Going to the dogs: What can shy dogs teach us about longevity?

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According to a new study by a Quebec research team, there are strong correlations between dog breeds' typical personalities, how long they live, and how much food they eat.

Through domestication, humans unwittingly initiated an artificial selection experiment on personality. We know that breeders selected individual dogs for reproduction based not only on physical appearance but also on specific behavioral traits - such as activity, aggressiveness, and docility - to shape each breed to a specific task. As a result, some breeds excel in tracking while others excel in herding, guarding, fighting, or human companionship. Other traits, such as longevity or energy expenditure, were presumably not targeted for selection. So the correlations obtained suggest that metabolism and lifespan changed as by-products of selection on personality traits. These connections between behavior, metabolism, and longevity represent greatly what is predicted by the "pace-of-life" syndrome hypothesis.

A team led by Vincent Careau, a PhD student at University of Sherbrooke, gathered data on many aspects of dog biology published in disparate fields of study such as psychology, longevity, and veterinary research. The information was well known in the respective research domains, yet they were never put together. By doing so, the authors show that obedient breeds - on average - live longer than disobedient breeds. They also show that aggressive breeds have higher energy expenditure. The late Don Thomas said, "It is hard to imagine how an aggressive personality could be adaptive if it lacked the energetic and metabolic

machinery to back up the threats. Simply put, 100 pound weaklings don't kick sand in weight-lifters' faces and survive in nature."

This study contributes to the growing body of research revealing that personality is related to many crucial aspects of an animal's life - such as its energy needs, growth rate, age of first reproduction, and lifespan - and takes us a step closer to understanding the evolutionary causes and consequences of different personality types. This study hints at the existence of underlying genetic linkages between personality, metabolism, and longevity—meaning that selection for personality traits also invokes unintentional results on energetic and life history traits.

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