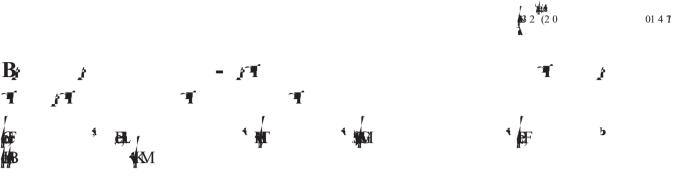
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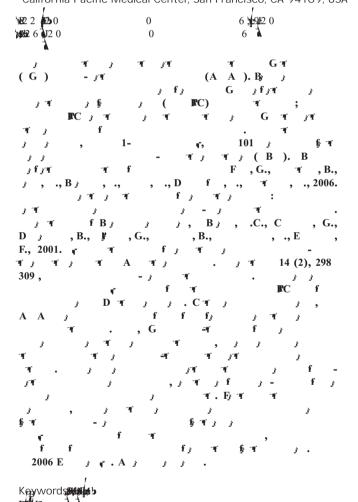


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A Dr (. r . T).

Alcoholism and drug abuse are disorders in which people continue their use of harmful substances despite major long-term negative consequences (e.g. in the areas of employment, family, education, and health). A number of studiem (hara, 2001; Bechara et al., 2001; Grant et al., 2000 ave examined the mechanisms underlying this aspect of substance dependence using the simulated gambling task (SGT) developed by chara et al. (1994) The SGT simulates real-life decision-making that requires an individual to weigh long and short-term rewards and punishments in an atmosphere of uncertain outcomes. A hallmark of drug and alcohol abuse is that users persist in behaviors that have short-term benefits (e.g., intoxication) despite long-term major negative consequences.

The gambling task was initially developed to study patients with acquired sociopathy due to damage to the ventromedial prefrontal cortex (VMPFC) Bechara et al., 1994, 1997Such patients often take part in risky behaviors that are immediately gratifying while ignoring negative future outcomes. It is thought that they cannot see beyond short-term rewards to potential long-term consequences (Bechara et al., 1994Compared with controls, when engaged in the SGT, patients with VMPFC lesions consistently choose to draw more cards from decks with larger immediate rewards and long-term net losses, than from decks with a smaller immediate reward, smaller delayed punishments and long-term net gathes: hara et al., 1994, 1997). Dysfunction of the VMPFC may predispose an individual to make disadvantageous personal choices possibly leading to socially inappropriate, or socially deviant behaviorechara et al., 1994, 1997), or to drink excessively even when it leads to significant problems.

There is also a growing body of literature implicating the amygdala in decision-making and learning atter and Murray, 2002; Baxter et al., 2000; Kahn et al., 2002; Rage Con (cett) (cett) (cett) (as a single content of the content o

2003; Bechara et al., 1999, 2003; Ernst et al., ½0R@search indicates that the amygdala and VMPFC are part'ofrauit' that

Image acquisition and assessment

and in a manuscript on cognitive function in these same subjects (Fein et al., in press we did not find any associations between performance and duration of abstinence. In the cognition paper, we

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