

Appendix A. LISCOMP code for the final multiple group analysis of the artificial data with the treatment growth factor and treatment by initial status interaction. The first five h's correspond to the five repeated measures, the sixth h is the normative intercept, the seventh h is the normative slope, and the eighth h is the treatment slope.

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//IDHBPJC JOB
// EXEC LISCOMP
TI FIVE TIME POINTS: ALPHA(C), BETA(C), AND BETA(T)
TI EQUALITY CONSTRAINT IN NU, NOT ALPHA
TI INCLUDES INTERACTION WITH GAMMA=.252 (ES=.30)
TI GROUP 1 IS CONTROL, GROUP 2 IS TREATMENT
DA IY=5 IX=0 NG=2 NO=250
LA
'T1' 'T2' 'T3' 'T4' 'T5'
MO MO=SE P1 P3 NE=8 LY=FI TE=FI BE=FI PS=FI NU=FI AL=FI
VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4) LY(5,5)
VA 1.0 BE(1,6) BE(2,6) BE(3,6) BE(4,6) BE(5,6)
VA 0.0 BE(1,7)
VA 1.0 BE(2,7)
VA 2.0 BE(3,7)
VA 3.0 BE(4,7)
VA 4.0 BE(5,7)
FR PS(1,1) PS(2,2) PS(3,3) PS(4,4) PS(5,5) PS(6,6) PS(7,7) PS(7,6)
FR AL(7)
VA .79 AL(7)
FR NU(1) NU(2) NU(3) NU(4) NU(5)
EQ NU(1,1) NU(1,2)
EQ NU(1,1) NU(1,3)
EQ NU(1,1) NU(1,4)
EQ NU(1,1) NU(1,5)
VA 1 PS(1,1)
VA 1.42 PS(2,2)
VA 2.27 PS(3,3)
VA 3.47 PS(4,4)
VA 5.09 PS(5,5)
VA 1.0 PS(6,6)
VA .20 PS(7,7)
VA 0.0 PS(8,8)
VA .11 PS(7,6)
VA 0.0 AL(6)
VA .797 AL(7)
VA 1.0 NU(1) NU(2) NU(3) NU(4) NU(5)
OU MN ST RS ES ET PT SE TV
SC
-1 -1.797998 -2.595996 -3.393994 -4.191992
2
1.1118034 2.8472136
1.2236068 1.7354102 4.4944272
1.3354102 2.0472136 2.759017 6.9416408
1.4472136 2.359017 3.2708204 4.1826238 10.188854
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(continued)

TI GROUP 1 IS CONTROL, GROUP 2 IS TREATMENT  
 DA IY=5 IX=0 NG=2 NO=250  
 MO MO=SE P1 P3 NE=8 LY=FI TE=FI BE=FI PS=FI NU=FI AL=FI  
 VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4) LY(5,5)  
 VA 1.0 BE(1,6) BE(2,6) BE(3,6) BE(4,6) BE(5,6)  
 VA 0.0 BE(1,7)  
 VA 1.0 BE(2,7)  
 VA 2.0 BE(3,7)  
 VA 3.0 BE(4,7)  
 VA 4.0 BE(5,7)  
 VA 0.0 BE(1,8)  
 VA 1.0 BE(2,8)  
 VA 2.0 BE(3,8)  
 VA 3.0 BE(4,8)  
 VA 4.0 BE(5,8)  
 FR PS(1,1) PS(2,2) PS(3,3) PS(4,4) PS(5,5) PS(6,6) PS(7,7)  
 FR PS(7,6)  
 FR AL(7)  
 VA .79 AL(7)  
 FR NU(1) NU(2) NU(3) NU(4) NU(5)  
 EQ NU(2,1) NU(2,2)  
 EQ NU(2,1) NU(2,3)  
 EQ NU(2,1) NU(2,4)  
 EQ NU(2,1) NU(2,5)  
 EQ NU(2,1) NU(1,1)  
 EQ NU(2,2) NU(1,2)  
 EQ NU(2,3) NU(1,3)  
 EQ NU(2,4) NU(1,4)  
 EQ NU(2,5) NU(1,5)  
 EQ PS(2,6,6) PS(1,6,6)  
 EQ PS(2,7,7) PS(1,7,7)  
 EQ PS(2,7,6) PS(1,7,6)  
 EQ AL(2,7) AL(1,7)  
 VA 1 PS(1,1)  
 VA 1.62 PS(2,2)  
 VA 3.05 PS(3,3)  
 VA 5.27 PS(4,4)  
 VA 8.30 PS(5,5)  
 VA 1.0 PS(6,6)  
 VA .20 PS(7,7)  
 VA .11 PS(7,6)  
 VA .797 AL(7)  
 VA 1.0 NU(1) NU(2) NU(3) NU(4) NU(5)  
 FR AL(8)  
 VA .18 AL(8)  
 FR PS(8,8)  
 VA .20 PS(8,8)  
 FR BE(8,6)  
 VA .252 BE(8,6)  
 OU MN ST RS ES ET PT SE TV  
 SC  
 -1 -1.980943 -2.961886 -3.942829 -4.923772  
 2  
 1.4207534 4.6211804  
 1.8415068 3.200427 9.1186946  
 2.2622602 4.0902639 5.9182675 15.492542  
 2.6830136 4.9801007 7.2771878 9.5742749 23.742724

Appendix B. LISCOMP code for the final growth model of the Kellam et al. (1994) aggressive behavior intervention. The mean vectors (given with negative signs) and the covariance matrices are given after the "SC" command for each group (the control group is presented first, followed by the treatment group). The first eight h's correspond to the eight repeated measures, the ninth h is the normative intercept, the tenth h is the normative linear slope, the eleventh h is the normative quadratic component, and the twelfth h is the treatment linear component. It is important to note that, because of the data imputation techniques used for the analyses, these data are not necessarily reflective of the complete data set of Kellam et al. (1994). The imputation was done for demonstration purposes only.

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//IDHBPIJC JOB TIME=(2,00)
// EXEC LISCOMP
TI IMPUTED AGGRESSION DATA;
TI GROUP 1 = CONTROL, N=111;
TI GROUP 2 = TREATMENT, N=75;
TI ALPHA(C) BETA-LINEAR-C
TI BETA-QUAD-C AND BETA-LIN-T
DA IY=8 IX=0 NG=2 NO=111
LA
'T1' 'T2' 'T3' 'T4' 'T5' 'T6' 'T7' 'T8'
MO MO=SE P1 P3 NE=12 LY=FI TE=FI BE=FI PS=FI NU=FI AL=FI
VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4) LY(5,5) LY(6,6) LY(7,7) LY(8,8)
VA 1.0 BE(1,9) BE(2,9) BE(3,9) BE(4,9) BE(5,9) BE(6,9) BE(7,9) BE(8,9)
VA 0.0 BE(1,10)
VA 1.0 BE(2,10)
VA 2.0 BE(3,10)
VA 3.0 BE(4,10)
VA 5.0 BE(5,10)
VA 7.0 BE(6,10)
VA 9.0 BE(7,10)
VA 11 BE(8,10)
VA 0.0 BE(1,11)
VA 1.0 BE(2,11)
VA 4.0 BE(3,11)
VA 9.0 BE(4,11)
VA 25 BE(5,11)
VA 49 BE(6,11)
VA 81 BE(7,11)
VA 121 BE(8,11)
FR PS(1,1) PS(2,2) PS(3,3) PS(4,4) PS(5,5) PS(6,6) PS(7,7) PS(8,8)
FR PS(9,9) PS(10,10) PS(10,9)
FR PS(2,1) PS(3,2) PS(4,3) PS(5,4) PS(6,5) PS(7,6) PS(8,7)
FR NU(1) NU(2) NU(3) NU(4) NU(5) NU(6) NU(7) NU(8)
EQ NU(1,1) NU(1,2)
EQ NU(1,1) NU(1,3)
EQ NU(1,1) NU(1,4)
EQ NU(1,1) NU(1,5)
EQ NU(1,1) NU(1,6)
EQ NU(1,1) NU(1,7)
EQ NU(1,1) NU(1,8)
FR AL(10) AL(11)
VA .449 PS(1,1)
VA .440 PS(2,2)
VA .411 PS(3,3)
VA .535 PS(4,4)
VA .535 PS(5,5)
VA .413 PS(6,6)
VA .260 PS(7,7)
VA .309 PS(8,8)
VA .737 PS(9,9)
VA .004 PS(10,10)
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(continued)

VA 0 PS(11,11)  
VA 0 PS(12,12)  
VA -.01 PS(10,9)  
VA .280 PS(2,1)  
VA .077 PS(3,2)  
VA .251 PS(4,3)  
VA .145 PS(5,4)  
VA -.005 PS(6,5)  
VA .052 PS(7,6)  
VA -.107 PS(8,7)  
VA 2.104 NU(1) NU(2) NU(3) NU(4) NU(5) NU(6) NU(7) NU(8)  
VA .00 AL(9)  
VA .01 AL(10)  
VA -.01 AL(11)  
VA 0 PS(12,12)  
OU MN ST RS ES PT SE TV ET  
SC  
-1.952 -2.061 -1.984 -2.190 -2.307 -2.213 -2.318 -2.256  
1.026  
0.852 1.002  
0.632 0.697 1.111  
0.572 0.561 0.959 1.226  
0.554 0.609 0.783 0.885 1.321  
0.613 0.601 0.690 0.713 0.811 1.251  
0.680 0.690 0.792 0.791 0.907 1.007 1.353  
0.530 0.539 0.779 0.852 0.947 0.967 1.021 1.490  
TI GROUP 1 IS CONTROL, GROUP 2 IS TREATMENT  
DA IY=8 IX=0 NG=2 NO=75  
MO MO=SE P1 P3 NE=12 LY=FI TE=FI BE=FI PS=FI NU=FI AL=FI  
VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4) LY(5,5) LY(6,6) LY(7,7) LY(8,8)  
VA 1.0 BE(1,9) BE(2,9) BE(3,9) BE(4,9) BE(5,9) BE(6,9) BE(7,9) BE(8,9)  
VA 0.0 BE(1,10)  
VA 1.0 BE(2,10)  
VA 2.0 BE(3,10)  
VA 3.0 BE(4,10)  
VA 5.0 BE(5,10)  
VA 7.0 BE(6,10)  
VA 9.0 BE(7,10)  
VA 11. BE(8,10)  
VA 0.0 BE(1,11)  
VA 1.0 BE(2,11)  
VA 4.0 BE(3,11)  
VA 9.0 BE(4,11)  
VA 25 BE(5,11)  
VA 49 BE(6,11)  
VA 81 BE(7,11)  
VA 121 BE(8,11)  
VA 0.0 BE(1,12)  
VA 1.0 BE(2,12)  
VA 2.0 BE(3,12)  
VA 3.0 BE(4,12)  
VA 5.0 BE(5,12)  
VA 7.0 BE(6,12)  
VA 9.0 BE(7,12)  
VA 11 BE(8,12)  
FR PS(1,1) PS(2,2) PS(3,3) PS(4,4) PS(5,5) PS(6,6) PS(7,7) PS(8,8)  
FR PS(9,9) PS(10,10) PS(10,9)  
FR PS(2,1) PS(3,2) PS(4,3) PS(5,4) PS(6,5) PS(7,6) PS(8,7)  
FR AL(10) AL(11) AL(12)  
FR NU(1) NU(2) NU(3) NU(4) NU(5) NU(6) NU(7) NU(8)  
EQ NU(2,1) NU(2,2)

EQ NU(2,1) NU(2,3)  
 EQ NU(2,1) NU(2,4)  
 EQ NU(2,1) NU(2,5)  
 EQ NU(2,1) NU(2,6)  
 EQ NU(2,1) NU(2,7)  
 EQ NU(2,1) NU(2,8)  
 (continued)  
 EQ NU(2,1) NU(1,1)  
 EQ NU(2,2) NU(1,2)  
 EQ NU(2,3) NU(1,3)  
 EQ NU(2,4) NU(1,4)  
 EQ NU(2,5) NU(1,5)  
 EQ NU(2,6) NU(1,6)  
 EQ NU(2,7) NU(1,7)  
 EQ NU(2,8) NU(1,8)  
 VA .40 PS(1,1)  
 VA .40 PS(2,2)  
 VA .40 PS(3,3)  
 VA .50 PS(4,4)  
 VA .50 PS(5,5)  
 VA .40 PS(6,6)  
 VA .30 PS(7,7)  
 VA .30 PS(8,8)  
 VA .80 PS(9,9)  
 VA .00 PS(10,10)  
 VA -.10 PS(10,9)  
 VA .10 PS(2,1)  
 VA .10 PS(3,2)  
 VA .10 PS(4,3)  
 VA .10 PS(5,4)  
 VA .10 PS(6,5)  
 VA .10 PS(7,6)  
 VA -.01 PS(8,7)  
 VA 2.104 NU(1) NU(2) NU(3) NU(4) NU(5) NU(6) NU(7) NU(8)  
 VA .00 AL(9)  
 VA .01 AL(10)  
 VA -.01 AL(11)  
 VA -.05 AL(12)  
 EQ AL(2,10) AL(1,10)  
 EQ AL(2,11) AL(1,11)  
 EQ PS(2,9,9) PS(1,9,9)  
 EQ PS(2,10,10) PS(1,10,10)  
 EQ PS(2,10,9) PS(1,10,9)  
 VA 0 PS(11,11)  
 VA 0 PS(12,12)  
 FR BE(12,9)  
 VA -.01 BE(12,9)  
 OU MN ST RS ES PT SE TV ET  
 SC  
 -2.307 -2.211 -2.268 -2.356 -2.489 -2.451 -2.304 -2.264  
 1.654  
 1.076 1.340  
 0.982 0.821 1.274  
 0.870 0.673 1.034 1.385  
 0.870 0.873 0.658 0.781 1.397  
 0.821 0.794 0.551 0.695 0.958 1.464  
 0.481 0.503 0.548 0.563 0.461 0.585 0.817  
 0.364 0.582 0.452 0.521 0.491 0.613 0.604 1.344