

# Monte Carlo confidence intervals using FIML estimates -----

## Step 1: Model Fitting

```
library(lavaan)
```

```
model <- "Y ~ cp * X + b * M
```

```
      M ~ a * X
```

```
      X ~~ X
```

```
      ab := a * b"
```

```
fit <- sem(model = model, data = data, missing = "fiml")
```

## Step 2: Monte Carlo CIs

```
library(semmcci)
```

```
MC(fit, alpha = 0.05)
```

#> Monte Carlo Confidence Intervals

#>		est	se	R	2.5%	97.5%
#>	cp	0.2335	0.0292	20000	0.1763	0.2908
#>	b	0.5113	0.0296	20000	0.4527	0.5684
#>	a	0.4809	0.0284	20000	0.4255	0.5369
#>	X~~X	1.0591	0.0496	20000	0.9627	1.1560
#>	Y~~Y	0.5542	0.0266	20000	0.5030	0.6071
#>	M~~M	0.7564	0.0360	20000	0.6853	0.8263
#>	Y~1	-0.0127	0.0252	20000	-0.0617	0.0366
#>	M~1	-0.0223	0.0291	20000	-0.0786	0.0353
#>	X~1	0.0025	0.0337	20000	-0.0643	0.0681
#>	ab	0.2458	0.0202	20000	0.2074	0.2867