PHYSICAL ACTIVITY ENVIRONMENT AND PERFEC/TENACI

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Today

INTRODUCTION.

Previous analyses showed that enviromental variables, such as school, have significant effects on IQ and Perf. variables.

For this reason:

- we explore the effect of the enviroment variables that promote physiscal activity in schools on IQ and Perf variables.
- Variables related to how the evironment of schools devoted to physical activity were collected.
- They are named and defined in the following section.

DOCUMENTATION

VARIABLES DE AMBIENTE PARA ACTIVIDAD FISICA

El sufijo aaf_ en todas las variables abrevia: Ambiente (para) Actividad Fisica.

- aaf_

OBSERVED VARIABLES

Nombre d Variable	Definicion	Valores
aaf_t_pe_class	t Tiempo en clase de ed. fisica	Minutos por semana
aaf_t_recess	t Tiempo de recreo	Minutos por semana
aaf_population_size	Poblacion total de la escuela	1 - 4 = chica, mediana, grande, muy_gr
aaf_s_size	s Tamannho d Espacio para actividad	0 - 4 = no_hay, chico, mediano, grande, muy_gr
aaf_s_avail	s Espacio esta disponible o no	0, 1
aaf_s_used	s Espacio se usa o no	0, 1
aaf_s_shape	s Forma del espacio	rectang, triang, irregular, other

COMPUTED VARIABLES

Computed Variable	Definition	Formula
aaf_t_sum_total	total aggregated class+recess time	t_sum = t_class + t_recess
aaf_ratio_s_pop	space-size population-size ratio	ratio_sp = s_size / pop_size
aaf_indica_rec_t_s_p	time_space/population Indicator: Product of recess-time times the space/population ratio	indica_tsp = t_recesss * ratio_sp
aaf_indica_sum_t_s_p	total time_space/population Indicator: Product of aggregated time (class+recess) times the space/population ratio	indica_sum_tsp = t_sum * ratio_sp

ANALYSES.

LINEAR REGRESSSION ASSOCIATION ANALYSES.

PHYSICAL ACTIVITY ENVIROMENT VS IQ/FROST/OROS VARIABLES.
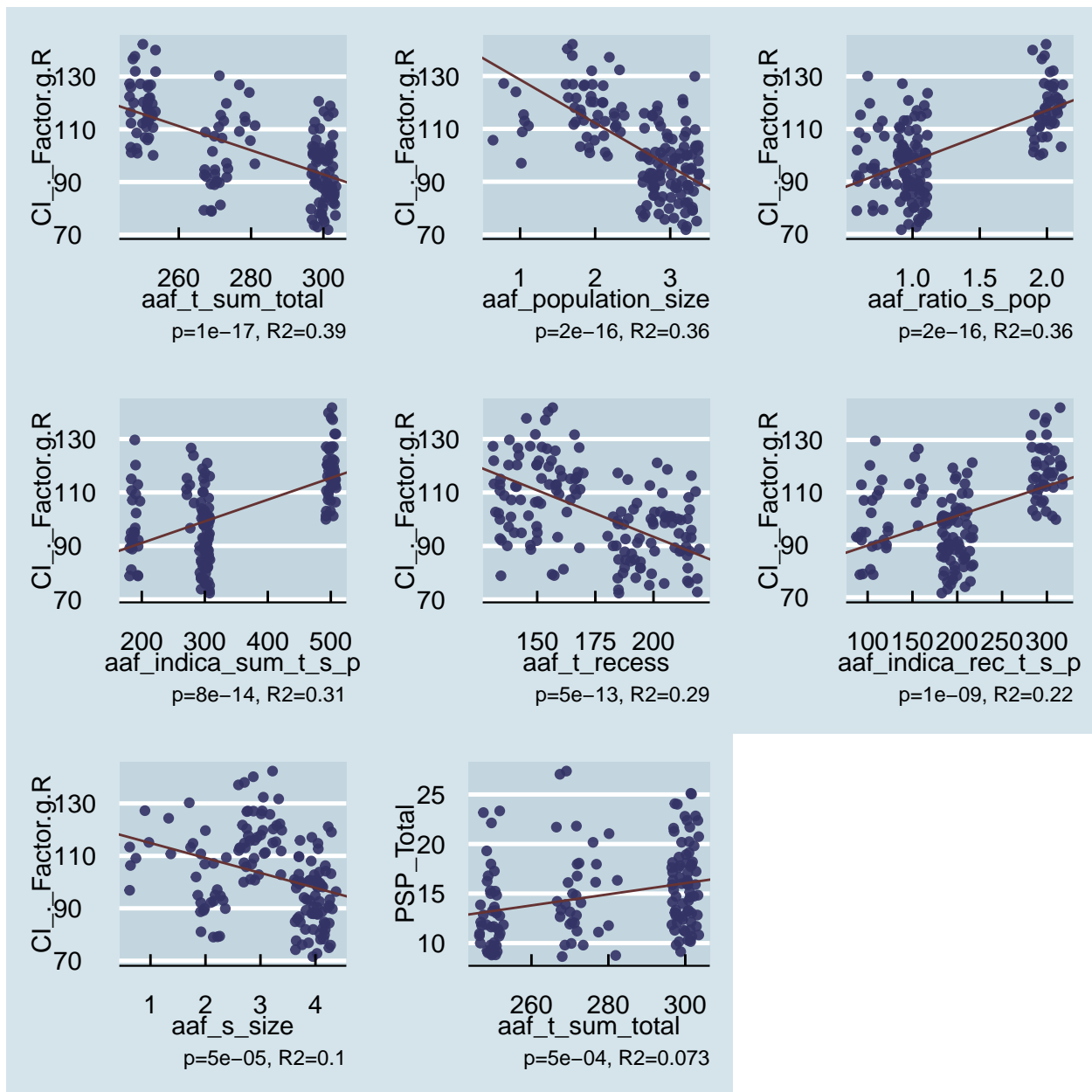
Six significant associations were found.

- 8 significant differences were found.
- The strongest association (r>0.6) was found between IQ and physical activity aggregated time.
- Of particular interest:
- Association between Oros's PSP social dimension and aggregated time was found.

The following is the list of significant results, listing the name of variables, pvalue and Adjusted Rsquared.

```
show_pars(res_activity_corr, decreasing = FALSE)
```

```
## PSP_Total aaf_t_sum_total
## pv= 5e-04
## R2= 0.073
## CI_._Factor.g.R aaf_s_size
## pv= 5e-05
## R2= 0.1
## CI_._Factor.g.R aaf_indica_rec_t_s_p
## pv= 1e-09
## R2= 0.22
## CI_._Factor.g.R aaf_t_recess
## pv= 5e-13
## R2= 0.29
## CI_._Factor.g.R aaf_indica_sum_t_s_p
## pv= 8e-14
## R2= 0.31
## CI_._Factor.g.R aaf_population_size
## pv= 2e-16
## R2= 0.36
## CI_._Factor.g.R aaf_ratio_s_pop
## pv= 2e-16
## R2= 0.36
## CI_._Factor.g.R aaf_t_sum_total
## pv= 1e-17
## R2= 0.39
```

```
## TOTAL NUMBER OF SIGNIFICANT ANALISES: 8
```


DIFFERENCES BETWEEN GROUPS ANALYSES.

By using the physical activity as groupping variables:

- 37 significant differences were found.
- Most of them with small effects.
- However, the associtiaion between IQ and Oros's PSP social dimension was replicated.

The following is the list of significant results, listing the name of variables, pvalue and Adjusted Rsquared.

```
## PRINT THE PARAMETERS WITH THE SHOW_PARS FUNTION
show_pars(res_activity_diff, decreasing = FALSE)
```

```
## Preocupaci..n_perfeccionista aaf_t_sum_total
```

```
## pv= 0.03
## R2= 0.016
## Esfuerzo_Perfeccionista aaf_s_size
## pv= 0.02
## R2= 0.02
## Esfuerzo_Perfeccionista aaf_t_sum_total
## pv= 0.02
## R2= 0.02
## CI_Total aaf_t_pe_class
## pv= 0.03
## R2= 0.022
## Perfeccionismo_de_.Frost aaf_t_sum_total
## pv= 0.03
## R2= 0.023
## Esfuerzo_Perfeccionista aaf_population_size
## pv= 0.02
## R2= 0.024
## ESP_Total aaf_s_size
## pv= 0.01
## R2= 0.026
## ESP_Total aaf_indica_sum_t_s_p
## pv= 0.03
## R2= 0.026
## ESP_Total aaf_indica_rec_t_s_p
## pv= 0.03
## R2= 0.026
## ESP_Total aaf_t_sum_total
## pv= 0.01
## R2= 0.026
## ESP_Total aaf_t_pe_class
## pv= 0.02
## R2= 0.027
## Grit.S aaf_t_recess
## pv= 0.02
## R2= 0.028
## ESP_Total aaf_population_size
## pv= 0.01
## R2= 0.031
## Grit.S aaf_t_pe_class
## pv= 0.006
## R2= 0.04
## POO_Total aaf_population_size
## pv= 0.004
## R2= 0.042
## POO_Total aaf_s_size
## pv= 0.002
## R2= 0.046
## POO_Total aaf_indica_sum_t_s_p
## pv= 0.002
## R2= 0.046
## POO_Total aaf_indica_rec_t_s_p
## pv= 0.002
## R2= 0.046
## POO_Total aaf_t_sum_total
```

```
## pv= 0.02
## R2= 0.046
## Grit.S aaf_indica_sum_t_s_p
## pv= 0.002
## R2= 0.047
## Grit.S aaf_indica_rec_t_s_p
## pv= 0.002
## R2= 0.047
## PSP_Total aaf_t_recess
## pv= 0.004
## R2= 0.047
## POO_Total aaf_t_pe_class
## pv= 0.01
## R2= 0.051
## CI_Total aaf_t_recess
## pv= 0.003
## R2= 0.053
## Grit.S aaf_ratio_s_pop
## pv= 0.002
## R2= 0.053
## CI_Total aaf_indica_sum_t_s_p
## pv= 0.004
## R2= 0.055
## CI_Total aaf_indica_rec_t_s_p
## pv= 0.004
## R2= 0.055
## CI_Total aaf_t_sum_total
## pv= 0.01
## R2= 0.055
## CI_Total aaf_ratio_s_pop
## pv= 0.004
## R2= 0.061
## PSP_Total aaf_t_sum_total
## pv= 3e-04
## R2= 0.067
## CI_._Factor.g.R aaf_t_recess
## pv= 5e-13
## R2= 0.29
## CI_._Factor.g.R aaf_ratio_s_pop
## pv= 1e-09
## R2= 0.39
## CI_._Factor.g.R aaf_population_size
## pv= 4e-05
## R2= 0.46
## CI_._Factor.g.R aaf_s_size
## pv= 2e-05
## R2= 0.46
## CI_._Factor.g.R aaf_indica_sum_t_s_p
## pv= 1e-10
## R2= 0.46
## CI_._Factor.g.R aaf_indica_rec_t_s_p
## pv= 1e-10
## R2= 0.46
## CI_._Factor.g.R aaf_t_sum_total
```
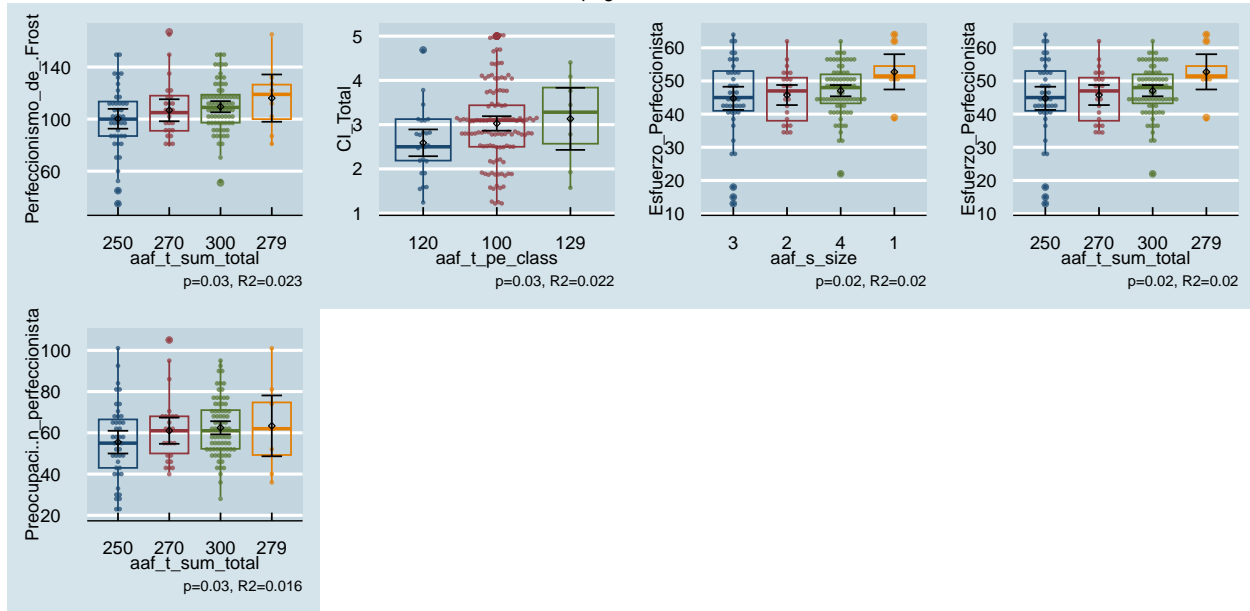
```
## pv= 8e-21
## R2= 0.46
## TOTAL NUMBER OF SIGNIFICANT ANALISES: 37
```
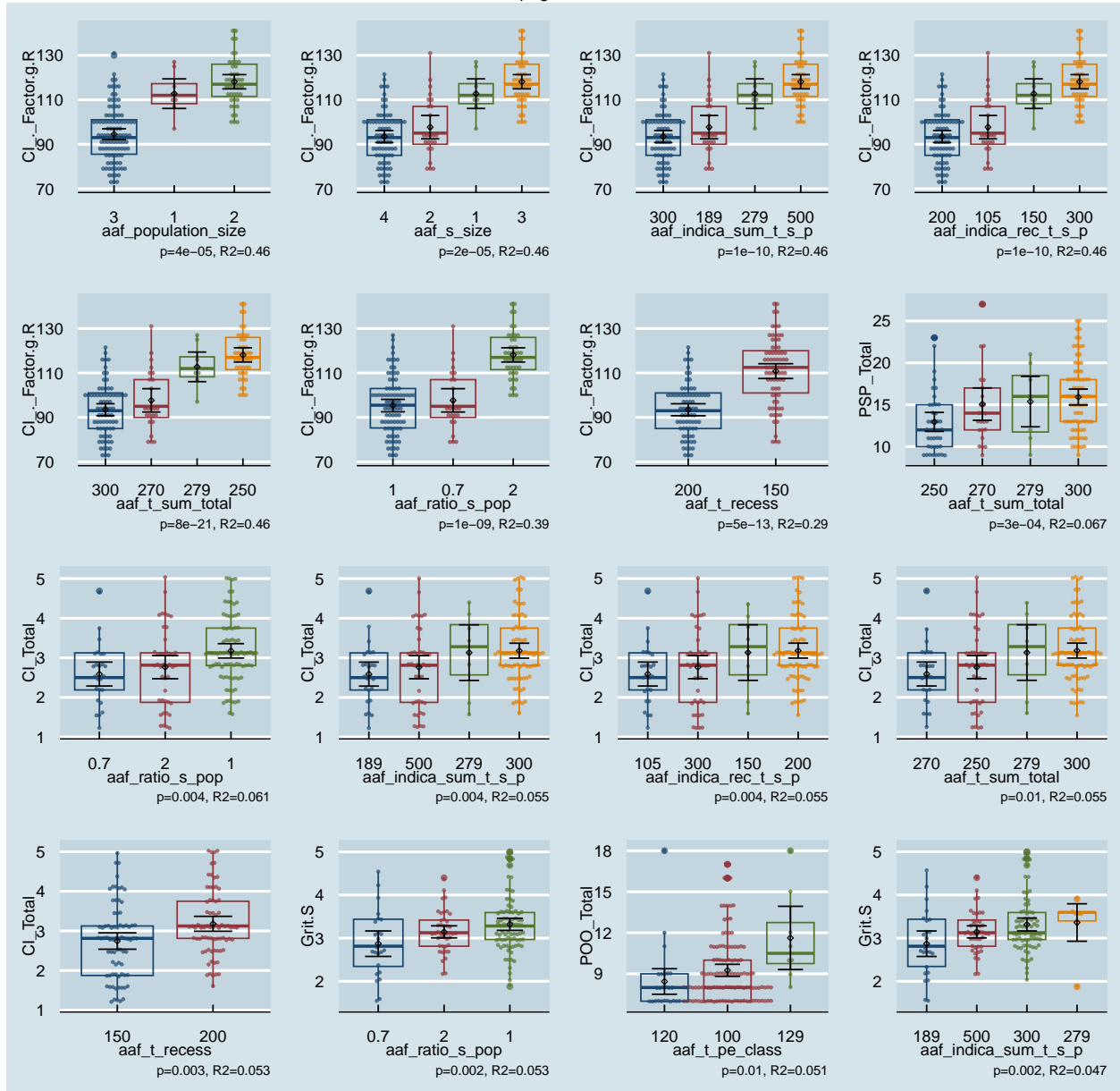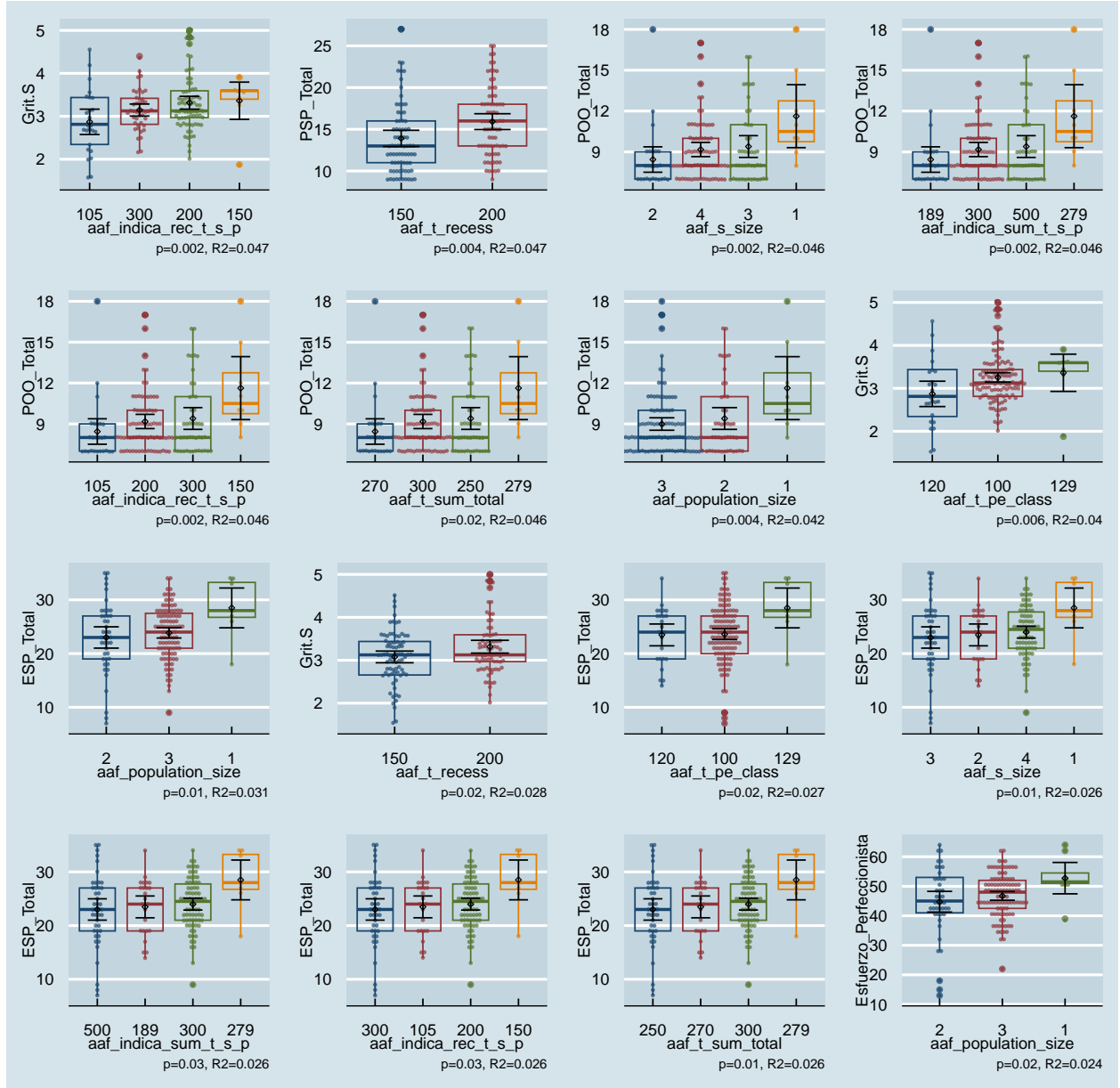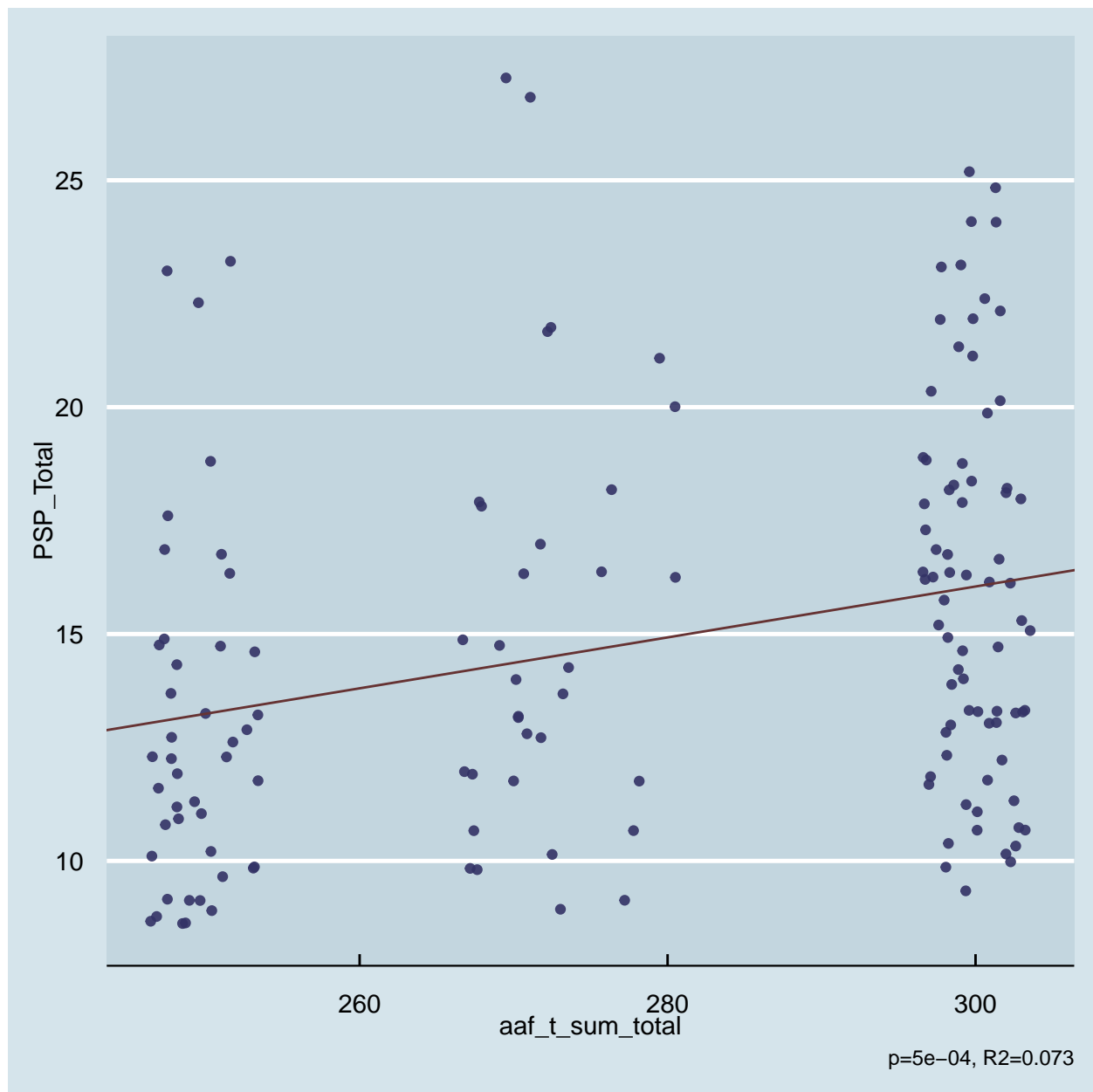
VARIABLE OF INTEREST, OROS'S PSP SOCIAL DIMENSION, GRAPHICS IN DETAIL.

PSP-TIME ASSOCIATION.

```
## SHOW THE PSP CORRELATION GRAPH
res_activity_corr[['plots']][['PSP_Total_~_aaf_t_sum_total']]
```

p=5e−04, R2=0.073

DIFFERENCES IN PSP SOCIAL DIMENSION.

```
## SHOW THE PSP CORRELATION GRAPH
res_activity_diff[['plots']][['PSP_Total_~_aaf_t_sum_total']]
```

p=0.01, R2=0.026