Three studies test the combined effects of competitive context, achievement goals, and individual differences in achievement motivation and anticipated competence on a dart-throwing task. Study 1 was a 2 (competitive context: competitive or non-competitive) x 2 (feedback: positive or negative) factorial design in which participants performed the task either competitively or independently and subsequently received positive or negative feedback. Study 2 was a 2 (competitive context: competitive or non-competitive) x 2 (goal: mastery or none) x 2 (feedback: positive or negative) design that replicated Study 1 and introduced a mastery goal hypothesized to reduce competitive anxiety and buffer enjoyment following negative feedback. Study 3a was a 4 (goal: mastery-skill development, mastery-improvement, performance, or none) x 2 (feedback: positive or negative) design with two noncompetitive control cells that tested different achievement goals, including two formulations of the mastery goal, as competition interventions. Competition increased anxiety and lowered enjoyment. Mastery-improvement and performance goals enhanced performance and enjoyment (even following a competitive loss), but only mastery-improvement goals predicted continued engagement with the darts activity following a loss. Study 3b used latent growth curve modeling to test a hypothesized model of change in enjoyment and perceived competence over time using measures from Study 3a. Discussion describes implications for competition theory, achievement goal theory, and educational practice.