**Supplemental Digital Content 2**

MPLUS script for cross-lagged models. Note that the effect of time invariant covariates is expected to remain the same over time (constrained to be the same).

TITLE: Cross-lagged models: allostatic load and health

DATA: file is E:\ELSA\elsa\_AL24means.dat;

VARIABLE: NAMES ARE IDAUNIQ srh2 srh4 netwealth2 support2 physact2 netwealth4 support4 physact4 neversmoke2 pastsmoke2 currentsmoke2 noqual agew2 sexw2 married2 married4 fasting2 fasting4 AL2 AL4 walk2 walk4;

USEOBSERVATIONS = (agew2 gt 59);

USEVARIABLES are srh2 srh4 netwealth2 support2 physact2 netwealth4 support4 physact4 pastsmoke2 currentsmoke2 noqual agew2 sexw2 married2 married4 fasting2 fasting4 AL2 AL4 walk2 walk4;

CENSORED ARE AL2 AL4 (b);

Categorical are srh2 srh4;

MISSING ARE ALL (-9);

ANALYSIS: Estimator= MLR;

 INTEGRATION=MONTECARLO;

 Type = missing;

MODEL:

 AL4 ON srh2 ; srh4 ON AL2;

 AL4 ON walk2; walk4 ON AL2;

 srh4 ON walk2; walk4 ON srh2;

 AL4 ON AL2; srh4 ON srh2; walk4 ON walk2;

 AL2 ON agew2 (1); AL4 ON agew2 (1);

 AL2 ON sexw2 (2); AL4 ON sexw2 (2);

 AL2 ON pastsmoke2 (3); AL4 ON pastsmoke2 (3);

 AL2 ON currentsmoke2 (4); AL4 ON currentsmoke2 (4);

 AL2 ON noqual (5); AL4 ON noqual (5);

 AL2 ON fasting2 ; AL4 ON fasting4 ;

 srh2 ON agew2 (6); srh4 ON agew2 (6);

 srh2 ON sexw2 (7); srh4 ON sexw2 (7);

 srh2 ON pastsmoke2 (8); srh4 ON pastsmoke2 (8);

 srh2 ON currentsmoke2 (9); srh4 ON currentsmoke2 (9);

 srh2 ON noqual1 (10); srh4 ON noqual1 (10);

 walk2 ON agew2 (11); walk4 ON agew2 (11);

 walk2 ON sexw2 (12); walk4 ON sexw2 (12);

 walk2 ON pastsmoke2 (13); walk4 ON pastsmoke2 (13);

 walk2 ON currentsmoke2 (14); walk4 ON currentsmoke2 (14);

 walk2 ON noqual1 (15); walk4 ON noqual1 (15);

 AL2 ON married2; AL4 ON married4 married2;

 AL2 ON netwealth2; AL4 ON netwealth4 netwealth2;

 AL2 ON physact2 ; AL4 ON physact4 physact2;

 AL2 ON support2 ; AL4 ON support4 support2;

 srh2 ON married2; srh4 ON married4 married2;

 srh2 ON netwealth2 ; srh4 ON netwealth4 netwealth2;

 srh2 ON physact2; srh4 ON physact4 physact2;

 srh2 ON support2 ; srh4 ON support4 support2;

 walk2 ON married2 ; walk4 ON married4 married2;

 walk2 ON netwealth2 ; walk4 ON netwealth4 netwealth2;

 walk2 ON physact2; walk4 ON physact4 physact2;

 walk2 ON support2 ; walk4 ON support4 support2;

 support4 ON support2; physact4 ON physact2;

 netwealth4 ON netwealth2; married4 ON married2;

 fasting4 ON fasting2;

 support2 physact2 netwealth2 pastsmoke2 currentsmoke2 ON agew2;

 married2 fasting2 noqual ON age2;

OUTPUT: sampstat patterns tech1;