

Individual differences in learning and exploratory behaviour: Evidence for speed-accuracy trade-offs in black-capped chickadees

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In a series of experiments from our laboratory, we have shown that learning speed is related to exploratory behaviour in black-capped chickadees. In the current experiment, our goal was to examine whether performance accuracy was related to exploratory behaviour. As in our previous work, we first measured exploratory behaviour in a novel environment, and then used an operant discrimination (go/no-go) paradigm to train black-capped chickadees to discriminate between different acoustic stimuli. Each bird was trained until it reached a pre-determined level of expertise, and then tested for performance accuracy with a new set of acoustic stimuli. We found that slow-exploring chickadees maintained a higher level of discrimination performance when tested with new exemplars from previously learned acoustic categories, compared to fast-exploring chickadees. Taken together with previous studies in this series, the data supports the notion for a cognitive syndrome where some individuals may learn with high speed but low accuracy, while others learn with low speed but high accuracy.