

**2 months before Test Day
(‘2-month competitive ability’)**

Divide the fish into better and worse competitors (self-selection procedure):

- staged contests between size-matched naive fish
 - winners: better competitors
 - losers: worse competitors

**1 month before Test Day
(‘1-month winning/losing
experience’)**

Give the fish a winning/losing experience (random-selection procedure):

- forced a winning experience on a half of the better and a half of the worse competitors (1-month winners)
- forced a losing experience on the other half of the better and the worse competitors (1-month losers)

**1 day before Test Day
(‘1-day winning/losing
experience’)**

Give the fish a winning/losing experience (random-selection procedure):

- matched fish for 2-month competitive ability and 1-month winning/losing experience, resulting in 4 pair-types:
 - (1) better competitors – 1-month winners
 - (2) better competitors – 1-month losers
 - (3) worse competitors – 1-month winners
 - (4) worse competitors – 1-month losers
- for each of the 4 pair-types, half randomly assigned to W-N and half to L-N contest types
 - W-N (focal individual $\Rightarrow$ winning experience; control opponent $\Rightarrow$ no experience)
 - L-N (focal individual $\Rightarrow$ losing experience; control opponent $\Rightarrow$ no experience)
- 4 pair-types $\times$ 2 contest types = 8 treatments

Test Day

Test for winner/loser effects arising from 1-day winning/losing experience:

- staged W-N and L-N contests between size matched opponents