

SWK 3805: Marijuana, Hallucinogens, Inhalants, and Steroids

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Module 9: Introduction

The reading for this module introduce concepts essential for understanding the misuse of several different types of substances that are loosely connected in nature, but do not fit neatly into a single grouping or any of our other groupings. The readings for this module include information about cannabis (marijuana) and hallucinogens. This online textbook includes content prepared by the book's author, as well as several readings from the published literature.

Module 9 Reading Objectives

After engaging with these reading materials and learning resources, you should be able to:

- Explain the effects of these substances and how these effects are produced
- Identify trends in data concerning who uses these substances
- Identify additional issues related to each of these substances
- Define several key terms.

Ch. 1: Introduction to Marijuana/Cannabis

Our readings begin with a piece about cannabis (marijuana). We begin here for two reasons: this is the second most commonly used psychotropic substance (after alcohol) and it is currently the topic of much debate in the U.S. (and some other parts of the world). You may recall from Module 1 some of the discussion about historical and contemporary policy approaches to substance use problems. In this module, you will learn more about the use and misuse of cannabis, knowledge that underlies policy concerns surrounding restriction versus legalization in the U.S. The federal stance, currently, is that cannabis/marijuana is an illegal substance. A number of states have passed legislation allowing prescribed medical uses for cannabis-containing substances and a few have passed legislation allowing recreational use of these substances.

Chapter 1 is the National Institute on Drug Abuse (2017) report called *Marijuana*. This piece covers a number of important and currently relevant topics. In this chapter you will read about:

- What [marijuana](#) is
- The scope of marijuana use in the U.S.
- Marijuana effects (physical, health, mental health, and social) and how the physical effects are produced
- The addictive potential of marijuana
- The gateway drug debate
- Second-hand marijuana smoke exposure
- Medical marijuana
- Pregnancy issues with marijuana



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Ch. 2: Cannabis in the Community

This chapter extends our discussion of cannabis and the legislative control debates. The purpose of this chapter is to examine what occurs at the community level in terms of crime rates where medical marijuana dispensaries are permitted by law. This article is included because the social work perspective on substance use (and other issues) extends beyond individuals and addresses larger social systems (families, institutions, communities, and global society). The article is Freisthler, B., Ponicki, W.R., Gaidus, A., & Gruenewald, P.J. (2016). A micro-temporal geospatial analysis of medical marijuana dispensaries and crime in Long Beach, California. *Addiction*, 111, 1027-1035. You will read about the link between medical marijuana dispensaries and crime statistics (violent and property crimes). You should pay particular attention to the Abstract, Introduction, and Discussion sections of this piece—the other sections are of interest if you want to learn more about the methods used in geospatial research.



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Based on what you learned in this reading,:

1. How would you describe to your roommate or family member the relationship between the number and location of medical marijuana dispensaries and crime rates in the surrounding neighborhoods?
2. What questions does this study leave you wondering about this topic?

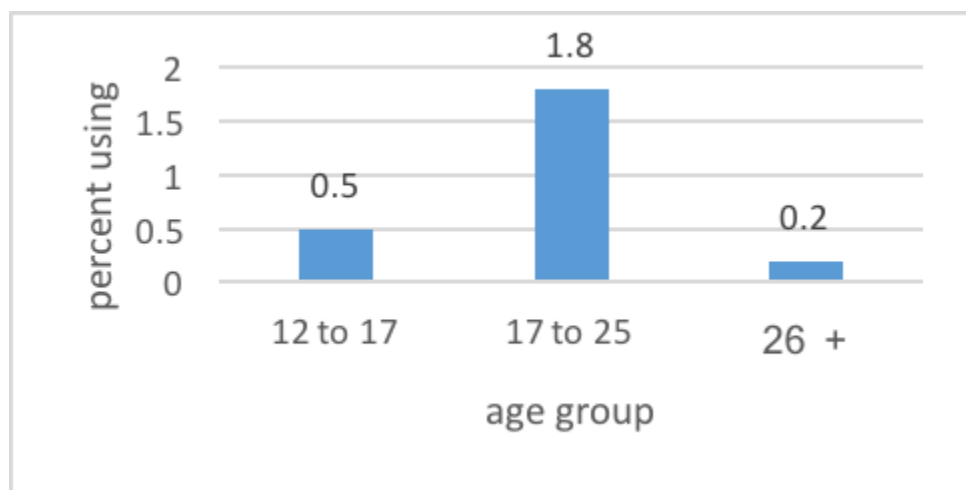
Ch. 3: Introducing Other Hallucinogens

This chapter is all about hallucinogenic substances ([hallucinogens](#)) and includes discussion of several dissociative substances, as well. The content addresses some naturally occurring substances (psilocybin mushrooms, peyote, *salvia divinorum*) and others that are synthesized, like LSD, PCP, ketamine, Ecstasy/MDMA, dextromethorphan (yes, the substance in many forms of cough medicine). Some textbooks refer to many of these substances as “club drugs” because they tend to be used in night club, rave, dance, concert, and party settings. You have already learned a bit about two other “club drug” substances, GHB and Rohypnol (in our Module 9 discussions about sedative hypnotics). These are sometimes referred to as “designer drugs,” as well, because of the effort involved in synthesizing them (illegally).



Hallucinogenic substances are most likely to be used by individuals in the emerging adulthood age group, 18-25 years. Here is a figure based on data from the 2015 NSDUH study (see Figure 1). Overall, about ½ of one percent (0.5%) of individuals aged 12 and over reported use of hallucinogens during the past month.

Figure 1. Past month hallucinogen use by age group (percentage)*



*adapted from NSDUH, 2015 data report (SAMHSA, 2016)

The main reading content comes from the National Institute on Drug Abuse (2015), *Hallucinogens and dissociative drugs*, from the NIDA Research Report Series. In this chapter you will read about:

- Identifying hallucinogenic (and dissociative) drugs and how they work

- Trends in their use (as of 2013 and 2014)
- Short and long term effects of their use

One other important principle that is briefly described in this reading, but not identified as such: **cross-tolerance**. The reading indicates that a person who develops tolerance to one of the hallucinogenic substances automatically has developed at least some tolerance to related substances. The example presented in the reading concerns tolerance to LSD producing tolerance to psilocybin and peyote. The principle of cross-tolerance is important in terms of understanding how medications might or might not work for a person, as well as how various types of substances work (not just hallucinogens).



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Ch. 4: More Club Drugs

In addition to the reading about hallucinogens and dissociative drugs that you completed in Chapter 3, there is a short reading from NIDA (2016) addressing MDMA (Ecstasy, Molly) in particular. In this reading you will learn about this specific “club drug.” Especially, take note of what it says about this drug in combination with others.



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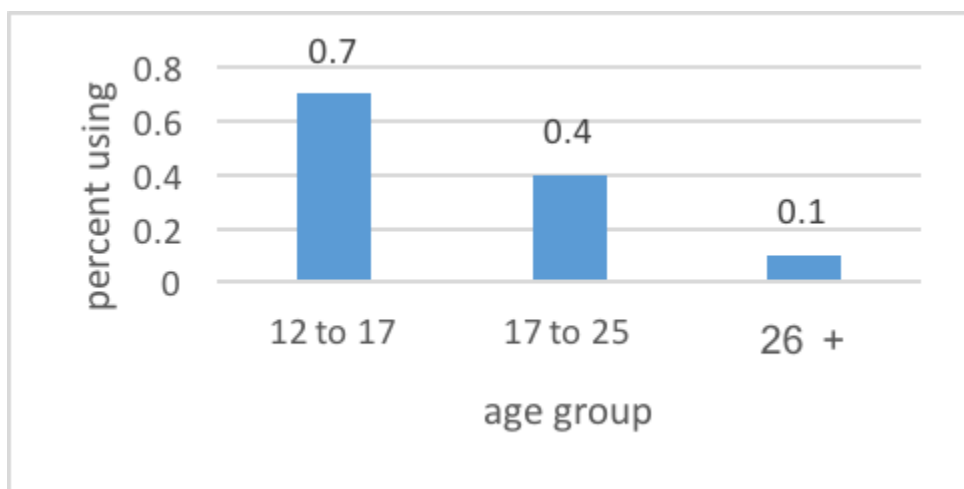
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Ch. 5: Introducing Inhalants

The topic of inhalant misuse is next on our list. Inhalant misuse potentially includes a wide variety of chemicals: nitrous oxide, cleaning fluids, gasoline, spray paint, computer keyboard cleaner, felt-tip pens, glues/adhesive sprays, and other aerosol products. Turning to our 2015 NSDUH survey, over a half-million persons aged 12 and older currently (during the past-month) use inhalants—the majority being adolescents aged 12-7 years (see Figure 2). Overall, about 0.2 percent of the population aged 12 and over are estimated to currently use inhalants—so it is not as commonly used as many of the other substances we are studying, but has a tremendously disruptive and destructive potential.



Figure 2. Past month inhalant use by age group (percentage)*



*adapted from NSDUH, 2015 data report (SAMHSA, 2016)

Our reading for this chapter comes again from the National Institute on Drug Abuse (2017) Drug Facts series. In this reading you will learn:

- What the class of inhalants are and how they are misused
- Effects on the brain and other organ systems of inhalant misuse
- The deadliness of inhalants



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How would you explain the problem of inhalant use to a group of middle school students' and their parents, perhaps as a Boy/Girl Scout presentation?

Ch. 6: Introducing Anabolic Steroids

Our next reading contains important information about the use and misuse of anabolic (androgenic) steroids. The reading comes from the National Institute on Drug Abuse (2016) Drug Facts series, and is called *Anabolic Steroids*. It covers topics such as:

- What (anabolic) steroids are and how they are used
- Brain and other health effects of steroid misuse (for men and for women)
- Addiction and withdrawal experiences



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Ch. 5: Summary

In this module you learned basic principles about a varied group of substances. We explored marijuana and several other hallucinogens. You are now ready to review some of the key terms related to substance use disorders introduced in this book.

Key Terms

- anabolic steroids:** synthesized substances that mimic testosterone, the naturally occurring male sex hormone; sometimes referred to as anabolic-androgenic steroids because they have the effect of producing masculinization (androgenic) of features and body functions.
- anandamide:** the naturally occurring brain chemical (endogenous) that functions as a neurotransmitter and is similar in structure to THC (cannabinoids).
- cannabinoids:** the group of chemicals in marijuana (or synthesized) found in the cannabis (marijuana) plant, as well as those which are endogenous (see anandamide).
- cross-tolerance:** when tolerance developed to one substance is also expressed toward other, chemically similar substances even though the other substance has never been used.
- dissociatives:** substances that alter the conscious mind, causing an individual to experience distorted perceptions (sight and sound) and a feeling of detachment (dissociation) from self, body, and environment; may also cause hallucinations.
- hallucinogens:** a type of synthetic or naturally occurring substance that causes significant distortions in a person's perceptions of reality (usually visual and/or auditory), perception of what is not really present or what actually is present as being very different in nature; mimicry of psychotic states.
- inhalants:** substances that produce chemical vapors (volatile substances) and that cause psychotropic effects when inhaled by nose or mouth; many are highly toxic to the brain and other organ systems, as well; many are common household or workplace products.
- marijuana:** in the class of cannabinol substances with the active ingredient being THC (delta-9-tetrahydrocannabinol).
- THC:** is short for the chemical delta-9-tetrahydrocannabinol, a major active ingredient contributing to the psychoactive effects of cannabis (marijuana) by attaching to cannabinoid receptors in the brain.

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