

Abstract

Olympic athlete selection procedures are different among countries and events, and famous athletes are often reported to have lost their selection races. This paper analyzes what kind of procedure is more likely to select high-ability athletes while preventing low-ability athletes from being selected by chance. Our game-theoretic model shows that the answer depends on how sharply high-ability athletes' race results fluctuate relative to those of low-ability athletes. Athletes' strategic choice of participation in races turns out to be crucial in addressing this question, and there are cases in which having only one race is desirable, even if the selection can involve multiple races.