

# **Impatient to Receive or Impatient to Achieve: Goal Gradients and Time Discounting**

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## **Abstract**

When people behave impatiently, prioritizing sooner outcomes at the expense of latter ones, is it because they value achieve their goal sooner, or because they value receiving the benefits sooner? Prior research has often confounded goal gradient (the stronger motivational effect of more proximal goals) and time discounting effects on decision-making. We first establish a preference to invest in the earlier of two equally difficult goals (e.g, a first-goal preference) that could be explained either by relative goal gradients or by differences in time discounted value. We then experimentally separate the timing of goal completion and reward receipt. We find separate and disassociated large goal gradient and somewhat smaller time discounting effects. Our results suggest that goal gradient effects may provide a partial, but substantial, explanation of time discounting and, consequently, can inflate estimated discount rates when not accounted for.