

Appendix D

SAS Program Used to Produce Reliability Analysis

This is the SAS program used to produce the reliability analysis described in Chapter 3, under the section “Establishing LoU Interviewer Reliability.”

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/* LoU Reliability
   This program computes the number and percent of
   LoU ratings which agree with other raters,
   and then goes on to compute ChRater2bach's alpha using the same data set. */

OPTIONS LS=110 PS=56 PAGENO=1;

title1 'Level of Use Reliability: Percent Agreement with Other Raters';

DATA LoU LoU_N; infile 'C:\CBAM\LOU_Reliability\lou_re19.txt' trunccover firstobs=2;
   input tape_no $1-10 (Rater1 Rater2 Rater3 Rater4 Rater5 Rater6 Rater7 Rater8 Rater9)($5.);

data LoU; set LoU;
   Rater1_t = 0; Rater2_t = 0; Rater3_t = 0; Rater4_t = 0; Rater5_t = 0;
   Rater6_t = 0; Rater7_t = 0; Rater8_t = 0; Rater9_t = 0;

   IF Rater1 EQ Rater2 THEN do; Rater1_t = Rater1_t + 1; Rater2_t = Rater2_t + 1; end;
   IF Rater1 EQ Rater3 THEN do; Rater1_t = Rater1_t + 1; Rater3_t = Rater3_t + 1; end;
   IF Rater1 EQ Rater4 THEN do; Rater1_t = Rater1_t + 1; Rater4_t = Rater4_t + 1; end;
   IF Rater1 EQ Rater5 THEN do; Rater1_t = Rater1_t + 1; Rater5_t = Rater5_t + 1; end;
   IF Rater1 EQ Rater6 THEN do; Rater1_t = Rater1_t + 1; Rater6_t = Rater6_t + 1; end;
   IF Rater1 EQ Rater7 THEN do; Rater1_t = Rater1_t + 1; Rater7_t = Rater7_t + 1; end;
   IF Rater1 EQ Rater8 THEN do; Rater1_t = Rater1_t + 1; Rater8_t = Rater8_t + 1; end;
   IF Rater1 EQ Rater9 THEN do; Rater1_t = Rater1_t + 1; Rater9_t = Rater9_t + 1; end;

   IF Rater2 EQ Rater3 THEN do; Rater2_t = Rater2_t + 1; Rater3_t = Rater3_t + 1; end;
   IF Rater2 EQ Rater4 THEN do; Rater2_t = Rater2_t + 1; Rater4_t = Rater4_t + 1; end;
   IF Rater2 EQ Rater5 THEN do; Rater2_t = Rater2_t + 1; Rater5_t = Rater5_t + 1; end;
   IF Rater2 EQ Rater6 THEN do; Rater2_t = Rater2_t + 1; Rater6_t = Rater6_t + 1; end;

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IF Rater2 EQ Rater7 THEN do; Rater2_t = Rater2_t + 1; Rater7_t = Rater7_t + 1; end;  
IF Rater2 EQ Rater8 THEN do; Rater2_t = Rater2_t + 1; Rater8_t = Rater8_t + 1; end;  
IF Rater2 EQ Rater9 THEN do; Rater2_t = Rater2_t + 1; Rater9_t = Rater9_t + 1; end;
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IF Rater3 EQ Rater4 THEN do; Rater3_t = Rater3_t + 1; Rater4_t = Rater4_t + 1; end;  
IF Rater3 EQ Rater5 THEN do; Rater3_t = Rater3_t + 1; Rater5_t = Rater5_t + 1; end;  
IF Rater3 EQ Rater6 THEN do; Rater3_t = Rater3_t + 1; Rater6_t = Rater6_t + 1; end;  
IF Rater3 EQ Rater7 THEN do; Rater3_t = Rater3_t + 1; Rater7_t = Rater7_t + 1; end;  
IF Rater3 EQ Rater8 THEN do; Rater3_t = Rater3_t + 1; Rater8_t = Rater8_t + 1; end;  
IF Rater3 EQ Rater9 THEN do; Rater3_t = Rater3_t + 1; Rater9_t = Rater9_t + 1; end;
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IF Rater4 EQ Rater5 THEN do; Rater4_t = Rater4_t + 1; Rater5_t = Rater5_t + 1; end;  
IF Rater4 EQ Rater6 THEN do; Rater4_t = Rater4_t + 1; Rater6_t = Rater6_t + 1; end;  
IF Rater4 EQ Rater7 THEN do; Rater4_t = Rater4_t + 1; Rater7_t = Rater7_t + 1; end;  
IF Rater4 EQ Rater8 THEN do; Rater4_t = Rater4_t + 1; Rater8_t = Rater8_t + 1; end;  
IF Rater4 EQ Rater9 THEN do; Rater4_t = Rater4_t + 1; Rater9_t = Rater9_t + 1; end;
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IF Rater5 EQ Rater6 THEN do; Rater5_t = Rater5_t + 1; Rater6_t = Rater6_t + 1; end;  
IF Rater5 EQ Rater7 THEN do; Rater5_t = Rater5_t + 1; Rater7_t = Rater7_t + 1; end;  
IF Rater5 EQ Rater8 THEN do; Rater5_t = Rater5_t + 1; Rater8_t = Rater8_t + 1; end;  
IF Rater5 EQ Rater9 THEN do; Rater5_t = Rater5_t + 1; Rater9_t = Rater9_t + 1; end;
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IF Rater6 EQ Rater7 THEN do; Rater6_t = Rater6_t + 1; Rater7_t = Rater7_t + 1; end;  
IF Rater6 EQ Rater8 THEN do; Rater6_t = Rater6_t + 1; Rater8_t = Rater8_t + 1; end;  
IF Rater6 EQ Rater9 THEN do; Rater6_t = Rater6_t + 1; Rater9_t = Rater9_t + 1; end;
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IF Rater7 EQ Rater8 THEN do; Rater7_t = Rater7_t + 1; Rater8_t = Rater8_t + 1; end;  
IF Rater7 EQ Rater9 THEN do; Rater7_t = Rater7_t + 1; Rater9_t = Rater9_t + 1; end;
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IF Rater8 EQ Rater9 THEN do; Rater8_t = Rater8_t + 1; Rater9_t = Rater9_t + 1; end;
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Rater1_pct = 100 * Rater1_t / 8;  
Rater2_pct = 100 * Rater2_t / 8;  
Rater3_pct = 100 * Rater3_t / 8;  
Rater4_pct = 100 * Rater4_t / 8;  
Rater5_pct = 100 * Rater5_t / 8;  
Rater6_pct = 100 * Rater6_t / 8;  
Rater7_pct = 100 * Rater7_t / 8;  
Rater8_pct = 100 * Rater8_t / 8;
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Rater9_pct = 100 * Rater9_t / 8;
Overall = mean(of Rater1_pct Rater2_pct Rater3_pct Rater4_pct Rater5_pct
              Rater6_pct Rater7_pct Rater8_pct Rater9_pct);

PROC PRINT UNIFORM DATA=LoU;
  var Tape_no Rater1 Rater2 Rater3 Rater4 Rater5 Rater6 Rater7 Rater8 Rater9;
  run;

PROC MEANS NOPRINT ;
  VAR   Rater1_pct Rater2_pct Rater3_pct Rater4_pct Rater5_pct
        Rater6_pct Rater7_pct Rater8_pct Rater9_pct Overall;
  OUTPUT OUT=Overall
  mean = Rater1_pct Rater2_pct Rater3_pct Rater4_pct Rater5_pct
        Rater6_pct Rater7_pct Rater8_pct Rater9_pct Overall;

DATA LoU; SET LoU Overall;
  if tape_no eq '' then tape_no = 'Overall';

PROC PRINT data=LoU UNIFORM DOUBLE;
  VAR tape_no Rater1_pct Rater2_pct Rater3_pct Rater4_pct Rater5_pct
        Rater6_pct Rater7_pct Rater8_pct Rater9_pct Overall;
  Format   Rater1_pct Rater2_pct Rater3_pct Rater4_pct Rater5_pct
        Rater6_pct Rater7_pct Rater8_pct Rater9_pct Overall 8.0;

data LoU_N; set LoU_N;
IF (Rater1 EQ "0 ") then Rater1_N = 0;
IF (Rater1 EQ "1 ") then Rater1_N = 1;
IF (Rater1 EQ "2 ") then Rater1_N = 2;
IF (Rater1 EQ "3 ") then Rater1_N = 3;
IF (Rater1 EQ "4A") then Rater1_N = 4;
IF (Rater1 EQ "4B") then Rater1_N = 4.5;
IF (Rater1 EQ "5 ") then Rater1_N = 5;
IF (Rater1 EQ "6 ") then Rater1_N = 6;

IF (Rater2 EQ "0 ") then Rater2_N = 0;
IF (Rater2 EQ "1 ") then Rater2_N = 1;
IF (Rater2 EQ "2 ") then Rater2_N = 2;
IF (Rater2 EQ "3 ") then Rater2_N = 3;
IF (Rater2 EQ "4A") then Rater2_N = 4;

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IF (Rater2 EQ "4B") then Rater2_N = 4.5;
IF (Rater2 EQ "5 ") then Rater2_N = 5;
IF (Rater2 EQ "6 ") then Rater2_N = 6;

IF (Rater3 EQ "0 ") then Rater3_N = 0;
IF (Rater3 EQ "1 ") then Rater3_N = 1;
IF (Rater3 EQ "2 ") then Rater3_N = 2;
IF (Rater3 EQ "3 ") then Rater3_N = 3;
IF (Rater3 EQ "4A") then Rater3_N = 4;
IF (Rater3 EQ "4B") then Rater3_N = 4.5;
IF (Rater3 EQ "5 ") then Rater3_N = 5;
IF (Rater3 EQ "6 ") then Rater3_N = 6;

IF (Rater4 EQ "0 ") then Rater4_N = 0;
IF (Rater4 EQ "1 ") then Rater4_N = 1;
IF (Rater4 EQ "2 ") then Rater4_N = 2;
IF (Rater4 EQ "3 ") then Rater4_N = 3;
IF (Rater4 EQ "4A") then Rater4_N = 4;
IF (Rater4 EQ "4B") then Rater4_N = 4.5;
IF (Rater4 EQ "5 ") then Rater4_N = 5;
IF (Rater4 EQ "6 ") then Rater4_N = 6;

IF (Rater5 EQ "0 ") then Rater5_N = 0;
IF (Rater5 EQ "1 ") then Rater5_N = 1;
IF (Rater5 EQ "2 ") then Rater5_N = 2;
IF (Rater5 EQ "3 ") then Rater5_N = 3;
IF (Rater5 EQ "4A") then Rater5_N = 4;
IF (Rater5 EQ "4B") then Rater5_N = 4.5;
IF (Rater5 EQ "5 ") then Rater5_N = 5;
IF (Rater5 EQ "6 ") then Rater5_N = 6;

IF (Rater6 EQ "0 ") then Rater6_N = 0;
IF (Rater6 EQ "1 ") then Rater6_N = 1;
IF (Rater6 EQ "2 ") then Rater6_N = 2;
IF (Rater6 EQ "3 ") then Rater6_N = 3;
IF (Rater6 EQ "4A") then Rater6_N = 4;
IF (Rater6 EQ "4B") then Rater6_N = 4.5;
IF (Rater6 EQ "5 ") then Rater6_N = 5;
IF (Rater6 EQ "6 ") then Rater6_N = 6;

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IF (Rater7 EQ "0 ") then Rater7_N = 0;
IF (Rater7 EQ "1 ") then Rater7_N = 1;
IF (Rater7 EQ "2 ") then Rater7_N = 2;
IF (Rater7 EQ "3 ") then Rater7_N = 3;
IF (Rater7 EQ "4A") then Rater7_N = 4;
IF (Rater7 EQ "4B") then Rater7_N = 4.5;
IF (Rater7 EQ "5 ") then Rater7_N = 5;
IF (Rater7 EQ "6 ") then Rater7_N = 6;
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IF (Rater8 EQ "0 ") then Rater8_N = 0;
IF (Rater8 EQ "1 ") then Rater8_N = 1;
IF (Rater8 EQ "2 ") then Rater8_N = 2;
IF (Rater8 EQ "3 ") then Rater8_N = 3;
IF (Rater8 EQ "4A") then Rater8_N = 4;
IF (Rater8 EQ "4B") then Rater8_N = 4.5;
IF (Rater8 EQ "5 ") then Rater8_N = 5;
IF (Rater8 EQ "6 ") then Rater8_N = 6;
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IF (Rater9 EQ "0 ") then Rater9_N = 0;
IF (Rater9 EQ "1 ") then Rater9_N = 1;
IF (Rater9 EQ "2 ") then Rater9_N = 2;
IF (Rater9 EQ "3 ") then Rater9_N = 3;
IF (Rater9 EQ "4A") then Rater9_N = 4;
IF (Rater9 EQ "4B") then Rater9_N = 4.5;
IF (Rater9 EQ "5 ") then Rater9_N = 5;
IF (Rater9 EQ "6 ") then Rater9_N = 6;
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proc corr data=LoU_N alpha;
  var Rater1_N Rater2_N Rater3_N Rater4_N Rater5_N Rater6_N Rater7_N Rater8_N Rater9_N;
run;
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