Giving up from responding during problem-solving: How, why and so what?

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ABSTRACT

Under the Meta-reasoning (MR) model, the decision to give up reflects a metacognitive strategy that can mitigate errors and resource costs when solving problems. Currently, however, there needs to be more understanding of how individuals give up, whether such strategies are used systematically and whether they are adaptive or maladaptive for performance. We examined this behaviour from individual differences and cognitive perspectives in three studies (N1=176, N2=370, N3=221). Time spent until giving up, frequency of giving up, other cognitive and metacognitive scores embedded within cognitive tests were captured, as well as decision-making styles, performance metrics, cognitive ability and personality. In all studies, participants varied systematically in their giving-up behaviour: frequencies converged onto a Giving Up factor using Confirmatory Factor Analysis (in Studies 1 and 2). Participants also clustered into profiles based on time until giving up and frequency. Using Latent Profile Analyses in Study 2, three unique giving-up profiles emerged—1) fast and frequent, 2) fast and rare, and 3) slow and rare. The two "fast" profiles were characterised as maladaptive, having lower points and bets than the adaptive "slow" profile. People gave up more frequently when feelings of confidence were low and faster when a problem was perceived as unsolvable. This indicates that iJOS and confidence judgements are critical to giving up decisions during problem-solving. Study 3 indicated that giving up frequencies shared meaningful relationships with effort and time regulation.

These results suggest that people have systematic trait-like tendencies to give up during problem-solving and are systematically predisposed towards adaptive and maladaptive giving-up strategies. Maladaptive profiles prefer fast giving-up decisions, and adaptive profiles prefer to give up slowly. Overall, our results validate the processes proposed by the Meta-Reasoning framework and provide a strong foundation for further investigation into monitoring processes and the role of giving up in education, self-regulated learning and decision-making. Future directions will be discussed.