M*plus* Code for Data Generation

1a. M*plus* code for Data Generation for Model 1 across two groups, for Model\_10\_1\_2 (e.g., 20% noninvariance, a small latent difference= 0.25, and sample size *n* = 250)

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| TITLE: A Monte Carlo simulation study for measurement invariance across two groups  MONTECARLO: NAMES = y1-y10;  NGROUPS = 2;  NOBSERVATIONS = 250 250;  NREPS = 1000;  SEED = 12345;  REPSAVE = ALL;  SAVE = MI\*.dat;  MODEL POPULATION:  F BY y1-y10\*0.7;  F@1; [F@0];  y1-y10\*0.51; [y1-y10\*1.5];  MODEL POPULATION-g2:  F BY y1\*0.5 y2\*0.6 y3-y10\*0.7;  F@1.25; [F@0.25];  y1\*0.75 y2\*0.64 y3-y10\*0.51; [y1\*1.75 y2\*2 y3-y10\*1.5];  MODEL:  F BY y1\*0.7 y2-y10\*0.7;  F@1; [F@0];  y1-y10\*0.51; [y1-y10\*1.5];  MODEL g2:  F BY y1\*0.5 y2\*0.6 y3-y10\*0.7;  F@1.25; [F@0.25];  y1\*0.75 y2\*0.64 y3-y10\*0.51; [y1\*1.75 y2\*2 y3-y10\*1.5];  OUTPUT: TECH9; |

M*plus* Code for Data Analysis

2a. M*plus* code for the MIMIC-interaction with the constrained baseline model (i.e., constant anchor method)

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| TITLE: MIMIC-interaction with the constrained baseline model (*k*=10)  DATA: FILE = <filename>;  ANALYSIS: TYPE = RANDOM;  ALGORITHM=INTEGRATION;  VARIABLE: NAMES = y1-y10 g;  MODEL: F BY y1\* y2-y10;  F@1; F ON g; |

2b. M*plus* code for the MIMIC-interaction with the constrained baseline approach (i.e., constant anchor method) to examine loading and intercept measurement invariance of y1, for example

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| TITLE: MIMIC-interaction with the constrained baseline to examine y1 (*k*=10)  DATA: FILE = <filename>;  ANALYSIS: TYPE = RANDOM;  ALGORITHM=INTEGRATION;  VARIABLE: NAMES = y1-y10 g;  MODEL: F BY y1\* y2-y10;  F@1; F ON g;  Fg | F XWITH g;  y1 ON g Fg; |

M*plus* Code for Empirical Illustration

3a. M*plus* code for the MIMIC-interaction with the constrained baseline model (i.e., constant anchor method) in empirical illustration

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| TITLE: MIMIC-interaction with the constrained baseline model (*k*=9)  DATA: FILE = <filename>;  ANALYSIS: TYPE = RANDOM;  ALGORITHM=INTEGRATION;  VARIABLE: NAMES = y1-y9 g;  MODEL: F BY y1\* y2-y9;  F@1; F ON g; |

3b. M*plus* code for the MIMIC-interaction with the constrained baseline approach (i.e., constant anchor method) to examine loading and intercept measurement invariance of y1, for example, in empirical illustration

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| TITLE: MIMIC-interaction with the constrained baseline to examine y1 (*k*=9)  DATA: FILE = <filename>;  ANALYSIS: TYPE = RANDOM;  ALGORITHM=INTEGRATION;  VARIABLE: NAMES = y1-y9 g;  MODEL: F BY y1\* y2-y10;  F@1; F ON g;  Fg | F XWITH g;  y1 ON g Fg; |

3c. M*plus* code for the MIMIC-interaction with the constrained baseline model (i.e., constant anchor method) after removing item 7 from all other anchors in empirical illustration

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| TITLE: MIMIC-interaction with the constrained baseline model (*k*=9) after removing item 7  DATA: FILE = <filename>;  ANALYSIS: TYPE = RANDOM;  ALGORITHM=INTEGRATION;  VARIABLE: NAMES = y1-y9 g;  MODEL: F BY y1\* y2-y9;  F@1; F ON g;  Fg | F XWITH g;  y7 ON g Fg; |

3d. M*plus* code for the MIMIC-interaction with the constrained baseline approach (i.e., constant anchor method) to examine loading and intercept measurement invariance of y1, for example, after removing item 7 from all other anchors in empirical illustration

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| TITLE: MIMIC-interaction with the constrained baseline model to examine y1 (*k*=9) after removing item 7  DATA: FILE = <filename>;  ANALYSIS: TYPE = RANDOM;  ALGORITHM=INTEGRATION;  VARIABLE: NAMES = y1-y9 g;  MODEL: F BY y1\* y2-y10;  F@1; F ON g;  Fg | F XWITH g;  y1 y7 ON g Fg; |