The evidence supporting choice models of addiction is ever increasing; yet, choice models raise a stark puzzle. Why, if addicts are able to control their consumption and choose to abstain in many circumstances, do they routinely choose to continue to use despite negative consequences? After briefly delineating the various options available to choice theorists to explain this puzzle with respect to human addicts, I will focus in this talk on the role of denial in explaining the choice to continue to use despite negative consequences, which I believe has been under-appreciated in both the philosophical and scientific literature on addiction. Consideration of the role of denial suggests that addiction may be as much a disorder of cognition as a disorder of compulsion. Finally, if there is sufficient time, I will also present some recent choice experiments with addicted rats, which paradoxically serve to highlight the role of denial in human addiction.