

Introducing a Package for Assessing Path Model Fit with R

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The pathmodelfit R Package

The R package provides researchers with computational tools for computing fit indices for path models.

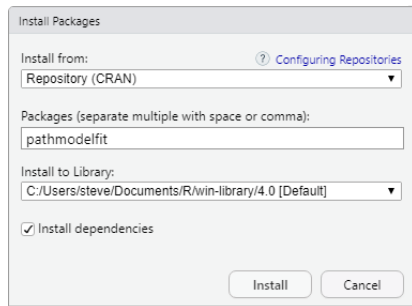
`pathmodelfit` computes: RMSEA-P, a 90% confidence interval for RMSEA-P, and NSCI-P (O'Boyle & Williams, 2011; Williams & O'Boyle, 2011), and structural fit versions of SRMRs, RMSEAs, TLIs, and CFIs (Hancock & Mueller, 2011; McNeish & Hancock, 2018).

We next discuss how to: 1) install, 2) load, and 3) apply `pathmodelfit`.

Install pathmodelfit

Using Rstudio:

1. Click the “Packages” tab
2. From the “Install from” drop-down menu select “Repository (CRAN)”
3. Type “pathmodelfit” in the “Packages” box.
4. Click “Install”



Using R syntax:

```
install.packages("pathmodelfit")
```

Load pathmodelfit

```
library(pathmodelfit)
```

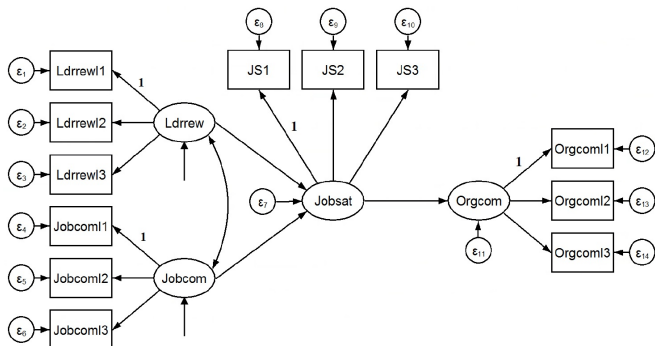
```
Loading required package: lavaan
```

```
This is lavaan 0.6-7
```

```
lavaan is BETA software! Please report any  
bugs.
```

Apply pathmodelfit

We demonstrate pathmodelfit using a mediation model with a dataset from Williams and Anderson (1994).



Note. Jobcom = Job complexity, Jobsat = Job satisfaction, Ldrrew = Leader-contingent reward behavior, Orgcom = Organizational commitment.

Load the data and specify the lavaan code for the mediation model.

```
data(mediationVC)
model4 <- '
Ldrrew =~ LdrrewI1 + LdrrewI2 + LdrrewI3
Jobcom =~ JobcomI1 + JobcomI2 + JobcomI3
Jobsat =~ JobsatI1 + JobsatI2 + JobsatI3
Orgcom =~ OrgcomI1 + OrgcomI2 + OrgcomI3
Jobsat ~ Ldrrew + Jobcom
Orgcom ~ Jobsat
'
```

Run the structural equation model and compute the path model fit indices with the `pathmodelfit` function.

```
fit <- sem(model4, sample.cov = mediationVC, sample.nobs = 232)
pathmodelfit(fit)
```

	Est
RMSEA-P	0.14685
RMSEA-P 90% lower bound	0.04543
RMSEA-P 90% upper bound	0.21931
NSCI-P	0.95587
srmr.s	0.05526
rmsea.s	0.17376
tli.s	0.88764
cfi.s	0.95506

Next Steps

Compute significance level of the chi-square difference test from models used in computing RMSEA-P.