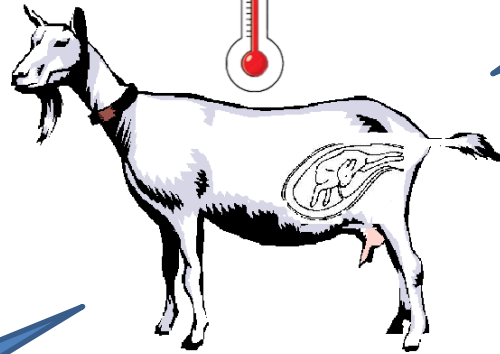
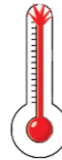




Effects of prenatal heat stress on the emotional reactivity and behavioral reactions of female dairy goat kids

Stress during pregnancy period

Reduction of the duration of pregnancy



Reduction of neuromotor capacities

- Locomotion
- Exploration
- Learning



Lower birth weight



Reduction of social interaction

Objective

The aim of this study was to assess the effects of maternal heat-stress during the prenatal period on emotional reactivity of goat offspring



Characteristics, treatments and management of goats

Animals:

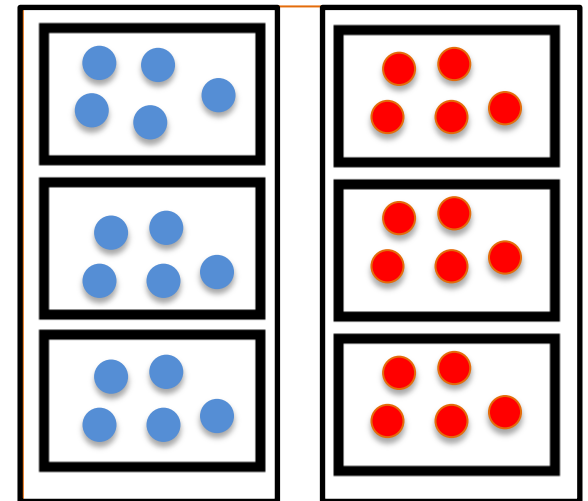
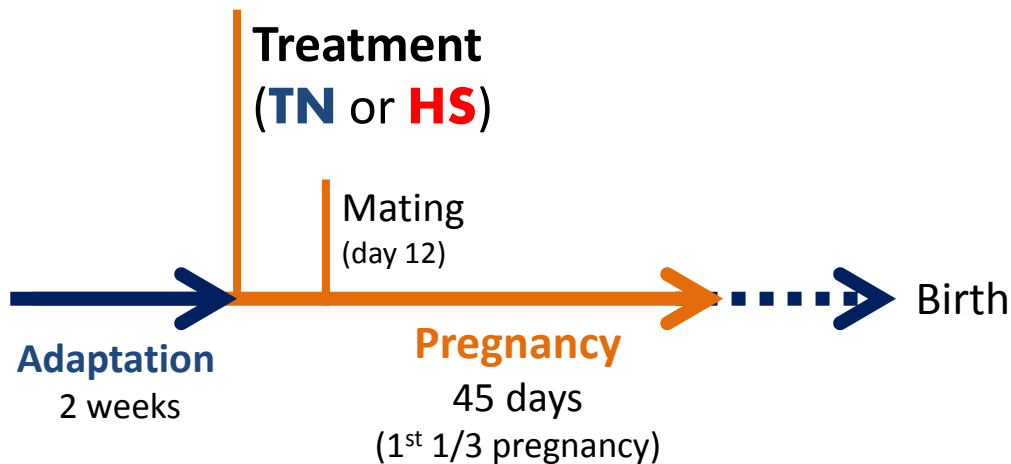
- 30 Murciano-Granadina dairy goats (41.8 ± 5.70 kg BW)

Housing:

- 5 × 2.5 m² with 5 goats / pen



Thermal-neutral (TN; 15-20°C) Heat stress (HS; 30-37°C)



Characteristics, treatments and management of goats

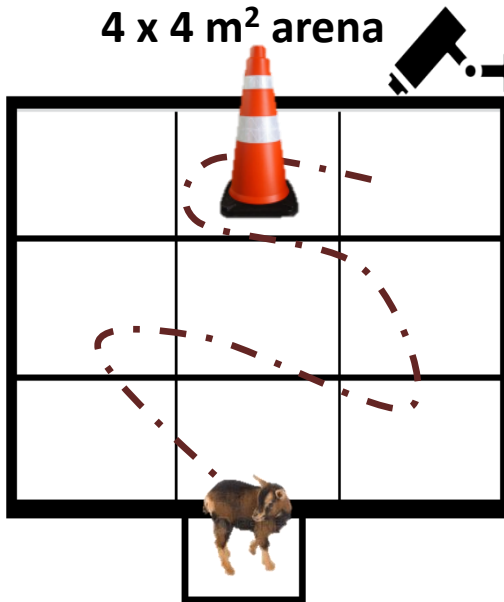
Animals:

Female kids born in

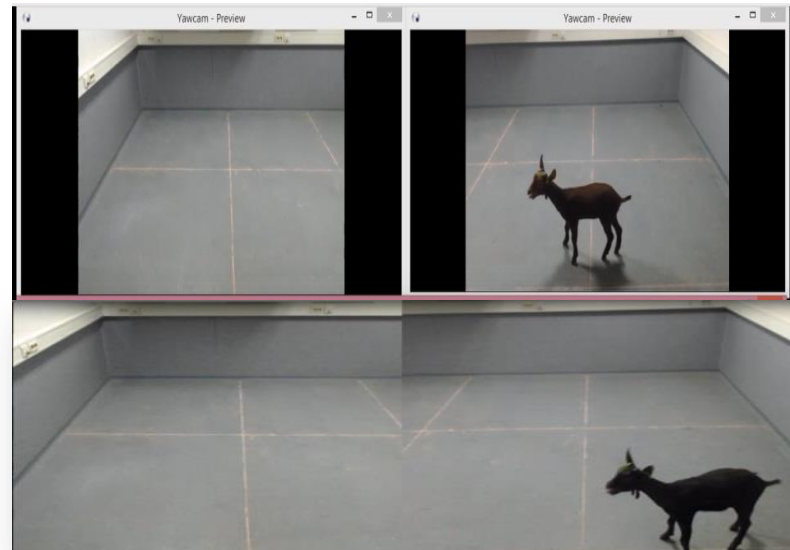
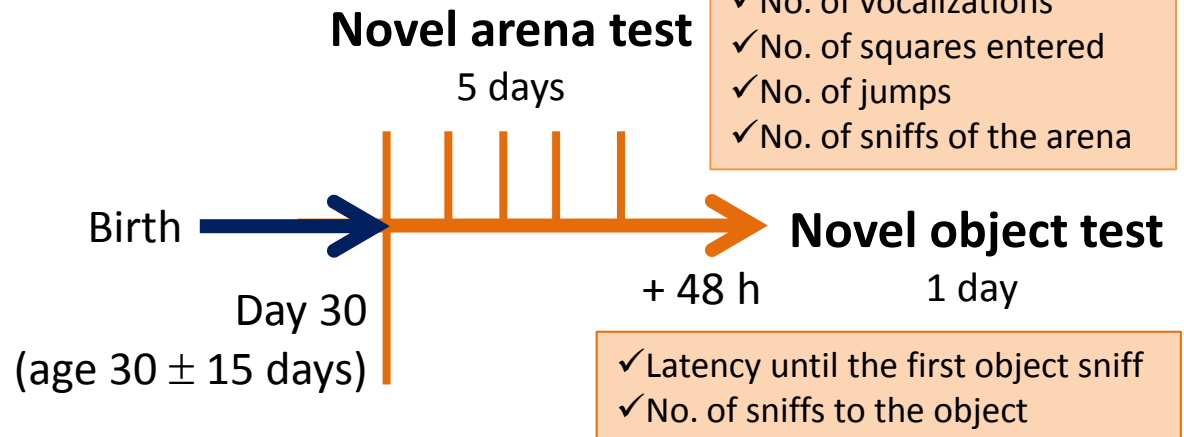
- **TN** group (n=16)
- **HS** group (n=10)

Behavioral tests

4 x 4 m² arena



8 min/test



Results

Performance and reproductive of goats and goat kids at parturition and early postpartum

Variables	TN	HS	RMSE	P value	
				Treatment	Litter size
Litter size (No. kids)	2.3	2.2	0.79	0.806	-
Litter weight (kg)	5.4	4.7	0.71	0.061	<0.001
Duration of pregnancy (day)	146	143	2.3	0.006	0.915
Birth weight of kids (kg)	2.3	2.2	0.38	0.122	-
Weight of 35-days-old kids (kg)	7.9	7.6	1.34	0.520	-

TN: Thermal-neutral

HS: Heat stress

Results

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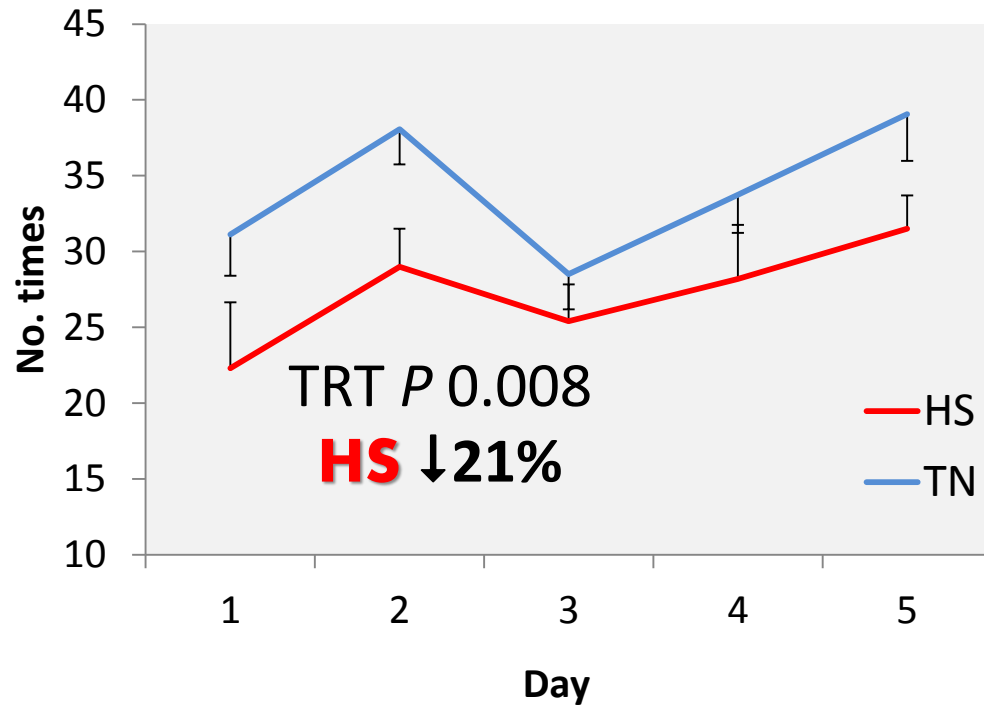
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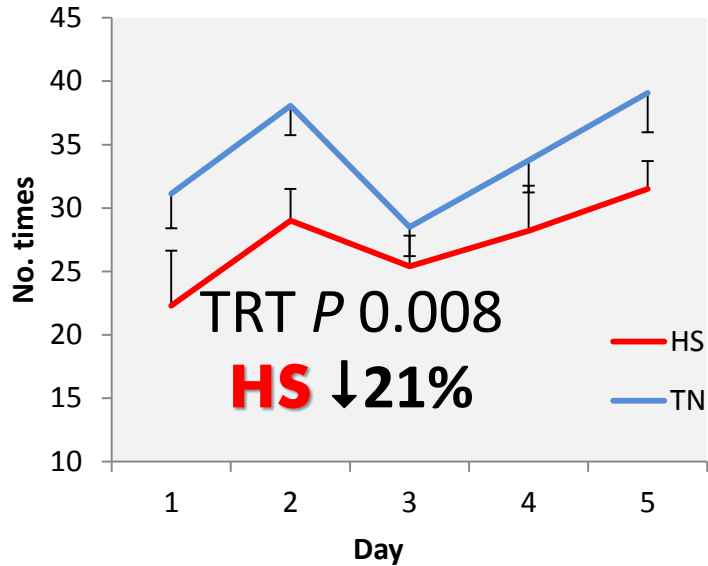
Results: Novel arena test

No. of sniffs

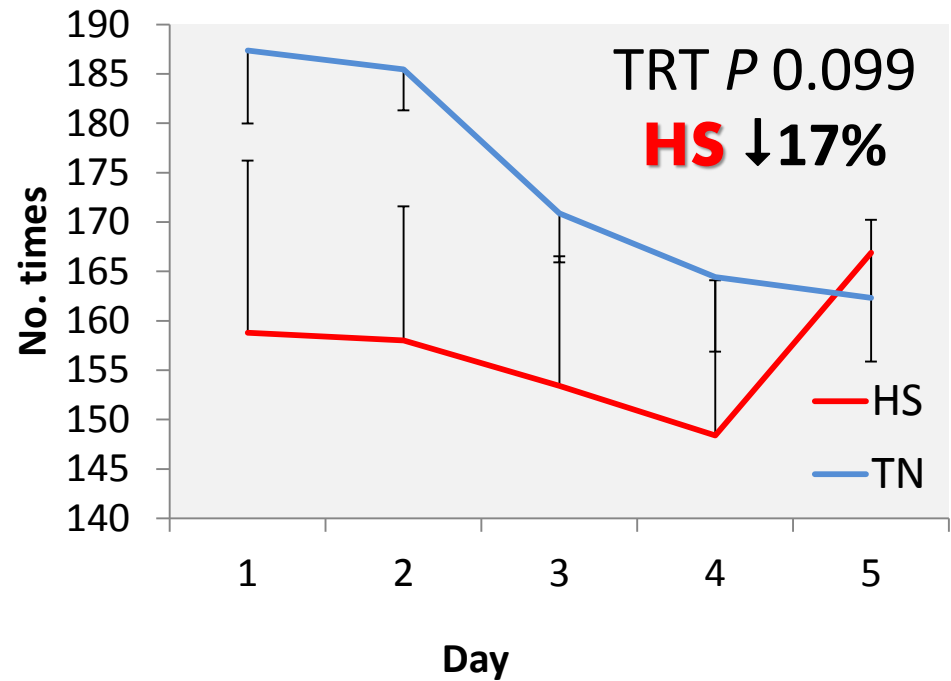


Results: Novel arena test

No. of sniffs

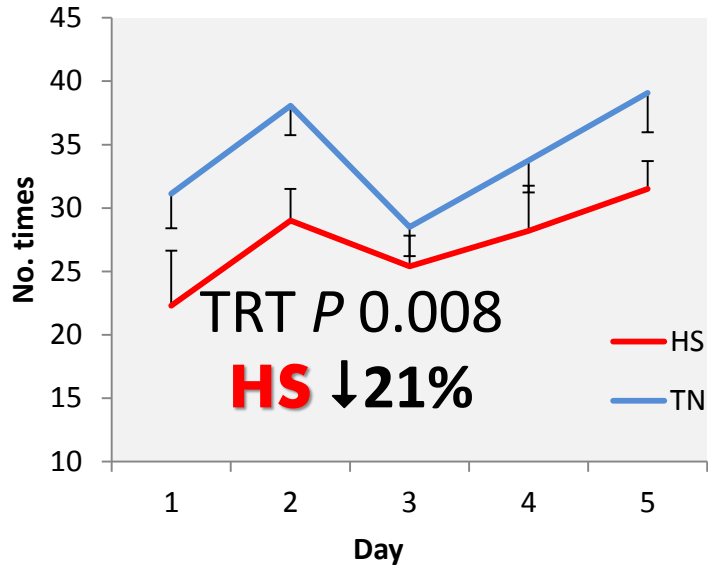


No. of vocalizations

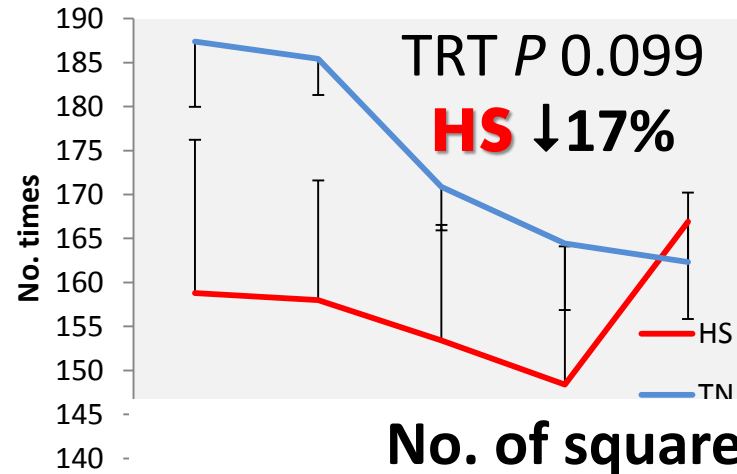


Results: Novel arena test

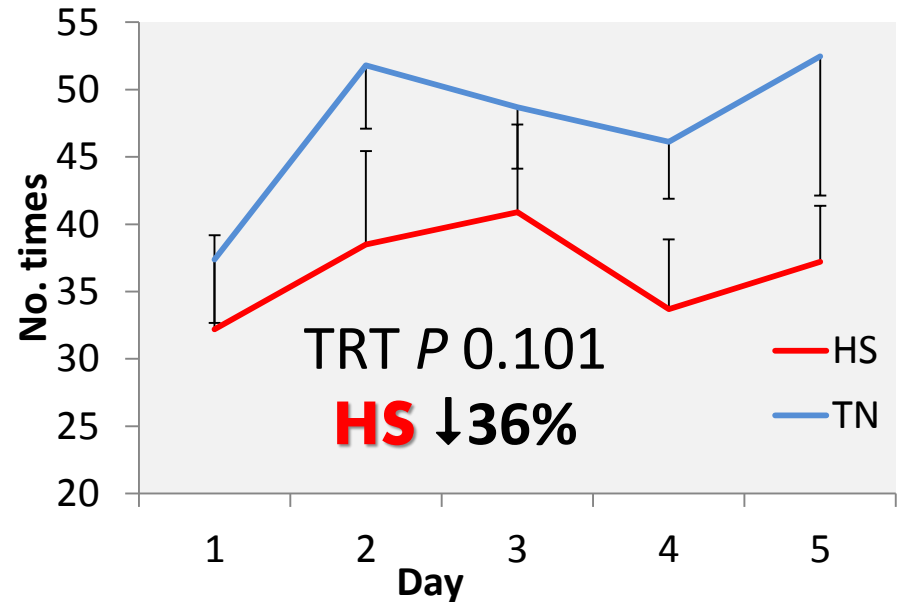
No. of sniffs



No. of vocalizations

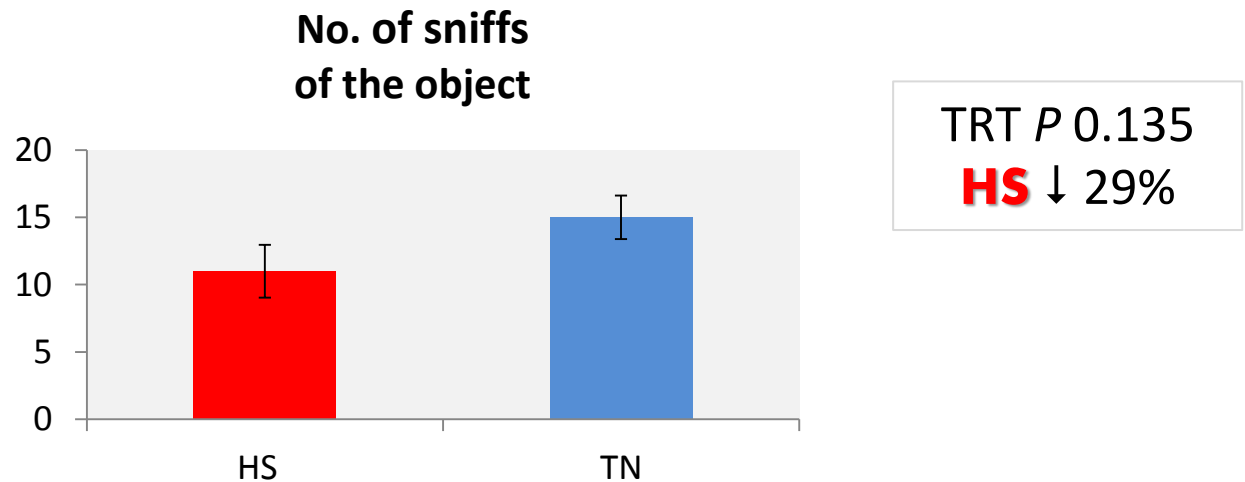
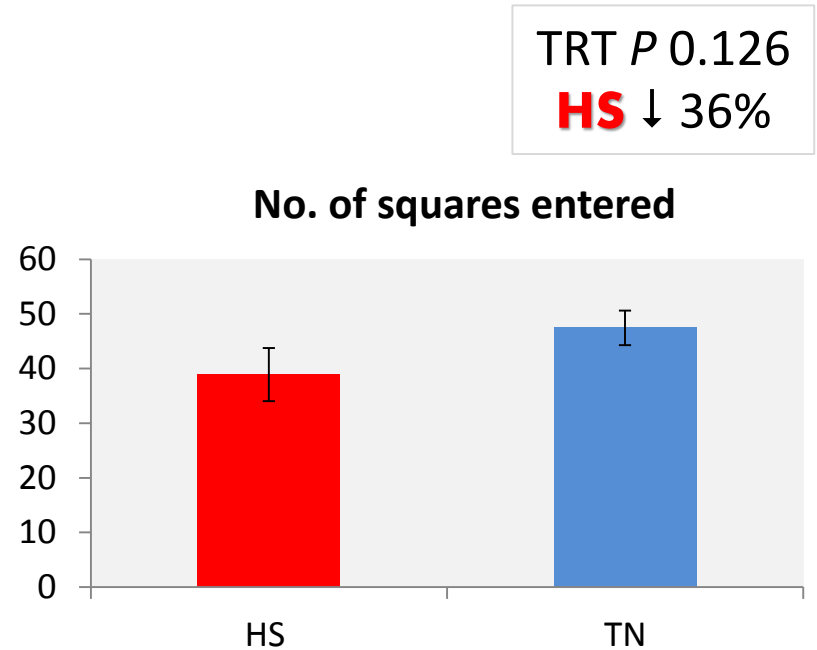
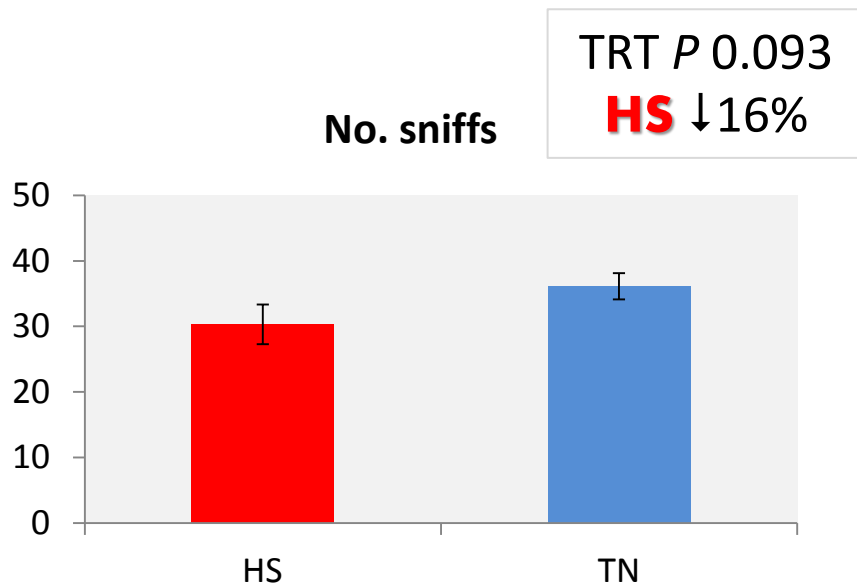


No. of squares entered



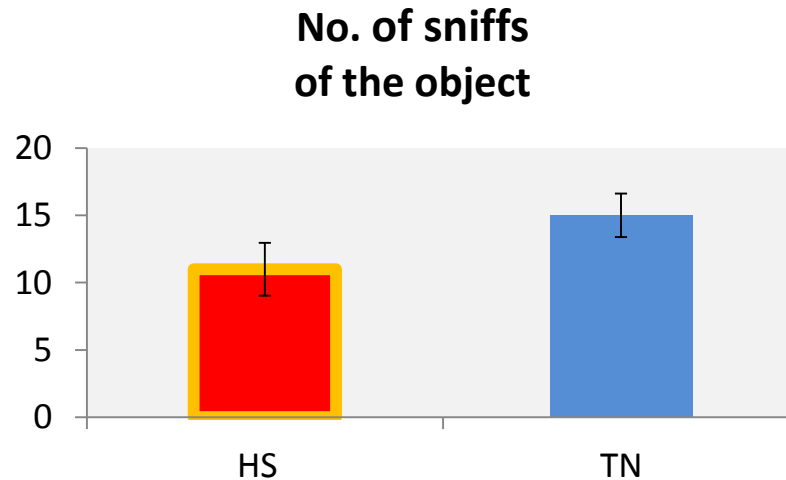
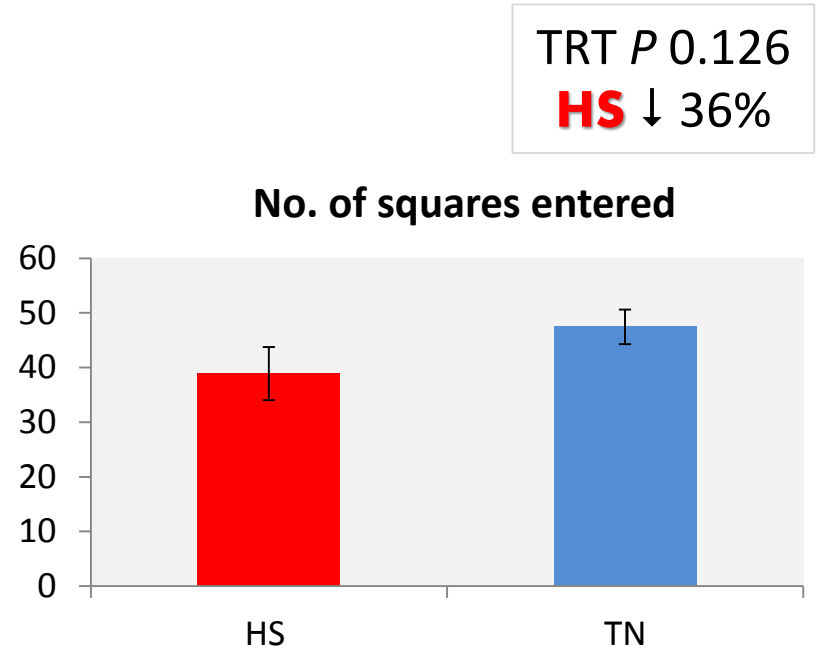
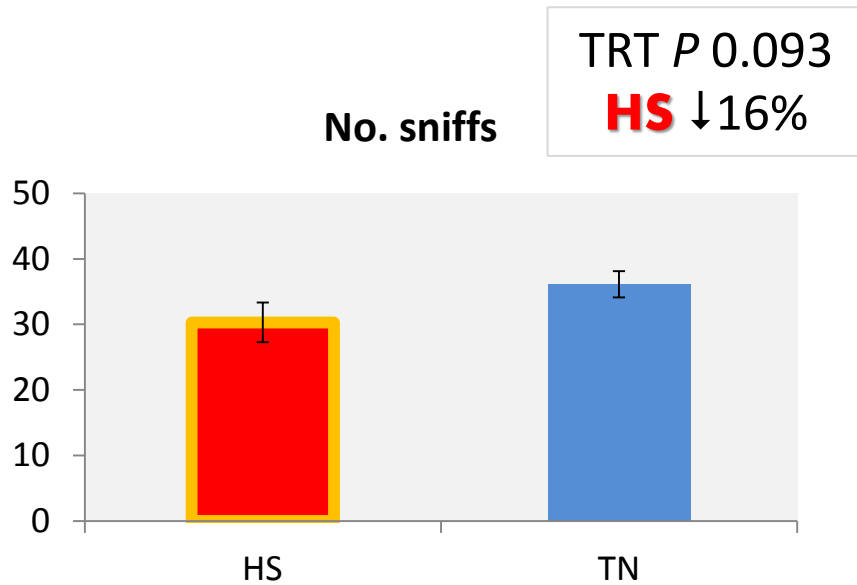
Results

Novel object test



Results

Novel object test



TRT P 0.135
HS ↓ 29%

Conclusions

- Heat stress during the first third of pregnancy reduced the duration of pregnancy with effects on the weight of the offspring.
- Behavioral tests showed an altered emotional reactivity during the postnatal life of the goat kids after the heat stress suffered *in utero*.



Thank you
ευχαριστώ

UAB

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de Barcelona



Wellington Coloma

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