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# Critical review of dog detection and the influences of physiology, training, and analytical methodologies

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## **Abstract**

Detection dogs serve a plethora of roles within modern society, and are relied upon to identify threats such as explosives and narcotics. Despite their importance, research and training regarding detection dogs has involved ambiguity. This is partially due to the fact that the assessment of effectiveness regarding detection dogs continues to be entrenched within a traditional, non-scientific understanding. Furthermore, the capabilities of detection dogs are also based on their olfactory physiology and training methodologies, both of which are hampered by knowledge gaps. Additionally, the future of detection dogs is strongly influenced by welfare and social implications. Most importantly however, is the emergence of progressively inexpensive and efficacious analytical

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