

THE PERSONALITY OF CAPTIVE LIONESSES INFLUENCE THEIR REACTION TO ENVIRONMENTAL AND SOCIAL CHANGES?

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Studying the personality traits in zoo animals might be useful to better satisfy their behavioral needs and improve individual well-being [1]. The purpose of this pilot study was to evaluate the response of a group of lionesses exposed to environmental and social changes, and to correlate them to their personality profile. The subjects were three lionesses (*Panthera leo*) housed at Parco Natura Viva. Personality traits were evaluated by rating method [2] and then behavioral observation data were collected (continuous focal animal sampling method) and analyzed (BORIS software [3]) focusing on individual and social behaviours. During the first period (baseline), no changes were introduced in the lioness's life and environment. In the second period, two male lions arrived at the park, and were hosted in an enclosure near to the study lionesses. In the third period, lionesses were provided with novel objects (panels with pictures). The results showed that personality profiles were different between the study subjects. The results of behavioral observations have highlighted that the arrival of the new males led to behavioral changes in particular in social behavior (Wilcoxon test, $p < 0.016$) which also differed significantly between the lionesses (Kruskal-Wallis test, $p < 0.05$). Moreover, the arrival of the two males led the lionesses to perform pacing with differences between them (Kruskal-Wallis test $p < 0.05$). The introduction of novel objects helps the lionesses to manage the arrival of the new lions (Wilcoxon test ($p < 0.016$)). In conclusion, all the three subjects were affected by the new stimuli, but the extent of the behavioral modification varied significantly from one lioness to the other, confirming various personality profiles previously assessed.

[1] Watters J. Measuring Animal Personality for Use in Population Management in Zoos: Suggested Methods and Rationale, *Zoo Biology*, 31:1–12, 2012. [2] Highfill L. Rating vs. Coding in Animal Personality Research, *Zoo Biology*, 29 : 509–516, 2010. [3] Friard O. BORIS: a free, versatile open-source event-logging software for video/audio coding and live observations, *Methods in Ecology and Evolution*, 7,1325–1330, 2016.