DOWNLOAD PDF UNDERSTANDING PSYCHOPHARMACOLOGY

Chapter 1 : Emil Kraepelin: A pioneer of scientific understanding of psychiatry and psychopharmacology

Psychopharmacology is the study of the use of medications in treating mental disorders. The complexity of this field requires continuous study in order to keep current with new advances. Psychopharmacologists need to understand all the clinically relevant principles of pharmacokinetics (what the body does to medication) and pharmacodynamics.

How to understand people psychology By M. How to understand people psychology How to understand people and their actions? Long ago before i studied psychology i used to judge people superficially based on their actions just like everyone else does. Later on when i started getting deeper into psychology i discovered that each weird action taken by a person can be understood and can make a great sense if it was seen from a different perspective. In this article i will tell you how to understand people psychology. Past experiences and understanding people As the newly born child progresses through life he starts developing certain goals that guides him for the rest of his life. For example a child who was always preferred by his parents might grow up as an attention seeking adult in order to maintain the attention he used to get. A young girl who saw her father cheating on her mother might develop fear of commitment, fear of men and even become homosexual. One of the girls i know is a typical tomboy, she plays football, she loves to wear black and most of her friends are guys. From a superficial point of view people describe her as mad, psycho or weirdo but when getting a deeper understanding of the situations she has been through you can easily understand her actions. As a little child this girl felt ignored by her father because he wanted a boy instead of a girl. At this point the girl started believing that girls are bad, defective and weak. As a result she unconsciously developed the desire to become as strong as a guy because she hated being weak like other girls. For example i have never managed to think that fear of darkness might be connected to job security or that the preference for black might be connected to earlier childhood experiences. A girl might fear darkness because deep inside her she is feeling insecure in life as a result of seeing her jobless dad spending his time drinking instead of securing the future for the family. The subconscious mind at this point unconsciously reminds the girl of her insecurity whenever she finds herself in a dark room. When i talked to her i discovered that the feelings of insecurity she experienced as a result of losing her father few months ago was the one responsible for her fear of darkness. When attempting to understand people psychology you must not separate their actions, habits, the dreams they get and their attitude from each other because all of these things are connected to each other either directly or indirectly. Look deep beyond actions: Goals, drives or unmet needs that the person develops at an early age can be the key to understanding that person. If someone likes to wear great clothes then this might be connected to his self image problem which could be rooted to the rejections he got from the other sex earlier in his life just an example not a rule Is this everything? If you think that this is some kind of marketing hype then see what other visitors say about 2knowmyself. The Solid confidence program was launched by 2knowmyself. Want to know more?

Chapter 2 : Understanding Psychopharmacology: Basics of Brain Functioning

the primary goals of psychiatric mental health nursing is to: understand the biological basis of both normal and abnormal brain functions-apply this understanding to the care of individuals treated with psychotropic drugs.

This article has been cited by other articles in PMC. Emil Kraepelin was an influential German psychiatrist who lived in the late 19th and the early 20th century. His work had a major impact on modern psychiatry and its understanding of mental illnesses based on natural scientific concepts. Kraepelin was born in in the small town of Neustrelitz in Northern Germany. As a result of spending most of his time in the laboratory, he lost his position as a physician because of neglect of clinical work. After this short stay in Leipzig and his qualification as a university teacher, Kraepelin worked as a visiting professor for five years in Dorpat Estonia and later in Heidelberg now as a regular professor. It was his laboratory in which Alois Alzheimer studied the underlying causes of Alzheimer dementia. One of the most important achievements of Emil Kraepelin was the connection of pathogenesis and manifestation of psychiatric disorders. Clinical observation led him to the hypothesis that specific combinations of symptoms in relation to the course of psychiatric illnesses allow one to identify a particular mental disorder. In contrast, he described manic depression as an episodic disorder, which does not lead to permanently impaired brain function. Nevertheless, the separation of affective disorders from schizophrenic psychosis as two distinct entities formed the basis for the understanding of psychiatric illnesses for more than a century. Over the last years both entities have been more and more regarded rather as a continuum than as two entirely distinct forms. He pioneered in the field of psychopharmacological research, which was uncommon in his days. For instance, he combined testing subjects with substances like alcohol, caffeine and chloroform with psychological tests. For example, socialists and opponents of World War I were judged to be mentally ill by him. He also theorized about frequent genetic predispositions for psychiatric disorders in Jews. A matter of personal importance to him was his refusal not only of the abuse of alcohol, but also of alcohol in general. Especially dream interpretation provoked his resistance; he judged psychoanalysis as not sufficiently based on scientific principles. Those different points of view still cause controversies nowadays when it comes to integrate natural scientific and psychodynamic understandings in psychiatry. In conclusion, he was a great thinker and started the scientific understanding of mental illness in a real sense. Footnotes Conflict of Interest: A pioneer of modern psychiatry: On the occasion of the hundred and fiftieth anniversary of his birth. Emil Kraepelin un Neurowissenschaft heute. The history of the psychopharmacology of schizophrenia. How to differentiate schizophrenia from bipolar disorder using cognitive assessment? The origin of pharmacopsychology: Kraepelin E, Engstrom EJ. Psychiatric observations on contemporary issues. The psychiatric works of Emil Kraepelin: A many-faceted story of modern medicine. PP 5, Ausgabe February , Seite

Chapter 3 : Understanding Psychology by Robert S. Feldman

Her expertise in psychopharmacology has also been utilized by definitive resources for physicians and nurses such as Medscape, ConsultantLive and Nurses' Newswire. Mental health disorders and their treatment can be fascinating and easier to understand when explained by the right person.

About the Author Robert Feldman Bob Feldman still remembers those moments of being overwhelmed when he started college at Wesleyan University. He is a winner of a Fulbright Senior Research Scholar and Lecturer award and has written over scientific articles, book chapters, and books. His research interests encompass the study of honesty and truthfulness in everyday life, development of nonverbal behavior in children, and the social psychology of education. With the last of his three children completing college, Professor Feldman occupies his spare time with pretty decent cooking and earnest, but admittedly unpolished, piano playing. He also loves to travel. He lives with his wife, who is an educational psychologist, in a home overlooking the Holyoke mountain range in western Massachusetts. Features Key Features McGraw-Hill Connect is a digital assignment and assessment platform that strengthens the link between faculty, students, and coursework, helping everyone accomplish more in less time. For students, Connect uses innovative, interactive technology to enable a more personalized learning experience that better engages students in course content so they are better prepared, are more active in discussion, and achieve better results. Connect allows instructors to give homework assignments with immediate, automatic feedback, upload recorded class lectures and presentations through Tegrity, and track student progress and concept comprehension through robust reporting tools. Concept Clips help students break down key themes and difficult concepts in Psychology. Using easy-to-understand analogies, visual cues, and stimulating animations, Concept Clips make Psychology meaningful to everyday life. Interactivities allow students to experience and apply their understanding of psychology to the world with fun and stimulating activities. Newsflash exercises tie current news stories to key psychological principles and learning objective and assess students on their ability to make the connection between real life and research findings. McGraw-Hill Education authors now have access to student performance data to analyze and to inform their revisions. This data is anonymously collected from the many students who use LearnSmart, the adaptive learning system that provides students with individualized assessment of their own progress. Modules within chapters format is manageable for students and flexible for professors who wish to assign complete chapters. Feldman designed this pedagogy based on the proven work he has done in Student Success and First Year Experience. Diversity is woven into the material throughout the program. Each chapter contains at least one Exploring Diversity section devoted to an aspect of racial, ethnic, gender, or cultural diversity. From the Perspective of Every chapter now includes questions to help students connect psychological concepts with career realities. The feature helps students understand how psychology impacts their chosen program of study and answers the "why does psychology matter to me? Examples of some of the career fields include health, technology, criminal justice, and marketing.

Chapter 4 : How to understand people psychology | 2KnowMySelf

10th grade reading level uses straightforward, everyday language to really enhance readers' understanding of pharmacology concepts. Incorporation of adult learning theory features both a simple to complex organization of material along with answers to why readers need to learn something.

How do the majority of psychoactive drugs work in the brain? How does the route of administration affect how rewarding a drug might be? Why is grapefruit dangerous to consume with many psychotropic medications? Why might individualized drug doses based on genetic screening be helpful for treating conditions like depression? Why is there controversy regarding pharmacotherapy for children, adolescents, and the elderly? Introduction Psychopharmacology, the study of how drugs affect the brain and behavior, is a relatively new science, although people have probably been taking drugs to change how they feel from early in human history consider the of eating fermented fruit, ancient beer recipes, chewing on the leaves of the cocaine plant for stimulant properties as just some examples. The word psychopharmacology itself tells us that this is a field that bridges our understanding of behavior and brain and pharmacology, and the range of topics included within this field is extremely broad. Drugs that alter our feelings and behavior do so by affecting the communication between neurons in the brain. Neurons more than billion in your nervous system communicate with each other by releasing a chemical neurotransmitter across a tiny space between two neurons the synapse. When the neurotransmitter crosses the synapse, it binds to a postsynaptic receptor protein on the receiving neuron and the message may then be transmitted onward. Obviously, neurotransmission is far more complicated than this â€" links at the end of this module can provide some useful background if you want more detail â€" but the first step is understanding that virtually all psychoactive drugs interfere with or alter how neurons communicate with each other. There are many neurotransmitters. Some of the most important in terms of psychopharmacological treatment and drugs of abuse are outlined in Table 1. The neurons that release these neurotransmitters, for the most part, are localized within specific circuits of the brain that mediate these behaviors. Psychoactive drugs can either increase activity at the synapse these are called agonists or reduce activity at the synapse antagonists. Different drugs do this by different mechanisms, and some examples of agonists and antagonists are presented in Table 2. Table 1 A very useful link at the end of this module shows the various steps involved in neurotransmission and some ways drugs can alter this. Table 2 provides examples of drugs and their primary mechanism of action, but it is very important to realize that drugs also have effects on other neurotransmitters. This contributes to the kinds of side effects that are observed when someone takes a particular drug. The reality is that no drugs currently available work only exactly where we would like in the brain or only on a specific neurotransmitter. In many cases, individuals are sometimes prescribed one psychotropic drug but then may also have to take additional drugs to reduce the side effects caused by the initial drug. Sometimes individuals stop taking medication because the side effects can be so profound. While this section may sound more like pharmacology, it is important to realize how important pharmacokinetics can be when considering psychoactive drugs. Pharmacokinetics refers to how the body handles a drug that we take. As mentioned earlier, psychoactive drugs exert their effects on behavior by altering neuronal communication in the brain, and the majority of drugs reach the brain by traveling in the blood. The acronym ADME is often used with A standing for absorption how the drug gets into the blood , Distribution how the drug gets to the organ of interest â€" in this module, that is the brain , Metabolism how the drug is broken down so it no longer exerts its psychoactive effects , and Excretion how the drug leaves the body. We will talk about a couple of these to show their importance for considering psychoactive drugs. Drug Administration A drug delivered by IV reaches the brain more quickly than if the drug is taken orally. While rapid delivery has advantages, there are also risks involved with IV administration. The most common route of administration is oral administration, which is relatively slow and â€" perhaps surprisingly â€" often the most variable and complex route of administration. Drugs enter the stomach and then get absorbed by the blood supply and capillaries that line the small intestine. The rate of absorption can be affected by a variety of factors including the quantity and the type of food in the stomach e. This is why the medicine label for some

drugs like antibiotics may specifically state foods that you should or should NOT consume within an hour of taking the drug because they can affect the rate of absorption. Two of the most rapid routes of administration include inhalation i. Both of these routes of administration can get the drug to brain in less than 10 seconds. IV administration also has the distinction of being the most dangerous because if there is an adverse drug reaction, there is very little time to administer any antidote, as in the case of an IV heroin overdose. Why might how quickly a drug gets to the brain be important? If a drug activates the reward circuits in the brain AND it reaches the brain very quickly, the drug has a high risk for abuse and addiction. Psychostimulants like amphetamine or cocaine are examples of drugs that have high risk for abuse because they are agonists at DA neurons involved in reward AND because these drugs exist in forms that can be either smoked or injected intravenously. Some argue that cigarette smoking is one of the hardest addictions to quit, and although part of the reason for this may be that smoking gets the nicotine into the brain very quickly and indirectly acts on DA neurons , it is a more complicated story. For a crack user, this could be the pipe that they use to smoke the drug. For a cigarette smoker, however, it could be something as normal as finishing dinner or waking up in the morning if that is when the smoker usually has a cigarette. For both the crack user and the cigarette smoker, the cues associated with the drug may actually cause craving that is alleviated by you guessed it â€" lighting a cigarette or using crack i. This is one of the reasons individuals that enroll in drug treatment programs, especially out-of-town programs, are at significant risk of relapse if they later find themselves in proximity to old haunts, friends, etc. But this is much more difficult for a cigarette smoker. How can someone avoid eating? Or avoid waking up in the morning, etc. These examples help you begin to understand how important the route of administration can be for psychoactive drugs. Drug Metabolism Metabolism involves the breakdown of psychoactive drugs, and this occurs primarily in the liver. The liver produces enzymes proteins that speed up a chemical reaction , and these enzymes help catalyze a chemical reaction that breaks down psychoactive drugs. There is not a unique enzyme for each drug; rather, certain enzymes can break down a wide variety of drugs. Tolerance to the effects of many drugs can occur with repeated exposure; that is, the drug produces less of an effect over time, so more of the drug is needed to get the same effect. This is particularly true for sedative drugs like alcohol or opiate-based painkillers. Metabolic tolerance is one kind of tolerance and it takes place in the liver. Some drugs like alcohol cause enzyme induction â€" an increase in the enzymes produced by the liver. For example, chronic drinking results in alcohol being broken down more quickly, so the alcoholic needs to drink more to get the same effect â€" of course, until so much alcohol is consumed that it damages the liver alcohol can cause fatty liver or cirrhosis. Recent Issues Related to Psychotropic Drugs and Metabolism Grapefruit Juice and Metabolism Grapefruit can interfere with enzymes in the liver that help the body to process certain drugs. CC0 Public Domain, https: The most well known is grapefruit juice. Grapefruit juice suppresses cytochrome P enzymes in the liver, and these liver enzymes normally break down a large variety of drugs including some of the psychotropic drugs. If the enzymes are suppressed, drug levels can build up to potentially toxic levels. In this case, the effects can persist for extended periods of time after the consumption of grapefruit juice. Some psychotropic drugs that are likely to interact with grapefruit juice include carbamazepine Tegretol , prescribed for bipolar disorder; diazepam Valium , used to treat anxiety, alcohol withdrawal, and muscle spasms; and fluvoxamine Luvox , used to treat obsessive compulsive disorder and depression. A link at the end of this module gives the latest list of drugs reported to have this unusual interaction. Individualized Therapy, Metabolic Differences, and Potential Prescribing Approaches for the Future Mental illnesses contribute to more disability in western countries than all other illnesses including cancer and heart disease. Depression alone is predicted to be the second largest contributor to disease burden by World Health Organization, Pharmacotherapy with psychological therapy may be the most beneficial treatment approach for many psychiatric conditions, but there are still many unanswered questions. For example, why does one antidepressant help one individual yet have no effect for another? Many people do not respond to the first antidepressant prescribed and may have to try different drugs before finding something that works for them. Other people just do not improve with antidepressants Ioannidis, As we better understand why individuals differ, the easier and more rapidly we will be able to help people in distress. One area that has received interest recently has to do with an individualized treatment approach. We now know that there are

genetic differences in some of the cytochrome P enzymes and their ability to break down drugs. The general population falls into the following 4 categories: Now consider someone receiving a prescription for an antidepressant â€" what would the consequences be if they were either an ultra-extensive metabolizer or a poor metabolizer? The ultra-extensive metabolizer would be given antidepressants and told it will probably take 4 to 6 weeks to begin working this is true , but they metabolize the medication so quickly that it will never be effective for them. In contrast, the poor metabolizer given the same daily dose of the same antidepressant may build up such high levels in their blood because they are not breaking the drug down , that they will have a wide range of side effects and feel really badly â€" also not a positive outcome. What if â€" instead â€" prior to prescribing an antidepressant, the doctor could take a blood sample and determine which type of metabolizer a patient actually was? They could then make a much more informed decision about the best dose to prescribe. There are new genetic tests now available to better individualize treatment in just this way. A blood sample can determine at least for some drugs which category an individual fits into, but we need data to determine if this actually is effective for treating depression or other mental illnesses Zhou, Currently, this genetic test is expensive and not many health insurance plans cover this screen, but this may be an important component in the future of psychopharmacology. Other Controversial Issues Juveniles and Psychopharmacology A recent Centers for Disease Control CDC report has suggested that as many as 1 in 5 children between the ages of 5 and 17 may have some type of mental disorder e. Why has there been such an increase in these numbers? There is no single answer to this important question. Some believe that greater public awareness has contributed to increased teacher and parent referrals. Others argue that the increase stems from changes in criterion currently used for diagnosing. Still others suggest environmental factors, either prenatally or postnatally, have contributed to this upsurge. There are concerns about both the safety and efficacy of drugs like Prozac for children and teens. Many psychotropic drugs used for treating psychiatric disorders have been tested in adults, but few have been tested for safety or efficacy with children or adolescents. The most well-established psychotropics prescribed for children and adolescents are the psychostimulant drugs used for treating attention deficit hyperactivity disorder ADHD , and there are clinical data on how effective these drugs are. However, we know far less about the safety and efficacy in young populations of the drugs typically prescribed for treating anxiety, depression, or other psychiatric disorders. The young brain continues to mature until probably well after age 20, so some scientists are concerned that drugs that alter neuronal activity in the developing brain could have significant consequences. There is an obvious need for clinical trials in children and adolescents to test the safety and effectiveness of many of these drugs, which also brings up a variety of ethical questions about who decides what children and adolescents will participate in these clinical trials, who can give consent, who receives reimbursements, etc. The Elderly and Psychopharmacology Another population that has not typically been included in clinical trials to determine the safety or effectiveness of psychotropic drugs is the elderly. Currently, there is very little high-quality evidence to guide prescribing for older people â€" clinical trials often exclude people with multiple comorbidities other diseases, conditions, etc. This is a serious issue because the elderly consume a disproportionate number of the prescription meds prescribed. The term polypharmacy refers to the use of multiple drugs, which is very common in elderly populations in the United States. As shown in Table 3 from Schwartz and Abernethy, , it is quite clear why the typical clinical trial that looks at the safety and effectiveness of psychotropic drugs can be problematic if we try to interpret these results for an elderly population.

Chapter 5 : Understanding Psychology

Understanding some of the basics about psychopharmacology can help us better understand a wide range of things that interest psychologists and others. For example, the pharmacological treatment of certain neurodegenerative diseases such as Parkinson's disease tells us something about the disease itself.

This definition enjoyed widespread currency for decades. However, this meaning was contested, notably by radical behaviorists such as John B. Watson , who in his manifesto defined the discipline of psychology as the acquisition of information useful to the control of behavior. Also since James defined it, the term more strongly connotes techniques of scientific experimentation. History of psychology The ancient civilizations of Egypt , Greece , China , India , and Persia all engaged in the philosophical study of psychology. Historians note that Greek philosophers, including Thales , Plato , and Aristotle especially in his De Anima treatise , [14] addressed the workings of the mind. This body of knowledge involves insights drawn from introspection and observation, as well as techniques for focused thinking and acting. It frames the universe as a division of, and interaction between, physical reality and mental reality, with an emphasis on purifying the mind in order to increase virtue and power. Chinese scholarship focused on the brain advanced in the Qing Dynasty with the work of Western-educated Fang Yizhi â€” , Liu Zhi â€” , and Wang Qingren â€” Wang Qingren emphasized the importance of the brain as the center of the nervous system, linked mental disorder with brain diseases, investigated the causes of dreams and insomnia, and advanced a theory of hemispheric lateralization in brain function. Divergent Hindu doctrines, and Buddhism , have challenged this hierarchy of selves, but have all emphasized the importance of reaching higher awareness. Yoga is a range of techniques used in pursuit of this goal. However, Indian doctrines influenced Western thinking via the Theosophical Society , a New Age group which became popular among Euro-American intellectuals. In Germany, Gottfried Wilhelm Leibniz â€” applied his principles of calculus to the mind, arguing that mental activity took place on an indivisible continuumâ€”most notably, that among an infinity of human perceptions and desires, the difference between conscious and unconscious awareness is only a matter of degree. Christian Wolff identified psychology as its own science, writing Psychologia empirica in and Psychologia rationalis in This notion advanced further under Immanuel Kant , who established the idea of anthropology , with psychology as an important subdivision. However, Kant explicitly and notoriously rejected the idea of experimental psychology, writing that "the empirical doctrine of the soul can also never approach chemistry even as a systematic art of analysis or experimental doctrine, for in it the manifold of inner observation can be separated only by mere division in thought, and cannot then be held separate and recombined at will but still less does another thinking subject suffer himself to be experimented upon to suit our purpose , and even observation by itself already changes and displaces the state of the observed object. However, this discipline did not yet embrace experimentation. Gustav Fechner began conducting psychophysics research in Leipzig in the s, articulating the principle that human perception of a stimulus varies logarithmically according to its intensity. Wundt, in turn, came to Leipzig University, establishing the psychological laboratory which brought experimental psychology to the world. Wundt focused on breaking down mental processes into the most basic components, motivated in part by an analogy to recent advances in chemistry, and its successful investigation of the elements and structure of material. Stanley Hall who studied with Wundt, formed a psychology lab at Johns Hopkins University in Maryland, which became internationally influential. Hall, in turn, trained Yujiro Motora, who brought experimental psychology, emphasizing psychophysics, to the Imperial University of Tokyo. Catell, who also studied with eugenicist Francis Galton , went on to found the Psychological Corporation. Wittmer focused on mental testing of children; Scott, on selection of employees. Structuralism sought to analyze and classify different aspects of the mind, primarily through the method of introspection. In , James wrote an influential book, The Principles of Psychology , which expanded on the realm of structuralism, memorably described the human " stream of consciousness ", and interested many American students in the emerging discipline. This approach is based upon the idea that individuals experience things as unified wholes. Rather than breaking down thoughts and behavior into smaller elements, as in structuralism, the Gestaltists maintained that whole of

experience is important, and differs from the sum of its parts. Other 19th-century contributors to the field include the German psychologist Hermann Ebbinghaus , a pioneer in the experimental study of memory , who developed quantitative models of learning and forgetting at the University of Berlin , [32] and the Russian-Soviet physiologist Ivan Pavlov , who discovered in dogs a learning process that was later termed " classical conditioning " and applied to human beings. William James was one of three Americans among the four hundred attendees. The American Psychological Association was founded soon after, in The International Congress continued to be held, at different locations in Europe, with wider international participation. In , the Congress took place at Yale University in New Haven, Connecticut, attended by hundreds of members of the American Psychological Association [23] Tokyo Imperial University led the way in bringing the new psychology to the East, and from Japan these ideas diffused into China. University of Michigan psychologist Dorwin Cartwright reported that university researchers began large-scale propaganda research in â€”, and "the last few months of the war saw a social psychologist become chiefly responsible for determining the week-by-week-propaganda policy for the United States Government. In the s, the Rockefeller Foundation and Ford Foundation collaborated with the Central Intelligence Agency to fund research on psychological warfare. Freudian psychoanalysts were expelled and persecuted under the anti-Jewish policies of the Nazi Party, and all psychologists had to distance themselves from Freud and Adler. This psychotherapy aimed to align suitable Germans with the overall goals of the Reich; as described by one physician: Alexander Mitscherlich founded a prominent applied psychoanalysis journal called Psyche and with funding from the Rockefeller Foundation established the first clinical psychosomatic medicine division at Heidelberg University. In , psychology was integrated into the required studies of medical students. Thus, university psychology departments trained large numbers of students, for whom positions were made available at schools, workplaces, cultural institutions, and in the military. An especial focus was pedology , the study of child development, regarding which Lev Vygotsky became a prominent writer. Luria , and Aron Zalkind were denounced; Ivan Pavlov posthumously and Stalin himself were aggrandized as heroes of Soviet psychology. There emerged a new field called "engineering psychology" which studied mental aspects of complex jobs such as pilot and cosmonaut. Interdisciplinary studies became popular and scholars such as Georgy Shchedrovitsky developed systems theory approaches to human behavior. Chinese psychologists were encouraged to focus on education and language learning, with the aspiration that education would enable modernization and nationalization. John Dewey, who lectured to Chinese audiences in â€”, had a significant influence on this doctrine. They developed a concept of "recognition" jen-shih which referred the interface between individual perceptions and the socially accepted worldview. Failure to correspond with party doctrine was "incorrect recognition". Most leading psychologists were educated in the United States, and the first concern of the Academy was re-education of these psychologists in the Soviet doctrines. Child psychology and pedagogy for nationally cohesive education remained a central goal of the discipline. Several associations including the Association of Black Psychologists and the Asian American Psychological Association have arisen to promote non-European racial groups in the profession. It holds the Interamerican Congress of Psychology and had members in year The European Federation of Professional Psychology Associations, founded in , represents 30 national associations with a total of , individual members. At least 30 other international groups organize psychologists in different regions. Parapsychology, hypnotism , and psychism were major topics of the early International Congresses. But students of these fields were eventually ostractized, and more or less banished from the Congress in â€” Skeptics have suggested that personality , thinking , and emotion , cannot be directly measured and are often inferred from subjective self-reports, which may be problematic. Experimental psychologists have devised a variety of ways to indirectly measure these elusive phenomenological entities. Critics inside and outside the field have argued that mainstream psychology has become increasingly dominated by a "cult of empiricism" which limits the scope of its study by using only methods derived from the physical sciences. Jean Grimshaw, for example, argues that mainstream psychological research has advanced a patriarchal agenda through its efforts to control behavior. The arrow indicates the position of the hypothalamus. Psychologists generally consider the organism the basis of the mind, and therefore a vitally related area of study. Psychiatrists and neuropsychologists work at the

interface of mind and body. Key research topics in this field include comparative psychology , which studies humans in relation to other animals, and perception which involves the physical mechanics of sensation as well as neural and mental processing. From Phineas Gage to H. Soon after, Carl Wernicke identified a related area necessary for the understanding of speech. For example, physiological psychologists use animal models, typically rats, to study the neural, genetic, and cellular mechanisms that underlie specific behaviors such as learning and memory and fear responses. The biopsychosocial model is an integrated perspective toward understanding consciousness, behavior, and social interaction. It assumes that any given behavior or mental process affects and is affected by dynamically interrelated biological, psychological, and social factors. This perspective suggests that psychological adaptations evolved to solve recurrent problems in human ancestral environments. Evolutionary psychology offers complementary explanations for the mostly proximate or developmental explanations developed by other areas of psychology: The idea of white supremacy and indeed the modern concept of race itself arose during the process of world conquest by Europeans. Race was also used to justify the construction of socially specific mental disorders such as drapetomania and dysaesthesia aethiopica â€"the behavior of uncooperative African slaves. Much of the research in this area began with tests on mammals, based on the idea that humans exhibit similar fundamental tendencies. Behavioral research ever aspires to improve the effectiveness of techniques for behavior modification. Play media The film of the Little Albert experiment Early behavioral researchers studied stimulusâ€"response pairings, now known as classical conditioning. They demonstrated that behaviors could be linked through repeated association with stimuli eliciting pain or pleasure. Ivan Pavlov â€"known best for inducing dogs to salivate in the presence of a stimulus previous linked with foodâ€"became a leading figure in the Soviet Union and inspired followers to use his methods on humans. Thorndike wrote in Watson coined the term behaviorism for this school of thought. Hull , Edwin Guthrie , and others, behaviorism became a widely used research paradigm. Radical behaviorists avoided discussing the inner workings of the mind, especially the unconscious mind, which they considered impossible to assess scientifically. Skinner , who emerged as a leading intellectual of the behaviorist movement. Tolman advanced a hybrid "cognitive behaviorial" model, most notably with his publication discussing the cognitive maps used by rats to guess at the location of food at the end of a modified maze.

Chapter 6 : Psychopharmacology - Wikipedia

Basic Pharmacology: Understanding Drug Actions and Reactions (Pharmacy Education Series) Feb 14, by Maria A. Hernandez Ph.D. and Appu Rathinavelu Ph.D.

Alcohol[edit] Alcohol is a depressant , the effects of which may vary according to dosage amount, frequency, and chronicity. As a member of the sedative-hypnotic class, at the lowest doses, the individual feels relaxed and less anxious. In quiet settings, the user may feel drowsy, but in settings with increased sensory stimulation, individuals may feel uninhibited and more confident. High doses of alcohol rapidly consumed may produce amnesia for the events that occur during intoxication. Other effects include reduced coordination, which leads to slurred speech, impaired fine-motor skills, and delayed reaction time. This is because the chemical nature of the substance makes it easy to penetrate into the brain, and it also influences the phospholipid bilayer of neurons. This allows alcohol to have a widespread impact on many normal cell functions and modifies the actions of several neurotransmitter systems. Alcohol inhibits glutamate a major excitatory neurotransmitter in the nervous system neurotransmission by reducing the effectiveness at the NMDA receptor, which is related to memory loss associated with intoxication. It also modulates the function of GABA , a major inhibitory amino acid neurotransmitter. After chronic use, neurons adapt to the change in biochemistry, resulting in a change in pre- and postsynaptic receptor density and second messenger function. They inhibit monoamine oxidase , the enzyme that metabolizes the monoamine neurotransmitters in the presynaptic terminals that are not contained in protective synaptic vesicles. The inhibition of the enzyme increases the amount of neurotransmitter available for release. It increases norepinephrine, dopamine, and 5-HT and thus increases the action of the transmitters at their receptors. MAOIs have been somewhat disfavored because of their reputation for more serious side effects. This increases the availability of 5-HT in the synaptic cleft. Most SSRIs are available generically and are relatively inexpensive. Older antidepressants, such as the TCAs and MAOIs usually require more visits and monitoring, and this may offset the low expense of the drugs. Traditional neuroleptics modify several neurotransmitter systems, but their clinical effectiveness is most likely due to their ability to antagonize dopamine transmission by competitively blocking the receptors or by inhibiting dopamine release. Some of the efficacy of atypical antipsychotics may be due to 5-HT2 antagonism or the blockade of other dopamine receptors. Agents that purely block 5-HT2 or dopamine receptors other than D2 have often failed as effective antipsychotics. This receptor complex is thought to mediate the anxiolytic , sedative, and anticonvulsant actions of the benzodiazepines. Taking these drugs for a long period of time can lead to withdrawal symptoms upon abrupt discontinuation. Onset is the first stage after an individual ingests LSD , psilocybin, or mescaline or smokes dimethyltryptamine the substance. This is followed by a plateau phase, where the subjective sense of time begins to slow and the visual effects increase in intensity. Hallucinogens are classified chemically as either indolamines specifically tryptamines , sharing a common structure with serotonin, or as phenethylamines , which share a common structure with norepinephrine. Both classes of these drugs are agonists at the 5-HT2 receptors; this is thought to be the central component of their hallucinogenic properties. Activation of 5-HT2A may be particularly important for hallucinogenic activity. However, repeated exposure to hallucinogens leads to rapid tolerance, likely through down-regulation of these receptors in specific target cells. Benzodiazepines are still among the most widely prescribed sedative-hypnotics in the United States today. Certain non-benzodiazepine drugs are used as hypnotics as well. Although they lack the chemical structure of the benzodiazepines, their sedative effect is similarly through action on the GABAA receptor. They also have a reputation of being less addictive than benzodiazepines. Melatonin , a naturally-occurring hormone, is often used over the counter OTC to treat insomnia and jet lag. This hormone appears to be excreted by the pineal gland early during the sleep cycle and may contribute to human circadian rhythms. Because OTC melatonin supplements are not subject to careful and consistent manufacturing, more specific melatonin agonists are sometimes preferred. They are used for their action on melatonin receptors in the suprachiasmatic nucleus , responsible for sleep-wake cycles. Many barbiturates have or had an FDA-approved indication for use as sedative-hypnotics, but have become less

widely used because of their limited safety margin in overdose, their potential for dependence, and the degree of central nervous system depression they induce. The amino-acid L-tryptophan is also available OTC, and seems to be free of dependence or abuse liability. However, it is not as powerful as the traditional hypnotics. Because of the possible role of serotonin in sleep patterns, a new generation of 5-HT2 antagonists are in current development as hypnotics. There is commonly increased blood flow to the skin, which leads to sensations of warmth or flushing, and heart rate is also increased. It also frequently induces increased hunger. The first is the "buzz," a brief period of initial responding, where the main effects are lightheadedness or slight dizziness, in addition to possible tingling sensations in the extremities or other parts of the body. The "high" is characterized by feelings of euphoria and exhilaration characterized by mild psychedelia, as well as a sense of disinhibition. Sensory reactions may include the feeling of floating, enhanced visual and auditory perception, visual illusions, or the perception of the slowing of time passage, which are somewhat psychedelic in nature. Both the CB1 receptor and CB2 receptor are found in the brain. The CB2 receptor is also found in the immune system. CB1 is expressed at high densities in the basal ganglia , cerebellum , hippocampus , and cerebral cortex. Receptor activation can inhibit cAMP formation, inhibit voltage-sensitive calcium ion channels, and activate potassium ion channels. Many CB1 receptors are located on axon terminals, where they act to inhibit the release of various neurotransmitters. In combination, these chemical actions work to alter various functions of the central nervous system including the motor system, memory, and various cognitive processes. The ability of opioids both endogenous and exogenous to relieve pain depends on a complex set of neuronal pathways at the spinal cord level, as well as various locations above the spinal cord. Small endorphin neurons in the spinal cord act on receptors to decrease the conduction of pain signals from the spinal cord to higher brain centers. Descending neurons originating in the periaqueductal gray give rise to two pathways that further block pain signals in the spinal cord. The pathways begin in the locus coeruleus noradrenaline and the nucleus of raphe serotonin. Similar to other abused substances, opioid drugs increase dopamine release in the nucleus accumbens. Stimulants[edit] Cocaine is one of the more common stimulants, and is a complex drug that interacts with various neurotransmitter systems. It commonly cause heightened alertness, increased confidence, feelings of exhilaration, reduced fatigue, and a generalized sense of well-being. The effects of cocaine are similar to those of the amphetamines, though cocaine tends to have a shorter duration of effect. Most of the behavioral and physiological actions of cocaine can be explained by its ability to block the reuptake of the two catecholamines , dopamine and norepinephrine, as well as serotonin. Cocaine binds to transporters that normally clear these transmitters from the synaptic cleft, inhibiting their function. This leads to increased levels of neurotransmitter in the cleft and transmission at the synapses. Various forms of amphetamine are commonly used to treat the symptoms of attention deficit hyperactivity disorder ADHD and narcolepsy , or are used recreationally. Amphetamine and methamphetamine are indirect agonists of the catecholaminergic systems. They block catecholamine reuptake, in addition to releasing catecholamines from nerve terminals. There is evidence that dopamine receptors play a central role in the behavioral responses of animals to cocaine, amphetamines, and other psychostimulant drugs. One action causes the dopamine molecules to be released from inside the vesicles into the cytoplasm of the nerve terminal, which are then transported outside by the mesolimbic dopamine pathway to the nucleus accumbens. This plays a key role in the rewarding and reinforcing effects of cocaine and amphetamine in animals, and is the primary mechanism for amphetamine dependence. Psychoactive substances and Psychiatric medication In psychopharmacology, researchers are interested in any substance that crosses the bloodâ€”brain barrier and thus has an effect on behavior, mood or cognition. Drugs are researched for their physiochemical properties, physical side effects , and psychological side effects. Researchers in psychopharmacology study a variety of different psychoactive substances that include alcohol, cannabinoids, club drugs , psychedelics, opiates, nicotine , caffeine , psychomotor stimulants , inhalants , and anabolic-androgenic steroids. They also study drugs used in the treatment of affective and anxiety disorders, as well as schizophrenia. Clinical studies are often very specific, typically beginning with animal testing, and ending with human testing. In the human testing phase, there is often a group of subjects, one group is given a placebo, and the other is administered a carefully measured therapeutic dose of the drug in question. After all of the testing is completed, the drug is proposed to the

concerned regulatory authority e. FDA , and is either commercially introduced to the public via prescription , or deemed safe enough for over the counter sale. Though particular drugs are prescribed for specific symptoms or syndromes, they are usually not specific to the treatment of any single mental disorder. Because of their ability to modify the behavior of even the most disturbed patients, the antipsychotic, antianxiety, and antidepressant agents have greatly affected the management of the hospitalized mentally ill, enabling hospital staff to devote more of their attention to therapeutic efforts and enabling many patients to lead relatively normal lives outside of the hospital. The antidepressant bupropion is then prescribed to increase perceived energy levels and assertiveness while diminishing the need for sleep. The antihypertensive compound propranolol is sometimes chosen to eliminate the discomfort of day-to-day anxiety. Fluoxetine in nondepressed people can produce a feeling of generalized well-being. Pramipexole , a treatment for restless leg syndrome, can dramatically increase libido in women. These and other off-label lifestyle applications of medications are not uncommon. Although occasionally reported in the medical literature no guidelines for such usage have been developed.

Chapter 7 : Psychopharmacology | Noba

Biological Basis for Understanding Psychopharmacology Chapter 4 Psychobiology The st Congress of the U.S. designated the s as the "Decade of the Brain," with the challenge for studying the biological basis of behavior.

Chapter 8 : Psychology - Wikipedia

Pharmacology can be difficult. But with the right text, understanding drugs and how they work doesn't have to be! Using easy-to-follow language and engaging learning tools â€• like Memory Joggers, Clinical Pitfalls, Do Not Confuse, and Drug Alerts â€• the second edition of Understanding Pharmacology: Essentials for Medication Safety helps readers really understand how drugs work.

Chapter 9 : What is UNDERSTANDING? definition of UNDERSTANDING (Psychology Dictionary)

Psychopharmacology (from Greek Ïˆá¿¡Ï‡Î®, psÈ³khÄ“, 'breath, life, soul'; Ï†Î¬Ï•Î¼Î±Îºá¿½, pharmakon, 'drug'; and -Î»Î¿Î³Î¯Î±, -logia) is the scientific study of the.