

Influence of primary motivational incentives on sequential cognitive control adjustments.

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Cognitive control fluctuates during task performance: slower and more accurate responses after errors and increased control after conflict (conflict adaptation effect) have been observed. Van Steenbergen et al. (2009) observed selectively reduced conflict adaptation in the flanker paradigm, following unpredicted monetary rewards, but not penalties. This finding was interpreted as indicating differential roles for positive vs. negative motivation in conflict-based control adjustment. The present study also examined the effect of motivational incentives on conflict adaptation and post-error adjustments in the flanker task, but using performance-contingent primary reinforcements (pleasant vs. aversive liquids). Conflict adaptation was present at baseline but reduced under both rewards and punishments, with no effects of incentive valence. Post-error accuracy improved under reward but worsened under punishment. The differential sensitivity of these sequential effects to incentive valence indicates dissociable influences on cognitive control, and suggests potential differences related to the type of reinforcement and performance-contingency of incentives.