

Alcohol & Drugs Effects On The Brain's Reward System

3 in a 3-part series

BY MANHASSET PRESS STAFF

MANHASSET@ANTONMEDIAGROUP.COM

The final segment of the series focuses on how alcohol and drugs affect the adolescent brain's reward system.

Finding ways to satisfy needs and desires is part of life. It's one of the many skills that is being fine-tuned during the teen years. When a teen takes drugs, it can interfere with her/his natural ability to feel good. Here's how drugs affect the brain.

The brain is made up of billions of nerve cells. Nerves control everything, from when her/his heart beats to what she/he feels, thinks and does. They do this by sending electrical signals throughout the body. The signals get passed from nerve to nerve by chemical messengers called neurotransmitters.

For example, some of the signals that neurotransmitters send cause a feeling of satisfaction or pleasure. These natural rewards are the body's way of making sure we look for more of what makes us feel good. (For instance, when we eat something tasty, neurotransmitters tell us we feel good. Seeking more of this pleasure

helps to ensure we don't starve.) The main neurotransmitter of the "feel-good" message is called dopamine.

All drugs of abuse overload the body with dopamine—in other words, they cause the reward system to send too many feel-good signals. In response, the body's brain systems try to right the balance by letting fewer of the feel-good signals through. As time goes on, the body needs more of the drug to feel the same high as before. This effect is known as tolerance.

The effects of drugs on the brain

don't just end when the high wears off. When a person stops taking a drug, their dopamine levels are low for some time. They may feel down, or flat, and unable to feel the normal pleasures in life, even when meeting a basic life need. Their brain will eventually restore the dopamine balance by itself, but it takes time—anywhere from hours, to days, or even months, depending on the drug, the length and amount of abuse and the person.

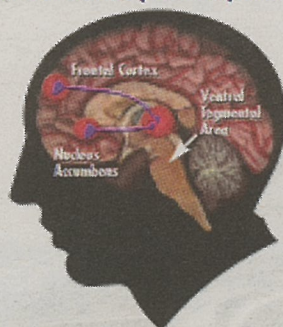
Because they have an overactive impulse to seek pleasure and less ability

to consider the consequences, teens are especially vulnerable when it comes to the temptations of drugs and alcohol. And because the internal reward systems are still being developed, a teen's ability to bounce back to normal after abusing drugs may be compromised due to how drugs affect the brain.

For more information visit www.drugfree.org or www.drugabuse.gov. For more information about CASA's Talk. They Hear You. Underage Drinking Prevention Campaign go to www.manhassetcasa.org.

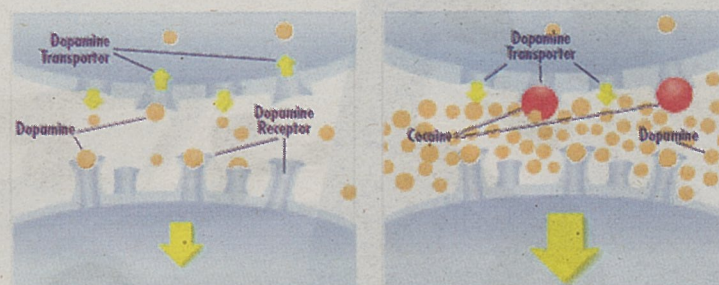
DRUGS OF ABUSE TARGET THE BRAIN'S PLEASURE CENTER

Brain reward (dopamine) pathways



These brain circuits are important for natural rewards such as food, music, and sex.

Drugs of abuse increase dopamine



FOOD

COCAINE

Typically, dopamine increases in response to natural rewards such as food. When cocaine is taken, dopamine increases are exaggerated, and communication is altered.



Daniel
Gale

Sotheby's
INTERNATIONAL REALTY

danielgale.com



Lattingtown, NY

Stunning 6-year young Colonial home with fabulous layout. Immaculately maintained home offers a perfect blend of quality materials and style. Beautiful formal living and dining rooms, sun-drenched family room, gourmet kitchen, office with built-in cabinetry, master suite retreat with fireplace plus 4 bedrooms each with en suite bath. Delightful open-air mahogany covered porch with fireplace. Landscaped 2 acres. Gorgeous in-ground pool with pool house/cottage. SD #3. MLS# 2834614. \$2,750,000.



Margaret Trautmann

Associate Real Estate Broker
Gold Circle of Excellence
Locust Valley Office
1 Buckram Rd, Locust Valley, NY
516.759.4800 ext.110, c.516.361.4646
margaretrautmann@danielgale.com

Locust Valley • 516.759.4800 • 1 Buckram Road, Locust Valley, NY

Each office is independently owned and operated. We are pledged to provide equal opportunity for housing to any prospective customer or client, without regard to race, color, religion, sex, handicap, familial status or national origin.

159382 C



manhasset

Miracle Smile

- Cosmetic, restorative and implant dentistry.
- We provide a warm, caring environment for pediatric and adult patients.
- State-of-the-art dental office.
- Always available for any emergencies.

**CALL US FOR A
COMPLIMENTARY CONSULTATION**

45 Orchard Street, Manhasset

516-627-0362

www.manhassetmiraclesmile.com



Benjamin Feintuch, DDS

147566 C