Resumen de las propiedades de las redes

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5/10/2021

Propiedades generales

Membership

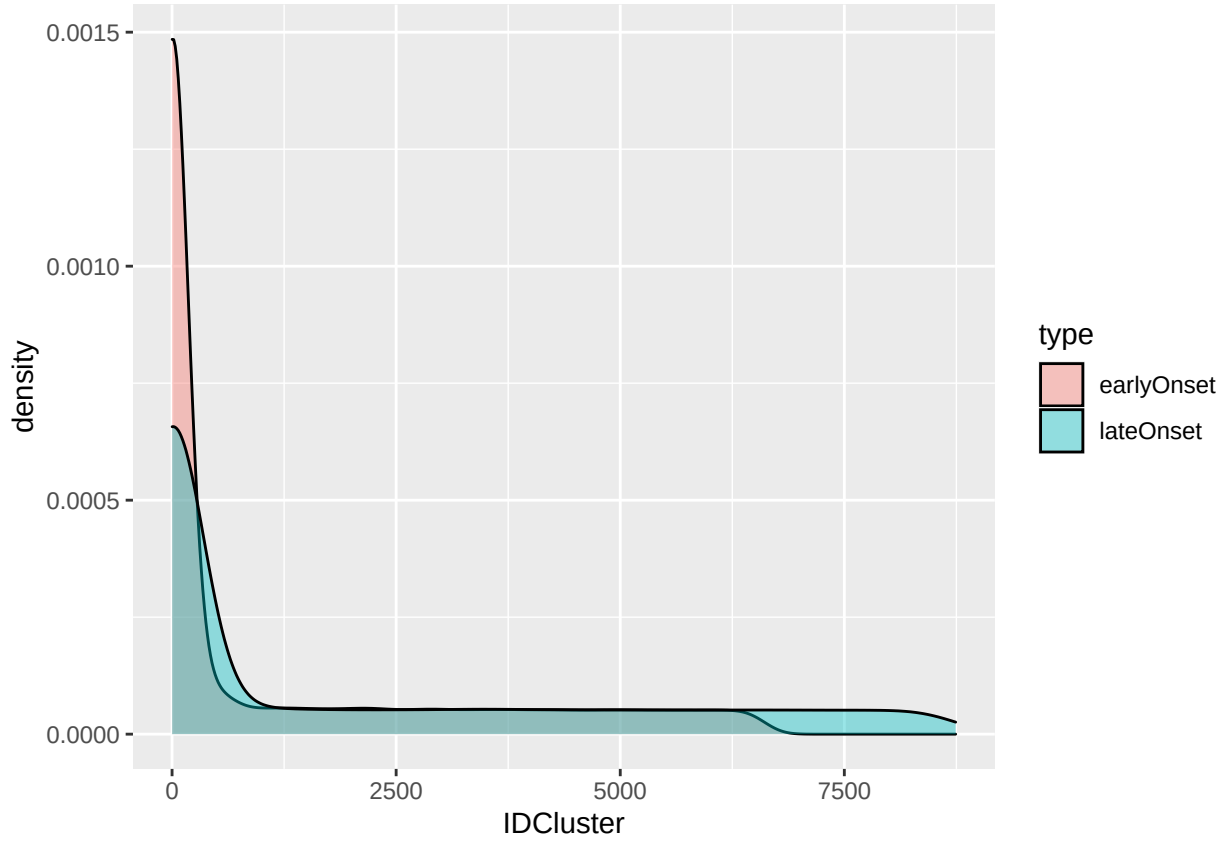
```
# Inicio temprano
summary(prop_graphs[[1]]$components$membership)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##       1       1       1    1154    1829    6607
```

```
# Inicio tardio
summary(prop_graphs[[2]]$components$membership)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##       1       1       1    1979    3893    8742
```

```
ggplot(data = data.frame(IDCluster = c(prop_graphs[[1]]$components$membership,
                                       prop_graphs[[2]]$components$membership),
                         type = rep(c("earlyOnset", "lateOnset"), each = 19542)),
       mapping = aes(x= IDCluster, fill = type)) + geom_density(alpha = 0.4)
```




```
#plot(density(prop_graphs[[1]]$components$membership), xlab = "ID del cluster")
#lines(density(prop_graphs[[2]]$components$membership))
```

Número de Clusters

```
kable(data.frame(earlyOnset = prop_graphs[[1]]$components$no,
                 lateOnset = prop_graphs[[2]]$components$no))
```

earlyOnset	lateOnset
6607	8742

Tamaño de los clusters

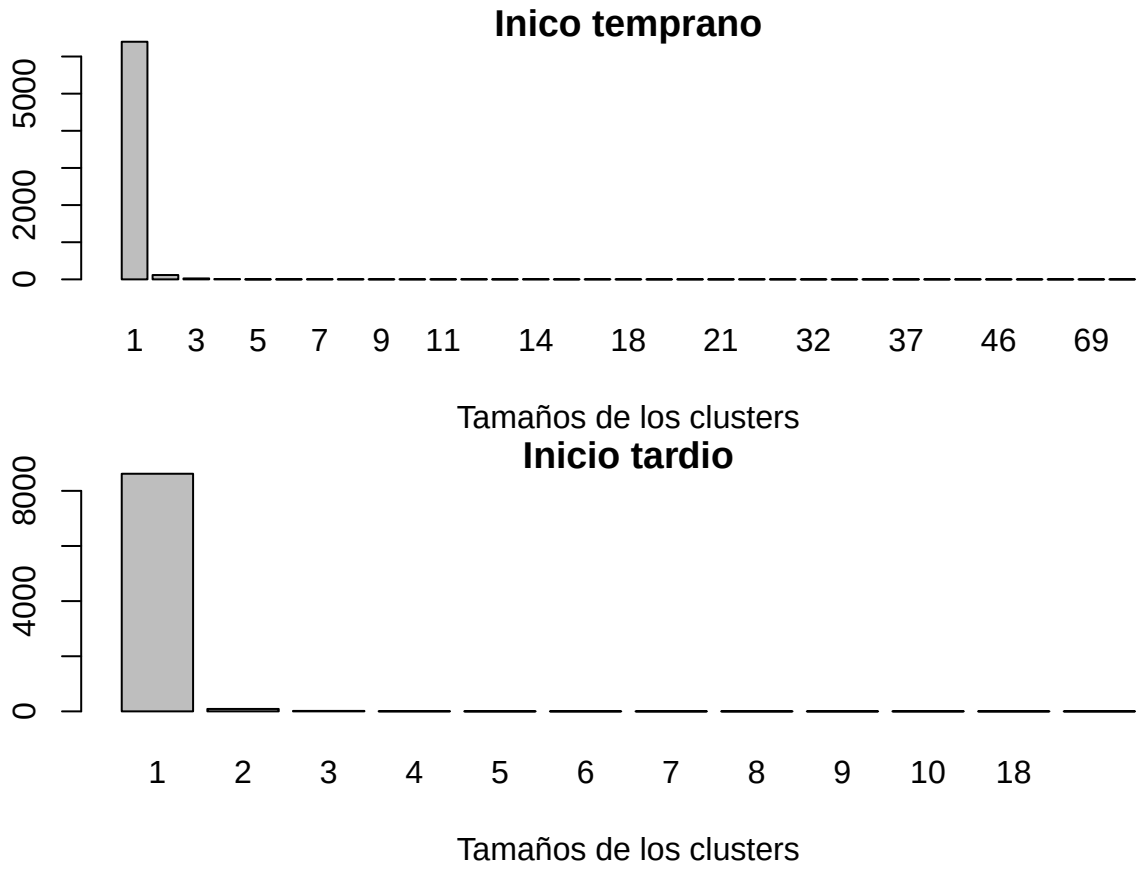
```
# Inicio temprano
summary(prop_graphs[[1]]$components$csize)
```

```
##      Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
##     1.000     1.000     1.000     2.958     1.000 11738.000
```

```
# Inicio tardio
summary(prop_graphs[[2]]$components$csize)
```

```
##      Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
##     1.000     1.000     1.000     2.235     1.000 10589.000
```

```
par(mfrow = c(2,1), mar = c(4, 3, 1, 1))
barplot(table(prop_graphs[[1]]$components$csize), xlab = "Tamaños de los clusters",
        main = "Inico temprano")
barplot(table(prop_graphs[[2]]$components$csize), xlab = "Tamaños de los clusters",
        main = "Inicio tardio")
```



Rutas más cortas entre nodos

```
kable(data.frame(earlyOnset = prop_graphs[[1]]$average.path.length,
                 lateOnset = prop_graphs[[2]]$average.path.length))
```

earlyOnset	lateOnset
4.109832	4.608719

Transitividad

```
kable(data.frame(earlyOnset = prop_graphs[[1]]$transitivity,
                 lateOnset = prop_graphs[[2]]$transitivity))
```

earlyOnset	lateOnset
0.5314521	0.5385246

Diametro

```
kable(data.frame(earlyOnset = prop_graphs[[1]]$diameter,
                 lateOnset = prop_graphs[[2]]$diameter))
```

earlyOnset	lateOnset
22	30

Propiedades de los nodos

Degree

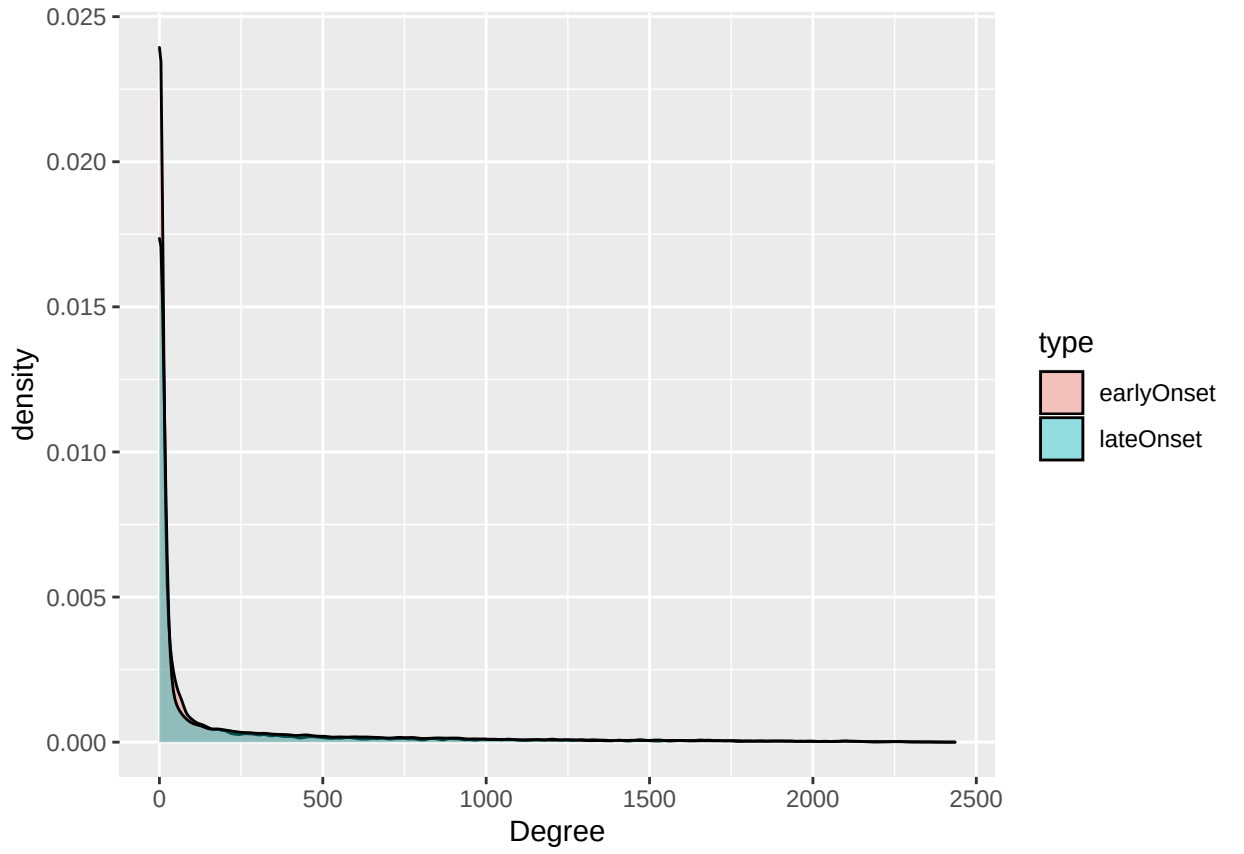
```
# Inicio temprano
summary(prop_graphs[[1]]$nodes$degree)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0     0.0     7.0   179.7    93.0  2435.0
```

```
# Inicio tardio
summary(prop_graphs[[2]]$nodes$degree)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0     0.0     2.0   195.4   148.8  2396.0
```

```
ggplot(data = data.frame(Degree = c(prop_graphs[[1]]$nodes$degree,
                                    prop_graphs[[2]]$nodes$degree),
                         type = rep(c("earlyOnset", "lateOnset"), each = 19542)),
       mapping = aes(x= Degree, fill = type)) + geom_density(alpha = 0.4)
```



Betweeneess

```
# Inicio temprano
summary(prop_graphs[[1]]$nodes$betweenness)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##       0       0       3   10964    8399 3386132
```

```
# Inicio tardio
summary(prop_graphs[[2]]$nodes$betweenness)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##       0       0       0   10352    2088 6562407
```

Transitividad

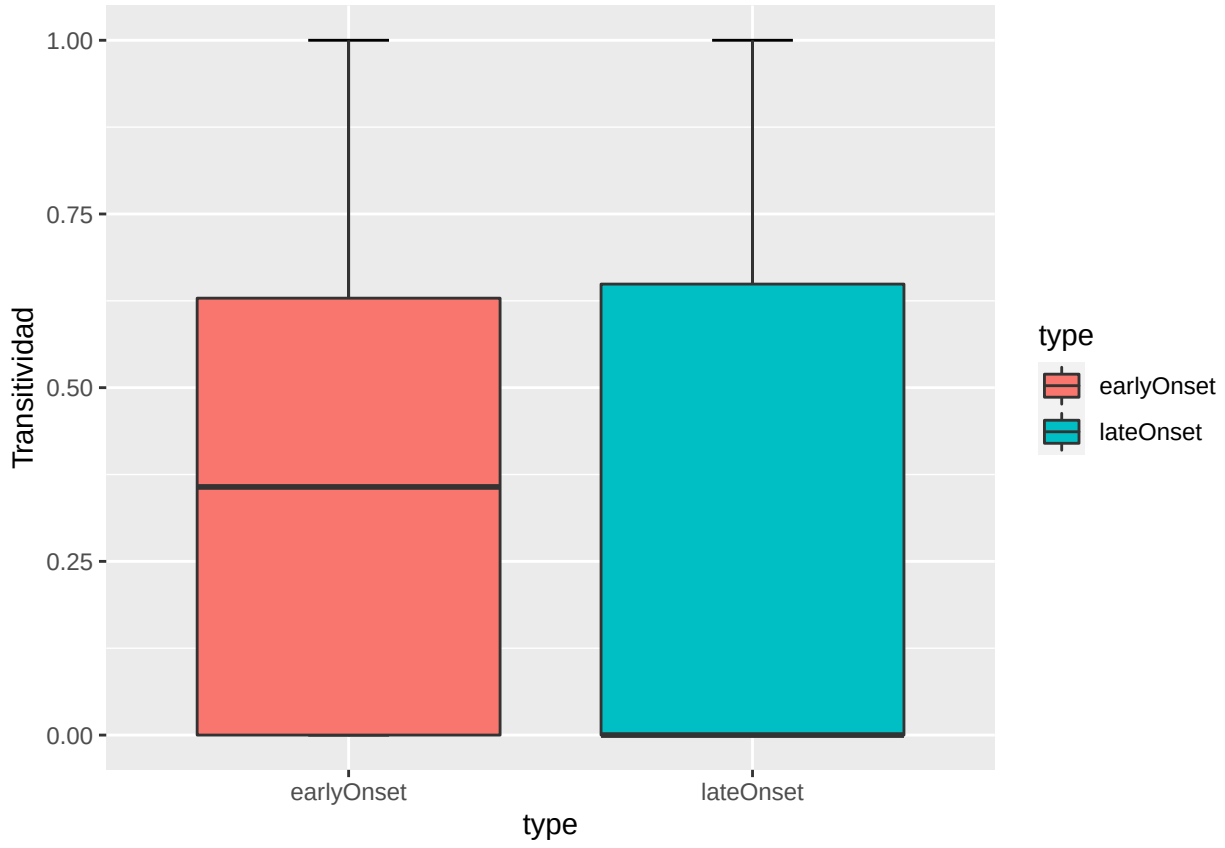
```
# Inicio temprano
summary(prop_graphs[[1]]$nodes$transitivity)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##  0.0000  0.0000  0.3571  0.3552  0.6288  1.0000
```

```
# Inicio tardio
summary(prop_graphs[[2]]$nodes$transitivity)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##  0.0000  0.0000  0.0000  0.3258  0.6491  1.0000
```

```
ggplot(data = data.frame(transitivity = c(prop_graphs[[1]]$nodes$transitivity,
                                          prop_graphs[[2]]$nodes$transitivity),
                         type = rep(c("earlyOnset", "lateOnset"), each = 19542)),
       mapping = aes(x= type,  y = transitivity, fill = type)) +
  scale_y_continuous(name = "Transitividad") +
  stat_boxplot(geom = "errorbar", width = 0.2) + geom_boxplot()
```



Clustering Louvain

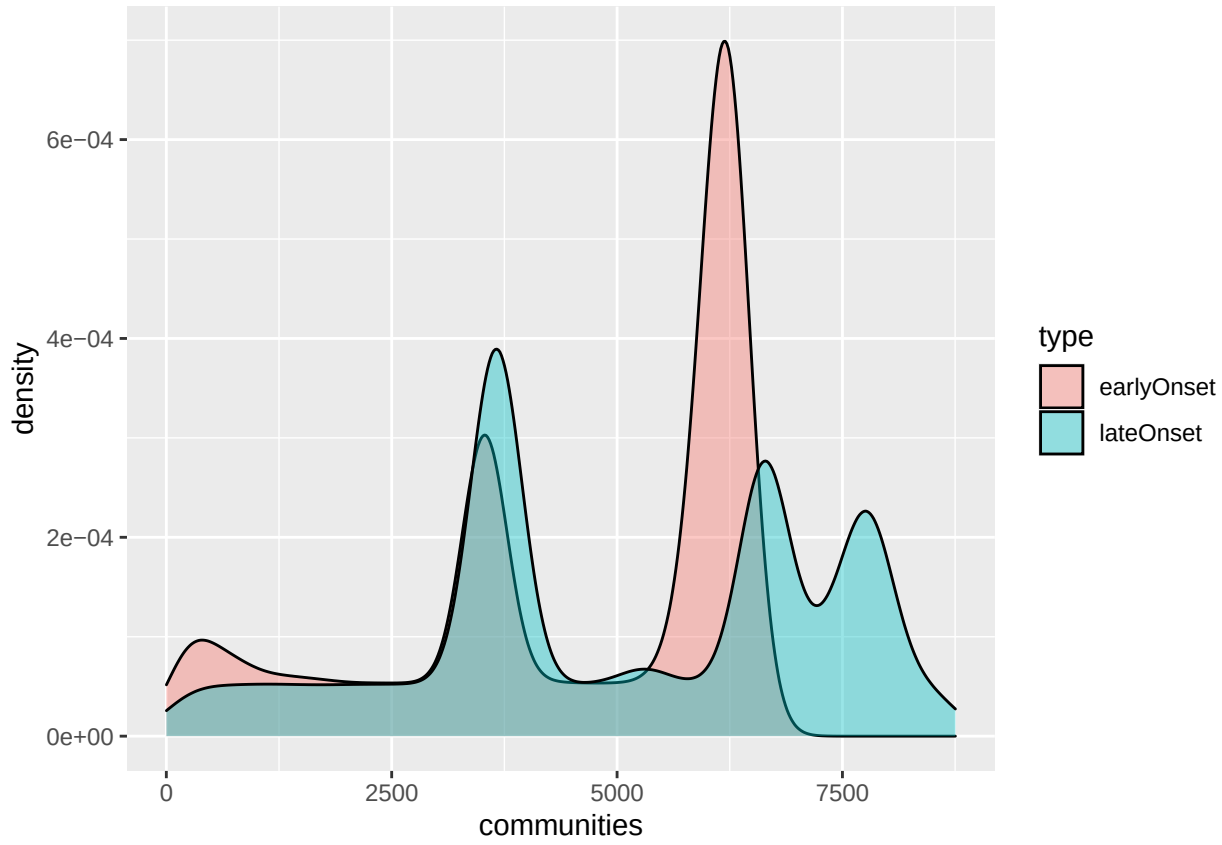
```
# Inicio temprano
summary(prop_graphs[[1]]$nodes$comm.louvain)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##       1    3532    5612    4495    6182    6637
```

```
# Inicio tardio
summary(prop_graphs[[2]]$nodes$comm.louvain)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##       1    3627    5062    5044    6685    8753
```

```
ggplot(data = data.frame(communities = c(prop_graphs[[1]]$nodes$comm.louvain,
                                         prop_graphs[[2]]$nodes$comm.louvain),
                         type = rep(c("earlyOnset", "lateOnset"), each = 19542)),
       mapping = aes(x= communities, fill = type)) + geom_density(alpha = 0.4)
```


6e−04
4e−04
2e−04
0e+00
density
0
2500
5000
7500
communities
type
earlyOnset
lateOnset