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Upfront

Your Brain on Drug Addicts **Perceiving addicts and the homeless as less than human has deep neurological roots**

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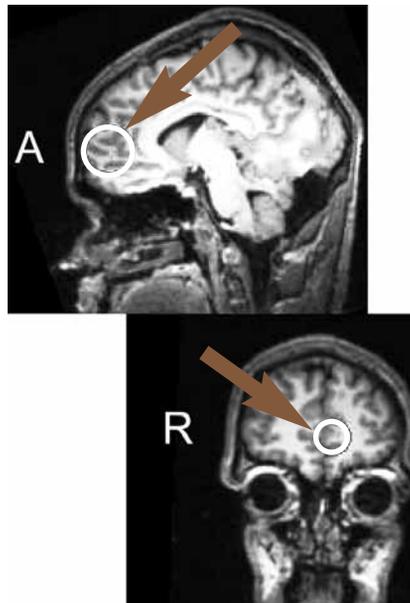
Your Brain on Drug Addicts

Perceiving addicts and the homeless as less than human has deep neurological roots

On the Web site of Faces & Voices of Recovery, dozens of people who have kicked their drug habits post photos and tell stories. The Washington, D.C.-based nonprofit is trying to show that people do recover from addiction, says Patricia Taylor, executive director of the organization. Yet policymakers and the general public “fail to take people who are still struggling [with their drug problems] as real people who can be helped,” she laments.

Recent neuroscience research indeed confirms that people – and the brains they contain – view drug addicts as not quite human. The research, published in *Psychological Science* (vol. 17, no. 10) used functional magnetic resonance imaging (fMRI) to examine how people’s brains react to photographs of members of various social out-groups – that is, groups to which participants do not belong – such as drug users, homeless people, elderly people, rich people, and Olympic athletes. The authors were particularly interested in a region of the brain called the medial prefrontal cortex (mPFC), which fires when people think about others or themselves. They found that participants’ mPFCs responded to photographs of all of the out-groups except drug addicts and homeless people.

“People dehumanize these groups,” the authors conclude. Lasana T. Harris, a graduate student in psychology at Princeton University and the study’s lead author, is quick to point out that dehumanizing drug addicts



Thoughts about people usually excite the brain’s medial prefrontal cortex (mPFC, circled). Yet thoughts about addicts do not, because society dehumanizes this group.

and homeless people is “not hard-wired. It’s not built into your brain. Rather, these findings reflect cultural stereotypes, which can change over time.” In other words, although the tendency to dehumanize some out-groups is brain-deep, it is not unchangeable. People can rewire their own brains – as well as the cultures that their brains reflect and create – by thinking and learning new things throughout their lives.

With co-author Susan T. Fiske, also of Princeton, Harris chose which out-groups to show on the basis of stereotypes about them and the emo-

tions they evoke. Fiske previously noted that the stereotypes of out-groups vary on two dimensions: warmth and competence. Warm and competent groups like American Olympic athletes inspire pride. Warm groups that are deemed unable to act on their warmth, such as the elderly or disabled, elicit pity. Cold groups that are nevertheless competent, such as the rich, induce envy. And groups that are low on both warmth and incompetence – drug addicts and homeless people – arouse disgust.

Fiske and Harris showed photographs of these four kinds of out-groups to 10 Princeton undergraduates as they lay in an fMRI scanner. To 12 other Princeton undergraduates they presented photographs of inanimate objects that aroused the same emotions as did the out-groups – for example, a sports car to induce envy, or an overflowing toilet to evoke disgust. They found that the pictures of the objects, homeless people, and drug addicts did not excite the mPFC, although they did activate brain regions associated with emotions.

Kevin Ochsner, a professor of psychology at Columbia University who also studies the neural bases of social thinking, calls the research “exciting, because it’s all new.” He adds, however, that “the mPFC is a complicated place with a bunch of subregions,” and neuroscientists are not sure what each region does.

Subtleties of interpretation aside, Taylor calls the findings “disturbing.” Drug addicts are already struggling with their own brains. Having to contend with the prejudices lodged in the brains of others “makes it all the more difficult for addicts to get help and to get on with their lives,” she says. –A.C.S.