Many important decisions are made under stress and they often involve risky alternatives. There has been ample evidence that stress influences decision making in cognitive as well as in affective domains, but still very little is known about whether individual attitudes to risk change with exposure to acute stress. To directly evaluate the causal effect of stress on risk attitudes, we adopt an experimental approach in which we randomly expose participants to a psychosocial stressor in the form of a standard laboratory stress-induction procedure: the Trier Social Stress Test for Groups. Risk preferences are elicited using an incentive compatible task, which has been previously shown to predict risk-oriented behavior out of the laboratory. Using three different measures (salivary cortisol levels, heart rate and multidimensional mood questionnaire scores), we show that stress was successfully induced on the treatment group. Our main result is that acute psychosocial stress significantly increases risk aversion. The effect is mainly driven by males; men in our control group are less risk-averse than women, which is a standard result in the literature, but this difference almost disappears when under psychosocial stress.