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It is new, but will it be good? Context-driven exploration of novel options

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Abstract: How do people decide whether to try out novel options? We argue that they utilize contextual information to efficiently generalize from learned functional relations in order to decide between known or novel options. In a contextual multi-armed bandit task, in which rewards are a noisy function of observable features, we assess participants' preferences for newly introduced options. We show that participants preferably choose a novel option if its features indicate high rewards, but shun the option if its features indicate low rewards, a behavior that can only be explained by functional generalization. Moreover, we assess people's preferences for novel options that have medium rewards to test whether they prefer options less similar to experienced options, consistent with choices guided by uncertainty. Given that novel options normally come with observable features, we argue that contextual learning is a parsimonious yet powerful explanation of behavior in the face of novelty.