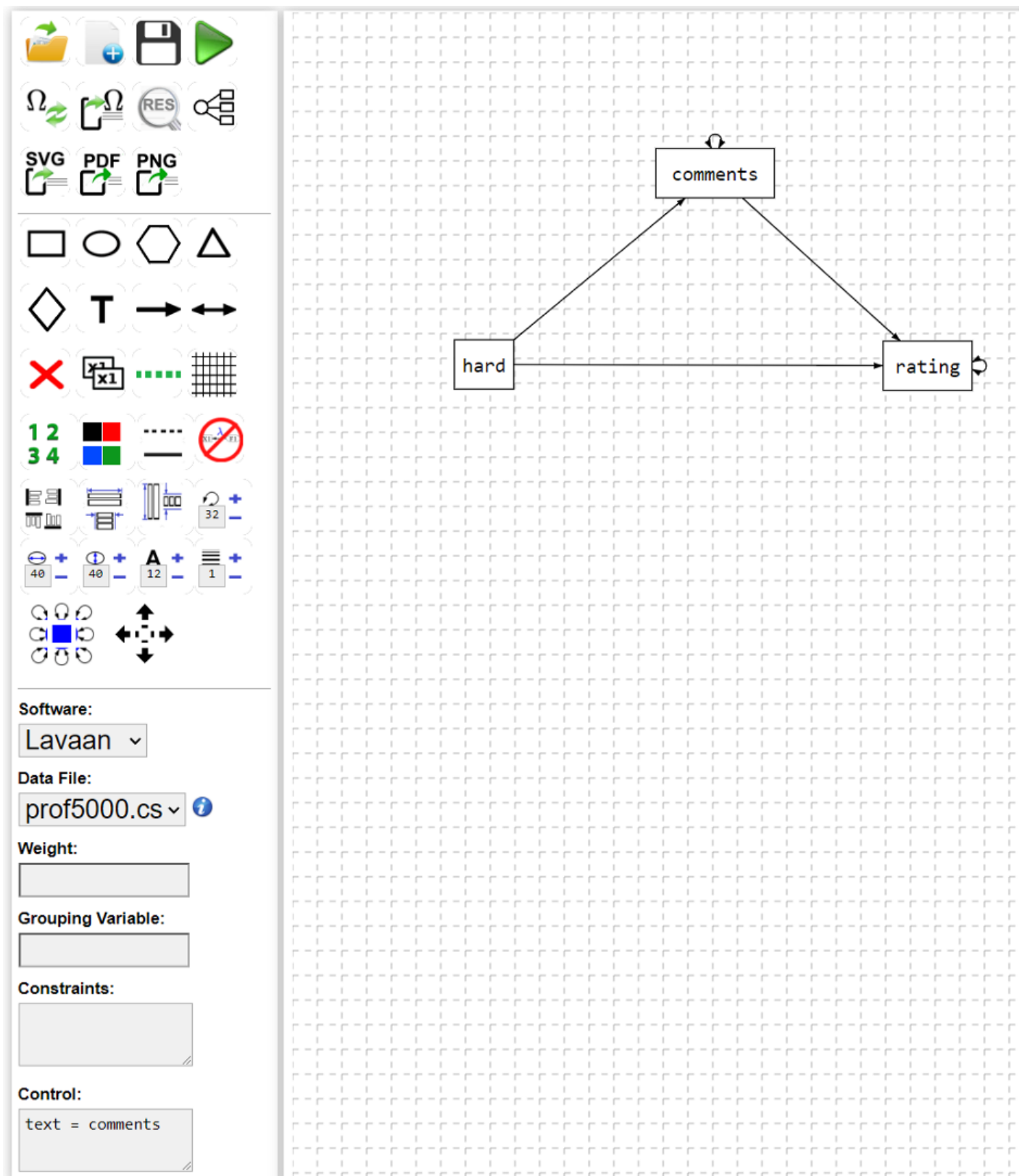


# Use of Web App

One can conduct the analysis by drawing a path diagram. To start, click the "Path Diagram" button. The interface below will appear:



A path diagram can be drawn through the buttons in the interface. In the example, we have a mediation model where the text is used as a mediator for the association of “hard” (how difficulty the class is) and “rating” (the numerical rating of the class).

Different from a regular SEM, we need to specify the variable "comments" as a text variable by setting "text = comments" in the "Control" field. The app also supports different methods including dictionary based sentiment analysis, AI based method (setting "textmethod=ai", and embedding

method (setting "textmethod=embedding").

With that, one can click on the run button (the green arrow) to carry out the analysis. For example, for the current model, we have the output as below. It mainly has two parts - the data description and the model results.

### Descriptive statistics (N=5000)

	Mean	sd	Min	Max	Skewness	Kurtosis	
id	1.4343e+04	8314.0453	9.0000	28521.000	5.7205e-03	1.7654	
profid	4.8633e+02	299.9069	1.0000	1000.000	2.9661e-02	1.7294	
rating	3.8618e+00	1.4581	1.0000	5.000	-9.5170e-01	2.4063	
hard	2.8908e+00	1.3156	1.0000	5.000	5.7725e-02	1.8941	
sentiment	2.0682e-01	0.2668	-1.4732	1.803	-6.3469e-04	4.6312	
Missing Rate							
id	0						
profid	0						
rating	0						
hard	0						
sentiment	0						

### Model information

Observed variables: hard comments rating .

Text variables: comments .

The weight is: 0 .

The software to be used is: TextSEM

lavaan 0.6-12 ended normally after 20 iterations

Estimator	ML
Optimization method	NLMINB
Number of model parameters	9

Number of observations	5000
Number of missing patterns	1

Model Test User Model:

Test statistic	0.000
Degrees of freedom	0

Model Test Baseline Model:

Test statistic	4142.684
Degrees of freedom	3
P-value	0.000

User Model versus Baseline Model:

Comparative Fit Index (CFI)	1.000
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Tucker-Lewis Index (TLI)	1.000
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Loglikelihood and Information Criteria:

Loglikelihood user model (H0)	-15862.021
Loglikelihood unrestricted model (H1)	-15862.021
Akaike (AIC)	31742.042
Bayesian (BIC)	31800.696
Sample-size adjusted Bayesian (BIC)	31772.098

Root Mean Square Error of Approximation:

RMSEA	0.000
90 Percent confidence interval - lower	0.000
90 Percent confidence interval - upper	0.000
P-value RMSEA <= 0.05	NA

Standardized Root Mean Square Residual:

SRMR	0.000
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Parameter Estimates:

Standard errors	Standard
Information	Observed
Observed information based on	Hessian

Regressions:

	Estimate	Std.Err	z-value	P(> z )
comments.OverallSenti ~				
hard	-0.075	0.003	-28.208	0.000
rating ~				
cmmnts.OvrllSn	2.829	0.059	47.785	0.000
hard	-0.355	0.012	-29.605	0.000

Intercepts:

	Estimate	Std.Err	z-value	P(> z )
.cmmnts.OvrllSn	0.424	0.008	50.120	0.000
.rating	4.304	0.043	99.150	0.000
hard	2.891	0.019	155.389	0.000

Variances:

	Estimate	Std.Err	z-value	P(> z )
.cmmnts.OvrllSn	0.061	0.001	50.000	0.000
.rating	1.076	0.022	50.000	0.000
hard	1.730	0.035	50.000	0.000

Revision #2

Created 25 March 2024 19:10:53 by Admin

Updated 3 January 2025 15:39:22 by Admin