

Syllabus

Course Overview

Psychopharmacology is the study of how drugs interact with the brain's neurotransmission and hormonal systems. At the core of psychopharmacology is the concept that all moods, emotions, perceptual processes, and thought patterns are the result of, or are mediated by, chemical activity that occurs in the central nervous system (CNS). Psychotropic drugs produce their effects by altering this chemical activity, which in turn leads to changes in behavior. Psychoactive drugs are used to treat mental disorders such as depression or maladaptive substance use, enhance cognition, and combat pain. Unfortunately, psychotropic drugs also are used for social and recreational purposes. All psychoactive drugs can produce a spectrum of positive and negative effects. Such effects are widely dependent on factors such as dose, route of administration, and the context in which the drug was administered—including the health status and other user characteristics.

This course begins by discussing the two fundamental principles of psychopharmacology: pharmacokinetics, or how a drug moves through the body, and chemical neurotransmission. These principles are the foundation upon which all of psychopharmacology rests. Next, we discuss specific classes of drugs and how they treat certain psychological disorders. Then, we examine the role of drug therapies in the treatment of psychosis. We also discuss CNS depressants, psychomotor stimulants, and other commonly used substances including alcohol, marijuana, and inhalants.

Psychotropic drugs are used to treat people of all ages. This includes children, where use can be controversial because of the often high-stakes side effects or limited ability to predict all long-term developmental effects. These medications also are used with the elderly, where interactions with other conditions, including deteriorating mental faculties, raise complex ethical issues. We discuss these controversies and ways in which age and physical condition in these populations may affect drug absorption and treatment outcomes. Decision-making considerations and ethical issues in using medications with vulnerable populations are also discussed.

Lastly, we examine the evolving role of the psychologist and counselor who may work with other health care providers in treating clients taking psychotropic medications. We also study the American Psychological Association (APA) or American Counseling Association (ACA) guidelines and state laws regarding psychologists prescribing these medications.

Course Competencies

(Read Only)

To successfully complete this course, you will be expected to:

- 1 Synthesize the principles and applications of psychopharmacology.
- 2 Evaluate psychopharmacological research.
- 3 Integrate knowledge of psychopharmacology with clinical practice.
- 4 Communicate knowledge of psychopharmacology in accordance with the guidelines established by the professional organizations.
- 5 Communicate in a manner that is scholarly, professional, and consistent with expectations for members of the psychological professions.

Course Prerequisites

There are no prerequisites for this course.

Syllabus >> Course Materials

Required

The materials listed below are required to complete the learning activities in this course.

Integrated Materials

Many of your required books are available via the VitalSource Bookshelf link in the courseroom, located in your Course Tools. Registered learners in a Resource Kit program can access these materials using the courseroom link on the Friday before the course start date. Some materials are available only in hard-copy format or by using an access code. For these materials, you will receive an email with further instructions for access. Visit the [Course Materials](#) page on Campus for more information.

Book

Advokat, C. D., Comaty, J. E., & Julien, R. M. (2019). *Julien's primer of drug action: A comprehensive guide to the actions, uses, and side effects of psychoactive drugs* (14th ed.). New York, NY: Worth Publishers. ISBN: 9781319015855.

Library

The following required readings are provided in the Capella University Library or linked directly in this course. To find specific readings by journal or book title, use [Journal and Book Locator](#). Refer to the [Journal and Book Locator library guide](#) to learn how to use this tool.

- American Psychological Association. (2011). [Practice guidelines regarding psychologists' involvement in pharmacological issues](#). *American Psychologist*, 66(9), 835–849.
- Preston, J. D., O'Neal, J. H., & Talaga, M. C. (2017). *Handbook of clinical psychopharmacology for therapists (8th ed.)*. Oakland, CA: New Harbinger.

External Resource

Please note that URLs change frequently. While the URLs were current when this course was designed, some may no longer be valid. If you cannot access a specific link, contact your instructor for an alternative URL. Permissions for the following links have been either granted or deemed appropriate for educational use at the time of course publication.

- American Counseling Association. (n.d.). [Knowledge center: Ethical & professional standards](#). Retrieved from <https://www.counseling.org/knowledge-center/ethics>
- American Psychological Association. (n.d.). [APA ethical principles of psychologists and code of conduct](#). Retrieved from <http://www.apa.org/ethics/code/index.aspx>
- National Inhalants Prevention Coalition. (n.d.). [State inhalant legislation](#). Retrieved from <http://www.inhalants.org/laws.htm>

Suggested

The following materials are recommended to provide you with a better understanding of the topics in this course. These materials are not required to complete the course, but they are aligned to course activities and assessments and are highly recommended for your use.

Optional

The following optional materials are offered to provide you with a better understanding of the topics in this course. These materials are not required to complete the course.

Library

The following optional resources may be available in the Capella University Library. To find specific readings by journal or book title, use [Journal and Book Locator](#). Refer to the [Journal and Book Locator library guide](#) to learn how to use this tool. If the full text is not available, you may be able to request a copy through the [Interlibrary Loan](#) service.

The following journals are recommended for your library-based research:

- *American Journal of Psychiatry*.
 - *Annual Review of Neuroscience*.
 - *Behavioral Neuroscience*.
 - *Biological Psychology*.
 - *Brain, Behavior, and Evolution*.
 - *Clinical Neuroscience*.
 - *Communications in Psychopharmacology*.
 - *European Journal of Neuroscience*.
 - *Experimental and Clinical Psychopharmacology*.
 - *Journal of Child and Adolescent Psychopharmacology*.
 - *Journal of Clinical Psychopharmacology*.
 - *Journal of Cognitive Neuroscience*.
 - *Journal of Neuroscience Nursing*.
 - *Journal of Neuroscience Research*.
 - *Journal of Neuroscience*.
 - *Journal of Psychiatry and Neuroscience*.
 - *Journal of Psychopharmacology*.
 - *Nature: Neuroscience*.
 - *Neuroscience and Behavioral Physiology*.
 - *Neuroscience and Biobehavioral Reviews*.
 - *Neuroscience Letters*.
 - *Neuroscience Research*.
 - *Pharmacology, Biochemistry, and Behavior*.
 - *Physiology and Behavior*.
 - *Psychopharmacology Bulletin*.
 - *Psychopharmacology*.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.

External Resource

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- Carlson, N. R. (2017). *Physiology of behavior* (12th ed.). Boston, MA: Pearson. ISBN: 9780134080918.
- Kandel, E. R., Schwartz, J. H., Jessel, T. M., Siegelbaum, S. A., & Hudspeth, A. J. (Eds.). (2013). *Principles of neural science* (5th ed.). New York, NY: McGraw-Hill. ISBN: 9780071390118.
- Pinel, J. P. (2018). *Biopsychology* (10th ed.). Hoboken, NJ: Pearson. ISBN: 9780134203690.
- U.S. Department of Education. (n.d.). [Family Educational Rights and Privacy Act \(FERPA\)](https://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html) <https://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html>
- U.S. Department of Health & Human Services. (n.d.). [Summary of the HIPAA privacy rule](https://www.hhs.gov/hipaa/for-professionals/privacy/laws-regulations/index.html) <https://www.hhs.gov/hipaa/for-professionals/privacy/laws-regulations/index.html>

Projects

Project >> Final Paper With Case Study

Project Overview

For your course project, you will select a case study from the [Case Study Options \[DOC\]](#). The topic of each case study relates to the major disorders discussed in this course. Based on the symptoms and other client characteristics in your chosen case study, you will write a paper that articulates your understanding of the basic principles of psychopharmacology and evaluates current psychopharmacological research surrounding the disorder, including:

- Professional views of psychopharmacological issues related to the disorder.
- A comparison of the medical and psychological models related to the disorder identified by the symptoms noted.

The peer-reviewed journal articles you use as the basis for research form the foundation for a comprehensive research paper that demonstrates your knowledge of the principles of neurotransmission in the brain, as well as the effects of psychotropic agents on neurotransmission and behavior. Your paper also allows you to integrate your knowledge of psychopharmacology with field application. Given your chosen case study, you will determine the appropriate psychotropic agent or agents that may be used to correct neurotransmission and behavior. You will then:

- Identify the specific *DSM-5* disorder the case symptoms appear to imply.
- Select the appropriate psychotropic agent (or agents) for the case.
- Conduct additional research specifically about the chosen agents.
- Analyze the agents' effects on neurotransmission, behavior, and the hormonal system in the case.
- Predict the agents' potential effectiveness.
- Evaluate the limitations of treatment with the agents.

Detailed instructions for completing your course project are located in the Final Paper with Case Study assignment in Unit 10. Plan on spending time in Units 2, 4, 6, and 8 working on different portions of your final paper to ensure you have enough time to complete the work.

Project Requirements

To achieve a successful project experience and outcome, you are expected to meet the following requirements:

- **Length:** The paper must include 10 to 15 pages of content, plus title page, abstract, and references.
- **Written communication:** Develop accurate written communication and thoughts that convey the overall goals of the project and do not detract from the overall message. Your paper should demonstrate graduate-level writing skills. *Avoid stigmatizing language.*
- **References:** Include at least 15 references, 10 of which must be from peer-reviewed academic journals. Books, websites, and other popular sources may be included but are not counted toward the 10 academic references. Avoid use of commercial and nonscientific websites. References generally should be no older than 5 years; however, when writing about the historical perspectives on diagnosis and treatment, it may be necessary to use items older than 5 years.
- **Formatting:** Use current APA formatting, including correct in-text citations, proper punctuation, double spacing throughout, proper headings and subheadings, no skipped lines before headings and subheadings, proper paragraph and block indentation, no bolding other than what APA style permits, and no bullets. Refer to the Capella Graduate Online Writing Center's [APA Style and Format](#) page for more information.

Project Components

Activity	Grade Weight (%)
u10a1 - Final Paper With Case Study	35

Unit 1 >> Drug Action

Introduction

Psychopharmacology is the study of how drugs affect the brain and ultimately, behavior. It encompasses the study of therapeutic medications as well as illegal drugs. The study of psychopharmacology is important not only from a clinical perspective, but because drugs can be used to investigate normal brain functioning. This unit covers the basic principles of psychopharmacology and examines the effects and mechanisms of drug actions.

The theory that all cognitive and emotional processes result from chemical actions occurring in the brain is the central tenet of psychopharmacology. The action of nerve cells, or *neurons*, regulates the levels of *neurotransmitters*: molecules that transmit chemicals. There are nearly 100 known or suspected neurotransmitters, and many more will likely be discovered. Some of the most well-known neurotransmitters are:

- Dopamine.

- Serotonin.
- Acetylcholine.
- Glutamate.

All psychoactive drugs work by altering neurotransmission, which in turn alters the pattern of neuronal activation in the brain. This alteration occurs whether the drug is an illicit substance or a therapeutic agent.

Drugs can modulate neurotransmission in various ways. Fundamentally, however, a drug increases or decreases actions with specific neurotransmitter systems. Drugs that increase action are known as *agonists*. Drugs that decrease action are known as *antagonists*. The primary way that drugs work on the system is by acting on *receptors*—proteins located within a cell or on its surface. Drugs may act on receptors to directly alter the function of neurons. This process may also rely on the inclusion of second messenger systems. A drug may increase the availability of a neurotransmitter by stimulating release, blocking reuptake, or inhibiting enzymes that normally terminate its action. Drugs may also act directly on ion channels or cell membranes to affect neurotransmission.

Learning Activities

u01s1 - Studies

Readings

Read the [Learner Expectations](#) for important information about your success in this course.

Read the [Professional Communications and Writing Guide \[PDF\]](#). You are expected to adhere to these guidelines when writing a discussion post, peer response, or paper, as well as when using citations and references.

Use the [Handbook of Clinical Psychopharmacology for Therapists](#) text to read the following:

- Chapter 1, "Introduction," pages 3–14.
- Chapter 2, "Integrated Models," pages 15–28.
- Chapter 3, "Neurobiology," 29–44.

These chapters introduce you to the history of biological therapy, the basics of psychopharmacology, and the medical and psychological models.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 2, "The Neuron, Synaptic Transmission, and Neurotransmitters," pages 39–68.
- Chapter 3, "Pharmacodynamics: How Drugs Act," pages 69–98.

These chapters provide additional information on the basics of psychopharmacology.

Discussion Preparation

Many factors can contribute to cell malfunction. Search the [Capella University Library](#) to locate and read an article about how stress can contribute to cell malfunction. You will use this article in an upcoming discussion.

Multimedia

Click [Neurotransmission](#) to view what happens when neurons communicate with each other.

Optional Resources

For a deeper dive into psychopharmacology, consider the following texts. Note that these materials are *not* required to complete the course.

- Carlson, N. R. (2017). *Physiology of behavior* (12th ed.). Boston, MA: Pearson. ISBN: 9780134080918.
- Kandel, E. R., Schwartz, J. H., Jessel, T. M., Siegelbaum, S. A., & Hudspeth, A. J. (Eds.). (2013). *Principles of neural science* (5th ed.). New York, NY: McGraw-Hill. ISBN: 9780071390118.
- Pinel, J. P. (2018). *Biopsychology* (10th ed.). Hoboken, NJ: Pearson. ISBN: 9780134203690.

Course Resources

Neurotransmission

u01s1 - Learning Components

- Discuss the history of biological therapy.
- Explain the foundations of psychopharmacology.
- Compare and contrast medical and psychological models of psychopharmacology.

u01s2 - Project Preparation

Read the Final Paper With Case Study course project description to learn the requirements for your course project. The focus of your project and the research you conduct is a case study that you will choose from the list of [Case Study Options \[DOC\]](#). You will submit your case study selection in this unit.

u01s3 - Your Online ePortfolio

Online ePortfolios serve two key purposes: 1) to support learning and reflection, and 2) to be used as a showcase tool. Your learning journey can be documented, and ePortfolios contribute to lifelong learning and growth through reflection and sharing. Online ePortfolios can also be shared with employers and peers to present artifacts that demonstrate your accomplishments at Capella.

Using ePortfolio to Prepare for Your Capstone

Your program may culminate in a capstone course. At that time you may be required to show evidence of your learning throughout the program by referring to multiple assessments that you have created. You will be telling a story about your learning throughout the program using artifacts you have collected during many of these courses.

Using ePortfolio to Build Your Career

As you are preparing to tell your story in the professional world, leverage your ePortfolio artifacts to demonstrate the knowledge and competencies you have gained through your program in professional conversations, performance reviews, and interviews.

To do that, reflect on the knowledge and skills you have gained from your courses and the elements you have put in your portfolio, along with how you have already applied these things to your professional life or how you might apply them in the future.

Next, create your story or talking points to tell your professional story.

Saving Your Documents to ePortfolio

You will need a place to store your documents in an organized fashion so that you can access them at a later date. Do not rely on the courseroom for storage, as you will lose access to the courseroom after you have completed the course. Capella uses a cloud-based portfolio platform to facilitate your organization of the artifacts you create throughout your program.

To make an online portfolio useful, it is essential that it is organized clearly and that important files of any format are accessible. Read the [Online ePortfolio Guidelines \[PDF\]](#) to ensure you set up your online portfolio correctly. For more information on ePortfolio visit the Campus [ePortfolio](#) page.

Privacy Statement

Capella complies with privacy laws designed to protect the privacy of personal information. While you may voluntarily share your own information publicly, you are obligated to protect the personal information of others that may be associated with your academic or professional development. Before sharing information and material in any ePortfolio that is set up to be shared externally to your program at Capella, please consider privacy obligations in relation to protected populations who may be included or referenced in your academic or clinical work. Refer to the [Family Educational Rights and Privacy Act \(FERPA\)](#) and/or the [Health Insurance Portability and Accountability Act \(HIPAA\)](#) if you have specific questions or concerns about your choices.

u01a1 - Case Study Selection

Assignment Instructions

This assignment is required but not graded. Complete the following:

- Review the Case Study Options linked in Resources, then choose which of the case study options you will use for your course project.
- Read the Final Paper With Case Study assignment instructions and scoring guide in Unit 10 to ensure that you understand all requirements.
- Begin locating the peer-reviewed journal articles that will support your paper.
- Submit a note indicating your case study selection in the assignments area.

Refer to the helpful links in Resources as you work on your course project.

Course Resources

[How Do I Find Peer-Reviewed Articles?](#)

[Capella University Library](#)

Case Study Options [DOC]

u01d1 - Chemical Events in Neurons

Before you participate in this first discussion, read the scoring guide to learn how the instructor will evaluate your discussion participation throughout this course.

The human brain contains billions of neurons. Each neuron generates its own neurotransmitters that may influence the functioning of adjacent neurons. For this discussion:

- Explain the events that occur during neurotransmission, from the presynaptic to postsynaptic stages. You may want to review the Neurotransmission animation linked in Resources. As you describe these steps, consider the different steps of neurotransmission and think about how each step provides a place where medications can intervene.

Response Guidelines

Review your peers' posts and respond to at least two. In each response, assume the role of the instructor in this course. Point out gaps in information or incorrect steps in the events the learner identified. Provide positive feedback as well.

Be sure to cite any resources you use to support your initial posts and responses using current APA style and format.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[Neurotransmission](#) | Transcript

[APA Style and Format](#)

[Capella University Library](#)

u01d1 - Learning Components

- Evaluate how each step of neurotransmission provides a place where medications can be an intervention.
- Communicate in a manner that respects the dignity and integrity of fellow learners, colleagues, peers, and instructors.
- Explain the events that occur during neurotransmission, from the presynaptic to postsynaptic stages.

u01d2 - Stress and Cell Malfunction

Mental illnesses occur, in part, because of the breakdown of neurotransmission from one neuron to another. As you learned in this unit, stress also can be a major contributor to neurotransmission malfunction. Using the scholarly article you located on how stress can contribute to cell malfunction, describe the potential contribution of stress to cell malfunction and how this might affect a mental illness.

Response Guidelines

Read the posts of your peers and respond to at least two. Find at least one who identified at least an illness that is different from the illness or illnesses you listed. Discuss the differences in how those illnesses result from cell malfunction.

Remember to cite the sources you use to support your initial posts or responses.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[Capella University Library](#)

[APA Style and Format](#)

u01d2 - Learning Components

- Describe the potential contribution of stress to cell malfunction and how this might affect a mental illness.
- Communicate in a manner that respects the dignity and integrity of fellow learners, colleagues, peers, and instructors.

Unit 2 >> Chemical Neurotransmission

Introduction

Pharmacokinetics is the body's effect on a drug; *pharmacodynamics* is a drug's effect on the body. In general, the pharmacokinetics of all psychoactive drugs—drugs that alter mood or behavior as a result of action on the central nervous system (CNS)—are similar. For a drug to produce a physiological effect, it must be absorbed by the body through methods such as:

- Oral consumption.
- Intravenous injection.
- Dermal or transdermal patch.
- Inhalation.

The list above is not exhaustive; there are many more routes of administration. The *dose*, or the amount of a drug that enters the body, governs the drug's distribution through the body and the duration and intensity of its effect. Following absorption, the drug enters the bloodstream and is distributed throughout the body, where it interacts with its target sites. This is known as *biotransformation*. The drug is then broken down and excreted from the body through the kidneys, lungs, bile, or skin. The time courses of drug distribution and elimination are essential in predicting drug effects.

The pharmacodynamic profile of a drug is based primarily on its specificity for various receptor sites. This is known as *drug affinity*. Drugs with a high affinity for certain receptors will interact selectively with those receptors. Drugs with a low affinity may interact less selectively with a broad range of receptor sites. Drug affinity can be quantified by plotting a dose-response curve, which demonstrates the potency of a drug, its efficacy, and the potential range of therapeutic doses.

Learning Activities

u02s1 - Studies

Readings

Use the [Handbook of Clinical Psychopharmacology for Therapists](#) text to read the following:

- Chapter 4, "Pharmacology," pages 45–56.
- Appendix A, "Pharmacokinetics," pages 279–284.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 1, "Pharmacokinetics: How Drugs Are Handled by the Body," pages 3–37.

These readings discuss the basics of pharmacokinetics, drug interactions, side effects, and receptors. This information helps you continue to build a baseline knowledge of psychopharmacology.

u02s1 - Learning Components

- Explain the basics of pharmacokinetics, drug interactions, side effects, and receptors.
- Apply the principles of pharmacokinetics to predict drug effect.

u02s2 - Project Preparation

Spend time working on your course project based on the case study you chose in Unit 1. Review the Unit 10 assignment scoring guide and rubric to ensure that you understand all requirements. Begin working on the following component:

- An analysis of your topic as it pertains to historical and current perspectives.

Refer to the following Campus resources as needed to complete your assignment:

- [APA Style and Format](#).
- [Capella University Library](#).
- [Case Study Options \[DOC\]](#)
- [How Do I Find Peer-Reviewed Articles?](#)
- [Professional Communications and Writing Guide \[PDF\]](#).

u02a1 - Half-Life Calculation

Assignment Instructions

Imagine you are trying to help a colleague understand some basic concepts about psychopharmacology. Write a brief paper to address the following:

- Explain the concept of *half-life* for a drug.
- Differentiate between half-life and steady state.
- Explain the difference between potency and effectiveness of a drug.
- Respond to the following scenario:
 - If a drug has a half-life of six hours, how long will it take for the drug to be eliminated from the body after administration of a single dose? Explain how you arrived at that particular cutoff score for complete elimination. Show your calculations on a timeline or graphs to illustrate the changes from 100 percent of the initial dose to your end point for complete elimination.

Additional Requirements

- Length: 2–3 pages of content plus title, abstract, and reference pages.
- References: Include at least one current, scholarly reference from a peer-reviewed academic journal or academic book. References should be no older than 5 years.
- Formatting: Use current APA formatting, including correct in-text citations, proper punctuation, double spacing throughout, proper headings and subheadings, no skipped lines before headings and subheadings, proper paragraph and block indentation, no bolding, and no bullets. You must also use proper APA style to list your references. Refer to APA Style and Format (linked in Resources) for more information.
- Avoid stigmatizing language.

Consider saving this assignment to your ePortfolio.

Course Resources

[Capella University Library](#)

[How Do I Find Peer-Reviewed Articles?](#)

[ePortfolio](#)

[Professional Communications and Writing Guide \[PDF\]](#)

[APA Style and Format](#)

u02d1 - Pharmacokinetics

Pharmacokinetics includes the body's absorption, distribution, biotransformation, and excretion of a drug. For this discussion:

- Define the four aspects of pharmacokinetics in your own words.
- Read Jane's Case Study (linked in Resources).
- Determine which of the four aspects—absorption, distribution, biotransformation, or excretion—Jane is experiencing.
- In your answer, analyze the effects this aspect and the psychotropic drug have on Jane's neurotransmission and hormonal system.

Response Guidelines

Review your peers' posts and respond to at least two. In each response, indicate whether you agree or disagree and justify your reasoning.

Remember to cite any outside sources you use to support your initial posts and responses.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[APA Style and Format](#)

Jane's Case Study [DOC]

[Capella University Library](#)

u02d1 - Learning Components

- Analyze the effect pharmacokinetics and psychotropic drugs have on a client's neurotransmission and hormonal system.
- Communicate in a manner that respects the dignity and integrity of fellow learners, colleagues, peers, and instructors.
- Define the four aspects of pharmacokinetics: absorption, distribution, biotransformation, and excretion.

Unit 3 >> Anxiety Disorders

Introduction

Anxiety disorders make up a major category of mental diagnoses. Anxiety disorders are classified as mood disorders, also known as *affective disorders*. They are characterized by subjective feelings of apprehension, tension, fear, and helplessness. Anxiety disorders include panic disorder, generalized anxiety disorder, phobias, and post-traumatic stress disorder.

The physiological symptoms of anxiety can include:

- Increased heart rate.
- Difficulty breathing.
- Nausea.
- Fatigue.
- Restlessness.

Anxiety typically may arise from exposure to situations in which a person feels threatened, or may arise from physical sensations in the body and associated with anxiety or physiological activation states. Often, an anxiety disorder occurs when a feeling is unrealistic, exaggerated, or overwhelmingly

strong; it may be so great that the anxiety interferes with everyday life. These final two characteristics distinguish normal anxiety levels from those requiring professional intervention in the form of counseling, medication, or both.

This unit discusses the major anxiety disorders and our current understanding of neurochemical substrates. This unit also discusses the pharmacological profile of the largest class of anxiolytic agents: the benzodiazepines. We then turn our attention to the second-generation anxiolytics and their mechanism of action. Next, this unit explores how and why certain other classes of psychotropic drugs are more effective in the treatment of specific subtypes of anxiety disorders than the benzodiazepines or the second-generation anxiolytics.

Learning Activities

u03s1 - Studies

Readings

Use the *Handbook of Clinical Psychopharmacology for Therapists* text to read the following:

- Chapter 6, "Preliminary Diagnostic Considerations," pages 65–76.
- Chapter 9, "Anxiety Disorders," pages 107–122.
- Chapter 18, "Antianxiety Medications," pages 217–226.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 13, "Anxiolytics, Sedative Hypnotics, Anesthetics, and Anticonvulsants," pages 488–530.

These chapters present information about preliminary diagnostic considerations and the etiology, diagnosis, and treatment implications of anxiety disorders.

Optional Readings

Use the *Handbook of Clinical Psychopharmacology for Therapists* text to complete the following:

- If you are interested in the etiology, diagnosis, and treatment implications of post-traumatic stress disorder (PTSD) in the context of psychopharmacology, read Chapter 12.
- For similar information about obsessive-compulsive disorder (OCD), read Chapter 10.

u03s1 - Learning Components

- Explain the etiology, diagnosis, and treatment implications of anxiety disorders.
- Explain preliminary diagnostic considerations.
- Describe the pharmacological profile of the largest class of anxiolytic agents: the benzodiazepines.
- Explain how and why certain classes of psychotropic drugs are more effective in the treatment of specific subtypes of anxiety disorders than the benzodiazepines or the second-generation anxiolytics.

u03a1 - Medication Selection and Ethical Issues

Assignment Instructions

This exercise will help you develop skills to communicate about psychopharmacology as applied to clinical cases. There are two parts to this assignment.

Before you begin, read the following linked Resources:

- APA Ethical Principles of Psychologists and Code of Conduct.
- Mock Form Letter.

Part 1:

- Identify the components of the form letter that you consider essential for referral.
 - Justify your response.
- Identify the elements of the letter that you suspect may not be in compliance with the ethical guidelines.
 - Justify your response.

Part 2:

You have determined that a client has generalized anxiety disorder (GAD) and believe that this person would benefit from one of the benzodiazepine drugs. Complete the following:

- Choose any of the benzodiazepine drugs listed in Chapters 6, 9, and 18 of the *Handbook of Clinical Psychopharmacology for Therapists* text.
- Create a profile for a hypothetical client who would benefit from this type of medication, based on its effect on neurotransmission and the hormonal system.
 - The profile should contain enough information about the client's GAD that you could perform a diagnosis to determine the disorder. You do not need to address any treatment issues; however, do include any significant demographic or background factors that may inform clinical decision making related to the medication choice.
- Write a brief letter to a primary care physician that explains your rationale for the use of this medication with this client. Assume the physician does not know you and include properly cited references to support your assertion so he or she is convinced to accept your referral.

Additional Requirements

- Length: 2–3 pages of content plus title, abstract, and reference pages.
- References: Include at least one current, scholarly reference from a peer-reviewed academic journal or academic book. References should be no older than 5 years.
- Formatting: Use current APA formatting, including correct in-text citations, proper punctuation, double spacing throughout, proper headings and subheadings, no skipped lines before headings and subheadings, proper paragraph and block indentation, no bolding, and no bullets. You must also use proper APA style to list your references. Refer to APA Style and Format (linked in Resources) for more information.
- Avoid stigmatizing language.

Consider saving this assignment to your ePortfolio.

Course Resources

[APA Style and Format](#)

[Mock Form Letter \[PDF\]](#)

[APA Ethical Principles of Psychologists and Code of Conduct](#)

[Capella University Library](#)

[ePortfolio](#)

[Handbook of Clinical Psychopharmacology for Therapists](#)

u03d1 - Treatment of General Anxiety Disorder

For this discussion:

- Address the use of Selective Serotonin Uptake Inhibitors (SSRI) medications for the treatment of general anxiety disorder (GAD).
- Answer the following question: If you were a psychologist or counselor who could prescribe psychotropic medications, would you choose SSRIs or benzodiazepines to treat GAD in particular?
 - Justify your choice.

Response Guidelines

Review the posts of your peers and find at least one peer who chose the same medication you did. Present an argument for the use of the *other* medication. If you indicated that you would treat GAD with SSRIs, for instance, create a persuasive argument for the use of benzodiazepines to treat GAD.

You are encouraged to continue your discussion with this peer to exchange ideas and feedback. If the discussion with your chosen peer does not extend beyond two responses to your initial post, engage with another peer in an exchange involving at least two replies to your initial post.

Remember to cite any sources you use to support your initial posts or responses.

u03d1 - Learning Components

- Differentiate between the use of SSRIs and benzodiazepines to treat generalized anxiety disorders.
- Debate the use of SSRIs versus benzodiazepines to treat GAD.
- Communicate in a manner that respects the dignity and integrity of fellow learners, colleagues, peers, and instructors.
- Provide validation and support within written communications by including relevant examples and supporting evidence.

Unit 4 >> Depressive and Bipolar and Related Disorders

Introduction

Depression and conditions involving mood disturbance such as mania and hypomania were once classified as mood disorders. In current diagnostic nosology, however, these have been separated into two categories: *depressive disorders*, and *bipolar and related disorders*. We consider each class of these disorders to have the potential for unique etiology and psychopharmacological treatment approaches. This unit continues our examination of the biological bases of depressive and bipolar and related disorders, as well as the pharmacotherapies available for their treatment.

Depressive Disorders

There are many types and subtypes of depressive disorders. Depression in general can be characterized by sensations and experiences including:

- A loss of pleasure in usual activities.
- Feelings of sadness or helplessness.
- Decreased energy.
- Loss of interest in sex.
- Feelings of guilt.
- Recurrent thoughts of death and suicide.

The rate of diagnosis for depressive disorders has increased in recent years and so has the number of medications available for treatment. The most widely used medications for the treatment of depressive disorders are selective serotonin reuptake inhibitors (SSRIs). The prototypical SSRI is Prozac, which was introduced in the late 1980s. This class of drugs works by increasing serotonin neurotransmission, primarily by blocking serotonin reuptake by the neuron. SSRIs are extremely effective and have less severe side effects than their predecessors, the tricyclic antidepressants (TCAs). Prior to the advent of the SSRIs, depression was generally treated by the TCAs, which work by blocking presynaptic serotonin, dopamine, and norepinephrine receptors. Since the advent of SSRIs, more recently medications such as serotonin and norepinephrine reuptake inhibitors (SNRIs) have been introduced. These are also effective for people who do not respond to SSRIs.

Bipolar and Related Disorders

Bipolar and related disorders are characterized by many of the same symptoms as depression, but also include symptoms related to mania. Those with bipolar and related disorders vacillate between periods of depressed and elevated moods, also known as *mania*. Mania is often characterized by:

- Elation.
- Hyperactivity.
- Rapid, disorganized thought patterns.

Gaps between episodes of high and low moods can vary greatly among individuals, ranging from several days to many weeks or months. Bipolar and related disorders can be extremely difficult to treat, and there is a high mortality rate associated with them. Lithium hydrochloride has been used with great success and several new compounds are beginning to show promise.

Learning Activities

u04s1 - Studies

Readings

Use the *Handbook of Clinical Psychopharmacology for Therapists* text to read the following:

- Chapter 7, "Depressive Disorders," pages 77–94.
- Chapter 8, "Bipolar Disorders," pages 95–106.
- Chapter 16, "Antidepressant Medications," pages 175–200.
- Chapter 17, "Bipolar Medications," pages 201–216.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 14, "Drugs Used to Treat Bipolar Disorder," pages 531–570.

These chapters discuss the etiology, diagnosis, and treatment implications for depressive and bipolar disorders, as well as antidepressant medications and mood stabilizers.

Discussion Preparation

Use the Internet to locate an article on each of the following topics:

- The function of selective serotonin reuptake inhibitors (SSRIs), serotonin/norepinephrine reuptake inhibitors (SNRIs), and tricyclic antidepressants (TCAs) in a neuron.
 - Look specifically for information regarding the use of citalopram (Celexa) to treat dysthymic disorder.
- The use of lithium to treat bipolar disorder.
- The use of aripiprazole (Abilify) to treat bipolar disorder.

You will use these articles and your text readings in the unit discussions.

Optional Readings

If you are interested in the etiology, diagnosis, and treatment implications for borderline personality disorders in relation to psychopharmacology, read Chapter 13 in the *Handbook of Clinical Psychopharmacology for Therapists* text.

u04s1 - Learning Components

- Explain the etiology, diagnosis, and treatment implications for depressive and bipolar disorders.
- Discuss the use of antidepressant medications and mood stabilizers.
- Explain the use of lithium to treat bipolar disorder for a client audience.

u04s2 - Project Preparation

Spend time working on your course project based on the case study you chose in Unit 1. Review the Unit 10 assignment scoring guide and rubric to ensure that you understand all requirements. Begin working on the following component:

- An evaluation of psychotropic agents used in the past as well as psychotropic agents currently in use to treat the disorder you chose for your topic.

Refer to the following Campus resources as needed to complete your assignment:

- [APA Style and Format](#).
- [Capella University Library](#).
- [Case Study Options \[DOC\]](#).
- [How Do I Find Peer-Reviewed Articles?](#)
- [Professional Communications and Writing Guide \[PDF\]](#).

u04d1 - SSRIs, SNRIs, and TCAs

For this discussion, compare the similarities and differences in how selective serotonin reuptake inhibitors (SSRIs), serotonin/norepinephrine reuptake inhibitors (SNRIs), and tricyclic antidepressants (TCAs) function in a neuron. Use your text readings and the scholarly article you researched in this unit to support your comparison.

Response Guidelines

Read the posts of your peers and respond to two. Make one of the responses using the perspective of a client:

- What do you not understand?
- What questions do you have?

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[Capella University Library](#)

[APA Style and Format](#)

u04d1 - Learning Components

- Compare the similarities and differences in how SSRIs, SNRIs, and TCAs function in a neuron.
- Communicate in a manner that respects the dignity and integrity of fellow learners, colleagues, peers, and instructors.

u04d2 - Treatment of Bipolar Disorder

Your 28-year-old male client has been diagnosed with Bipolar I disorder. His family physician has prescribed lithium or aripiprazole (Abilify). Use your text readings and the article you researched in this unit and write a discussion post addressing the following:

- Explain which neurotransmission may be causing the disorder.
- Describe how lithium or Abilify can help this client.
- Create a dialogue in which you, the psychologist or counselor, explain to the client what is happening to him in terms he can understand.

Response Guidelines

Review your peers' posts and respond to at least two dialogues from the client's perspective:

- What do you not understand?
- Did the psychologist or counselor use any confusing or unclear terminology?
- Do you feel more comfortable with the diagnosis and treatment after the psychologist's or counselor's explanation? Why or why not?

Remember to cite any sources you use to support your initial posts or responses.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[APA Style and Format](#)

[Capella University Library](#)

u04d2 - Learning Components

- Evaluate client needs so appropriate referrals can be made for medication evaluation.
- Analyze the role of neurotransmission in causing Bipolar I disorder.
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.
- Correlate the appropriate use of psychopharmacology with psychological conditions.

Unit 5 >> Medications for Psychosis

Introduction

Psychosis, a disturbance of thought patterns, is the most profound form of mental disturbance. This unit discusses the antipsychotic medications and atypical neuroleptics used to treat psychotic disorders. These disorders are primarily classified on the schizophrenia spectrum. But it is important to note that depression and bipolar and related disorders also may evidence psychosis.

Psychosis can take several forms, but the most well-known is schizophrenia. There are several types of schizophrenia, which are based on the nature of the thought disturbances. The defining feature of schizophrenia is a break with reality, which can include:

- Hallucinations.
- Delusions.
- Paranoia.
- Bizarre behaviors.
- Flatness of affect.
- Poverty of speech.
- Physical neglect.
- Social withdrawal.

The symptoms of schizophrenia can be extremely debilitating. Schizophrenics were once believed to be possessed by demons—and greatly feared as a result. Consequently, many cruel and inhumane treatments were used to rid the body of these demons.

Today we know that psychosis is a complex brain disorder brought on by a combination of genetic factors and environmental influences. The development of antipsychotic medications has not only provided hope for millions suffering from schizophrenia, but offered insight into the nature of the disorder itself. From a biological perspective, some symptoms of schizophrenia appear to be the result of excess dopamine neurotransmission (American Psychiatric Association, 2013; Preston, O'Neal, & Talaga, 2017). Drugs shown to inhibit dopamine neurotransmission are some of the most effective treatments available for psychosis. Other symptoms of schizophrenia appear to be related to structural abnormalities in the brain (American Psychiatric Association, 2013; Preston, O'Neal, & Talaga, 2017).

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.

Preston, J. D., O'Neal, J. H., & Talaga, M. C. (2017). *Handbook of clinical psychopharmacology for therapists* (8th ed.). Oakland, CA: New Harbinger.

Learning Activities

u05s1 - Studies

Readings

Use the [*Handbook of Clinical Psychopharmacology for Therapists*](#) text to read the following:

- Chapter 11, "Psychotic Disorders," pages 129–138.
- Chapter 19, "Antipsychotic Medications," pages 227–238.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 11, "Antipsychotic Drugs," pages 381–423.

These chapters discuss the etiology, diagnosis, and treatment implications for psychotic disorders, as well as antipsychotic medications.

Discussion Preparation

There are three major theories regarding the biological causes of schizophrenia. In an upcoming discussion, you will compare these three theories, choose the theory with which you most agree, and support your choice with the literature. After reading the text chapters, which include information about these theories, use the Internet or the [Capella University Library](#) to locate and read one article that supports your chosen theory.

u05s1 - Learning Components

- Explain the etiology, diagnosis, and treatment implications for psychotic disorders.

- Discuss the use of antipsychotic medications.
- Compare and contrast the three major theories regarding the biological causes of schizophrenia.

u05d1 - Biological Causes of Schizophrenia

There are three models or theories that explain the biological causes of schizophrenia. For this discussion:

- Compare the similarities and differences in these models.
- Using the article you researched in the Unit 5 studies, indicate the theory with which you most agree.
- Provide a rationale and support for your choice.
- Be sure to reference and cite your article in current APA style and format, and include a link to the article in your post.

Response Guidelines

Review your peers' posts and identify the themes that emerge. Respond to at least two posts. In one response, be sure to address the following:

- Which theory you think was chosen most often?
- What were the similarities and differences in the rationales that you noticed?

If you have the time and interest, read the linked articles in other learners' posts.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[Capella University Library](#)

[APA Style and Format](#)

u05d1 - Learning Components

- Analyze the three models or theories that explain the biological causes of schizophrenia.
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.
- Provide validation and support within written communications by including relevant examples and supporting evidence.

u05d2 - Antipsychotic Medications

For this discussion:

- Compare the positive and negative effects of chlorpromazine, risperidone, and aripiprazole (Abilify).
- Describe the circumstances in which you would recommend (and not recommend) each medication or a combination of these medications. Make sure to cover both of these options.

Response Guidelines

Read the posts and respond to at least two. In your response to at least one peer, argue for or against his or her position on prescribing chlorpromazine, risperidone, aripiprazole, or any combination of these. Support your position with this unit's text readings or journal articles.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[APA Style and Format](#)

[Capella University Library](#)

- Compare the positive and negative effects of chlorpromazine, risperidone, and Abilify.
- Critically and correctly analyze psychological concepts, theories, and materials via written communication.
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.

Unit 6 >> Central Nervous System Depressants and Psychomotor Stimulants

Introduction

This unit examines two classes of drugs that can affect the central nervous system (CNS): CNS depressants and psychomotor stimulants.

CNS Depressants

CNS depressants suppress neurotransmission. This class of drugs produces a similar syndrome characterized by:

- Depression.
- Disinhibition.
- Drowsiness.
- Sleep.

At high doses, CNS depressants can cause coma and even death. Drugs in this class can produce physiological and psychological dependence, tolerance, and marked withdrawal symptoms. Cross-tolerance may also occur with these drugs. *Cross-tolerance* means that a person who develops a tolerance to one drug in a class will be resistant to other drugs in the same class.

Alcohol is the most commonly used CNS depressant. The exact mechanisms by which alcohol produces its effects are still not understood. It was believed that alcohol had a nonspecific effect on neurotransmission; however, a uniform hypothesis of how alcohol produces its effects does not exist. Alcohol is water and lipid soluble, so it was thought that alcohol disrupted cell membranes in a manner similar to general anesthetics and thereby influenced electrical transmission, ion current, and the release of neurotransmitters. More recently, research has shown that alcohol can act directly on both glutamate and gamma amino butyric acid (GABA) receptors (Advokat, Comaty, & Julien, 2019).

Psychomotor Stimulants

Psychomotor stimulants, including amphetamines and methamphetamines, increase neurotransmission. These drugs were initially used as therapeutic agents, but over the last 50 years, their popularity as recreational drugs has increased dramatically (Advokat et al., 2019). These drugs are inexpensive and easy to manufacture, which likely contributes to the increased incidence of their use. The use of these drugs produces many behavioral and physiological difficulties. These drugs are frequently manufactured by illegal labs and may be added to other street drugs. Illegal manufacturers modify the formulas of these drugs to enhance effects, which may also make criminal prosecution more difficult. Additionally, consumers may not be fully aware of the risks of these drugs, as they can sometimes be advertised as "legal."

Reference

Advokat, C. D., Comaty, J. E., & Julien, R. M. (2019). *Julien's primer of drug action: A comprehensive guide to the actions, uses, and side effects of psychoactive drugs* (14th ed.). New York, NY: Worth Publishers.

Learning Activities

u06s1 - Studies

Readings

Use the [*Handbook of Clinical Psychopharmacology for Therapists*](#) text to read the following:

- Chapter 14, "Substance-Related Disorders," pages 153–160.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 7, "Cocaine, the Amphetamines, and Other Psychostimulants," pages 217–256.
- Chapter 5, "Ethyl Alcohol and the Inhalants of Abuse," pages 135–162.
 - This section covers alcohol; the section on inhalants will be assigned in Unit 7.

These chapters discuss substance-related disorders, central nervous system (CNS) depressants, and psychomotor stimulants.

Discussion Preparation

Complete the following in preparation for your Unit 6 discussions:

- Use the Internet or the [Capella library](#) to locate and read a scholarly article that explains why alcohol and one of the following antidepressant medications should not be combined:
 - Serotonin and norepinephrine reuptake inhibitors (SNRIs).
 - Norepinephrine reuptake inhibitors (NRIs).
 - Atypical antidepressants.
- Find a recent media piece from your area about behavioral effects of amphetamines or methamphetamines, such as a local news report concerning a crime committed while under influence of amphetamines, or a feature story about the long-term effects of methamphetamines on the brain.

u06s1 - Learning Components

- Explain substance-related disorders, central nervous system (CNS) depressants, and psychomotor stimulants.
- Explain why alcohol should not be combined with the following antidepressant medications: Serotonin and norepinephrine reuptake inhibitors (SNRIs), norepinephrine reuptake inhibitors (NRIs), and atypical antidepressants.

u06s2 - Project Preparation

Spend time working on your course project based on the case study you chose in Unit 1. Review the Unit 10 assignment scoring guide and rubric to ensure that you understand all requirements. Begin working on the following component:

- Case study analysis: This section correlates the appropriate use of psychopharmacology with the psychological conditions present in your case study. Based on the research you conducted:
 - Identify the specific *DSM-5* disorder the case symptoms appear to imply.
 - Select the appropriate psychotropic agent (or agents) for the case.
 - Conduct additional research specifically about the chosen agents.

Refer to the following Campus resources as needed to complete your assignment:

- [APA Style and Format](#).
- [Capella University Library](#).
- [Case Study Options \[DOC\]](#).
- [How Do I Find Peer-Reviewed Articles?](#)
- [Professional Communications and Writing Guide \[PDF\]](#).

u06d1 - Alcohol and the Central Nervous System

Alcohol is one of the mostly commonly used central nervous system (CNS) depressants. Using the article you found in this unit's studies, address the following:

- Describe the current state of knowledge, based on your readings, for how alcohol affects the CNS.
- If a client taking an SSRI antidepressant also uses alcohol, explain the effects this combination might have on the CNS.

Response Guidelines

Read the posts of your peers and respond to two or more. In at least one of them, write a brief case-study example of the effects of alcohol on the CNS of a client taking an SNRI, NRI, or atypical antidepressant, with potential outcomes. Explain how this differs from SSRI effects. Support your assertions with references to the article you found in the studies activity. Be sure to include the link to the article and use proper APA style to cite and reference it.

APA Style and Format

u06d1 - Learning Components

- Explain why alcohol should not be combined with the following antidepressant medications: Serotonin and norepinephrine reuptake inhibitors (SNRIs), norepinephrine reuptake inhibitors (NRIs), and atypical antidepressants.
- Communicate in a manner that respects the dignity and integrity of fellow learners, colleagues, peers, and instructors.

u06d2 - Psychomotor Stimulants and Cell Functioning

Amphetamines are the most commonly abused psychomotor stimulants. Explain how amphetamines might interfere with normal cell functioning. Briefly summarize the local or regional media item you found in this unit's studies and explain how amphetamines may have affected the behavior of the person in the story (or behavior as a whole, depending on the focus of the article).

Response Guidelines

Review your peers' posts and respond to one. Relate that behavior to the learner's explanation of how these drugs might interfere with normal cell functioning. Be sure to include the link to the news story and use proper APA style to cite and reference it.

Course Resources

APA Style and Format

u06d2 - Learning Components

- Explain how amphetamines might interfere with normal cell functioning.
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.

Unit 7 >> Marijuana, Hallucinogens, and Inhalants

Introduction

This unit will address issues related to marijuana, hallucinogens, and inhalants. These three substances are increasingly in the public eye for various reasons. This unit examines the mechanisms of action for marijuana, hallucinogens, and inhalants, including their potential for substance-abuse disorders.

Marijuana

As a substance, marijuana belongs in a class by itself. This is because the physiological and behavioral effects of marijuana include those of sedative-hypnotics and hallucinogens. The principle active component in marijuana is delta-9-tetrahydrocannabinol (THC), although there may be more than 50 cannabinoid compounds in a marijuana plant. The physical effects of marijuana use include:

- Sedation.
- Analgesia.
- Disinhibition.
- Euphoria.
- Heightened sensations.
- Hallucinations.

Research has shown that the body contains a vast endogenous cannabinoid system, comprising many discrete brain locations and at least two cannabinoid receptor subtypes (Advokat, Comaty, & Julien, 2019; Leonard, 2003; Preston et al., 2017). Because the primary function of the endogenous

cannabinoid is unknown and all the actions of endogenous cannabinoid have yet to be determined, research on medical marijuana continues. Laws in many states are changing to allow for medical and/or recreational use of marijuana and its pharmacological components in numerous products. These products take advantage of different routes of administration of the drug, such as inhalation, ingestion, and topical application.

Hallucinogens

Hallucinogens, which are mind-altering substances with complex effects on perception, primarily produce their effects by altering catecholamine neurotransmission. Many hallucinogens are both agonists and antagonists—that is, they enhance *and* diminish different aspects of catecholamine neurotransmission. Use of hallucinogens has varied over the last 60 years. They are currently gaining in popularity for use in part because of their relationship to "designer drugs," mentioned in the last unit, and increased recognition of their use across cultures, such as in religious rituals. There is also professional interest in their potential to facilitate psychotherapeutic change for some psychological conditions, such as trauma recovery.

Inhalants

Inhalants are made of volatile hydrocarbons (American Psychiatric Association, 2013) including glues, paints, aerosol propellants, and fuels such as gas. Users typically sniff, or do what is called "bagging" or "huffing," to take these substances into the body. While use of inhalants is not prevalent among adults, there is wide use among teenagers that can create lifelong health problems (Advokat et al., 2019; Preston et al., 2017). In fact, the U.S. government has taken steps to reduce the use of these products by limiting the number of purchases and enforcing age limits for purchases (National Inhalants Prevention Coalition, n.d.). As such, counselors need to be aware of these substances. Easy household access is a primary determinant of use.

References

- Advokat, C. D., Comaty, J. E., & Julien, R. M. (2019). *Julien's primer of drug action: A comprehensive guide to the actions, uses, and side effects of psychoactive drugs* (14th ed.). New York, NY: Worth Publishers.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.
- Leonard, B. E. (2003). *Fundamentals of psychopharmacology*. Hoboken, NJ: Wiley.
- National Inhalants Prevention Coalition. (n.d.). State inhalant legislation. Retrieved from <http://www.inhalants.org/laws.htm>
- Preston, J. D., O'Neal, J. H., & Talaga, M. C. (2017). *Handbook of clinical psychopharmacology for therapists* (8th ed.). Oakland, CA: New Harbinger.

Learning Activities

u07s1 - Studies

Readings

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 5, "Ethyl Alcohol and the Inhalants of Abuse," pages 163–167, the sections on inhalants only.
- Chapter 8, "Psychedelic Drugs," pages 257–290.
- Chapter 9, "Cannabis," pages 291–332.

Discussion Preparation

In preparation for your first Unit 7 discussion, use the [Capella library](#) to locate and read the following:

- Two peer-reviewed scholarly articles about the effects of marijuana on the central nervous system.
- One additional peer-reviewed article on the pros and cons of medical marijuana.

For the second discussion in this unit, complete the following:

- Locate a recent media piece from your area about the effects inhalants have on behavior. This could be a news story in which a death is attributed to inhalants or a feature story about the effects of inhalants on the CNS in general.
- Find a recent media item from your local or regional media concerning the behavioral effects of hallucinogens. This could be a news story in which a death is related to use of hallucinogens or a feature story about the effects of hallucinogens on the CNS in general.

u07s1 - Learning Components

- Explain how marijuana affects the central nervous system (CNS).

- Explain how inhalants affect the central nervous system (CNS).

u07d1 - Marijuana and the Central Nervous System

For this discussion:

- Describe the effects of marijuana on the central nervous system (CNS).
- Use the scholarly peer-reviewed articles you located in the Unit 7 studies to support your initial post.
- Include a link for each article, and cite and reference the articles using proper APA style.

Response Guidelines

Review your peers' posts and respond to at least two. Using the articles you located, discuss the challenges of medical marijuana use by clients in treatment for a substance use disorder *according to the authors of the article*. Be sure to include the link to the article and use proper APA style to cite and reference it.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[Capella University Library](#)

[APA Style and Format](#)

u07d1 - Learning Components

- Explain how marijuana affects the central nervous system (CNS).
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.

u07d2 - Practical Impact of Inhalants and Hallucinogens on the Central Nervous System

For this discussion:

- Describe the effects of inhalants on the central nervous system according to your readings. Use the news item you found concerning inhalants to provide an example of these effects. Be sure to include the link to the news item and use proper APA style to cite and reference it.
- Describe the effects of hallucinogens on the CNS, based on your readings. Provide an example of these effects by summarizing the media item on hallucinogens you located. Be sure to include the link to the item and use proper APA style to cite and reference it.

Response Guidelines

Read the posts of your peers and respond to at least two peers. How does reading each peer's news story inform your own views on inhalants and hallucinogens? Be as specific as possible.

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[APA Style and Format](#)

u07d2 - Learning Components

- Describe the effects of hallucinogens on the central nervous system (CNS).
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.
- Describe the effects of inhalants on the central nervous system (CNS).

Unit 8 >> Pharmacotherapy in Children and Adolescents

Introduction

The prescription of psychotropic medications for children and adolescents is controversial. Children's brains are still growing and developing, and it is uncertain what long-term effects psychotropic medications may have on them. Even diagnosing a child or adolescent with a mental disorder is controversial. Keep in mind, though, that children *do* get clinically depressed and have other symptoms of mental illnesses; they do not suddenly develop psychiatric disorders at age 18. While it appears that more children are being diagnosed with mental disorders, it is likely that society is only recognizing or accepting that children who would have been labeled as troublemakers in the past actually have mental disorders.

On the positive side, psychotropic medications appear to be working in children diagnosed with anxiety disorders, depressive disorders, and even bipolar and related disorders. Some children and adolescents who were once treated as social outcasts because of severe behavioral and emotional problems can now attend regular school classes with the use of psychotropic medications to modulate their neurotransmission systems and thus regulate their behavior.

If a diagnosis early in life means a child receives appropriate treatment, this will be a better outcome for the child and ultimately for society. As scientists, we must try to be objective in prescribing medications while remaining aware of the particular concerns in treating members of a vulnerable population, such as children.

Learning Activities

u08s1 - Studies

Readings

Use the [*Handbook of Clinical Psychopharmacology for Therapists*](#) text to read the following:

- Chapter 23, "Child and Adolescent Psychopharmacology," pages 255–276.
- Appendix B, "Pharmacotherapy in Special Populations," pages 285–292.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 15, "Child and Adolescent Psychopharmacology," pages 572–624.

Use the Capella library to read the following:

- American Psychological Association. (2011). [Practice guidelines regarding psychologists' involvement in pharmacological issues](#). *American Psychologist*, 66(9), 835–849.

Discussion Preparation

In preparation for upcoming discussions, use the Internet or the [Capella library](#) to locate and read:

- A recent journal article (no older than 5 years) that discusses the use of adult psychotropic medications on children.
- A recent journal article (no older than 5 years) that discusses one mental illness generally associated with children.
 - This may include the autism spectrum disorder, attention deficit hyperactivity disorder (ADHD), or other mental disorders including bipolar and related disorders.

u08s1 - Learning Components

- Discuss the effects of psychotropic medications on children and adolescents.
- Discuss mental illnesses generally associated with children.
- Discuss the impact of adult psychotropic medications on children.

u08s2 - Project Preparation

Spend time working on your course project based on the case study you chose in Unit 1. Review the Unit 10 assignment scoring guide and rubric to ensure that you understand all requirements. Begin working on the following component:

- Case study analysis: This section correlates the appropriate use of psychopharmacology with the psychological conditions present in your case study. Based on the research you conducted:
 - Analyze the agents' effects on neurotransmission and behavior in the case.
 - Predict the agents' potential effectiveness.
 - Evaluate the limitations of treatment with the agents.

Refer to the following Campus resources as needed to complete your assignment:

- [APA Style and Format](#).
- [Capella University Library](#).
- [Case Study Options \[DOC\]](#).
- [How Do I Find Peer-Reviewed Articles?](#)
- [Professional Communications and Writing Guide \[PDF\]](#).

u08a1 - Letter of Recommendation

Assignment Instructions

Note: Be sure to review the Mock Form Letter (linked in Resources) prior to completing this assignment, taking care to avoid making any of the errors shown in the letter.

Use the research you conducted in Unit 4 on using SSRIs, specifically Celexa, to treat dysthymic disorder, and consider the following scenario:

As a psychologist or counselor you have determined that a client you are seeing has persistent depressive disorder and would likely benefit from an antidepressant medication.

Create a one-page letter to the client's primary care physician indicating your opinion that your client would benefit from this medication. Be sure to follow APA or ACA ethical guidelines when creating your letter.

Submit your letter as an attachment in the assignments area.

Course Resources

[ACA Ethical & Professional Standards](#)

[APA Ethical Principles of Psychologists and Code of Conduct](#)

[Mock Form Letter \[PDF\]](#)

u08d1 - Addressing Childhood Disorders With Psychotropic Medications

This is a two-part discussion.

Part One

Most available psychotropic drugs were not originally normed and developed for use on children, in part because psychotropic treatments historically were used primarily on adults. Additionally, concerns about the developmental impacts of such substances on children and related ethical issues have prioritized caution to avoid doing harm. It is important to note, however, that it is common for the same psychotropic medications given to adults to also be given to children. For this discussion:

- Identify and analyze the position of the article you located on this subject.
- Discuss your views on giving adult medications to children. Include an evaluation of the effects of psychotropic medications on children's neurotransmission and hormonal systems and the limitations of psychopharmacology with this population.
- Be sure to properly cite and reference your articles in your post, including the URL for the article.

Part Two

Children are being diagnosed with mental illnesses that did not exist 10 years ago or were only diagnosed in adults. Diagnosing a child with a mental disorder and treating this disorder with pharmacological agents may be fraught with controversy. These disorders include the autism spectrum disorder, bipolar and related disorders, attention deficit hyperactivity disorder (ADHD), and many others not previously considered in children. For this discussion:

- Identify and analyze the position of the article you located on this subject.
- Discuss the following:
 - Explain how your views on this particular disorder and treatment with medication for children with this disorder did or did not change after reading your article.
 - If you could prescribe medications, what challenges would you have in prescribing medication to a child with this disorder? Provide rationale and evidence to support your view.
 - Describe any specific child or youth developmental concerns you may have about prescribing or not prescribing to children.
- Be sure to properly cite and reference your articles in your post, including the URL for the article.

Response Guidelines

Review your peers' posts and respond to at least two, addressing the following in each response: How do the chosen articles and your peer's analysis affect your views of prescribing adult medications to children?

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[APA Style and Format](#)

[Capella University Library](#)

u08d1 - Learning Components

- Discuss the effects of psychotropic medications on children and adolescents.
- Discuss the impact of adult psychotropic medications on children.
- Analyze the limitations of psychopharmacology.

Unit 9 >> Geriatric Population

Introduction

This unit discusses the pharmacological treatment of elderly clients in the United States. There are close to 80 million people in the United States born between 1946 and 1964 known as the Baby Boom generation (U.S. Census Bureau, n.d.). By 2029, all of these people will be over age 65. Medical and other improvements have resulted in increased life expectancies for Baby Boomers as well as their parents, resulting in an increase of age-related health concerns such as Alzheimer's and dementia. Fortunately, the efficacy of treatment for Alzheimer's patients is improving as well, and there are more options.

Psychologists and counselors may find themselves attending to the needs of the families of a client with a dementia-related disorder as much as the client's needs. Further, treating the clients with Alzheimer's or any other disorder can be controversial and complicated, as the elderly are often prescribed medications that could be incompatible with treatment.

Reference

United States Census Bureau. (n.d.). Age and sex. Retrieved from <https://www.census.gov/topics/population/age-and-sex.html>

Learning Activities

u09s1 - Studies

Readings

Use the [Handbook of Clinical Psychopharmacology for Therapists](#) text to review the following:

- Appendix B, pages 285–292. Pay particular attention to references to geriatric populations.

Use your *Julien's Primer of Drug Action* text to read the following:

- Chapter 16, "Geriatric Psychopharmacology," pages 627–666.

Discussion Preparation

In preparation for a discussion in this unit, use the Internet or the [Capella library](#) to locate and read the following:

- A recent journal article (no older than 5 years) that discusses giving psychotropic medications to the elderly.
- A recent journal article (no older than 5 years) that discusses the use of medications for treating Alzheimer's disease in elderly clients.

u09s1 - Learning Components

- Discuss the effects of psychotropic medications on elderly or geriatric clients.
- Discuss the use of psychotropic medications for treating Alzheimer's disease.

u09d1 - Mood Stabilizers and Alzheimer's Clients

Alzheimer's clients often present with psychotic symptoms. For this discussion, provide an overview that:

- Lists the medications currently available to treat Alzheimer's disease.
- Discusses whether mood stabilizers such as lithium and risperidone are effective for this population.
- Supports your discussion with the research you conducted in this unit's Studies.
- Includes proper citations and references for the sources used in your post.

Discuss this scenario based on real-life events:

- A primary care provider has referred an 82-year-old female client to you who has been diagnosed with early Alzheimer's disease. This woman is accompanied by her two daughters, who are her caregivers. She is currently living alone and experiencing challenges. Address this following points:
 - Explain what may be causing the Alzheimer's disease.
 - Explain how Alzheimer's disease is different from normal aging.
 - In your own words, describe how medications may help this client.
 - Create a dialogue in which you—the psychologist or counselor—explain to the client and her daughters what is happening to her in terms the client can understand. Use the article you found in the Unit 9 Studies to aid in your explanation. Note: In writing out a dialogue, you will be providing a script of what the client might ask, and your responses; envision this as a series of questions and answers.

Response Guidelines

Review your peers' posts and respond to one. How does your article and your peer's article affect your views about using mood stabilizers to treat Alzheimer's clients? What do you predict for the future?

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

[APA Style and Format](#)

u09d1 - Learning Components

- Analyze the effect of mood stabilizers on Alzheimer's clients.
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.
- Explain the benefits of medications to address psychological conditions.
- Provide validation and support within written communications by including relevant examples and supporting evidence.

Unit 10 >> Collaborating With Clients and Physicians Regarding Psychopharmacology

Introduction

Over the past 30 years, health care in the United States has changed dramatically. The advent of managed care organizations (MCOs) was meant to prevent health care problems and reduce health care costs. Instead, this type of treatment became controversial. Some feel that MCOs control health care providers and treatments. Instead of saving on health care dollars, MCOs are seen as profiteers that exploit patients. Health care in the United States is further evolving as the provisions of the Patient Protection and Affordable Care Act take effect.

Ideally, a psychiatrist or an appropriately trained and credentialed psychologist would prescribe psychotropic medications. However, between 70 and 90 percent of psychotropic medications are prescribed by primary care physicians who often have limited exposure in treating mental disorders. Furthermore, these physicians typically do not treat mental disorders aggressively (Advokat, Comaty, & Julien, 2019; Preston, O'Neal, & Talaga, 2017). Often, the physician refers the client to a psychologist or other mental health professional for adjunct treatment. This can be time-consuming for the client, creating the need to visit two health care providers, as well as costly to the third-party providers of health care: the insurance companies.

In responding to this situation, the American Psychological Association (APA) and many state licensing boards for psychologists have advocated for prescription privileges for psychologists (Fox & Sammons, 1998). This is controversial within the health care realm, with the American Psychiatric Association being one of the largest opponents of this endeavor. Their concern is that psychologists are not trained in the physiological areas (Fox & Sammons, 1998). In response to this concern, the APA created a standard of education for training psychologists in areas of physiology and psychopharmacology (APA, 2009). Five states: New Mexico, Louisiana, Illinois, Iowa, and Idaho, have approved legislation that allows psychologists to prescribe psychotropic medications after completing the required training. Other states have this pending in their legislatures, following what is an effort by psychologists over more than 35 years (APA Practice Organization, 2016). The American Counseling Association (ACA) has responded to this problem by insisting that counselors in some states, such as California, study psychopharmacology as part of the training required to sit for general licensure. The shared goal of the APA and the ACA is for psychologists and counselors to be aware of psychotropic medications and their potential effects on clients.

Currently, in most states, psychologists are not legally permitted to prescribe psychotropic medications. There are no states where licensed counselors may prescribe psychotropic medications. In adhering to the APA and ACA ethical standards of not practicing outside their scope of expertise, this can be a challenging situation for psychologists and counselors. For example, the psychologist or counselor may be more knowledgeable than the prescribing primary care physician regarding psychotropic drugs. In many cases, a primary care physician will work as a team with the psychologist and ask for their recommendation regarding the types of drugs to be prescribed. Even though the primary care physician may be the one prescribing the medication, it often falls on the psychologist or counselor to explain to their client how the medications are working. In general, people are reluctant and often embarrassed to take psychotropic medications. If the client can understand how the medication is helping physiologically, they will often be more compliant. Therefore, the psychologist and counselor must be able to explain in layman's terms how a psychotropic medication may be working.

References

- Advokat, C. D., Comaty, J. E., & Julien, R. M. (2019). *Julien's primer of drug action: A comprehensive guide to the actions, uses, and side effects of psychoactive drugs* (14th ed.). New York, NY: Worth Publishers.
- American Psychological Association. (2009). Recommended postdoctoral education and training program in psychopharmacology for prescriptive authority. Retrieved from <http://www.apapracticecentral.org/advocacy/authority/training-authority.pdf>
- American Psychological Association Practice Organization. (2016). RxP: A chronology. <http://www.apapracticecentral.org/advocacy/authority/prescription-chronology.aspx>
- Fox, R. E., & Sammons, M. T. (1998). A history of prescription privileges. *The APA Monitor*, 29(9).
- Preston, J. D., O'Neal, J. H., & Talaga, M. C. (2017). *Handbook of clinical psychopharmacology for therapists* (8th ed.). Oakland, CA: New Harbinger.

Learning Activities

u10s1 - Studies

Readings

Use the [*Handbook of Clinical Psychopharmacology for Therapists*](#) text to read the following:

- Appendix C, "Psychotropic Drug Interactions," pages 293–308.
- Appendix D, "Differentiating Psychotropic Side Effects and Psychiatric Symptoms," pages 309–312.
- Appendix F, "Trade Versus Generic Drug Names: A Quick Reference," pages 317–320.
- Appendix G, "Medication Safety," pages 321–324.
- Appendix H, "Books for Patients About Medication Treatment," pages 325–326.

Use the Capella library to review the following:

- American Psychological Association. (2011). Practice guidelines regarding psychologists' involvement in pharmacological issues. *American Psychologist*, 66(9), 835–849.

Use the Internet to complete the following:

- American Counseling Association. (n.d.). Knowledge center: Ethical & professional standards. Retrieved from <https://www.counseling.org/knowledge-center/ethics>
 - Read the 2014 ACA Code of Ethics.
- American Psychological Association. (2017). APA ethical principles of psychologists and code of conduct. Retrieved from <http://www.apa.org/ethics/code/index.aspx>
 - Review each section for information regarding cooperation with other professionals, informed consent, and privacy and confidentiality.

Discussion Preparation

Use the Internet to research the following topics for this unit's discussions:

- Your state psychological or counseling association's guidelines on recommending and prescribing psychotropic drugs, if available.
- Your national psychological or counseling association's guidelines on recommending and prescribing psychotropic drugs, if available.

Course Resources

Handbook of Clinical Psychopharmacology for Therapists

u10s1 - Learning Components

- Apply DSM-5 resources to connect symptoms to a specific disorder.
- Follow state and national psychological or counseling association guidelines regarding the recommendation and prescription of psychotropic drugs.
- Explain the effects of psychotropic medications to a client using appropriately leveled language.

u10a1 - Final Paper With Case Study

For your final paper, choose anxiety, depression, schizophrenia, or bipolar disorder as a topic, and select a case study from the Case Study Options document linked in Resources. Write a paper in which you include the following:

- Title page.
- Abstract: a brief summary of the paper's topic with the conclusions and supporting evidence related to the case study you have chosen.
 - You may find it easier to write the abstract last.
- An analysis of your topic as it pertains to historical and current perspectives on the specific disorder and how we diagnose and understand it.
- An evaluation of psychotropic agents that have been used in the past as well as psychotropic agents currently used to treat your chosen disorder.
- A statement indicating that you will use a case study to help explain your chosen topic.
- The verbatim case study from the Case Study Options document.
- Case study analysis: This section correlates the appropriate use of psychopharmacology with the psychological conditions present in your case study. Based on the research you conducted:
 - Identify the specific *DSM-5* disorder the case symptoms appear to imply.
 - Select the appropriate psychotropic agent or agents for the case.
 - Conduct additional research on the chosen agents.
 - Analyze the agents' effects on neurotransmission, behavior, and the hormonal system in the case.
 - Predict the agents' potential effectiveness.
 - Evaluate the limitations of treatment with the agents.
- Conclusion: a synthesis of the above information to identify strategies for addressing limitations.

Assignment Requirements

- Length: 10–15 pages of content plus the title page, abstract, and references pages.
- References: Include at least 15 references, 10 of which must be from peer-reviewed academic journals.
 - While books, websites, and other popular sources may be included, they do not count toward the 10 academic references. Avoid use of commercial and nonscientific websites.
 - References generally should be no older than 5 years; however, when writing about the historical perspectives on diagnosis and treatment, it may be necessary to use items older than 5 years.
 - You must use proper APA style to list your references.

- **Formatting:** Use current edition APA style and formatting, including correct in-text citations, proper punctuation, double spacing throughout, proper headings and subheadings, no skipped lines before headings and subheadings, proper paragraph and block indentation, no bolding other than what APA style permits, and no bullets. Refer to APA Style and Format (linked in Resources) for more information.

Save your course project to your ePortfolio.

Course Resources

Case Study Options [DOC]

[ePortfolio](#)

[APA Style and Format](#)

[Capella University Library](#)

[Turnitin](#)

u10d1 - Training Guidelines

For this discussion:

- Discuss the APA or ACA stance on psychopharmacology. You may also discuss your state's stance on this subject.
- Most psychologists and all counselors are currently unable to prescribe psychotropic medications. Given this, do you feel the APA or ACA has taken too strong of a stance or overstepped its bounds regarding psychopharmacology? Justify your response.
- If you were asked to be on a treatment team where pharmacologic agents would be used, would you be comfortable participating on the team and recommending psychotropic medications?
 - If you have experienced this, describe your experience.
 - If your answer to being part of a treatment team is *no*, what would make you comfortable?

Response Guidelines

Read the posts of your peers and respond to at least two peers. How are their posts different from yours? If you feel they are uncomfortable being part of a team, what would you recommend they do to rectify this situation?

Course Resources

Psychology Attributes and Evaluation of Discussion Contributions

u10d1 - Learning Components

- Synthesize the current ethical guidelines from professional organizations, with respect to psychopharmacology.
- Communicate in a manner that respects the dignity and integrity of fellow learners, colleagues, peers, and instructors.
- In written dialogue intended to be instructional or informative, extend consideration of the topic by including new information, pertinent questions, constructive/corrective feedback, or alternative viewpoints.
- Follow state and national psychological or counseling association guidelines regarding the recommendation and prescription of psychotropic drugs.