

Original_Spline_plots

Ben Browder

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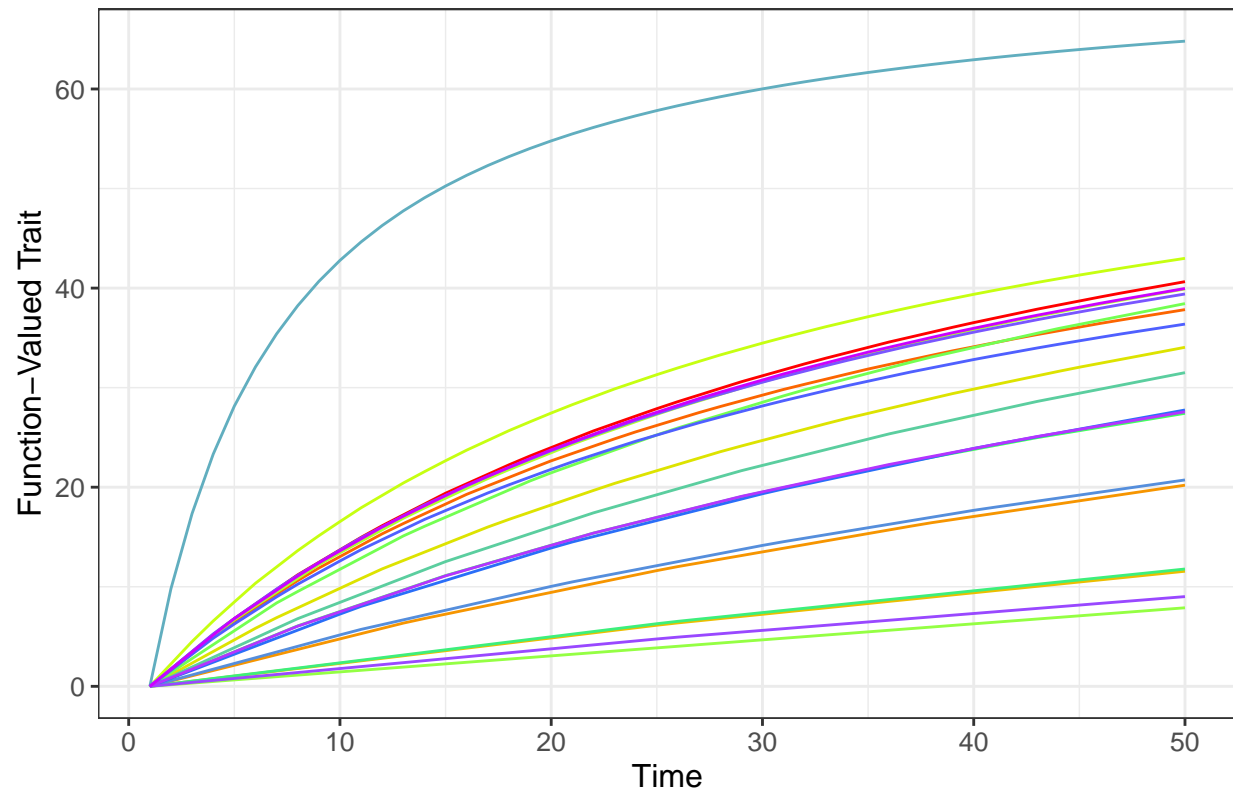
```
setwd("~/Downloads/CMDA-Capstone-Stayin-Alive-main")
source("convert_list.R")
source("Splines/x_transform_data.R")
Trait_Influences_Survival <- x_transform_data(read.csv('Data/fvt.csv'))

## Loading required package: lattice
##
## Attaching package: 'caret'
## The following object is masked from 'package:survival':
##
##      cluster
Trait_Does_Not_Influence_Survival <- x_transform_data(read.csv('Data/natural.csv'))

setwd("~/Downloads/CMDA-Capstone-Stayin-Alive-main")
source("Splines/x_transform_plot.R")
x_transform_plot(Trait_Influences_Survival)

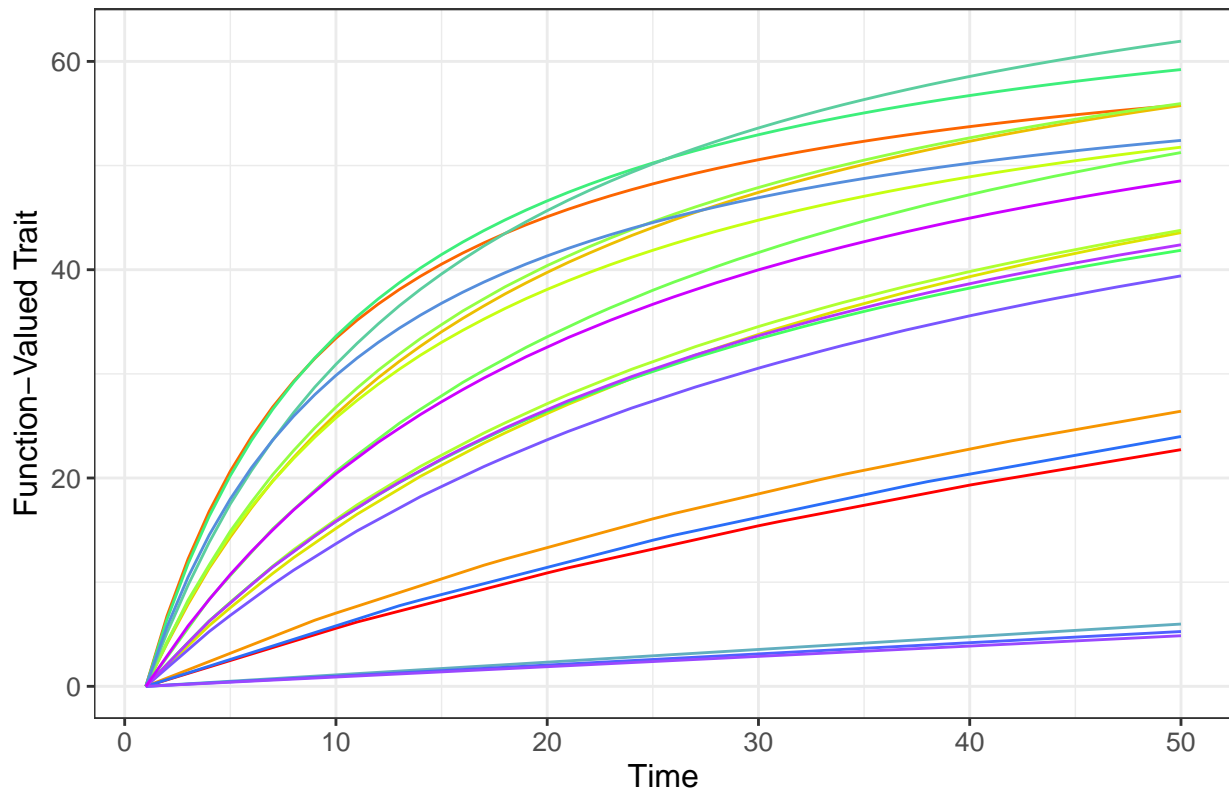
## Loading required package: reshape2
## Loading required package: viridisLite
```

Trait Influences Survival



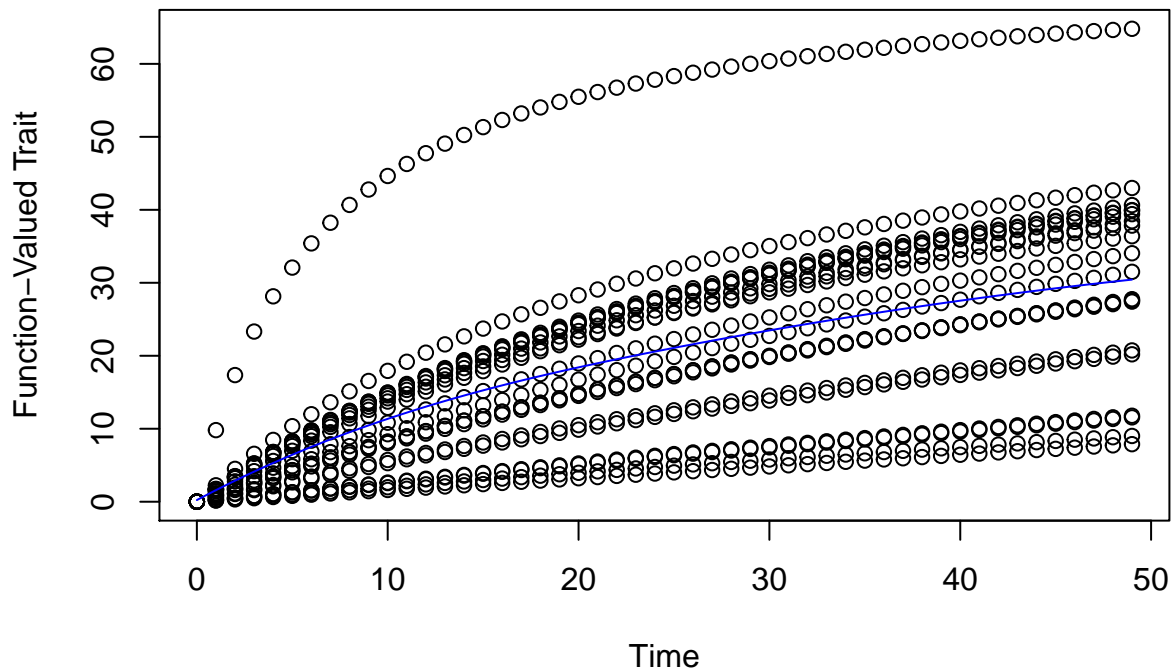
```
setwd("~/Downloads/CMDA-Capstone-Stayin-Alive-main")
source("Splines/x_transform_plot.R")
x_transform_plot(Trait_Does_Not_Influence_Survival)
```

Trait Does Not Influence Survival



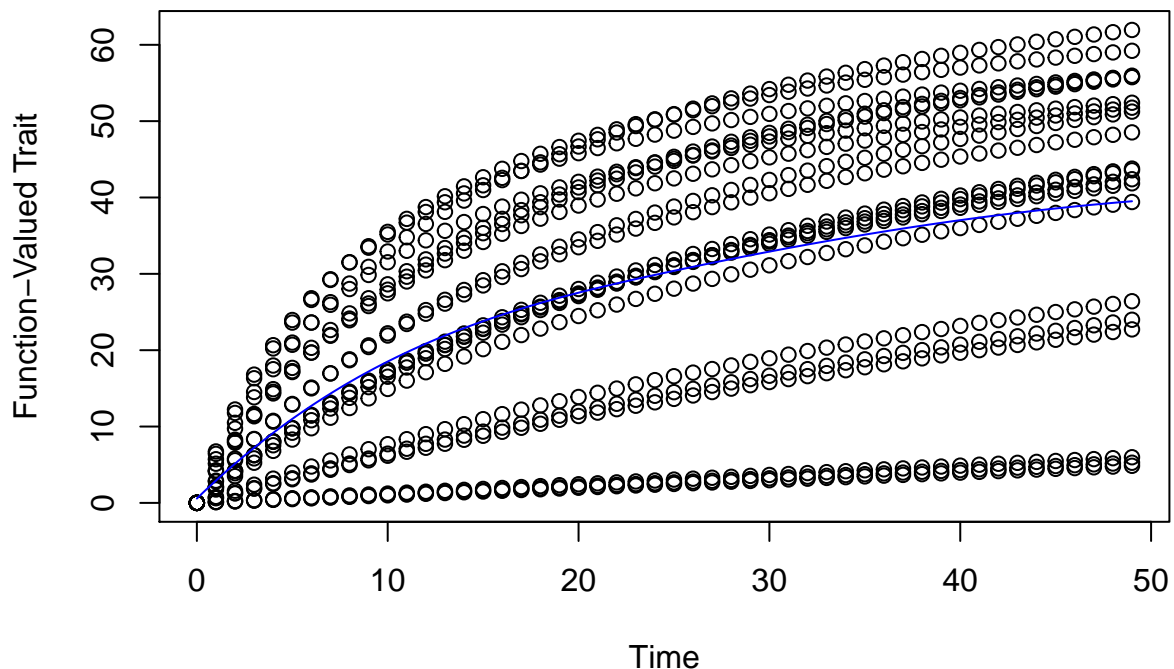
```
setwd("~/Downloads/CMDA-Capstone-Stayin-Alive-main")
source("Splines/spline_fits.R")
spline_fits(Trait_Influences_Survival)
```

Trait_Influences_Survival



```
##
## Call:
## lm(formula = y ~ bs(x, 4))
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -22.550  -6.329  -0.226   5.987  37.257
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.2261     1.5575   0.145 0.884615
## bs(x, 4)1     11.3333     3.2628   3.473 0.000536 ***
## bs(x, 4)2     21.5803     2.7201   7.934 5.71e-15 ***
## bs(x, 4)3     27.9138     2.9120   9.586 < 2e-16 ***
## bs(x, 4)4     30.2103     2.0864  14.479 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.39 on 995 degrees of freedom
## Multiple R-squared:  0.358, Adjusted R-squared:  0.3554
## F-statistic: 138.7 on 4 and 995 DF, p-value: < 2.2e-16
setwd("~/Downloads/CMDA-Capstone-Stayin-Alive-main")
source("Splines/spline_fits.R")
spline_fits(Trait_Does_Not_Influence_Survival)
```

Trait_Does_Not_Influence_Survival



```
##
## Call:
## lm(formula = y ~ bs(x, 4))
##
```

```
## Residuals:
##      Min       1Q   Median       3Q      Max
## -34.652 -11.691   1.568  12.255  22.435
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   0.5698     2.0261   0.281   0.779
## bs(x, 4)1     19.7807     4.2445   4.660 3.59e-06 ***
## bs(x, 4)2     30.5869     3.5386   8.644 < 2e-16 ***
## bs(x, 4)3     37.2800     3.7882   9.841 < 2e-16 ***
## bs(x, 4)4     38.9383     2.7142  14.346 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14.82 on 995 degrees of freedom
## Multiple R-squared:  0.3381, Adjusted R-squared:  0.3355
## F-statistic: 127.1 on 4 and 995 DF, p-value: < 2.2e-16
```