Original Spline plots

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Creating Linear Interpolated datasets of control and experimental group

```
Trait_Influences_Survival <- x_transform_data(read.csv('Data/fvt.csv'))
```
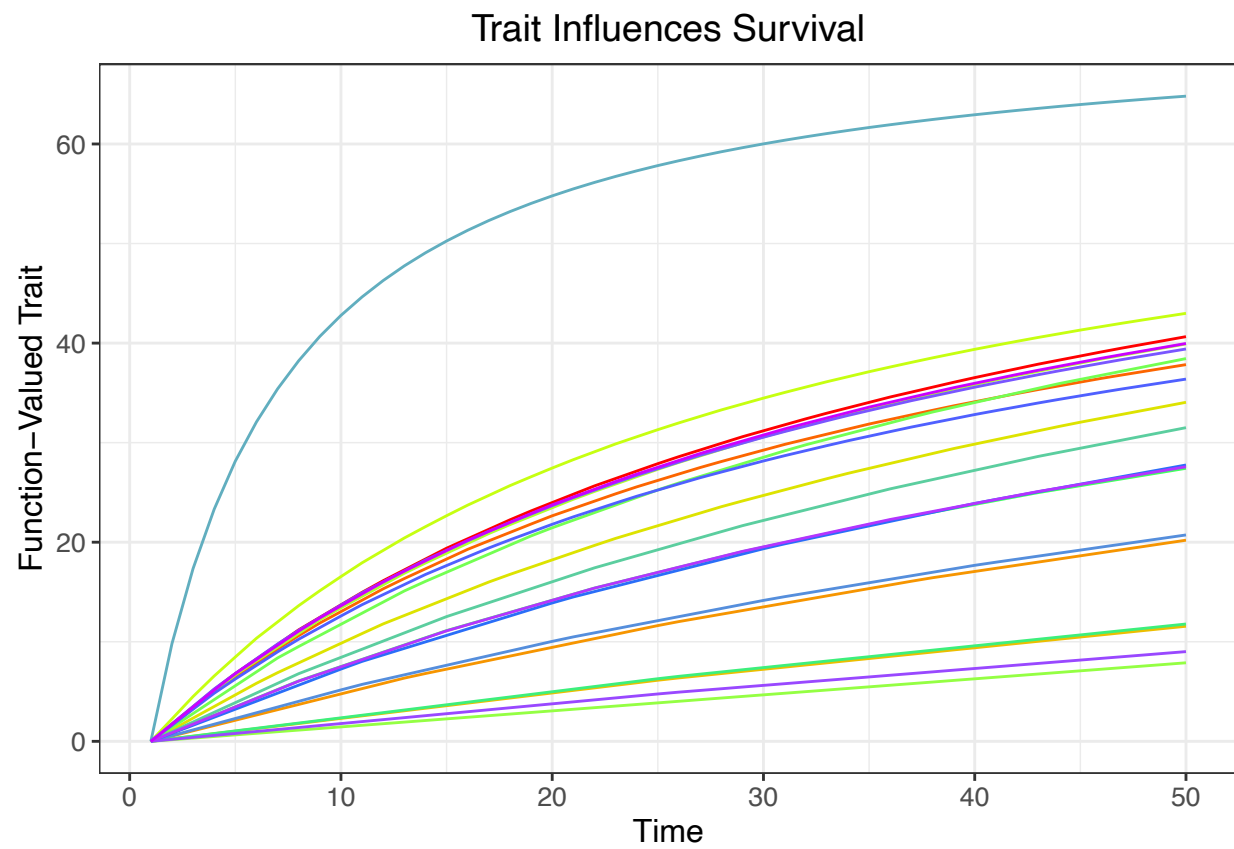
```
## Loading required package: lattice
```

```
##
## 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'))
```

Plot of Linear Interpolated experimental group
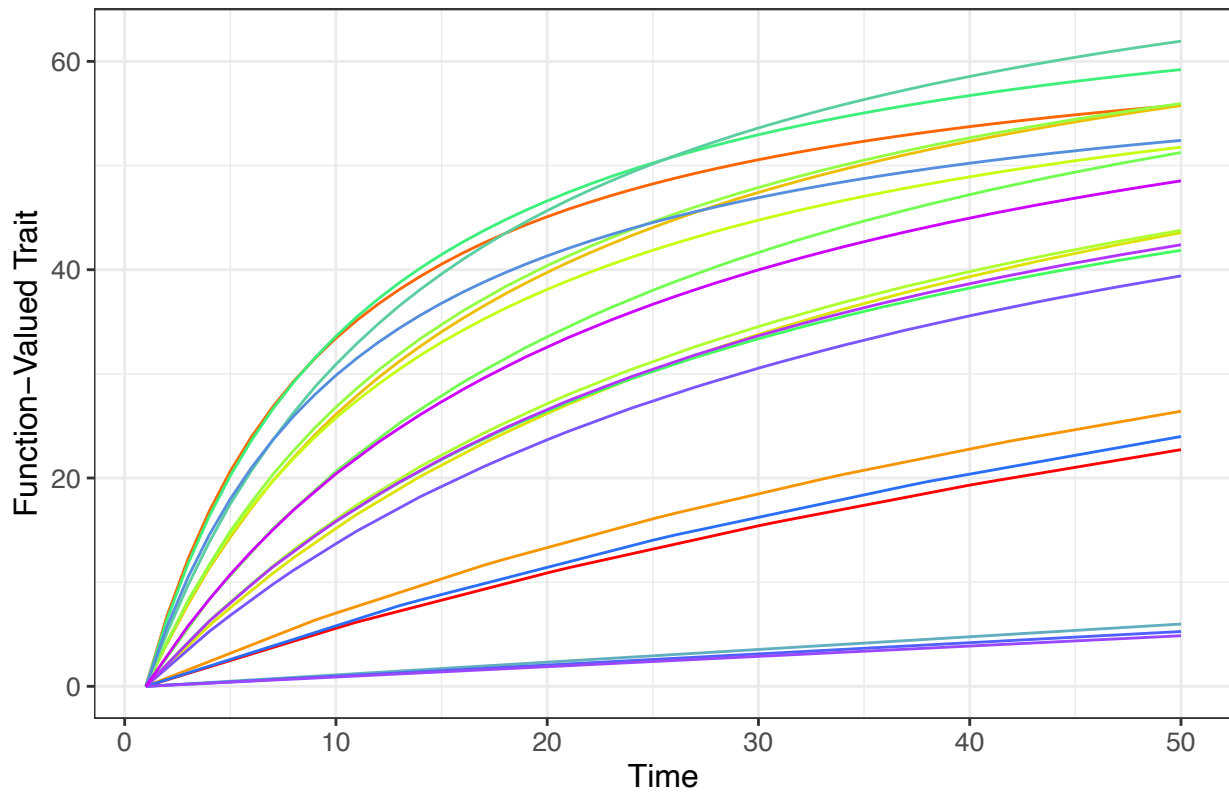
```
x_transform_plot(Trait_Influences_Survival)
```

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

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

Trait Influences Survival

Plot of Linear Interpolated control group

```
x_transform_plot(Trait_Does_Not_Influence_Survival)
```
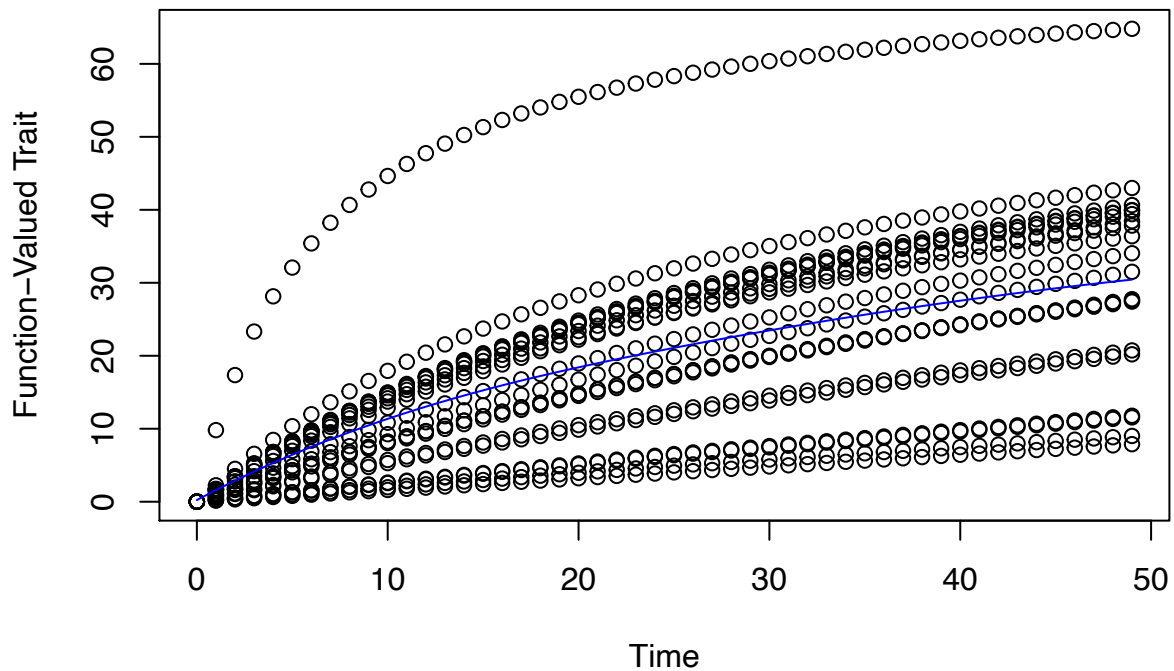
Trait Does Not Influence Survival

Plot of linearly interpolated experimental dataset with average Spline fit as well as a linear regression table of the Spline fit.

```
spline_fits(Trait_Influences_Survival)
```
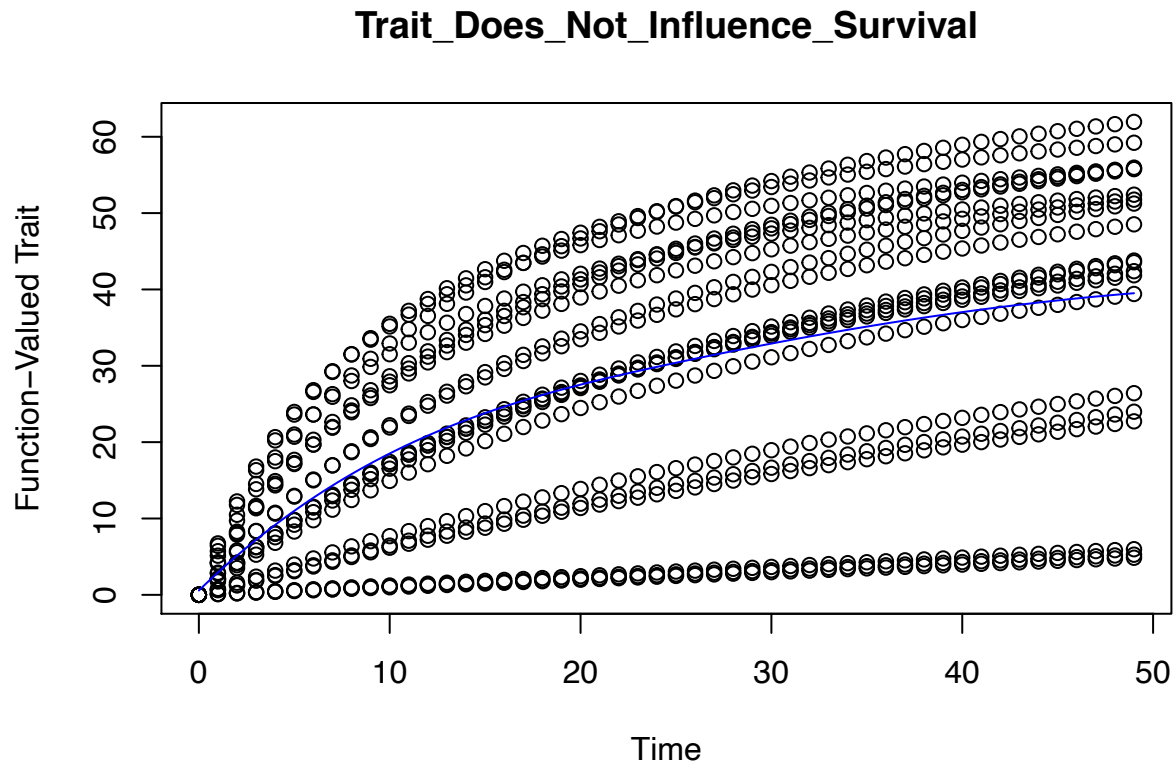
Trait_Influences_Survival

```
## 
## 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
```

Plot of linearly interpolated control dataset with average Spline fit as well as a linear regression table of the Spline fit.

```
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
```