Inhibitory control and explosive detection performance in police dogs

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Canines are used for a range of important working tasks. However, there is limited amount of knowledge on the possible association between cognitive traits and working dog performance. This study investigated whether inhibitory control, persistence, problem-solving strategies, and spatial problem-solving are associated with explosive detection success in specially trained police dogs. Dogs (N = 24) were tested with a short cognitive test battery, and subsequently participated in an annual explosive detection test. Canine handlers also filled in a questionnaire regarding their dog’s working behaviour. We found that those dogs that were more successful in explosive detection had better inhibitory control in a cylinder task compared to dogs with lower success in an explosive search task. This study suggests that inhibitory control may be an important aspect to consider when selecting suitable dogs for explosive detection tasks.

**Keywords**: cognition, inhibitory control, motor inhibition, explosive detection, working dog