Recent work in neuroscience and psychology has underscored the impact of visualizing future scenarios on decision-making, via mental simulation, emotional amplification, and consolidation of memory. We show evidence of the path and importance of imagery-based decision making for the vital economic activity of entrepreneurship. We also highlight that the use and impact of this ability is highly heterogeneous depending on people's life experiences, and it has the potential to benefit vulnerable populations the most. First, using a data set of roughly 2,000 would-be entrepreneurs in Colombia, we show that measures of imagery use correlate strongly and positively with economic outcomes. Second, we design a training curriculum to teach visualization skills, and test it using a randomized control trial in which the same entrepreneurs were given access to either the imagery-based entrepreneurial training program, a placebo program of traditional business skills training, or no program at all. In follow-up surveys conducted 8 and 14 months after the intervention, those who participated in the imagery training demonstrated a strengthened capacity for using visualization and significantly improved economic outcomes compared to the placebo. For individuals with high levels of baseline trauma, imagery addresses their deficit in positive imagery. Women in the imagery training improve along all margins compared to men, and are negatively impacted by traditional business training. Improved entrepreneurial outcomes appear to be driven by enhanced ability to obtain credit, build savings, and undertake creative marketing with customers and competitors. Our results suggest that training which ignores the emotional content of economic activity is not as effective as that which leverages the emotions inherent in economic decisions.