUDY SAMPLE SIZES : 3 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

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

 P 1.70833 1.0000 1 1.70833 1.19077 1.70833 1.0000 1 1.70833 1.19077

 T .24405 1.0000 3 .08135 .11116 .24405 1.0000 3 .08135 .11116

 R .11310 1.0000 3 .03770 .05479 .11310 1.0000 3 .03770 .05479

 PT 1.46429 1.0000 3 .48810 .19909 1.46429 1.0000 3 .48810 .19909

 PR .63690 1.0000 3 .21230 .10243 .63690 1.0000 3 .21230 .10243

 TR .01389 1.0000 9 .00154 .00656 .01389 1.0000 9 .00154 .00656

 PTR .65278 1.0000 9 .07253 .01873 .65278 1.0000 9 .07253 .01873

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

 QFM = QUADRATIC FORM

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

 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 1.70833 1.30703 1.19077

 EXPECTED OBSERVED SCORE 2.48126 1.57520 1.16968

 LOWER CASE DELTA .77293 .87916 .22311 GENERALIZABILITY COEFFICIENT = .68849 ( 2.21021)

 UPPER CASE DELTA .89352 .94526 .22946 PHI = .65658 ( 1.91192)

 MEAN .43075 .65631

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

 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 22

 D STUDY P X T X R -- Random Effects, 3 Raters

 D STUDY DESIGN NUMBER 002-003

 OBJECT OF MEASUREMENT : P FACETS : T R

 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 : 8 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

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

 P 1.70833 1.0000 1 1.70833 1.19077 1.70833 1.0000 1 1.70833 1.19077

 T .24405 1.0000 4 .06101 .08337 .24405 1.0000 4 .06101 .08337

 R .11310 1.0000 3 .03770 .05479 .11310 1.0000 3 .03770 .05479

 PT 1.46429 1.0000 4 .36607 .14932 1.46429 1.0000 4 .36607 .14932

 PR .63690 1.0000 3 .21230 .10243 .63690 1.0000 3 .21230 .10243

 TR .01389 1.0000 12 .00116 .00492 .01389 1.0000 12 .00116 .00492

 PTR .65278 1.0000 12 .05440 .01405 .65278 1.0000 12 .05440 .01405

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

 QFM = QUADRATIC FORM

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

 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 1.70833 1.30703 1.19077

 EXPECTED OBSERVED SCORE 2.34110 1.53007 1.17073

 LOWER CASE DELTA .63277 .79547 .18053 GENERALIZABILITY COEFFICIENT = .72971 ( 2.69976)

 UPPER CASE DELTA .73264 .85594 .18540 PHI = .69986 ( 2.33175)

 MEAN .39251 .62650

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

 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 24

 D STUDY P X T X R -- Random Effects, 3 Raters

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

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

 V A R I A N C E S

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

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

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

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

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

 002-001 8 2 3 1.70833 2.76157 1.05324 1.21528 .50723 .61861 .58432

 002-002 8 3 3 1.70833 2.48126 .77293 .89352 .43075 .68849 .65658

 002-003 8 4 3 1.70833 2.34110 .63277 .73264 .39251 .72971 .69986

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 CONTROL CARD INPUT LISTING

 COLUMN 11111111112222222222333333333344444444445555555555666666666677777777778

 12345678901234567890123456789012345678901234567890123456789012345678901234567890

 COMMENT D STUDY (c)

 DSTUDY P X T X R -- Tasks Fixed

 DEFFECT $ P

 DEFFECT T 3 / 3

 DEFFECT R 2 3 4

 ENDDSTUDY

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 D STUDY P X T X R -- Tasks Fixed

 D STUDY DESIGN NUMBER 003-001

 OBJECT OF MEASUREMENT : P FACETS : T R

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

 D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 3 INFINITE

 D STUDY SAMPLE SIZE : 8 D STUDY SAMPLE SIZES : 3 2

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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 1.70833 1.0000 1 1.70833 1.19077 2.19643 1.0000 1 2.19643 1.17400

 T .24405 1.0000 3 .08135 .11116 .24405QFM0000E+00 3 ------- -------

 R .11310 1.0000 2 .05655 .08219 .11772 1.0000 2 .05886 .08160

 PT 1.46429 1.0000 3 .48810 .19909 1.46429 .0000E+00 3 ------- -------

 PR .63690 1.0000 2 .31845 .15365 .85450 1.0000 2 .42725 .15106

 TR .01389 1.0000 6 .00231 .00984 .01389 .0000E+00 6 ------- -------

 PTR .65278 1.0000 6 .10880 .02809 .65278 .0000E+00 6 ------- -------

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 QFM = QUADRATIC FORM

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 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 2.19643 1.48204 1.17400

 EXPECTED OBSERVED SCORE 2.62368 1.61978 1.17076

 LOWER CASE DELTA .42725 .65364 .15106 GENERALIZABILITY COEFFICIENT = .83716 ( 5.14087)

 UPPER CASE DELTA .48611 .69722 .15418 PHI = .81879 ( 4.51837)

 MEAN .38682 .62195

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 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 28

 D STUDY P X T X R -- Tasks Fixed

 D STUDY DESIGN NUMBER 003-002

 OBJECT OF MEASUREMENT : P FACETS : T R

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

 D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 3 INFINITE

 D STUDY SAMPLE SIZE : 8 D STUDY SAMPLE SIZES : 3 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 1.70833 1.0000 1 1.70833 1.19077 2.19643 1.0000 1 2.19643 1.17400

 T .24405 1.0000 3 .08135 .11116 .24405QFM0000E+00 3 ------- -------

 R .11310 1.0000 3 .03770 .05479 .11772 1.0000 3 .03924 .05440

 PT 1.46429 1.0000 3 .48810 .19909 1.46429 .0000E+00 3 ------- -------

 PR .63690 1.0000 3 .21230 .10243 .85450 1.0000 3 .28483 .10070

 TR .01389 1.0000 9 .00154 .00656 .01389 .0000E+00 9 ------- -------

 PTR .65278 1.0000 9 .07253 .01873 .65278 .0000E+00 9 ------- -------

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 QFM = QUADRATIC FORM

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 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 2.19643 1.48204 1.17400

 EXPECTED OBSERVED SCORE 2.48126 1.57520 1.16968

 LOWER CASE DELTA .28483 .53370 .10070 GENERALIZABILITY COEFFICIENT = .88521 ( 7.71130)

 UPPER CASE DELTA .32407 .56928 .10279 PHI = .87142 ( 6.77755)

 MEAN .34940 .59110

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 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 30

 D STUDY P X T X R -- Tasks Fixed

 D STUDY DESIGN NUMBER 003-003

 OBJECT OF MEASUREMENT : P FACETS : T R

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

 D STUDY POPULATION SIZE : INFINITE D STUDY UNIVERSE SIZES : 3 INFINITE

 D STUDY SAMPLE SIZE : 8 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 1.70833 1.0000 1 1.70833 1.19077 2.19643 1.0000 1 2.19643 1.17400

 T .24405 1.0000 3 .08135 .11116 .24405QFM0000E+00 3 ------- -------

 R .11310 1.0000 4 .02827 .04110 .11772 1.0000 4 .02943 .04080

 PT 1.46429 1.0000 3 .48810 .19909 1.46429 .0000E+00 3 ------- -------

 PR .63690 1.0000 4 .15923 .07682 .85450 1.0000 4 .21362 .07553

 TR .01389 1.0000 12 .00116 .00492 .01389 .0000E+00 12 ------- -------

 PTR .65278 1.0000 12 .05440 .01405 .65278 .0000E+00 12 ------- -------

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 QFM = QUADRATIC FORM

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 STANDARD

 STANDARD ERROR OF

 VARIANCE DEVIATION VARIANCE

 UNIVERSE SCORE 2.19643 1.48204 1.17400

 EXPECTED OBSERVED SCORE 2.41005 1.55243 1.16995

 LOWER CASE DELTA .21362 .46220 .07553 GENERALIZABILITY COEFFICIENT = .91136 (10.28173)

 UPPER CASE DELTA .24306 .49301 .07709 PHI = .90037 ( 9.03673)

 MEAN .33069 .57505

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 NOTE: SIGNAL/NOISE RATIOS ARE IN PARENTHESES

 GENOVA VERSION 3.1 PAGE 32

 D STUDY P X T X R -- Tasks 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 R UNIVERSE OBSERVED CASE CASE GEN.

 NO UNIV.= INF. 3 INF. SCORE SCORE DELTA DELTA MEAN COEF. PHI

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 003-001 8 3 2 2.19643 2.62368 .42725 .48611 .38682 .83716 .81879

 003-002 8 3 3 2.19643 2.48126 .28483 .32407 .34940 .88521 .87142

 003-003 8 3 4 2.19643 2.41005 .21362 .24306 .33069 .91136 .90037