



Chapter Five – The World from a Dog's Point of View: A Review and Synthesis of Dog Cognition Research

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Abstract

Driven by both applied and theoretical goals, scientific interest in canine cognition has experienced a rapid surge in popularity, especially over the last 15 years. Here we provide the most comprehensive review to date of dog cognition research, capturing all the articles (285) we could find on the subject going back to 1911. We begin by summarizing the general research trends, first documenting the rapid recent growth in dog cognition research (particularly in the domain of social cognition), and then identifying a number of trends in terms of the cognition topics and dog populations studied. Next, we summarize and synthesize the substantive conclusions emerging from research on nonsocial (discrimination learning, object permanence, object learning, categorization, object manipulation, quantitative understanding, spatial cognition, and memory) and social (responses to human cues, perspective taking, dog-human communication, and social learning) cognition. In light of the burgeoning research on individual differences in cognition and on the biological organization of cognitive domains, we highlight the potential impact of these topics on the dog cognition field. Finally, based on our syntheses, we outline some ideas for future research, including recommendations that studies focus on: (1) incorporating multiple sensory modalities (most notably olfaction); (2) using more diverse populations of subjects; (3) replicating studies where current knowledge is based on small study sets or on small samples; (4) identifying fundamental developmental patterns of cognitive development; (5) identifying individual differences in cognitive ability; and (6) identifying potential cognitive constraints (e.g. cognitive abilities that are nonindependent due to pleiotropic biological organization).

Keywords

Canine; Cognition; Dog; Individual differences; Intelligence; Social