Adolescence is a period of heightened engagement in risky and reckless behavior, including substance use, unprotected sex, reckless driving, and criminal activity. In this talk, I present the results of a program of research on the underpinnings of risk-taking adolescence that is informed by recent advances in developmental neuroscience. According to the Dual Systems Model of adolescent brain development, reward-seeking and impulsivity develop along different timetables and have different neural underpinnings, and the difference in their timetables helps account for heightened risk-taking during adolescence. In order to test these propositions, age differences in reward-seeking and impulsivity were examined in a socioeconomically and ethnically diverse sample of 935 individuals between the ages of 10 and 30, using self-report and behavioral measures of each construct. Consistent with predictions, there is a substantial increase in reward-seeking during early adolescence, with sensitivity to rewards and preference for immediate rewards especially pronounced. In contrast, age differences in impulsivity follow a linear pattern, with impulsivity declining steadily from age 10 on. Heightened vulnerability to risk-taking in middle adolescence may be due to the combination of relatively higher inclinations to seek rewards and still maturing capacities for self-control. Preliminary findings from an ongoing replication of this study in 10 diverse nations, support the conclusions drawn from the study of American individuals. I also present findings showing that adolescents' sensitivity to rewards is heightened by the presence of peers, as well as evidence that this effect is mediated by hyper-activation of the brain's reward circuitry. I conclude by discussing the implications of this work for policy and practice.