INTRODUCTION:
The quantification of relative training loads (RTL) is useful to assess how much players are exposed to competitive demands during training [1,2]. However, this alternative method to absolute training loads (ATL) quantification has only been scarcely used. Most studies have mainly expressed the RTL without considering the position of the players. This study therefore aimed to evaluate ATL and RTL and compare positions over the full in-season in an elite soccer academy.

METHODS:
Twenty-four elite academy soccer players were categorized in five positions (CD: central defender; FB: full back; CM: central midfielder; WM: wide midfielder; FW: forward) and monitored using global positioning system (GPS). Only the weeks that fulfilled the following criteria were considered: (i) the team played only one match during the week, (ii) with a minimum of 6 days between the matches, (iii) players should complete all training sessions of the considered week, and (iv) should play the whole match. Firstly, ATL were calculated using day-by-day (according to their distance from match day [MD]) mean values from the considered weeks. Then, RTL were calculated using ATL expressed as a fraction of mean values of all the competitive matches of the considered weeks. GPS-derived data included total (TD), moderate (MSD; [15-20] km・h⁻¹), high (HSD; [20-25] km・h⁻¹), and sprint distance (SPR; > 25 km・h⁻¹), the total number of accelerations (ACC; > 3 m・s⁻²) and decelerations (DEC; < -3 m・s⁻²). One-way ANOVA were performed to evaluate differences between positions, followed-up by Bonferroni post-hoc procedures. Cohen’s d effect size were calculated. Significance was set at p<0.05.

RESULTS:
Absolute TD was greater for WM than CD (p=0.003; d=1.268) on MD-3, while relative TD did not demonstrate significant difference. Absolute MSD did not highlight difference across positions, while relative MSD showed that CD performed greater distances than CM, WM, and FW over the entire microcycle (p=0.045; d=1.248). Additionally, FB also performed a greater relative MSD than WM, on MD-4, MD-3, and MD-2 (p=0.001; d=1.107). On MD-4 and MD-3, WM demonstrated greater absolute ACC and DEC values than CD (ACC: p=0.047; d=1.057; and DEC: p=0.007; d=1.149) and CM (ACC: p=0.039; d=1.167; and DEC: p=0.011; d=1.423), while relative ACC and DEC did not differentiate positions.

CONCLUSION:
Our results therefore highlight the need to quantify RTL over ATL. Quantifying RTL adds context to training loads by taking into account the competitive demands, and result in markedly different conclusions.