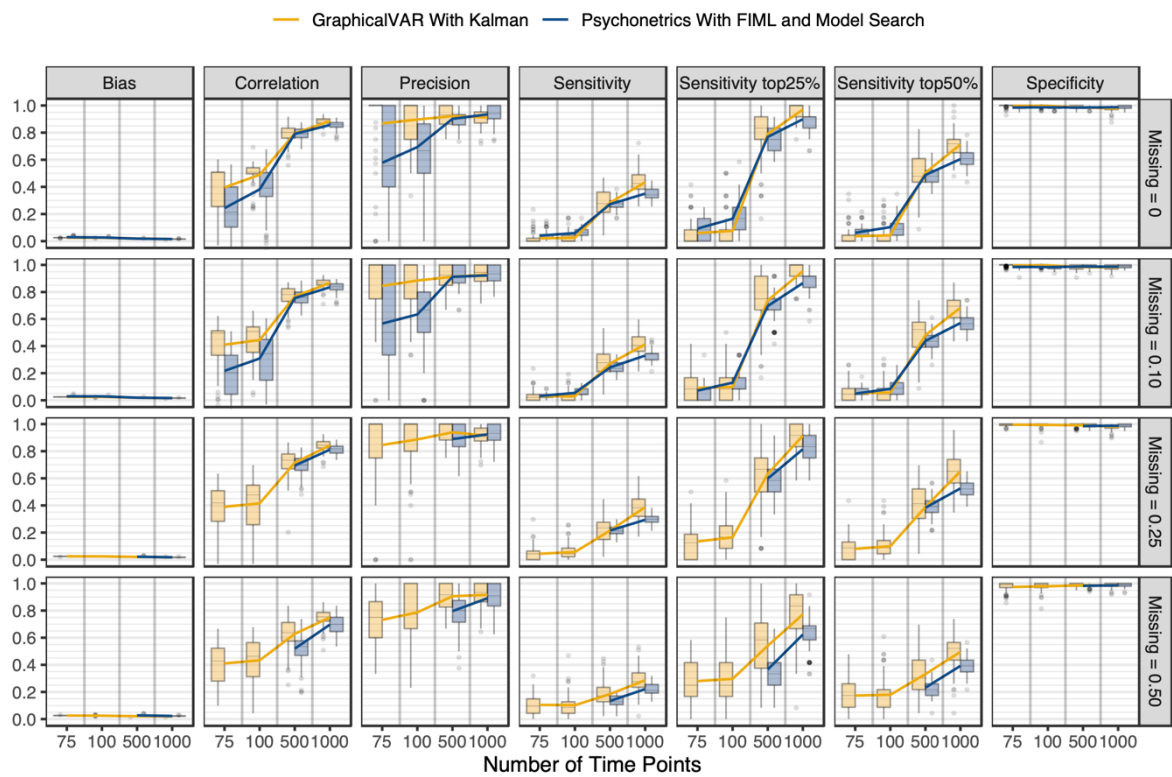<p style="text-align: center;"><strong>Supplementary Materials</strong></p>

## Simulation Results for the Temporal Networks Estimated from Data Generated According to the Parameters Estimated from Dataset 1.

**Figure 1**

*Temporal Network Simulation Results from Data Generated According to the Temporal Parameters Estimated from Dataset 1 with 12 Nodes*
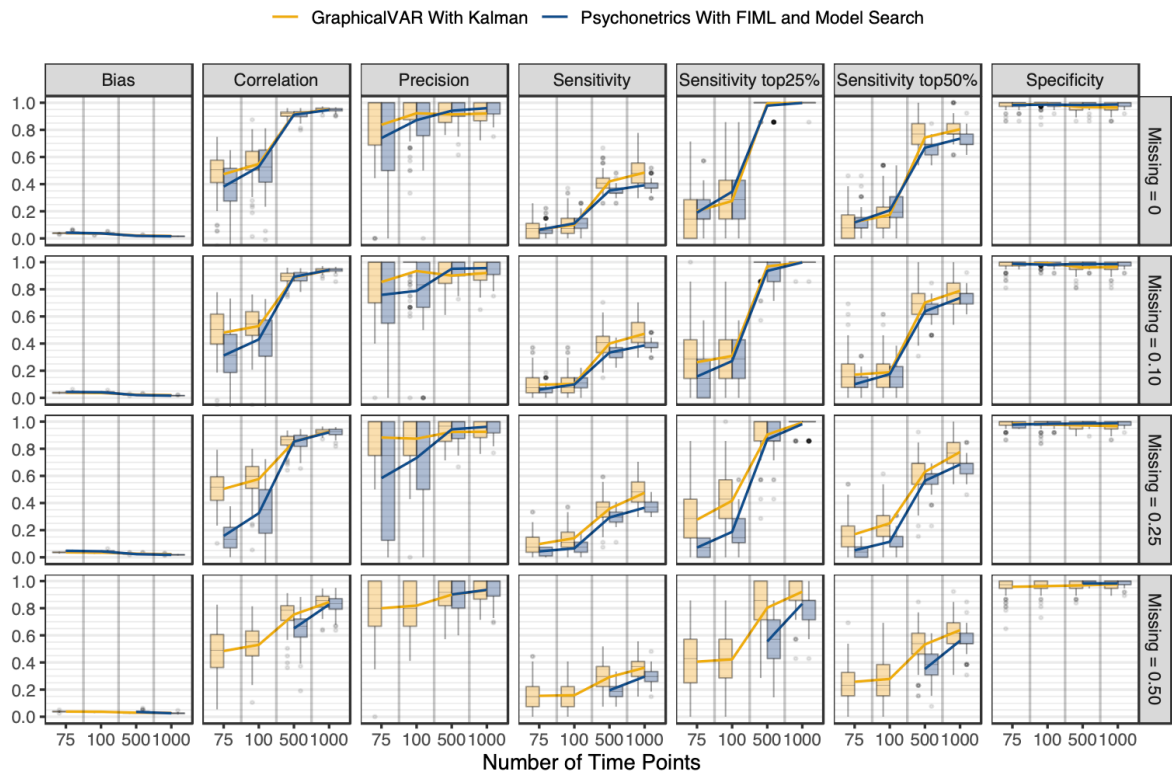


*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower bound. Outliers that exceed the whiskers are represented as points. The lines plot the means in each different condition.[1]

---

[1] 24 outlier correlations between the data-generating and estimated networks ranging from $r = -0.069$ to $r = -0.005$ were not plotted, but they were included in the summary statistics. These were found with N = 75 and N = 100, and proportion of missing data = 0, 0.10, 0.25.

**Figure 2**

*Temporal Network Simulation Results from Data Generated According to the Temporal*

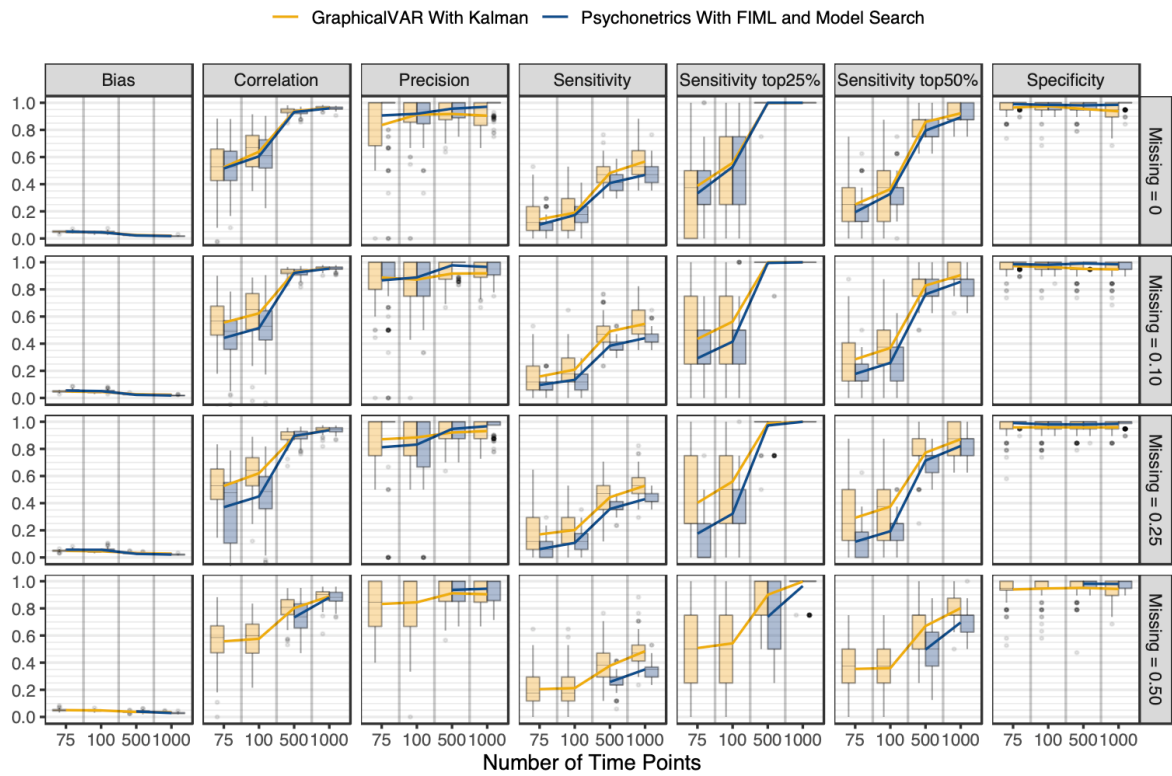*Parameters Estimated from Dataset 1 with 8 Nodes*



*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower bound. Outliers that exceed the whiskers are represented as points. The lines plot the means in each different condition.[2]

---

[2] 23 outlier correlations between the data-generating and estimated networks ranging from $r = -0.077$ to $r = -0.011$ were not plotted, but they were included in the summary statistics. These were found with $N = 75$ and $N = 100$, and proportion of missing data = 0, 0.10, 0.25.

**Figure 3**

*Temporal Network Simulation Results from Data Generated According to the Temporal*

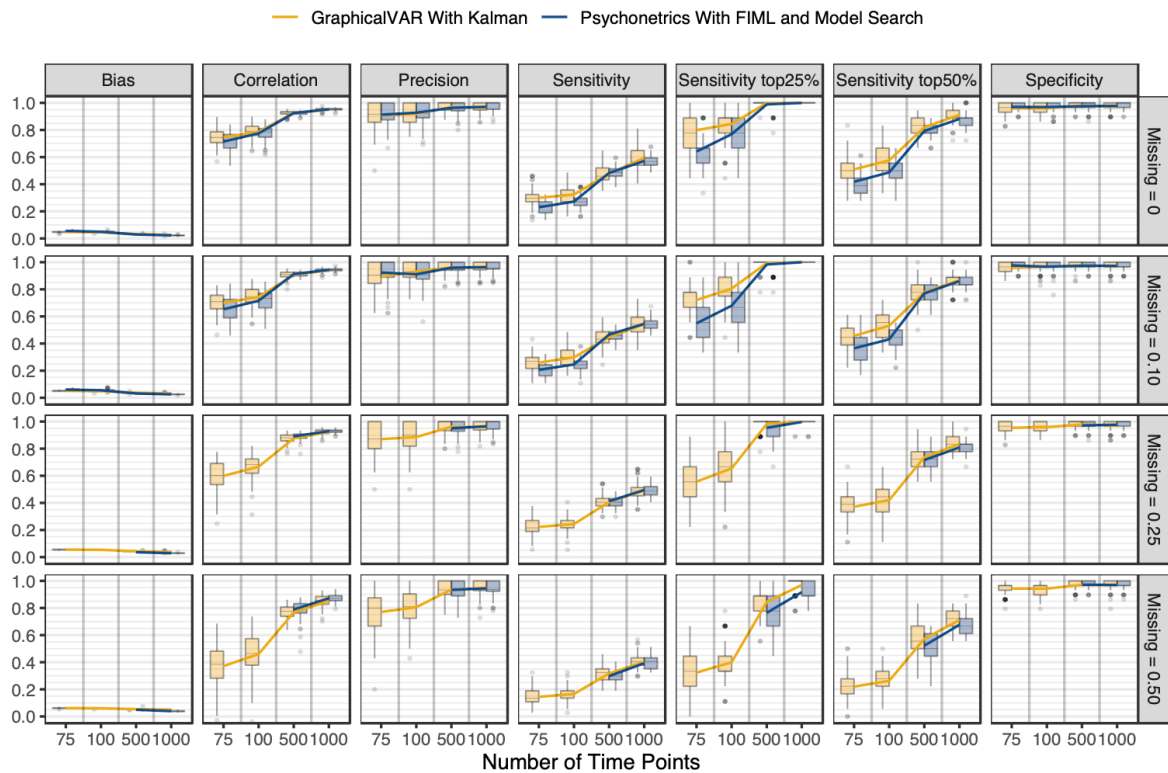*Parameters Estimated from Dataset 1 with 6 Nodes*



*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower bound. Outliers that exceed the whiskers are represented as points. The lines plot the means in each different condition.[3]

---

[3] 29 outlier correlations between the data-generating and estimated networks ranging from $r = -0.164$ to $r = -0.0002$ were not plotted, but they were included in the summary statistics. These were found with N = 75 and N = 100.

**Simulation Results for the Contemporaneous Networks Estimated from Data Generated**

**According to the Parameters Estimated from Dataset 1**

**Figure 4**

*Contemporaneous Network Simulation Results from Data Generated According to the*

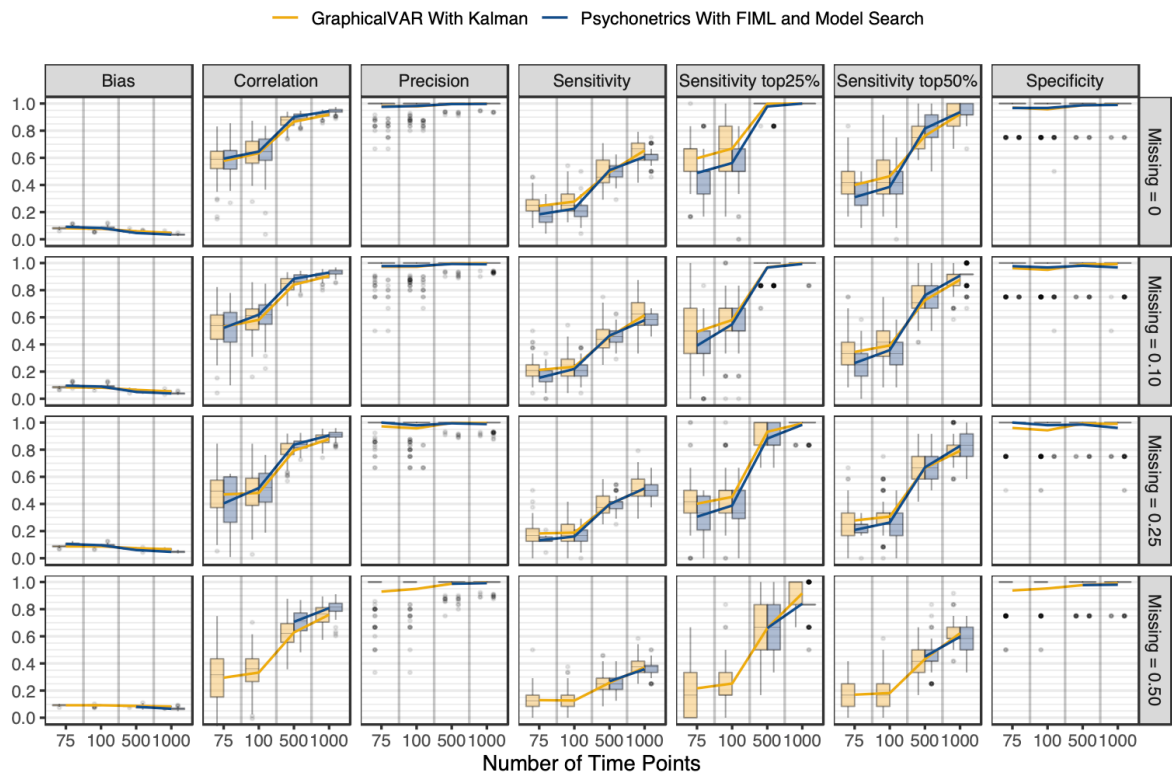*Contemporaneous Parameters Estimated from Dataset 1 with 12 Nodes*



*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower bound. Outliers that exceed the whiskers are represented as points. The lines plot the means in each different condition.[4]

---

[4] Two outlier correlations between the data-generating and estimated networks ($r = -0.067$, $r = -0.028$) were not plotted, but they were included in the summary statistics. These were found with N = 75 and N = 100, proportion of missing data = 0.50, and graphicalVAR.

**Figure 5**

*Contemporaneous Network Simulation Results from Data Generated According to the*

*Contemporaneous Parameters Estimated from Dataset 1 with 8 Nodes*
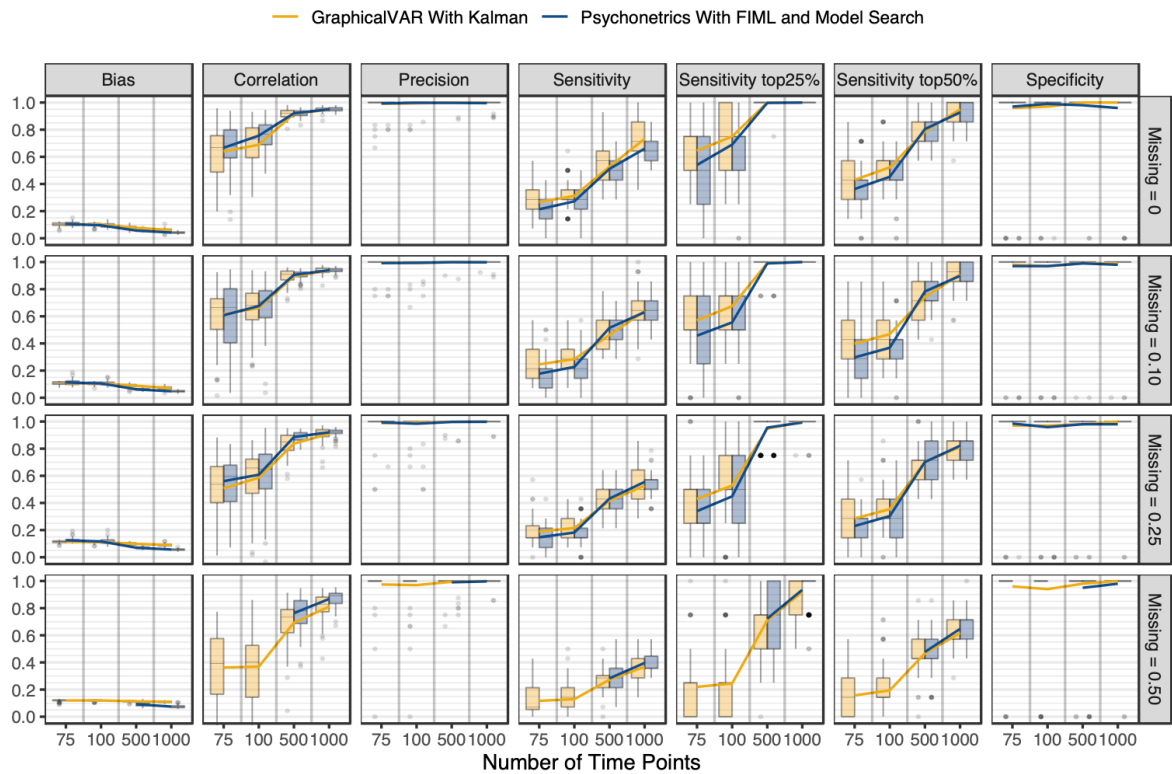


*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The

upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the

upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower

bound. Outliers that exceed the whiskers are represented as points. The lines plot the means

in each different condition.[5]

---

[5] Seven outlier correlations between the data-generating and estimated networks ranging from $r = -0.164$ to $r = -0.007$ were not plotted, but they were included in the summary statistics. These were found with N = 75 and N = 100, proportion of missing data = 0.50, and graphicalVAR.

**Figure 6**

*Contemporaneous Network Simulation Results from Data Generated According to the*

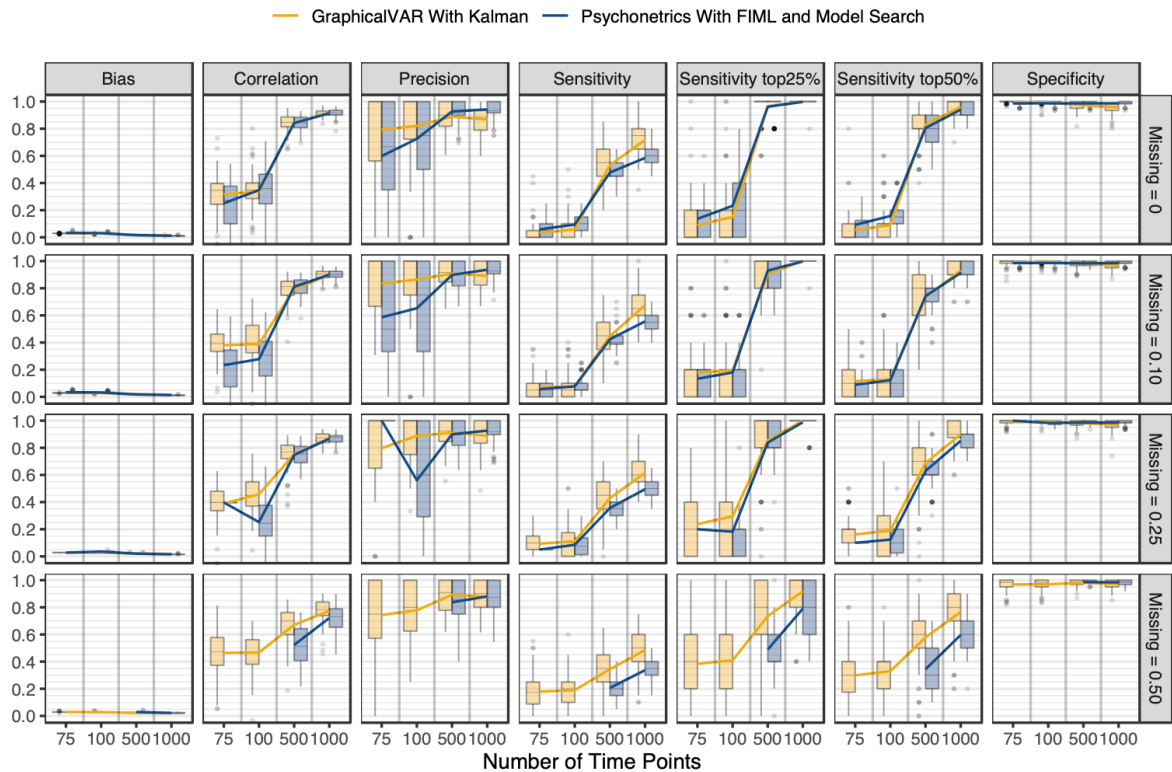*Contemporaneous Parameters Estimated from Dataset 1 with 6 Nodes*



*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower bound. Outliers that exceed the whiskers are represented as points. The lines plot the means in each different condition.[6]

---

[6] 12 outlier correlations between the data-generating and estimated networks ranging from $r$ = -0.164 to $r$ = -0.007 were not plotted, but they were included in the summary statistics. These were found with N = 75 and N = 100, and proportion of missing data = 0.50 and 0.25.

**Simulation Results for the Temporal Networks Estimated from Data Generated**

**According to the Parameters Estimated from Dataset 2**

**Figure 7**

*Temporal Network Simulation Results from Data Generated According to the Temporal*
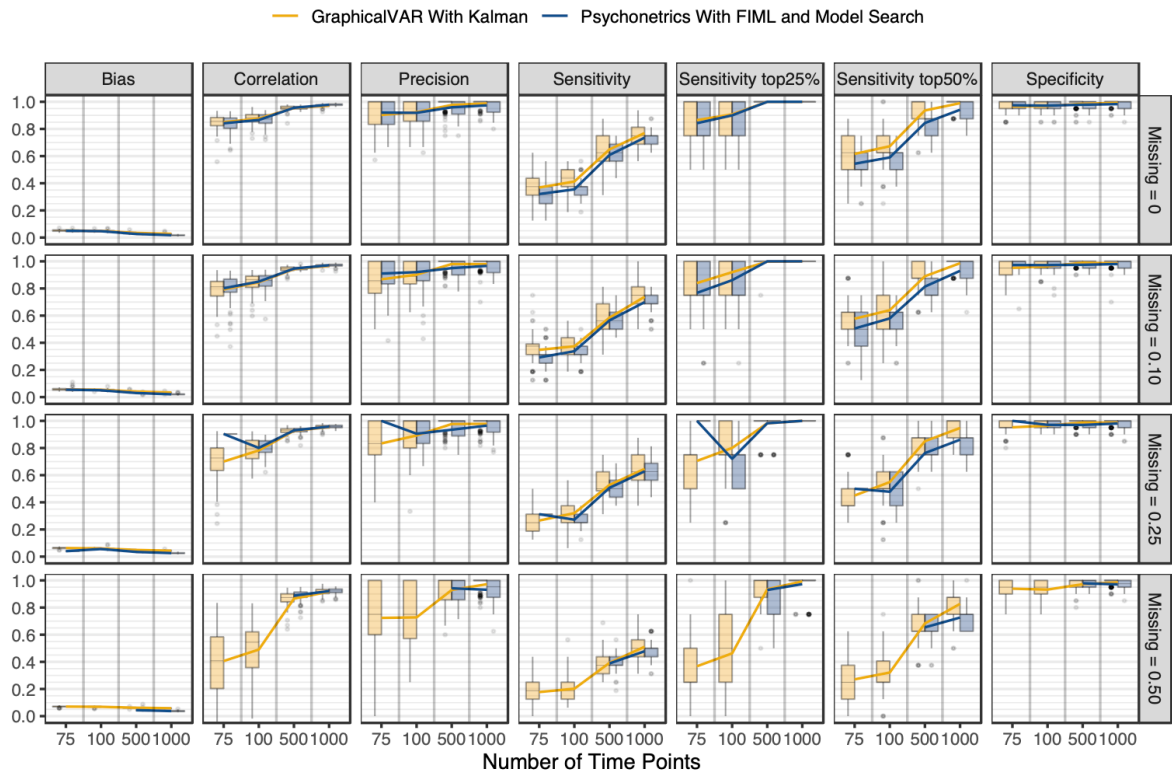
*Parameters Estimated from Dataset 2 with 9 Nodes*



*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower bound. Outliers that exceed the whiskers are represented as points. The lines plot the means in each different condition.[7]

---

[7] 41 outlier correlations between the data-generating and estimated networks ranging from $r = -0.092$ to $r = -0.001$ were not plotted, but they were included in the summary statistics. These were found with $N = 75$ and $N = 100$.

**Simulation Results for the Contemporaneous Networks Estimated from Data Generated**

**According to the Parameters Estimated from Dataset 2**

**Figure 8**

*Contemporaneous Network Simulation Results from Data Generated According to the*

*Contemporaneous Parameters Estimated from Dataset 2 with 9 Nodes*



*Note.* The upper and lower bounds of the boxplot represent the 75th and 25th percentiles. The

upper whisker reaches the maximum value within 1.5* the interquartile range (IQR) from the

upper bound. The lower whisker reaches the minimum value within 1.5 * IQR from the lower

bound. Outliers that exceed the whiskers are represented as points. The lines plot the means

in each different condition.[8]

---

[8] Five outlier correlations between the data-generating and estimated networks ranging from $r = -0.040$ to $r = -0.018$ were not plotted, but they were included in the summary statistics. These were found with N = 75 and N = 100, proportion of missing data = 0.50, and graphicalVAR.

**Proportion of Failed Estimations in the Simulations from Data Generated According to the Parameters Estimated from Dataset 1**
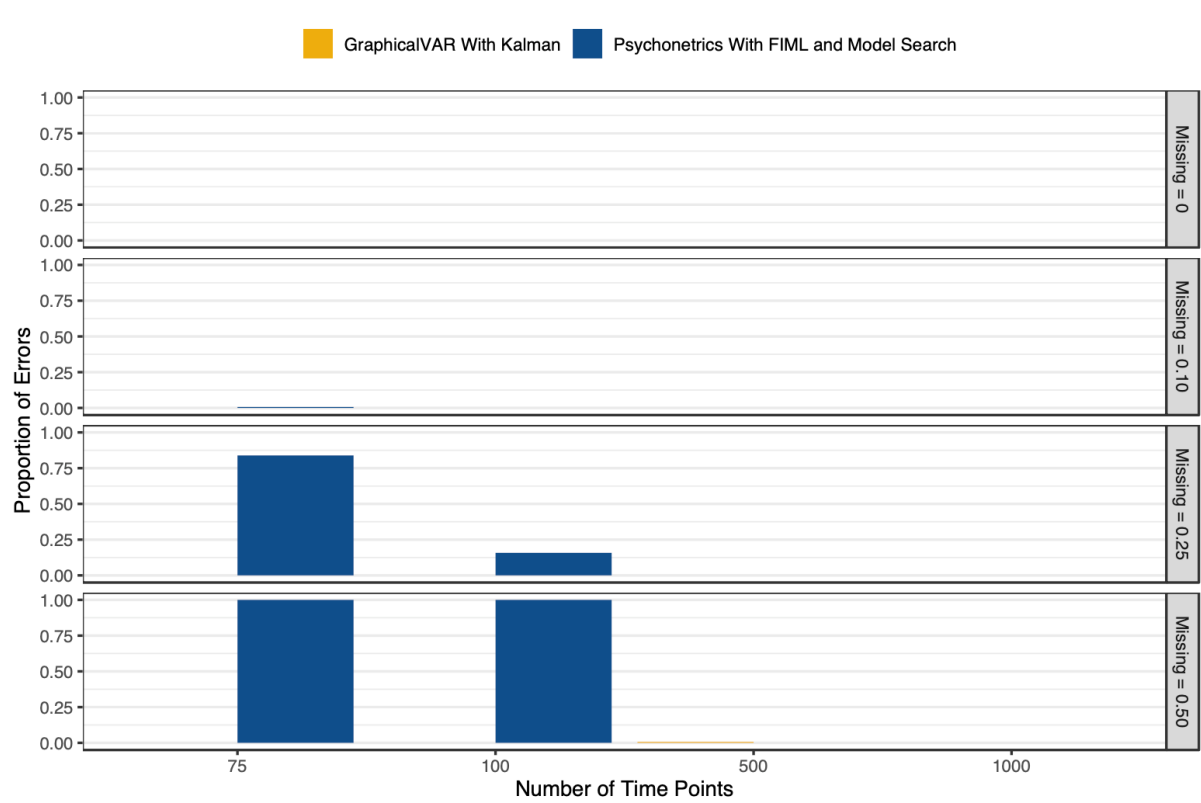
**Figure 9**

*Proportion of Failed Estimations in the Simulations from Data Generated According to the Parameters Estimated from Dataset 1 With 12 Nodes*
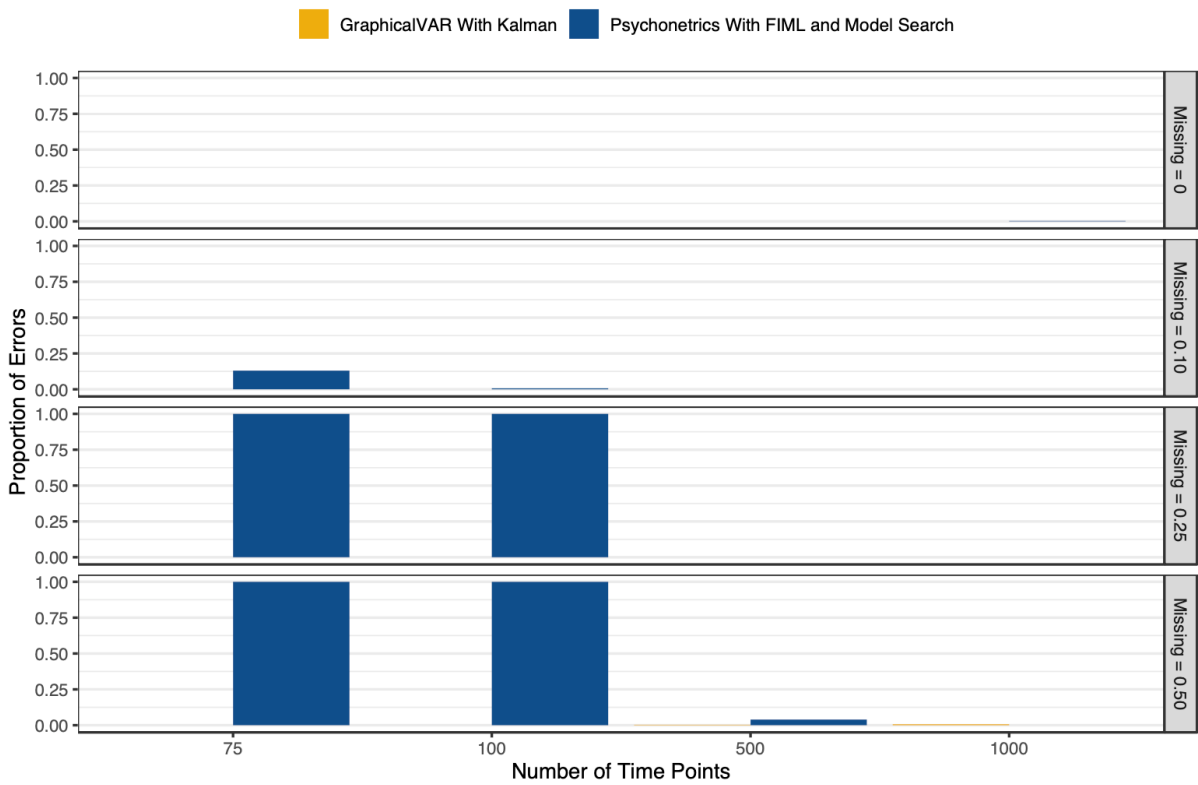


*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time points, while proportions for psychonetrics on the right.
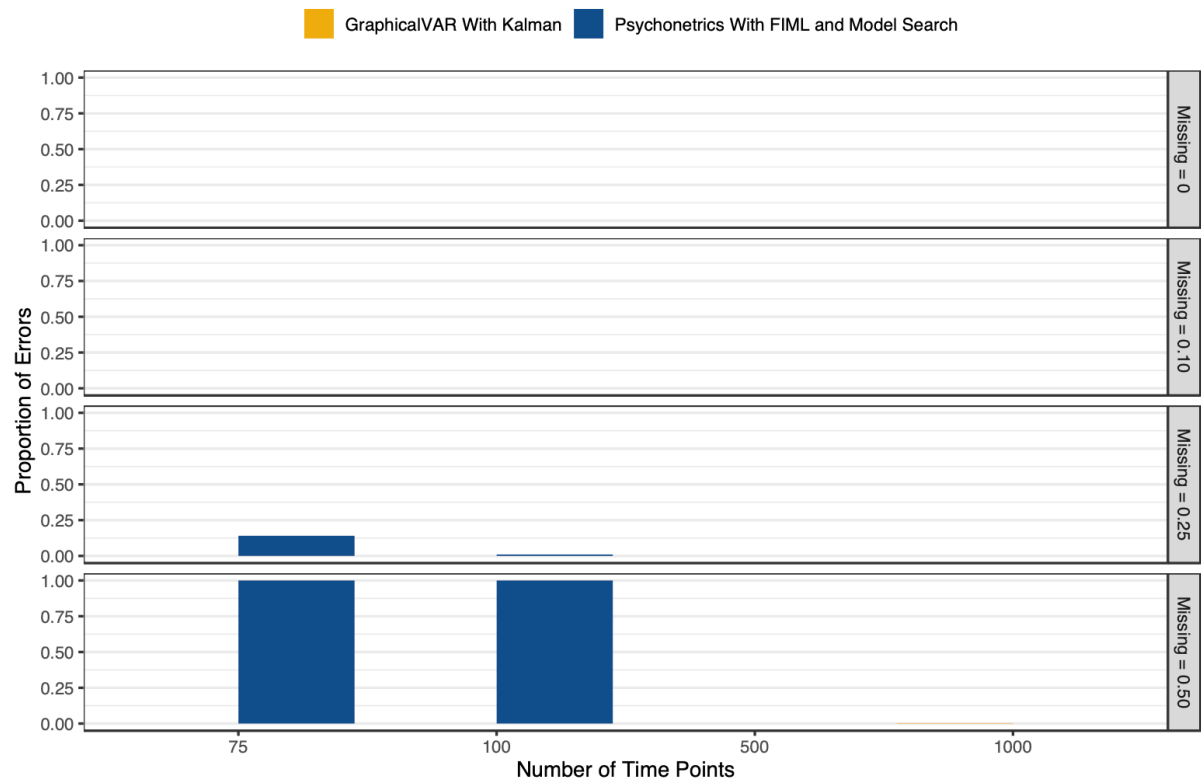
**Figure 10**

*Proportion of Failed Estimations in the Simulations from Data Generated According to the*
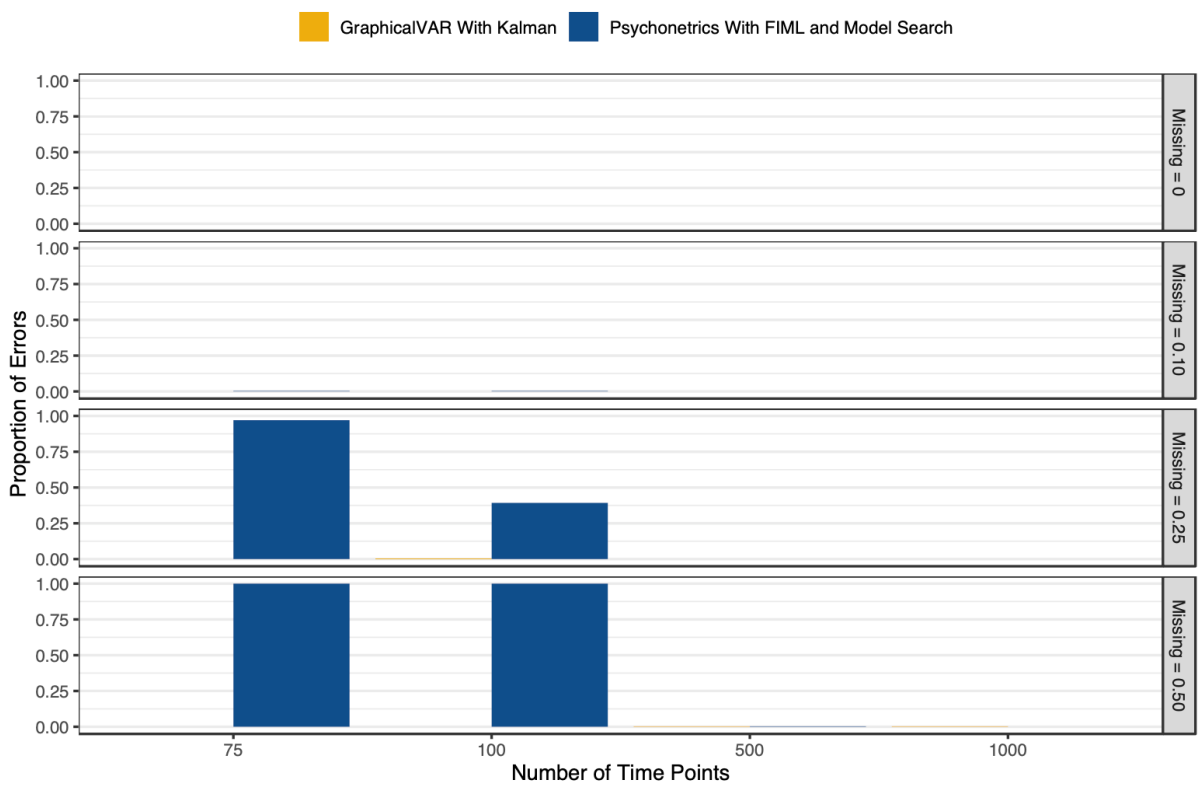
*Parameters Estimated from Dataset 1 With 8 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.

**Figure 11**

*Proportion of Failed Estimations in the Simulations from Data Generated According to the*

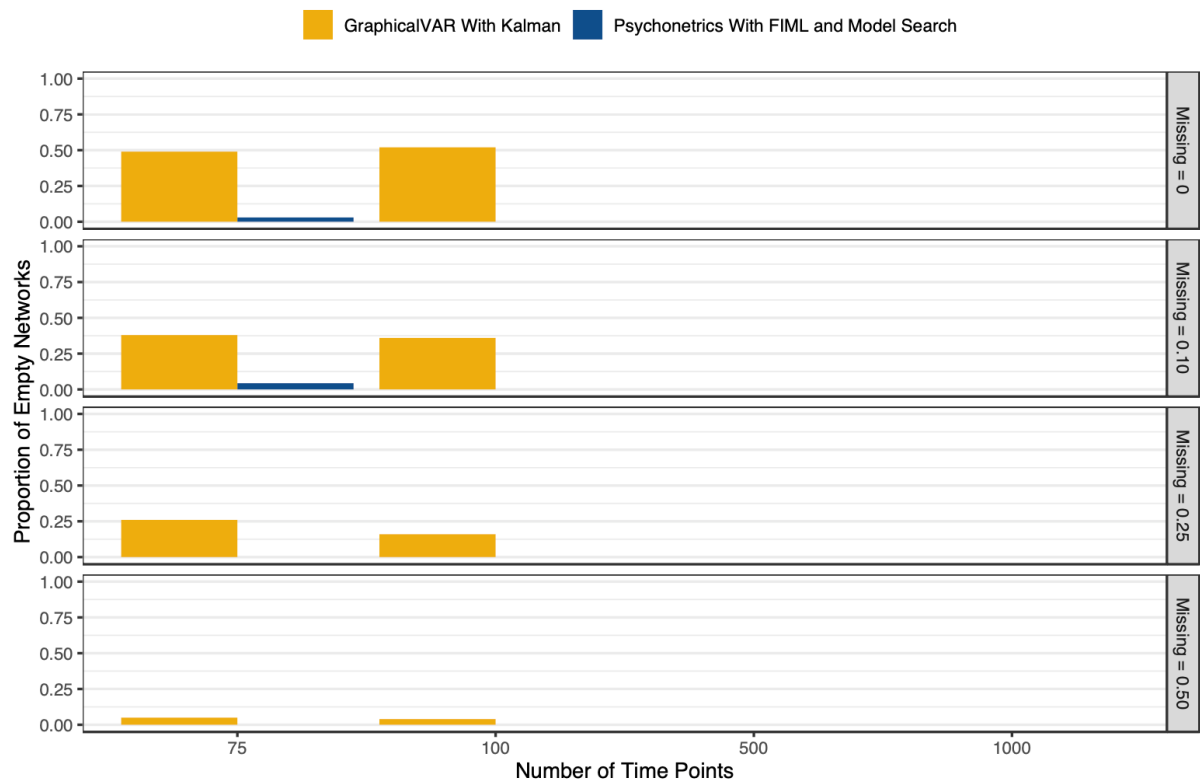*Parameters Estimated from Dataset 1 With 6 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.

**Proportion of Failed Estimations in the Simulations from Data Generated According to the Parameters Estimated from Dataset 2**

**Figure 12**

*Proportion of Failed Estimations in the Simulations from Data Generated According to the Parameters Estimated from Dataset 2 With 9 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time points, while proportions for psychonetrics on the right.

**Proportion of Estimated Empty Temporal Networks in the Simulations from Data**

**Generated According to the Parameters Estimated from Dataset 1**
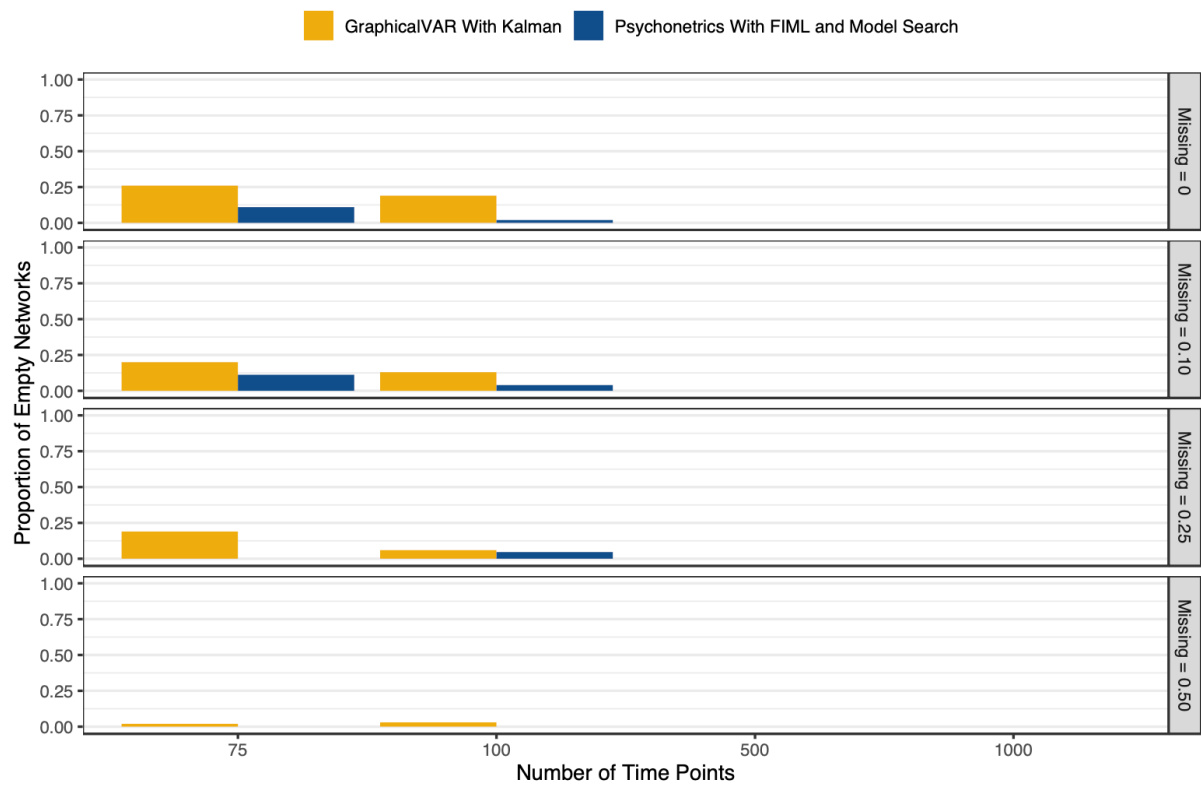
**Figure 13**

*Proportion of Estimated Empty Temporal Networks in the Simulations from Data Generated*

*According to the Parameters Estimated from Dataset 1 With 12 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

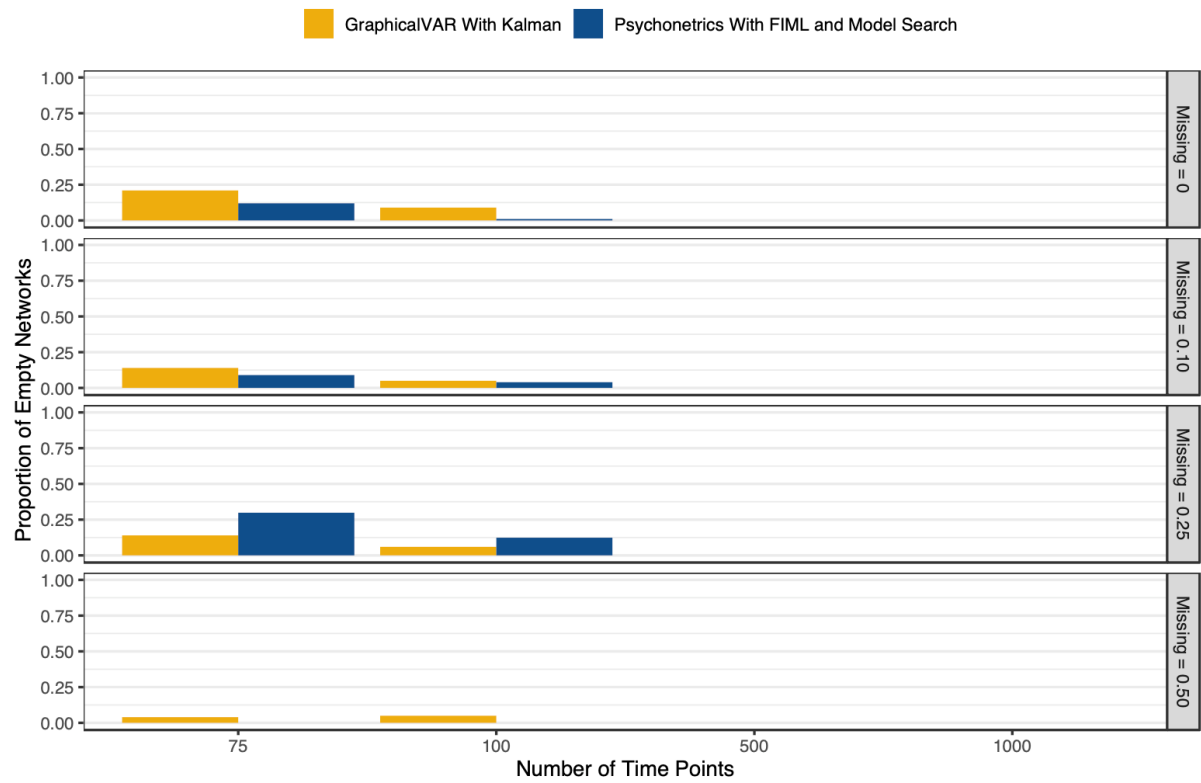points, while proportions for psychonetrics on the right.

**Figure 14**

*Proportion of Estimated Empty Temporal Networks in the Simulations from Data Generated*

*According to the Parameters Estimated from Dataset 1 With 8 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.

**Figure 15**

*Proportion of Estimated Empty Temporal Networks in the Simulations from Data Generated*

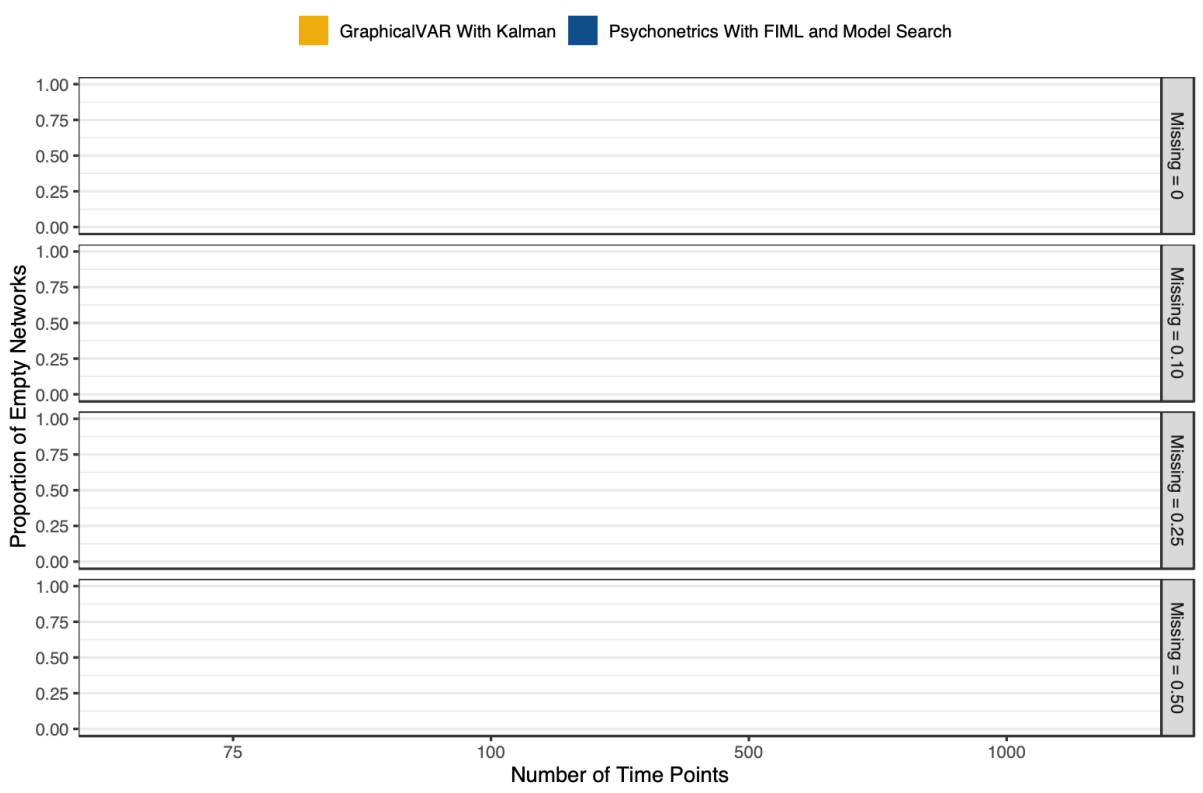*According to the Parameters Estimated from Dataset 1 With 6 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.

**Proportion of Estimated Empty Contemporaneous Networks in the Simulations from Data Generated According to the Parameters Estimated from Dataset 1**
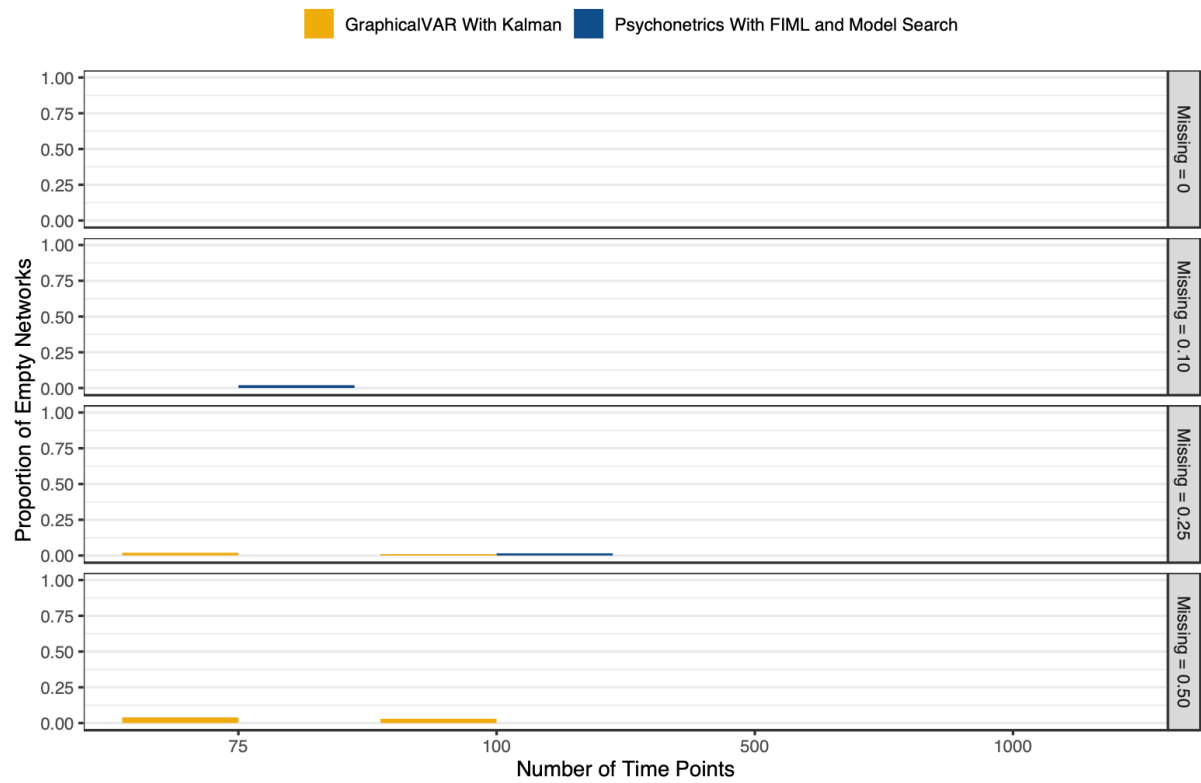
**Figure 16**

*Proportion of Estimated Empty Contemporaneous Networks in the Simulations from Data Generated According to the Parameters Estimated from Dataset 1 With 12 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time points, while proportions for psychonetrics on the right.
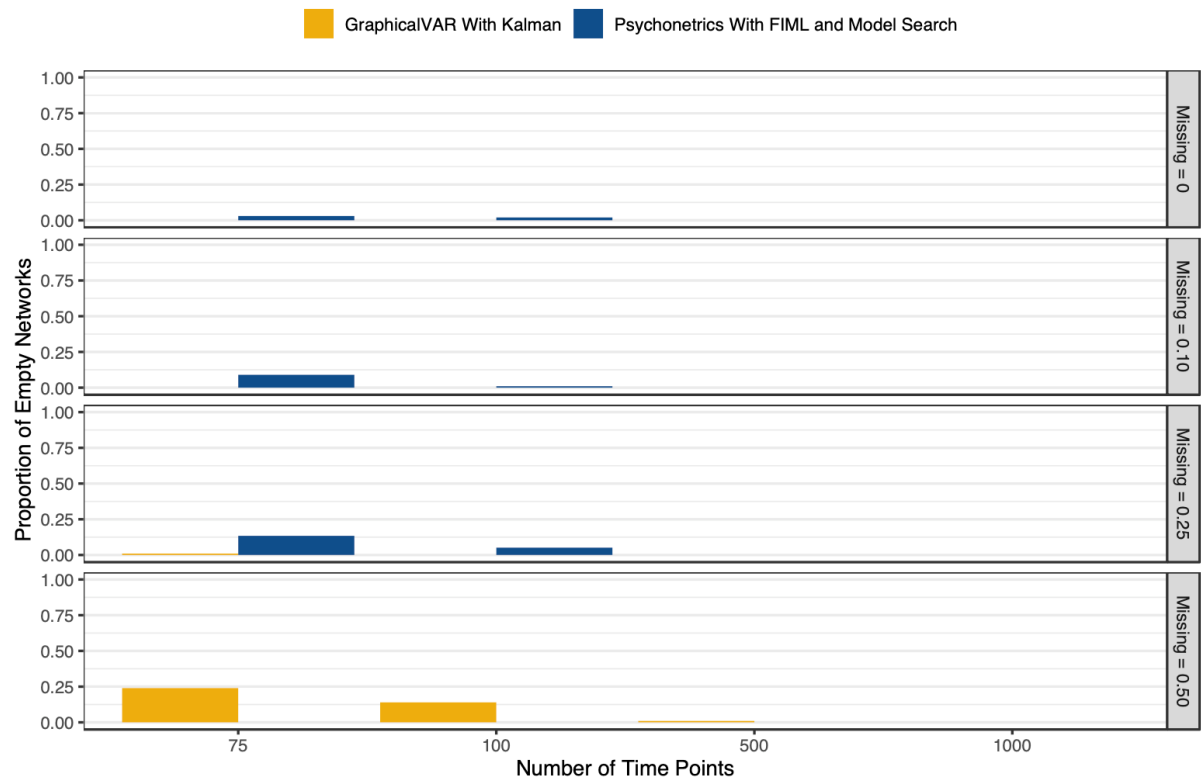
**Figure 17**

*Proportion of Estimated Empty Contemporaneous Networks in the Simulations from Data*

*Generated According to the Parameters Estimated from Dataset 1 With 8 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.

**Figure 18**

*Proportion of Estimated Empty Contemporaneous Networks in the Simulations from Data*

*Generated According to the Parameters Estimated from Dataset 1 With 6 Nodes*
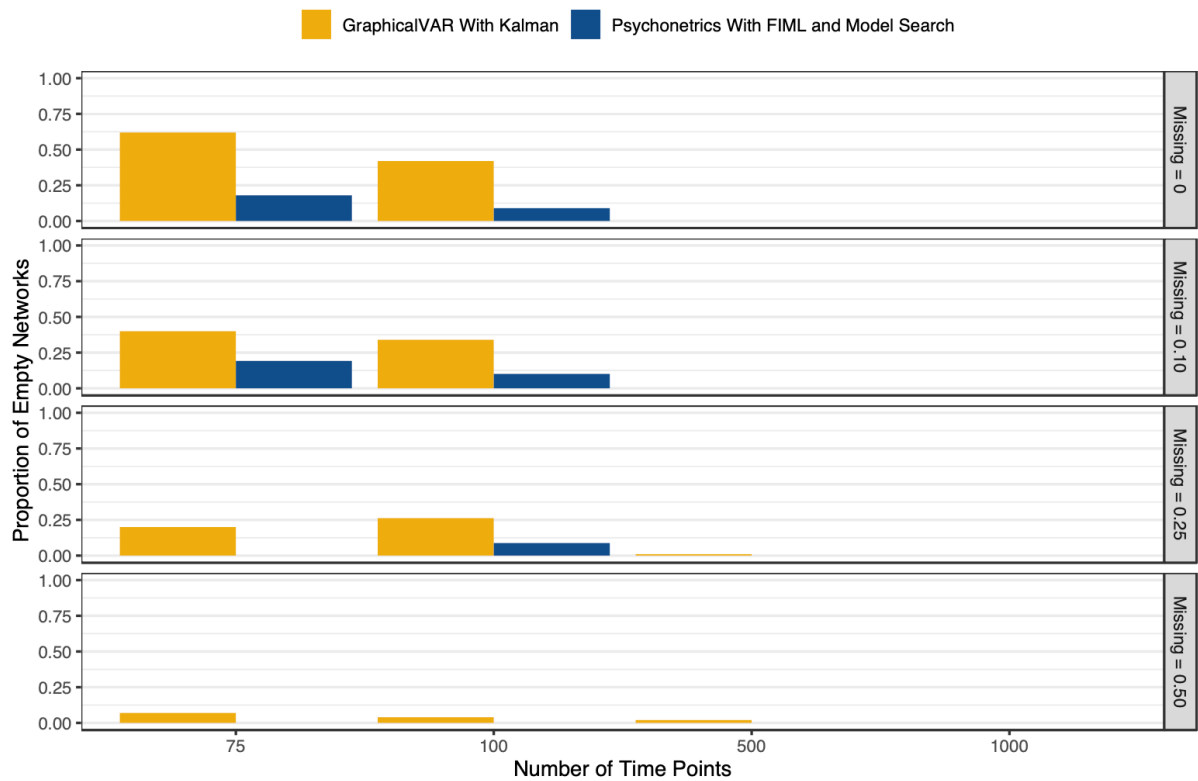


*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.

**Proportion of Estimated Empty Temporal Networks in the Simulations from Data**

**Generated According to the Parameters Estimated from Dataset 2**

**Figure 19**

*Proportion of Estimated Empty Temporal Networks in the Simulations from Data Generated*

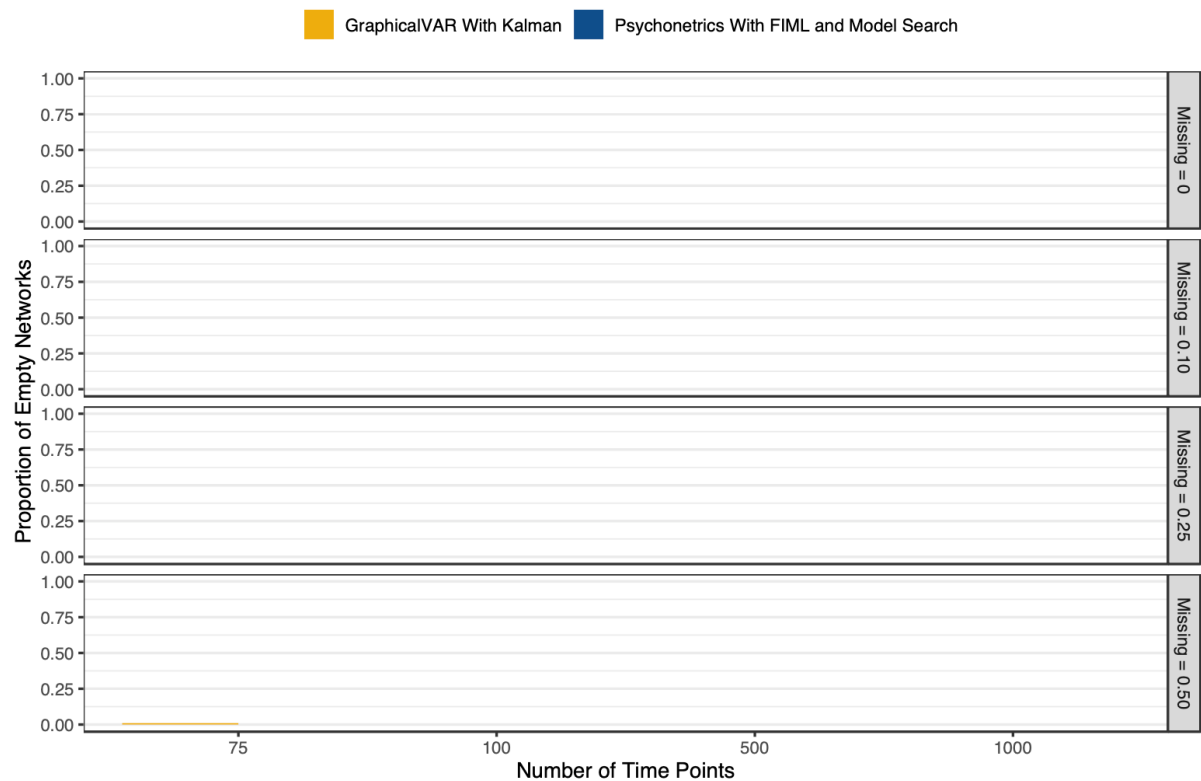*According to the Parameters Estimated from Dataset 2 With 9 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.

**Proportion of Estimated Empty Contemporaneous Networks in the Simulations from**

**Data Generated According to the Parameters Estimated from Dataset 2**

**Figure 20**

*Proportion of Estimated Empty Contemporaneous Networks in the Simulations from Data*

*Generated According to the Parameters Estimated from Dataset 2 With 9 Nodes*



*Note.* Proportions for graphicalVAR are shown on the left of the specific number of time

points, while proportions for psychonetrics on the right.