Simulations2

2025-05-13

Soit $U \sim \mathcal{U}([0,1])$, on simulera nos lois tte comme ceci :

$$X = \frac{-\log(1-U)}{\lambda \ (e^{\beta Z})^{1/k}}$$

Scénario 1 : T ~ C

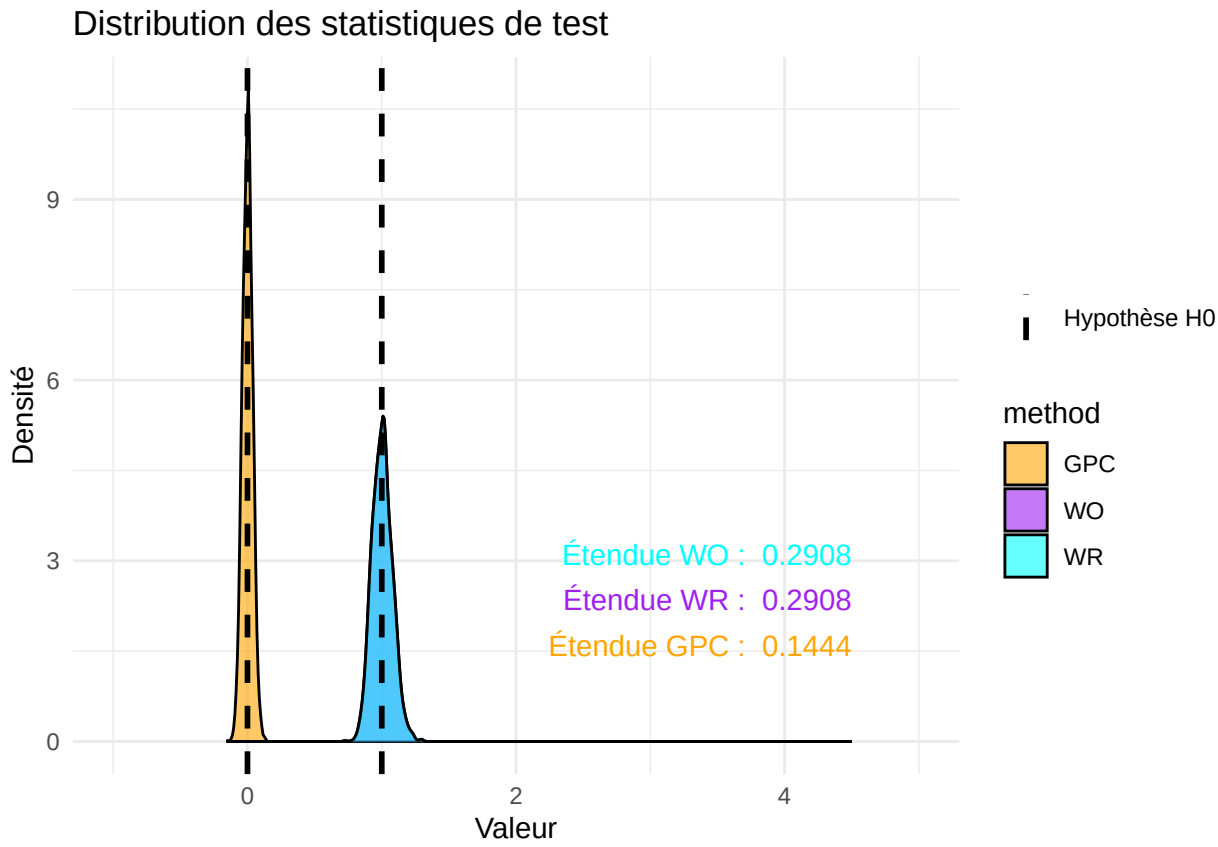
Paramètres :

- tte :
  $\lambda = 0.5$, $k = 0.5$, $\beta = 0$, $\mathcal{W}(1,2)$
- Continue :
  $\mathcal{N}_T(3,2)$; $\mathcal{N}_C(3,2)$
- Binaire :
  $\mathcal{B}_T(0.5)$; $\mathcal{B}_C(0.5)$

tau = 0

```
## $Count
##            Win Loose  Tie      WR      WO     GPC
## endpoint1 2446  2446 5108 1.00000 1.00000 0.00000
## endpoint2 1278  1276 2554 1.00157 1.00078 0.00039
## endpoint3 1278  1275    0 1.00235 1.00235 0.00118
## overall   5002  4997    0 1.00100 1.00100 0.00050
##
## $value_tte_cont_C
##        Y_1_C (tte) Y_3_C (continue)
## min      0.0050355         0.038966
## median   0.6977995         3.003709
## max      5.8626785         8.483481
##
## $value_tte_cont_T
##        Y_1_T (tte) Y_3_T (Continue)
## min      0.0049400         0.037754
## median   0.6944358         3.013819
## max      5.8321740         8.494100
##
## $value_binary
##           C        T
```

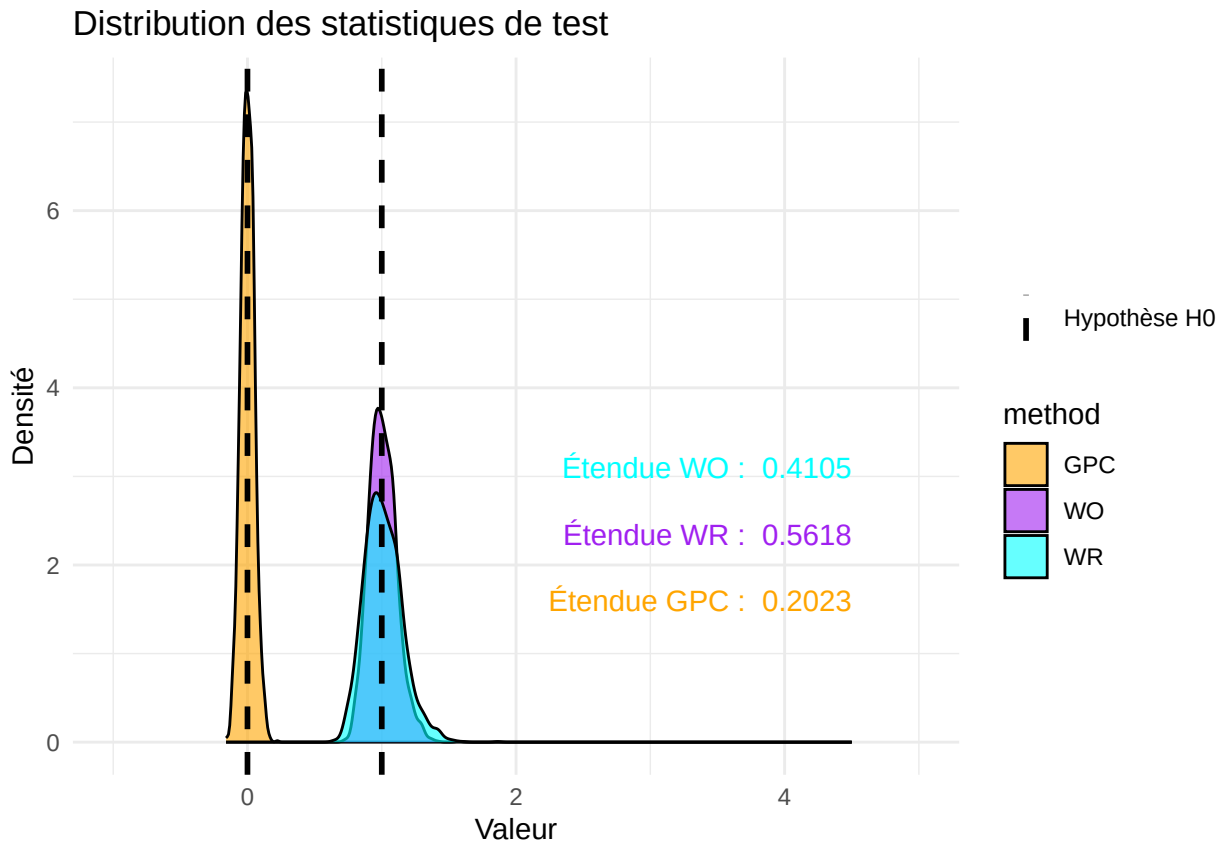
```
## 1 0 99.8925 100.1075
## 2 1 99.8260 100.1740
##
## $censure_rate_T
## [1] 0.50076
##
## $censure_rate_C
## [1] 0.5000975
```



tau = 2

```
## $Count
##            Win Loose  Tie      WR      WO      GPC
## endpoint1  330   332 9338 0.99398 0.99960 -0.00020
## endpoint2 2336  2333 4670 1.00129 1.00064  0.00032
## endpoint3 1040  1030 2600 1.00971 1.00429  0.00214
## overall   3705  3695 2600 1.00271 1.00200  0.00100
##
## $value_tte_cont_C
##        Y_1_C (tte) Y_3_C (continue)
## min      0.0050355         0.038966
## median   0.6977995         3.003709
## max      5.8626785         8.483481
##
## $value_tte_cont_T
```

```
##        Y_1_T (tte) Y_3_T (Continue)
## min      0.0049400         0.037754
## median   0.6944358         3.013819
## max      5.8321740         8.494100
##
## $value_binary
##           C        T
## 1 0 99.8925 100.1075
## 2 1 99.8260 100.1740
##
## $censure_rate_T
## [1] 0.50076
##
## $censure_rate_C
## [1] 0.5000975
```



Scénario 2 : T»C

Paramètres :

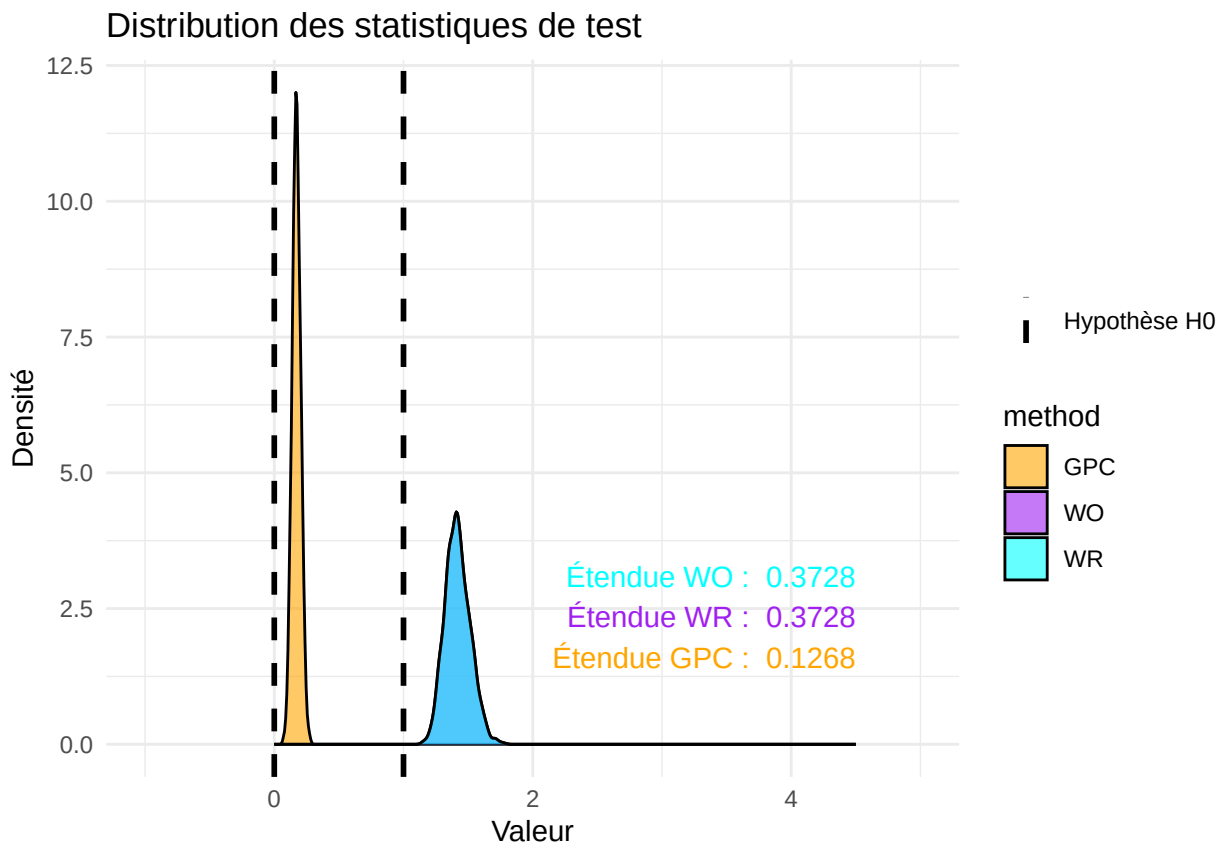
- tte :
  $\lambda = 0.05$, $k = 0.01$, $\beta = 5$, $\mathcal{W}(1, 1)$
- Continue :

$\mathcal{N}_T(3,2)$; $\mathcal{N}_C(2,2)$

- Binaire :
  $\mathcal{B}_T(0.65)$; $\mathcal{B}_C(0.3)$

tau = 0

```
## $Count
##            Win Loose  Tie      WR      WO     GPC
## endpoint1 3140  3140 3720 1.00000 1.00000 0.00000
## endpoint2 1691   392 1637 4.31378 2.07311 0.34919
## endpoint3 1028   609    0 1.68801 1.68801 0.25596
## overall   5859  4141    0 1.41488 1.41488 0.17180
##
## $value_tte_cont_C
##        Y_1_C (tte) Y_3_C (continue)
## min      0.0114875         0.021259
## median   1.6071023         2.099138
## max     13.6610500         7.483628
##
## $value_tte_cont_T
##        Y_1_T (tte) Y_3_T (Continue)
## min       0.008131         0.037754
## median    1.147957         3.013819
## max       9.629645         8.494100
##
## $value_binary
##            C        T
## 1 0 139.8835  60.1165
## 2 1  70.0675 129.9325
##
## $censure_rate_T
## [1] 0.45049
##
## $censure_rate_C
## [1] 0.2307825
```



tau = 2

```
## $Count
##            Win Loose  Tie      WR      WO      GPC
## endpoint1  936  1322 7742 0.70802 0.92567 -0.03860
## endpoint2 3518   815 3409 4.31656 2.07283  0.34913
## endpoint3 1062   427 1920 2.48712 1.45782  0.18627
## overall   5516  2564 1920 2.15133 1.83768  0.29520
##
## $value_tte_cont_C
##        Y_1_C (tte) Y_3_C (continue)
## min      0.0114875         0.021259
## median   1.6071023         2.099138
## max     13.6610500         7.483628
##
## $value_tte_cont_T
##        Y_1_T (tte) Y_3_T (Continue)
## min       0.008131         0.037754
## median    1.147957         3.013819
## max       9.629645         8.494100
##
## $value_binary
##            C        T
## 1 0 139.8835  60.1165
## 2 1  70.0675 129.9325
```

```
##
## $censure_rate_T
## [1] 0.45049
##
## $censure_rate_C
## [1] 0.2307825
```