```
MODEL:       %WITHIN%
             s | y ON x;
             %BETWEEN%
             y ON w xm;
             [s] (gam0);
             s ON w (gam1)
             xm;
             y WITH s;
MODEL CONSTRAINT:
             PLOT(ylow yhigh);
             LOOP(level1,-3,3,0.01);
             ylow = (gam0+gam1*(-1))*level1;
             yhigh = (gam0+gam1*1)*level1;
PLOT:        TYPE = PLOT2;
```

In MODEL CONSTRAINT, the LOOP option is used in conjunction with the PLOT option to create plots of variables. In this example, cross-level interaction effects defined in MODEL CONSTRAINT will be plotted. The PLOT option names the variables that will be plotted on the y-axis. The LOOP option names the variable that will be plotted on the x-axis, gives the numbers that are the lower and upper values of the variable, and the incremental value of the variable to be used in the computations. In this example, the variables ylow and yhigh will be on the y-axes and the variable level1 will be on the x-axes. The variable level1, representing the x covariate, varies over the range of x that is of interest such as three standard deviations away from its mean. The lower and upper values of level1 are -3 and 3 and 0.01 is the incremental value of level1 to use in the computations. When level1 appears in a MODEL CONSTRAINT statement involving a new parameter, that statement is evaluated for each value of level1 specified by the LOOP option. For example, the first value of level1 is -3; the second value of level1 is -3 plus 0.01 or -2.99; the third value of level1 is -2.99 plus 0.01 or -2.98; the last value of level1 is 3. Ylow and yhigh use the values -1 and 1 of the cluster-level covariate w to represent minus one standard deviation and plus one standard deviation from the mean for w. The cross-level interaction effects are evaluated at the value zero for the cluster-level covariate xm.

Using TYPE=PLOT2 in the PLOT command, the plots of ylow and yhigh and level1 can be viewed by choosing Loop plots from the Plot menu of the Mplus Editor. The plots present the computed values along with a 95% confidence interval. For Bayesian estimation, the default is credibility intervals of the posterior distribution with equal tail percentages. The CINTERVAL option of the OUTPUT command can

be used to obtain credibility intervals of the posterior distribution that give the highest posterior density.