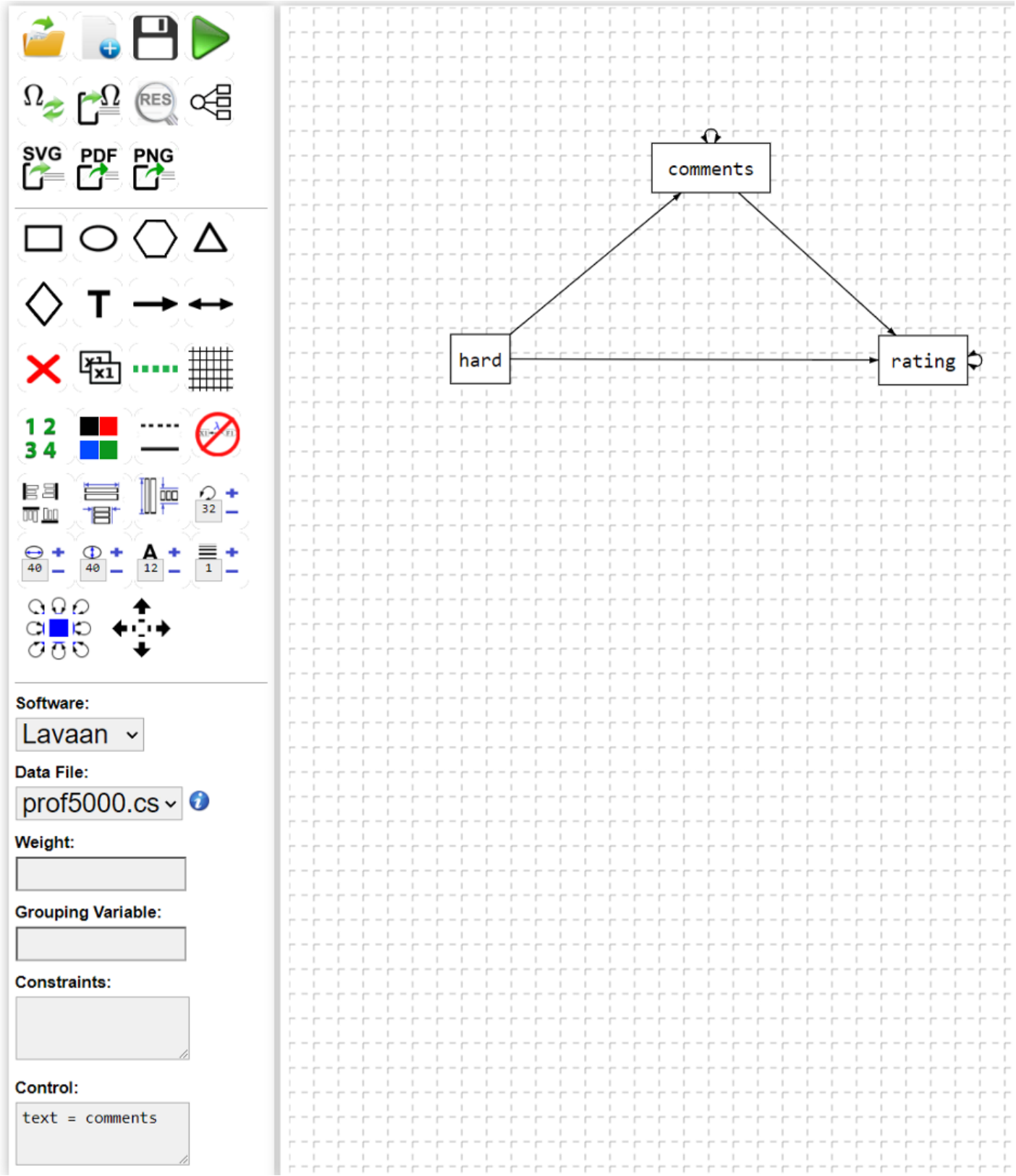
Use of Web App

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.

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: sem.text

```
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
  Tucker-Lewis Index (TLI)                       1.000
```

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

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

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