Using Mplus to Estimate k

We could not get a model to run in which we created model constrains and had k = p/a. We will continue to work on this. We did get Mplus to run using phantom variables, P1 and P2, as in Figure 2 of the paper.

The Mplus code for distinguishable dyads:

```
TITLE: APIM k Estimation -- Distinguishable Dyads
DATA: FILE is
G:mplus2.csv;
VARIABLE:  NAMES ARE
X1 Y1 X2 Y2;
ANALYSIS: type = GEN;
estimator = ml;
bootstrap = 5000;
MODEL:
  P1 by Y1*-1 (k1);
  P2 by Y2*-1 (k2);
  Y1 on X1 (a1);
  Y2 on X2 (a2);
  P1 on X2 (a1);
  P2 on X1 (a2);
  X1 with X2;
  Y1 with Y2;
  P1@0.0;
  P2@0.0;
  P1 with P2@0;
output:  sampstat stand cinterval(bootstrap);
```

The Mplus code for indistinguishable dyads:

```
TITLE: APIM k Estimation -- Indistinguishable Dyads
DATA: FILE is
G:mplus2.csv;
VARIABLE:  NAMES ARE
X1 Y1 X2 Y2;
ANALYSIS: type = Mean;
estimator = ml;
bootstrap = 5000
MODEL:
  P1 by Y1*-1 (k1);
  P2 by Y2*-1 (k1);
  Y1 on X1 (a1);
  Y2 on X2 (a1);
```

```
  P1 on X2 (a1);
  P2 on X1 (a1);
  X1 with X2;
  Y1 with Y2;
  Y1 (evar);
  Y2 (evar);
  X1 (var);
  X2 (var);
  [Y1] (int);
  [Y2] (int);
  [X1] (m);
  [X2] (m);
  P1@0.0;
  P2@0.0;
  P1 with P2@0;
output:  sampstat stand cinterval(bootstrap);
```