Linking & Rewiring

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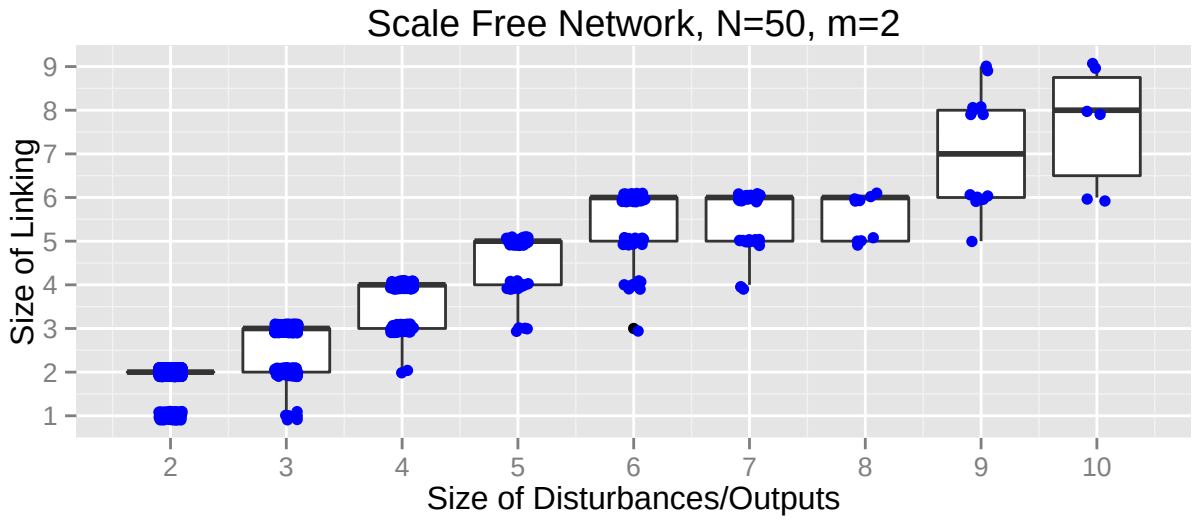
```
library(ggplot2)
```

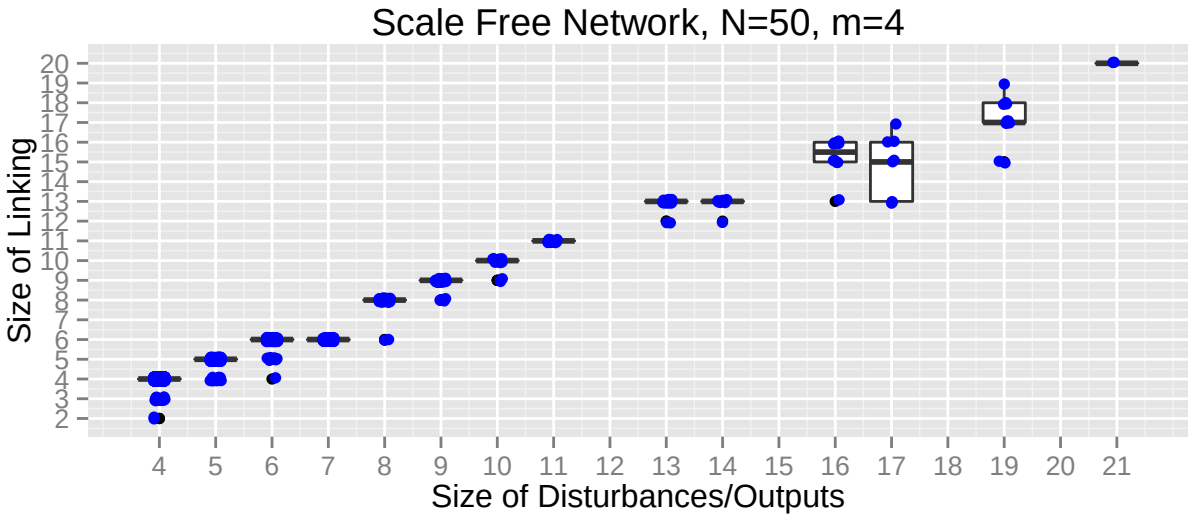
```
data.N50m2 <- read.csv(file="linking_50_2.csv")
data.N50m4 <- read.csv(file="linking_50_4.csv")
data.N100m2 <- read.csv(file="linking_100_2.csv")
data.N100m4 <- read.csv(file="linking_100_4.csv")


data.N50m2.R <- read.csv(file="regular_50_2.csv")
data.N50m4.R <- read.csv(file="regular_50_4.csv")
data.N100m2.R <- read.csv(file="regular_100_2.csv")
data.N100m4.R <- read.csv(file="regular_100_4.csv")


data.N50m2.SW <- read.csv(file="small_50_2.csv")
data.N50m4.SW <- read.csv(file="small_50_4.csv")
```

Scale Free Networks

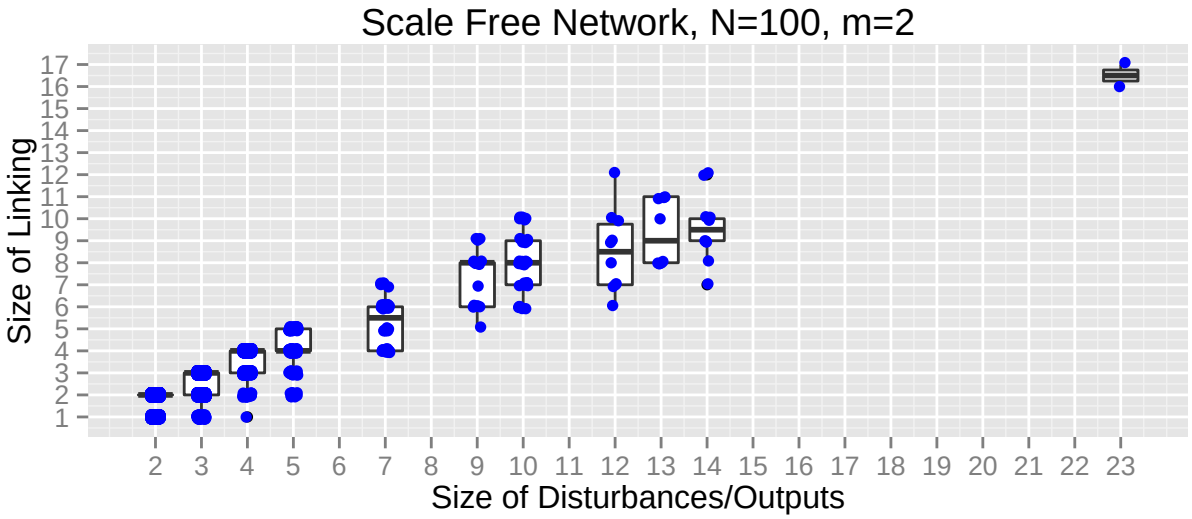
```
dat <- data.N50m2
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Scale Free Network, N=50, m=2") +
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```



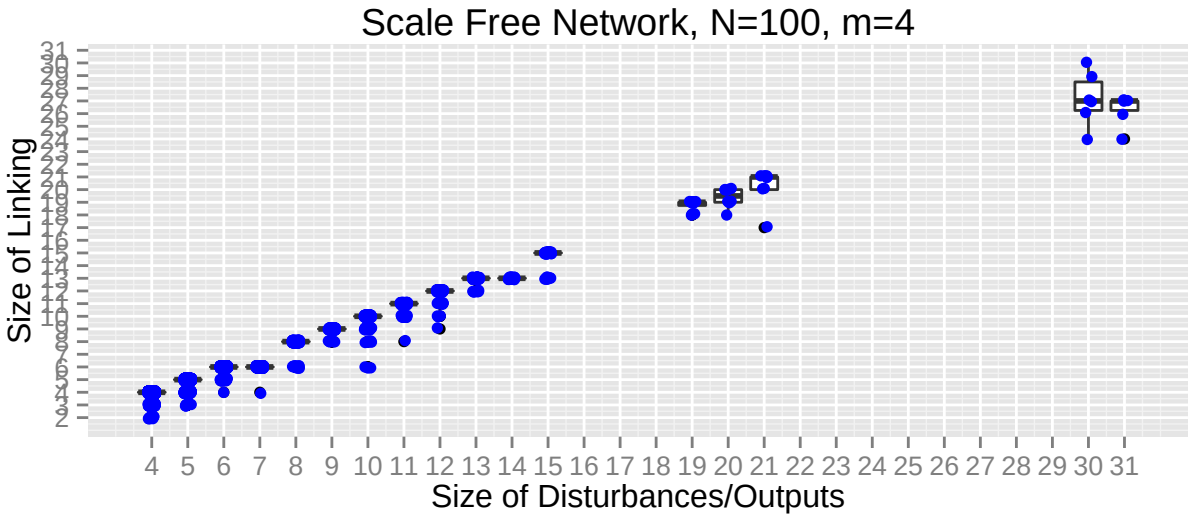
```
dat <- data.N50m4
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Scale Free Network, N=50, m=4") +
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```




```
dat <- data.N100m2
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Scale Free Network, N=100, m=2") +
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```

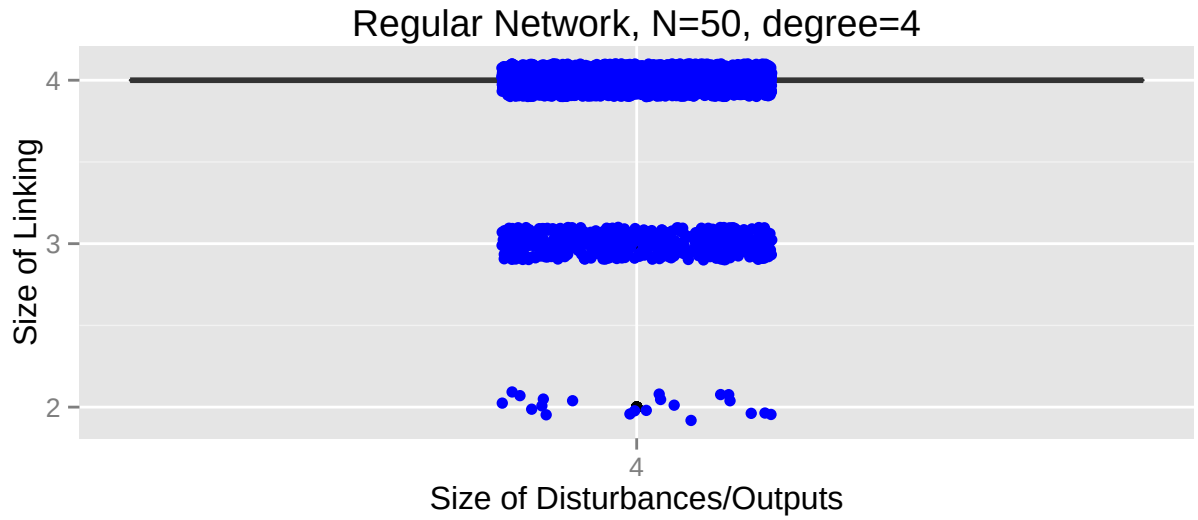


```
dat <- data.N100m4
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Scale Free Network, N=100, m=4") +
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x,dat$y), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$x,dat$y), by = 1),1))
```



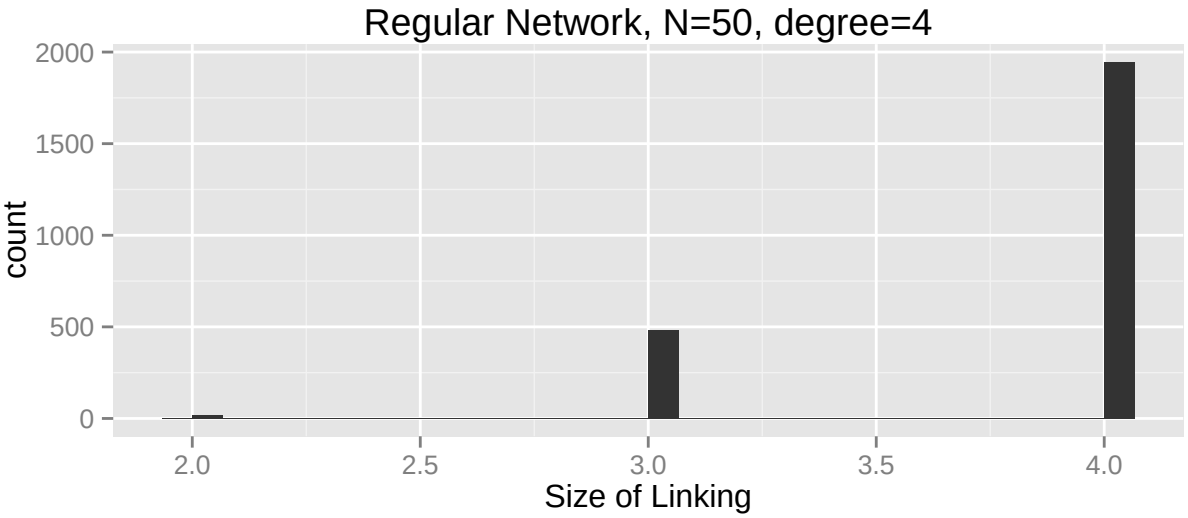
Regular Network

```
dat <- data.N50m2.R[data.N50m2.R$degree==4,]
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Regular Network, N=50, degree=4") +
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```

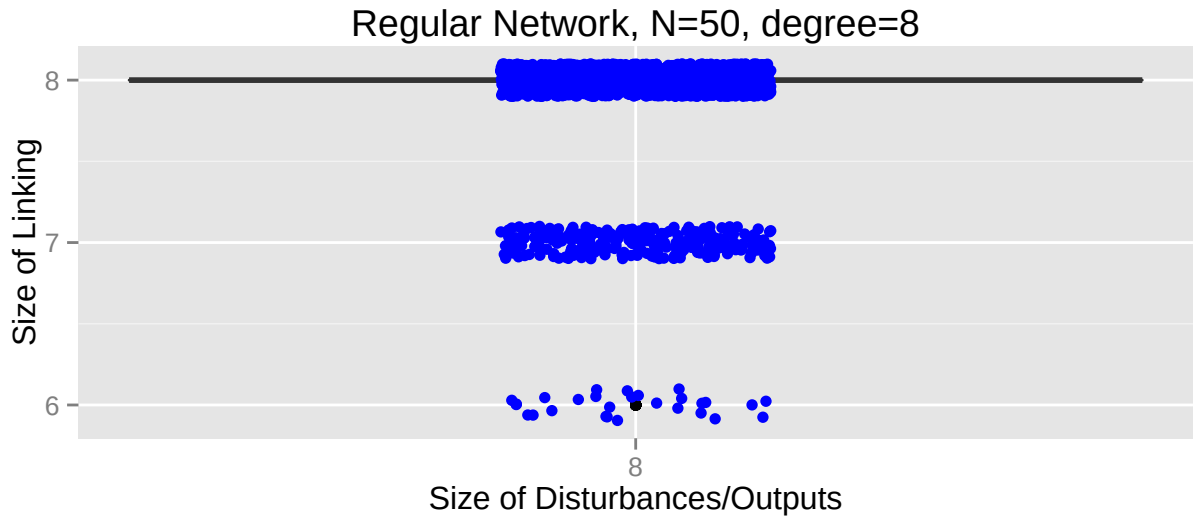



```
ggplot(data=dat, aes(x=y))  +
  geom_histogram() +
  labs(x="Size of Linking", title="Regular Network, N=50, degree=4")
```

```
## stat_bin: binwidth defaulted to range/30. Use 'binwidth = x' to adjust this.
```

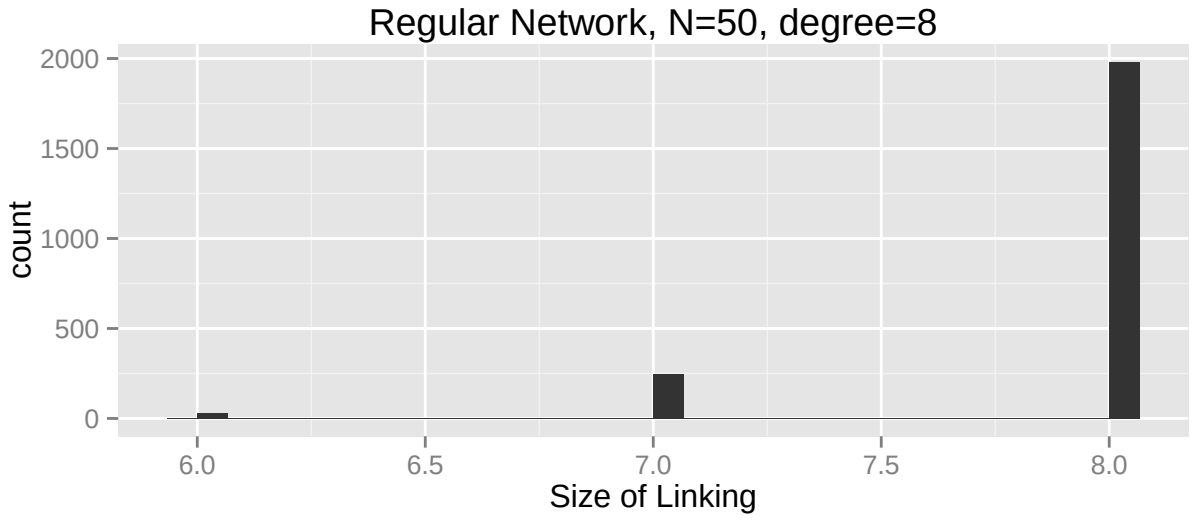



```
dat <- data.N50m4.R[data.N50m4.R$degree==8,]
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Regular Network, N=50, degree=8") +
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```

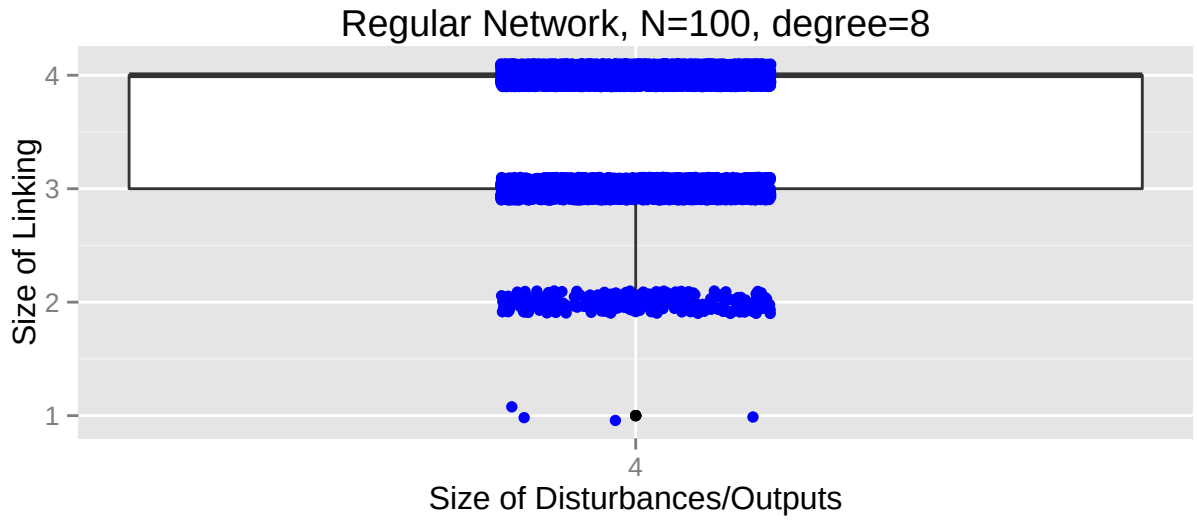



```
ggplot(data=dat, aes(x=y))  +
  geom_histogram() +
  labs(x="Size of Linking", title="Regular Network, N=50, degree=8")
```

```
## stat_bin: binwidth defaulted to range/30. Use 'binwidth = x' to adjust this.
```

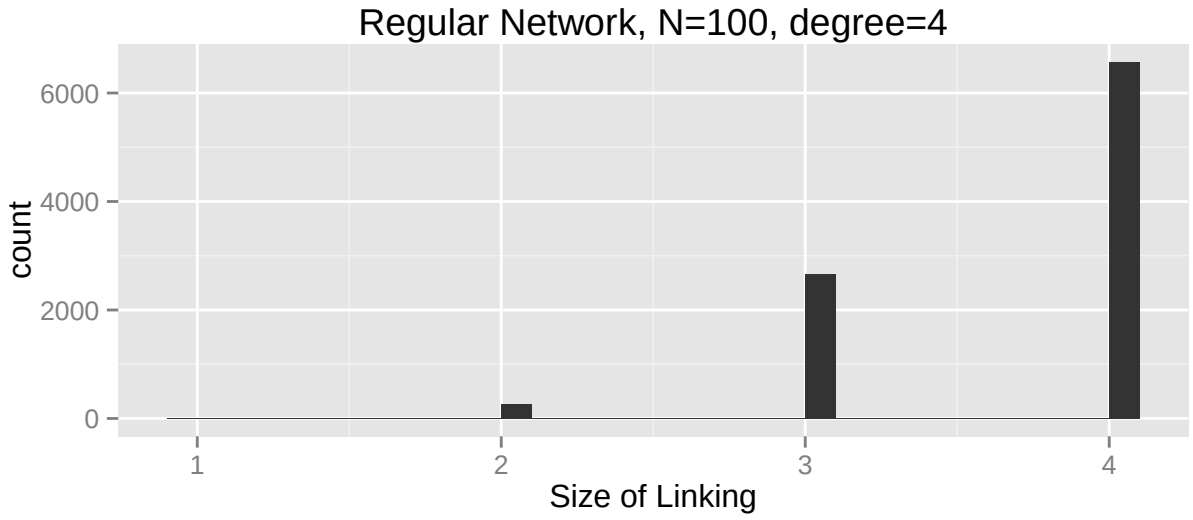



```
dat <- data.N100m2.R[data.N100m2.R$degree==4,]
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Regular Network, N=100, degree=8")
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```

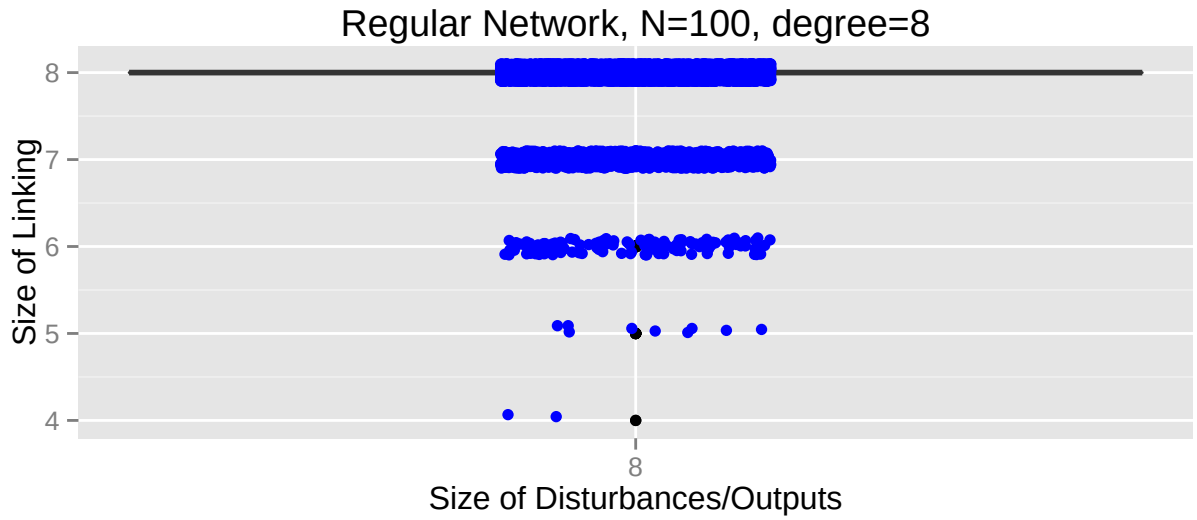



```
ggplot(data=dat, aes(x=y))  +
  geom_histogram() +
  labs(x="Size of Linking", title="Regular Network, N=100, degree=4")
```

```
## stat_bin: binwidth defaulted to range/30. Use 'binwidth = x' to adjust this.
```

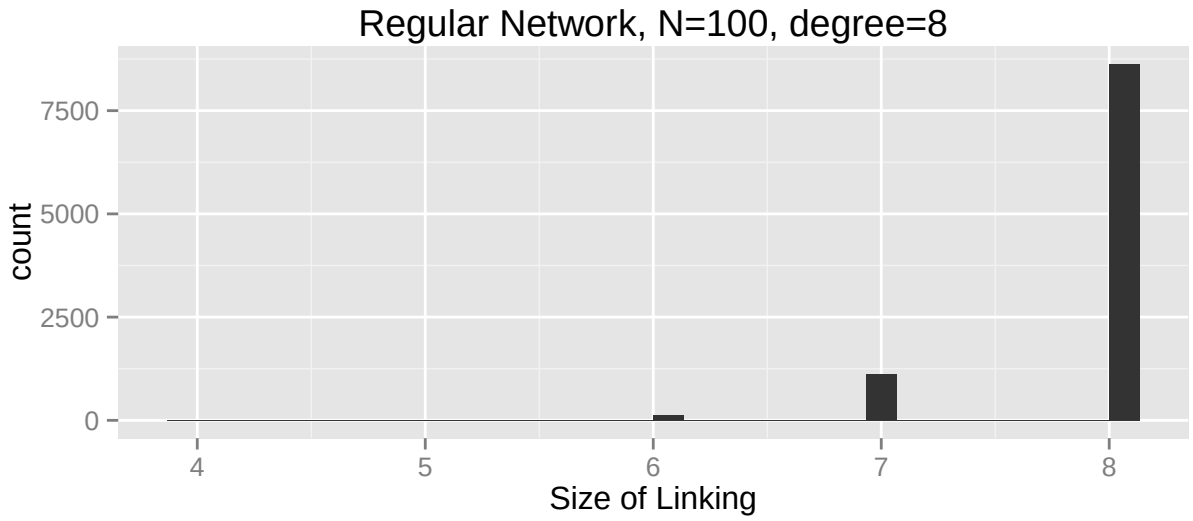



```
dat <- data.N100m4.R[data.N100m4.R$degree==8,]
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Regular Network, N=100, degree=8") +
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x,dat$y), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$x,dat$y), by = 1),1))
```



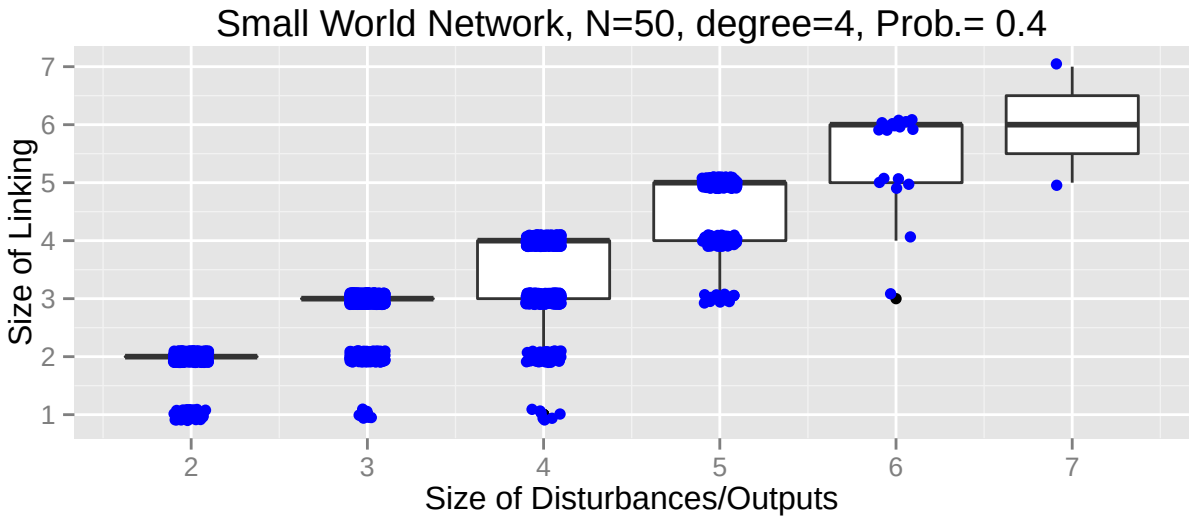

```
ggplot(data=dat, aes(x=y))  +
  geom_histogram() +
  labs(x="Size of Linking", title="Regular Network, N=100, degree=8")
```

```
## stat_bin: binwidth defaulted to range/30. Use 'binwidth = x' to adjust this.
```



Small World Network

```
dat <- data.N50m2.SW
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Small World Network, N=50, degree=
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```




```
dat <- data.N50m4.SW
colnames(dat) <- c("y", "x")
ggplot(data=dat, aes(x=x, y=y))  +
  geom_boxplot(aes(group=x)) +
  geom_jitter(aes(group=x), color="blue", position = position_jitter(width = 0.1, height=0.1)) +
  labs(x="Size of Disturbances/Outputs", y="Size of Linking", title="Small World Network, N=50, degree=8
  scale_x_continuous(breaks = round(seq(min(dat$x), max(dat$x), by = 1),1)) +
  scale_y_continuous(breaks = round(seq(min(dat$y), max(dat$y), by = 1),1))
```