

# Decision tree for interpreting output

More details can be found in the guidelines ('Guidelines\_output\_GORIC.html'), available from: <https://github.com/rebeccakuiper/Tutorials/tree/main>

Let us denote the hypothesis with the **highest GORIC(A) weight** as  $H_H$ .

Is there one or more hypotheses ( $H.$ ) for which the ratio of loglik.weights of  $H_H$  vs  $H.$  is ( $\approx$ ) 1 or even  $< 1$ ?

**No,  $> 1$**

ratio loglik.weights  
of  $H_H$  vs all others  $> 1$   
i.e.,  $H_H$  has highest fit

**Hypothesis  $H_H$  is the preferred hypothesis.**

See Section 4 of the guidelines.

One can check the ratio of GORIC(A) weights  
of  $H_H$  with other hypotheses.

Notes:

In case of overlapping hypotheses, this indicates support for the  
non-overlapping part. See Section 5.1.1.2 of the guidelines.

In case the failsafe (i.e., the complement or the unconstrained) is  
the best, one can take on an additional exploratory approach to  
create one or more new hypotheses for future research.

**Yes, 1 or  $\approx 1$**

ratio loglik.weights of  $H_H$  vs another is ( $\approx$ ) 1  
i.e.,  $H_H$  has together with at least one other  
hypothesis the highest fit  
(or close to the highest fit)

There is **support for the overlap** in (or boundary of)  
hypotheses with the same/similar fit. See Section 5.1 of the guidelines.

Interpretating the ratio of GORIC(A) weights is not meaningful.

Note: As a basis for future research, one could specify the overlap (or boundary) and evaluate  
that against its complement.

**Yes,  $< 1$**

ratio loglik.weights of  $H_H$  vs another  $< 1$   
i.e., at least one other hypothesis has the highest fit

**Hypothesis  $H_H$  is the preferred hypothesis**, while  
another hypothesis has the highest fit (but  $H_H$  has the best balance  
between fit and complexity). See Section 5.3 of the guidelines.

One can check the ratio of GORIC(A) weights of  $H_H$   
with other hypotheses.

Notes:

**The sample size is probably too small.** Future research (with a higher  
sample size) can give more insight in whether this hypothesis indeed  
still seems to be the best.

One could additionally use an exploratory approach to create one or  
more new or competing hypotheses for future research.

There is **support for the overlap** in (or boundary of)  
hypotheses with the same/similar fit.

Interpretating the ratio of GORIC(A) weights is not meaningful.

Note: **The sample size is probably too small.** Future research (with a higher sample size) can  
give more insight in whether this overlap of hypotheses indeed still seems to be the best.

**Yes, both  $< 1$  and ( $\approx$ ) 1**

at least one other hypothesis has the  
highest fit

&

$H_H$  has (approximately) the same fit  
as at least one other hypothesis

See Sections 5.1 and 5.3 of the  
guidelines.

Note: When  $H_H$  is true in the population and no other hypothesis contains the truth, then the GORIC(A) weight will go to 1, when sample size or effect size increases.  
Stated otherwise, in such a case, the GORIC(A) weights reflect the uncertainty of a hypothesis being the best.