



Homeschool Psych 2nd Edition

Preparing Christian Homeschool Students for Psych 101

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Introduction

Whatever you think about psychology and its effect on Christian homeschool students, the time to deal with it is now.

Do you think the study of psychology is tantamount to declaring the Bible inadequate? Do you believe that God created psychology when He created Mankind in His own image? Have you ever given it much thought?

Some Christians think that psychology is an important discipline, that it is consistent with a Christian worldview, and that it is an acceptable field of study and career choice. Other Christians see psychology as an idolatrous and ungodly rival religion. Some Christians think that God created psychology when He created Mankind. Others describe psychology as psychobabble, psycho-heresy, and the most deadly form of modernism to ever confront the Church.

Whatever you think about psychology, the time to deal with it is now because many Christian homeschool students go to college to become psychologists, counselors, or social workers. Most colleges (including Christian colleges) require students to at least take an introductory psychology class. Although there are many Christian professors, psychology departments are home to some of the more anti-Christian intellectuals on college campuses. In fact, psychology professors tend to have high levels of agnosticism and atheism and may attack the Christian worldview as unscientific, irrational, prudish, exploitative, controlling, inhibitive, oppressive, and naïve. Many psychology professors also believe that Christianity is incompatible with sound mental health, that it contributes to human suffering, and that the intelligent believer will eventually abandon their faith.

The material taught in introductory psychology courses will challenge Christian students' beliefs. Homeschoolers are sometimes un-prepared to recognize and refute modern psychology's core philosophical assumptions: naturalism, behaviorism, humanism, evolutionism, empiricism, moral relativism, and reductionism. Those core assumptions are embedded, sometimes very subtly, in modern psychology's theories and schools of thought, and they are presented under the banner of "science." Assumptions that are wholly inconsistent with a Christian worldview are thoroughly embedded in most psychology courses -- even at some Christian colleges. Students need to recognize and be able to refute the anti-Christian and anti-scientific philosophies embedded in modern psychology. Failure to recognize those assumptions may lead Christian students to inadvertently compromise their Christian worldview.

If it is true that many Christian students walk away from their faith after the first year of college, and if that has anything to do with the teaching in college, it may be, at least in part, because of the subtle worldview challenges embedded in psychological theories. By simply forewarning and preparing students in advance, they are better able to resist believing false assumptions.

The time to deal with psychology is now because Darwinian evolution is the "new" psychology. Freudian psychology, behaviorists, humanists, and cognitive psychology are considered by many as yesterday's news. Today, neuro-biology and evolution are psychology's main theories. Darwin anticipated evolution's impact on psychology in 1859 when he wrote:

"In the distant future I see open fields for far more important research. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history (Darwin, 1859)."

According to Darwin, all mental activity, even what we think of as our God-likeness, is ultimately nothing more than a "capacity" that humans acquired, bit by bit, through variation and natural selection. Darwinian evolution, when applied to human psychology, reduces our consciousness, our morality, our capacity to make decisions and judgments, religious experience, love, empathy, altruism, hate, greed, dreams, and everything else that makes us human to nothing more than a bunch of neurons doing their thing.

Psychology, more so than biology, is where the theory of evolution has the most difficulty. There are no cogent evolutionary explanations for our "higher" capacities, our God-likeness. It is the author's opinion that evolution's death knell will not come from cellular biology, it will come from psychology. The fight against evolution is not likely to be won with arguments of sub-cellular irreducible complexity. It is winnable in the arena of the incomprehensible complexity of the human mind.

It is also important to deal with psychology because people are hurting. Christians have long been at the forefront of meeting the world's physical needs with food, blankets, and shelter. But are we at the forefront of meeting the world's psychological needs? Too often secular community mental health centers serve more hurting people than they can handle, while Christians debate whether nouthetic or Christian counseling or "just praying harder" is the answer. That is not right. Correcting the problem begins by re-claiming psychology for Christ.

The goal for our study of psychology, just like the study of biology, theology, history, and every other discipline, is to understand God's creation and, in the words of Johannes Kepler, to "*think God's thoughts after him.*" Instead of surrendering psychology or falling away in the face of the world's beliefs and teaching, we have a duty to put forth reasoned explanations for our worldview in every discipline, including psychology.

That is the goal for ***Homeschool Psych***. There are many excellent works that explain a Christian worldview, and there are dozens of excellent introductory psychology texts. But there are very few introductory psychology texts that present psychology's content from a Christian perspective and none, to the author's knowledge, intended for Christian high school students.

I believe that the study of the soul, the mind, and behavior are right and proper for Christians and that Christian students should bring their worldview and become part of the future intellectual leadership in Christian psychology.

Let's get started!

Chapter 1 What Is Psychology?

What does the word psychology mean to you? What do you think psychologists study? Many people think that psychology means mind control and manipulation. Some think psychology is synonymous with psychiatry or psycho-therapy. The word psychology, in much the same way as the words religion, philosophy, and politics, has different (and sometimes contradictory) meanings to different people.

The word psychology means different things to Christians, too. Psychology is one of the most controversial and divisive academic subjects among Christians today. Many Christians see psychology as a harmless academic discipline, not at all inconsistent with a Christian worldview. To them, psychology has a place alongside biology, chemistry, and physics in high school studies. However, many Christians have serious objections to psychology and claim that psychology is a dangerous, idolatrous, and ungodly rival religion, and that the study of psychology is tantamount to declaring the Bible inadequate.

Beware lest any man spoil you through philosophy and vain deceit, after the tradition of men, after the rudiments of the world, and not after Christ (Colossians 2:8).

Jesus said unto him, Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind (Matthew 22:37).

What does it mean to have dominion over God's creation? What does it mean to love the Lord your God with all your heart? What does it mean to love the Lord with all your mind? What was Jesus talking about when He spoke of your heart? What is the nature of your heart? What is the nature of your "mind?" Does loving the Lord with your mind include a duty to humbly investigate God's creation? Does the duty to humbly investigate God's creation extend to His grandest creation: Mankind? Does that duty extend to Mankind's mind? If so, one could argue that Christians have a duty to study psychology. If Christ is Lord of all, He is Lord of theology, education, biology, and psychology.

The Psyche. Psychology is the study of the "psyche." In the Greek language the word "psyche" meant "soul" and "mind." Psyche is the common root of the words "spirit" and "soul." The concepts of the soul and mind are absent from most modern definitions of psychology. As we will see in the next chapter, modern psychology's naturalistic worldview does not allow for the existence of a soul or a mind (in any meaningful sense), much less their scientific study. A Christian worldview not only recognizes the existence of the soul and mind; it welcomes the application of scientific methods to their study.

A Christian approach to psychology recognizes that Mankind is uniquely created in the image of God. By studying God's natural revelation, guided by special revelation, we can seek understanding of how we are both like the animals and how we are unique in our God-likeness.

Most introductory psychology texts define psychology as the scientific study of the brain and behavior. *The American Heritage Dictionary* defines psychology as "the science that deals with mental processes and behavior" and "the branch of philosophy that studies the soul, the mind, and the relationship of the mind to the functions of the body." For our purposes, psychology is **the scientific study of the ABCs – affect (emotions), behavior, and cognition (mental processes)**. As such, psychology and the Bible bring different perspectives and levels of understanding to some of the same subject matter. Of all the sciences, psychology comes closest to the issues the Bible addresses. Psychology and the Bible both deal with human nature, the human condition, and even human salvation. And of all the sciences, psychology has had the greatest influence in the culture, academia, and the church.

Psychology in the Culture. Modern society is fascinated with all things psychological. Each year Americans buy millions of books about self-help, addiction, recovery, relationships, parenting, spiritual growth, and emotional and mental health. **Popular psychology**, promoted by seminar speakers, columnists, and celebrities, suggests techniques (that may or may not be scientifically tested) designed to improve psychological health and well-being (and maybe get rich too!). Millions of Americans seek mental health services every year. Psychology influences business, advertising, social work, nursing, engineering, and any other career path you might pursue.

Psychology in Academia. Nowhere is the extent of psychology's influence more evident than in academia. Most medical schools, liberal arts colleges, seminaries, and teachers' colleges require students to have some exposure to psychology. Psychology is one of the most popular undergraduate majors, even at Christian colleges and universities. Enrollment in psychology courses outpaces other scientific disciplines, and many high schools now offer an introductory psychology course.

Your college psychology text book will not be called *Psychology: The Study of the Brain, Behavior, Heart, Soul, and Mind*.

Psychology in the Church. The extent of psychology is not limited to the culture and academia. The influence of psychological theories about learning and child development, parenting practices, moral development, personality and self-esteem, problems of living and more is widespread in the Christian church. Psychological insights influence sermons across the country, and some pastors leave the pulpit for jobs in pastoral counseling or social work. Self-help books about recovery, addiction, relationships, parenting, and weight loss make up the bulk of the new Christian book titles. Sometimes these books are based on psychological theories that are fundamentally inconsistent with a Christian worldview. You need to recognize when worldview assumptions are “Christianized” by sprinkling in a few Bible verses and mentioning Jesus. You must evaluate psychology at the worldview level (even when it is wrapped in Christian language) or you risk accepting ideas that are foundationally inconsistent with your Christian worldview.

A Christian Approach to Psychology. It is essential that Christians studying psychology respect the inspiration and authority of the Bible. We must maintain a commitment to the authority and inspiration of the Bible and not underestimate the corrupting, distorting, and destructive influence of sin on human thinking. We need to remember that God is Truth and that ultimately there will be no conflict between true psychology and a Christian worldview. Christians studying and working in psychology must be faithful to Scripture, not compromise their Christian worldview assumptions, and must understand modern psychology’s historical roots, philosophical assumptions, and empirical methods.

Our study of psychology must be more than a curiosity to discover something new and interesting about people. Christians studying and working in psychology must increase the body of evidence that supports a Christian worldview and effectively communicate that it is logical, internally consistent, and meaningful. We must see a spiritual purpose to our study. When a non-Christian recognizes that he has accepted as truth (by faith) psychology’s philosophical assumptions, he may be closer to accepting God’s Truth (by a saving faith). Christians studying psychology have, among their classmates and professors, a ripe mission field indeed.

We should humbly answer those who attack Christianity on psychological grounds with a sound apologia. We must provide a solid defense for our own assumptions. We cannot arrogantly claim that we have all the answers or that we can “prove” our positions. We must be willing to hold contradictory beliefs until better data or clearer revelation reveals that there is no genuine contradiction.

We must remember that all learning is, at least in part, the work of the Holy Spirit and that only the Holy Spirit can reveal God’s ultimate Truth. As the Holy Spirit guides us, we become more Christ-like, which in turn, affects our scholarship. We must resist theological hubris by claiming that our theological beliefs are superior to, or automatically “truer,” than psychological findings. To do so makes a mockery of the unifying nature of God’s full revelation. Christians studying and working in psychology can also help reduce the Church’s misunderstanding and fear of psychology and help remove the stigma of seeking help for emotional problems. Christians studying psychology must have excellent preparation in theology, biblical interpretation, and the principles of Christian discipleship. You must understand the rich history of Christian psychology stretching from the early Church. Though most Christians who study psychology understand that the Bible ought to influence their scholarship, too many Christians know far more about psychology than they do about their own religious traditions.

What is Psychology? Over time psychology has been defined differently.

- The scientific study of human affect, behaviors, and cognitions.
- The scientific study of human life and human nature.
- The science of the brain and behavior.
- The scientific study of the human heart and mind.
- A body of knowledge for understanding, measuring, assessing, and possibly changing people’s emotions, thoughts, perceptions, and behaviors.
- The emotional and behavioral characteristics of an individual or group.
- Actions or arguments used to manipulate or influence others.
- A branch of philosophy that studies the soul, the mind, and the relationship of the soul and mind to the functions of the body.
- A system for describing human personality.
- A system for describing emotional and behavioral disorders and strategies for their treatment.

Do not study psychology without the full armor of God: the belt of truth, breastplate of righteousness in place, feet fitted with readiness, the shield of faith, the helmet of salvation, and the sword of the Spirit, which is the word of God (Ephesians 6:10-18).

Christians in psychology must prevent modern psychology's worldview assumptions from corrupting their view of the nature of God, Mankind, knowledge, right and wrong, and the causes and cures for abnormal thoughts, feelings, and behavior, while lovingly correcting those already corrupted. We must wrestle with freedom vs. determinism vs. responsibility vs. heredity vs. environment and the concept of the self. We must produce rigorous scholarship and research to develop a body of authentically Christian psychological data. We need not bracket our faith to study psychology and we need not defend Christ from research. We can then apply psychology's methods to topics dear to Christian ministry. For example:

- What variables account for the failures and successes of Christian ministries?
- What factors contribute to the large percentage of dropouts among second generation Christians?
- Can research support the beneficial effects of prayer and meditation?
- Can research into the nature and causes of anger help fathers and mothers avoid provoking their children?
- Can psychology devise tests for assessing spiritual maturity for leadership positions in the church?
- Can psychology devise tests that help determine if missionaries are prepared for the struggles of foreign missions?
- What is the optimal size for small group Bible studies?
- What is the most effective treatment for cultic brainwashing?
- What is the relationship of the spiritual disciplines to physical health?
- What styles of parenting are most likely to produce Christian character traits in children?
- How can we improve training for Christian workers?
- Can Christians in psychology contribute to our understanding of terrorism, gang violence, holocausts and genocide, drug abuse, post-traumatic stress, divorce, abortion, prejudice, and for dealing with abnormal thoughts, feelings, and behaviors? If so, how?

The list of useful research questions is endless, but in addition to exemplary scholarship, Christians in every field must strive to live exemplary lives. Our goal is to have the "mind" of Christ, so we must reclaim psychology for Christ. Many Christians believe that there is a "cultural commission," similar to the Great Commission that requires Christians to "reclaim" the culture, education, and by extension, psychology. The Church risks marginalization if Christians ignore their responsibility to reclaim the whole culture (including psychology). The early Church showed God's way to be so much better that even the pagans recognized it. Should we do any less with psychology? Christians who study psychology join others in physics, biology, history, the arts, sociology, and many other fields seeking a deeper understanding of all of God's creation.

Biology class can provide a good model for our approach to psychology. Modern biology teaches evolution as settled fact. When you take a biology class, you must deal with the evolutionary assumptions. Psychology professors increasingly teach evolutionary psychology as fact. As we study psychology, we must also distinguish fact from philosophy and assumptions at the worldview level.

The Bottom Line. Beginning with Charles Darwin's *Origin of Species*, all sciences, including psychology, underwent a transformation. Scientific data was interpreted in ways that excluded supernatural beliefs and assumptions. Psychology, once the study of the soul, became the study of the brain and behavior. Darwinian macro-evolution imposed itself on the Christian understanding of life (biology) and then tried to exclude anything Christian. Darwinian macro-evolution is now imposing itself on the Christian understanding of Man (psychology) and is trying to exclude anything Christian. But evolution, as a theory of the ultimate cause of all life, does not define biology. Likewise, neither evolution nor the atheism and humanism of many of its modern founders defines psychology. No one can approach biology or psychology objectively. Our approach is subjective, subject to our worldview and to distortions of a fallen world on our understanding. But that does not mean that there is no objective psychology or biology. Though the evolutionary presuppositions of modern psychology are diametrically opposed to a Christian worldview, we need not fear or avoid the entire discipline because of them. We must, as we do with biology and every other academic discipline, recognize and refute evolutionary (and other anti-Christian) assumptions.

The humble investigation of all of God's creation is part of what it means to love God with one's mind. Christian students have a duty to explore all of God's creation, and that duty to explore extends to His grandest creation; you and your mind.

Psychology's Purpose. There are four main purposes for psychological research.

- Psychologists observe and describe psychological phenomena.
- Psychologists test theories and hypotheses explaining the phenomena.
- Psychologists attempt to identify the factors that influence our thoughts, feelings, and behaviors.
- Psychologists develop and implement techniques to predict and change thoughts, feelings, and behavior.

Psychology's Variety. In introductory “survey” classes like this one, students get an overview of psychology’s topics. In advanced classes, students focus on a particular topic in more depth. Many psychologists, in their careers or research, focus on a particular topic or subfield. The American Psychological Association recognizes over 50 subfields, called divisions.

- **Cognitive psychologists** study the mental processes involved in sensation and perception, learning and memory, decision-making, and problem solving.
- **Physiological psychologists** (also called **neuroscientists**) study the brain, how nerve cells communicate and transmit information, and the role of genetics in psychology.
- **Personality psychologists** study the unique characteristics of people. Some personality psychologists use tests to measure and compare people according to personality characteristics.
- **Developmental psychologists** study changes in behavior and mental processes across the life span.
- **Counseling, clinical, and community psychologists** study the causes of mental and behavioral disorders and devise techniques to help people recover from those problems. Counseling psychologists differ from psychiatrists, who are medical doctors who specialize in treating people with mental disorders.
- **Educational psychologists** develop strategies to improve teaching and learning.
- **School psychologists** test and diagnose learning and academic problems and provide early intervention and crisis intervention services.
- **Social psychologists** study the way that people interact with other people and in groups.

As you will see in later chapters, there are five main approaches to psychology. The main approaches, also known as “schools” of psychology (also called schools of thought), make worldview assumptions about the nature of Mankind. In this book, we will look at each in detail.

- The **biological school of thought** views mental processes and behaviors in terms of biological structures and electro-chemical processes.
- The **behavioral school of thought** emphasizes the relationship between environmental influences and behavior.
- The **cognitive school of thought** emphasizes the influence of cognitive processes like perception, problem solving.
- The **psycho-analytic school of thought** emphasizes unconscious processes.
- The **humanistic school of thought** emphasizes innate goodness and potential and the influence of feelings and needs on thoughts and behaviors.

In Chapter 3 we will explore the history and characteristics of each of psychology’s major schools of thought. In the remaining chapters, we will examine and explore each topic from the worldview perspective of the major schools and compare that perspective with a Christian worldview. In Chapter 2, we turn next to describing a Christian worldview.

Chapter Summary.

Psychology is one of the most controversial and divisive academic subjects among Christians today. Many Christians think that psychology is harmless and has a place alongside biology, chemistry, and physics in high school studies. Many Christians claim that psychology is a dangerous, idolatrous, and ungodly rival religion. If Christ is Lord of all, He is Lord of theology, education, biology, and psychology.

Psychology is the scientific study of human affect, behavior, and cognition. Its theories influence the culture, academia, and the Church. Christians studying and working in psychology must be faithful to Scripture, not compromise their Christian worldview assumptions, and must understand modern psychology's history, worldview assumptions, and methods.

Evolution, atheism, and humanism are common threads in psychology, but they do not define the discipline. Christians need not fear or avoid the entire discipline. We must, as we do with biology and other academic disciplines, recognize and respond to anti-Christian assumptions and claim psychology for Christ.

The main purposes for psychological research include:

- Observing and describing psychological phenomena.
- Creating and testing hypotheses to explain the observations.
- Discovering the factors that influence mental processes.
- Developing techniques to predict, improve, or otherwise change behavior, thoughts, learning, and emotions.

When psychologists focus on a particular aspect of study or practice, they enter one of psychology's subfields.

- Cognitive psychologists study mental processes.
- Physiological psychologists (also called neuroscientists) study the brain and nervous system.
- Personality psychologists study the unique characteristics of people.
- Developmental psychologists study changes in behavior and mental processes across the life span.
- Counseling psychologists study the causes of and the cures for mental and behavioral disorders.
- Educational psychologists study teaching and learning.
- School psychologists test and diagnose learning and academic problems.
- Social psychologists study the ways people interact with other people and in groups.

There are five main approaches to psychology also known as "schools." Each makes worldview assumptions about the nature of Mankind.

- The biological approach emphasizes biological structures and electro-chemical processes.
- The behavioral approach emphasizes the relationship between environmental influences and behavior.
- The cognitive approach emphasizes thought processes.
- The psycho-analytic approach emphasizes unconscious processes.
- The humanistic approach emphasizes the belief in Mankind's innate goodness and potential.

For Review.

1. Define psychology in your own words.
2. Describe reasons that psychology is controversial among Christians today.
3. Explain and provide examples of psychology's influence in the culture and in the Christian Church.
4. Why does the author of this text say that "psychology is not a harmless academic discipline nor is it inherently anti-Christian?"
5. Describe the impact of Darwin's theory of evolution on the study of psychology.
6. Name and describe five of psychology's subfields.
7. What advice does the text offer about a Christian approach to psychology?
8. The text named four things psychologists do. Identify and describe them.
9. The text named five main approaches to psychology. Identify and describe them.
10. Describe three helping careers Christians might pursue and the ways that psychology influences those careers.

Chapter 2 A Christian Worldview

This book is about psychology vis-à-vis a Christian worldview. It is about how psychology and your worldview relate. This chapter delves into some specifics about a Christian worldview.

When psychologists ask questions about the human mind, they are asking about an incomprehensibly complex system. Even simple mental processes involve the complex interactions of millions of neurons spread across the brain. The more complicated mental processes like “thoughts” or “feelings” involve complex interactions between the brain, the body, and the outside world. We think of thoughts and feelings as though they were distinct mental processes, but they are not. Our genetic makeup and the environment also influence our mental life. By necessity, introductory psychology texts describe complexity with broad strokes on only a few issues.

One’s worldview is also a complex system. It is a system of core attitudes, beliefs, and values. This text does not claim to define “*the*” Christian worldview. It does, however, claim to describe “*a*” Christian worldview. By necessity, this text describes a narrow slice of “*the*” Christian worldview, hopefully in terms on which all Christians can agree. Because psychology and the Christian worldview are both complex, the study of the two together is doubly difficult.

Weltanschauung. Sigmund Freud, the father of psychiatry, defined weltanschauung as an intellectual construction which gives a unified solution for all the problems of our existence... a comprehensive hypothesis in which no question is left open and in which everything in which we are interested finds a place. Freud’s own weltanschauung was wholly inconsistent with a Christian weltanschauung.

Everyone has a worldview. Christians, Muslims, atheists, agnostics, and every other faith has a worldview. Each of us holds core foundational beliefs or convictions through which we perceive and understand the world. Those foundational beliefs define your worldview. A worldview is, as the word suggests, a way of looking at the world. Your worldview is the conceptual framework that you use to give meaning to the world. Your worldview is made of your core beliefs and your most fundamental assumptions about the world. You may not think about your worldview very often, but it includes your answers to the really big questions of life. All human intellectual activities, including scientific research and theories, happen in a worldview context and are guided by one’s worldview. Ultimately, truth is only discernible from error at the worldview level. In second Corinthians, the Apostle Paul instructs us to submit every thought to the obedience of Christ. That means intentionally examining everything you learn in light of your worldview.

A Christian Worldview is a Biblical Worldview. The Christian worldview begins with the biblical account of God, creation, the fall, and redemption. The biblical account of where we came from, our nature, and how we should live is “*the*” Christian worldview. Your worldview includes your beliefs about dating, divorce, music, gifts of the Holy Spirit and other issues. Those are important issues, but our interest is in five questions where a Christian worldview and modern psychology’s underlying assumptions definitely intersect.

1. What do you believe about God?
2. What is the nature of Mankind?
3. How can we know things with certainty?
4. Are there moral absolutes?
5. What are the causes of and the cures for abnormal thoughts, feelings, and behaviors?

1. What do you believe about God? God exists or He does not. Either He created you and the universe or not. The most basic piece of your worldview includes whether you believe God exists, what you believe about His nature, and the extent to which He influences your life. The Christian worldview is that there is one true triune God who is personal, loving, just, infinite, self-revealing, all-powerful, all-knowing, ever-present, self-existent, sovereign, eternal, and active in the world today.

2. What is the nature of Mankind? Your beliefs about the nature of Mankind are fundamental to your worldview and to your study of psychology. Are we the creation of a purposeful and relational God, or the product of evolutionary



Multi-lens glasses are a way to think about worldviews. Glasses however, are passive. Your worldview is an active and changeable part of you. You should actively think “Christianly” about psychology.

forces? Or both? Are we born “good?” Do we have a mind that is greater than the sum of our brain activity? Do we have a soul that survives the death of the body?

And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul. (Genesis 2:7 KJV)

Your worldview of the nature of Mankind builds on your beliefs about God and the accuracy of the Bible. A Christian view of Mankind, or **biblical anthropology**, describes us as the purposeful creation of God, made in His image and likeness, and as sinners in rebellion against Him by nature and by choice. We were made from the dust of the earth and are part of the natural order. As such, we have much in common with the animals. We are born, we grow old, and our bodies eventually die. However, like God, we are spiritual beings. Unlike the animals, we have moral discernment, freedom to choose, and responsibility for our behavior. We experience guilt, grace, and love. We are relational beings. We have consciousness, a mind, and a soul.

Monism, Dualism, or Tripartite. Christians for centuries have debated whether we are one, two, or three-part beings. As we will see in Chapter 3, modern naturalistic psychology is united in its worldview. In that monistic worldview, all mental life is nothing more than complex brain activity. There is no mind or soul in any “supernatural” sense.

Christians believe that Mankind is material, made from the dust of the earth. We also believe that we are something more. The Bible is clear that there is something about us that makes us distinct from the animals. But what is the nature of our God-likeness?

We are more than products of conditioning, unmet needs, chemical imbalances, and traumas. We are not autonomous, but we are more than the sum of our parts, and more than complex machines in closed cause-and-effect systems.

God created us to be in a relationship with Him. **Dualism**, the traditional Christian belief, is that because God is spiritual (non-material), we must also have a non-material nature in order to have that relationship. Dualists believe that our brains and our minds are distinct in essence, but operate in interaction. Some Christians have a **trichotomous** worldview, which describes Mankind in terms of body, mind, and soul. A **Christian monist**, as opposed to a naturalistic monist, sees us as one in essence, as embodied souls in an irreducible unity of mind, body, and soul.

3. How can we know things with certainty? How do you know? How do you know that what you know is true? How do we know anything with certainty? **Epistemology** is the study of the nature, sources, and limits of knowledge. Is science the only valid path to knowledge? Is the scientific method the only way we can know anything with certainty? Is the Bible a valid source of psychological information? Is the Bible the only valid source of information about our nature? Is “all truth God’s Truth?” Can naturalistic psychology contribute anything to a Christian understanding of the care for abnormal thoughts, feelings, and behaviors?

A Christian worldview is that Truth, objective and independent Truth, absolutely exists. According to a Christian worldview, God reveals Himself in His creation (nature), the Bible, and supremely in His Son. The Bible is accurate in all its teachings and the universe operates in accordance with orderly natural laws that we can study and understand. Because the world is orderly and predictable, the methods of science are an appropriate way to discover truths about the world. Mankind was given dominion over the earth, and dominion includes a duty to explore and understand creation.

Faith/Science Conflict? Many people believe that a Christian worldview and science are inherently in conflict. Many believe that the Bible has no place in science and that science is the Bible’s enemy. In other words, they believe that there is a **faith/science dichotomy**. Some historians have made the case that the Church (especially the Catholic church) fought every new scientific idea. Though it is true that through history the Church disputed many major scientific discoveries, it is not correct that the Christian church is necessarily “anti-science.” In fact, science (and by extension, psychology) was born of the Christian worldview.

A Christian worldview sees God as immutable, sees the world as orderly and rational, and believes that we can and should seek to understand creation. The historical Christian approach to science (though not without exception) was that faith and science were complementary. The fathers of modern science, many of whom were Christians, were not surprised to discover, on the basis of reason, truths about the universe. They saw science as one tool to

explore creation, to discover how God operates in natural processes, and to understand what it means to be human. Descartes, Bacon, Newton, and Galileo explored God's creation and then tested their ideas with scientific methods. Christians today should not be surprised or conflicted to discover truths through science and reason and should reject the idea that a Christian worldview and science are enemies. Likewise, psychologists should not be surprised or conflicted that some questions are beyond the scope of their methods.

To dichotomize "science" from "faith" destroys true science and marginalizes true faith. This text presumes that true psychology and Christianity are complimentary.

Truth is not merely a personal preference. It is objective and absolute and can be diligently searched out.

Natural and Special Revelation. A Christian worldview believes that God reveals things to us in two ways: general or natural revelation and special revelation. **Natural revelation** refers to truths revealed through the world. We can learn truth by observing creation, by scientific experiments, by logic, and by the study of history (that is, any technique apart from reading the Bible or the working of the Holy Spirit). **Special revelation** refers to biblical details about God's character, His purpose, our nature, His plan for us, and our relationship with Him. Special revelation refers to God's works in history and the work of the Holy Spirit in humanity. A Christian approach to the study of psychology rests on a worldview that God reveals truths through both special and natural revelation.

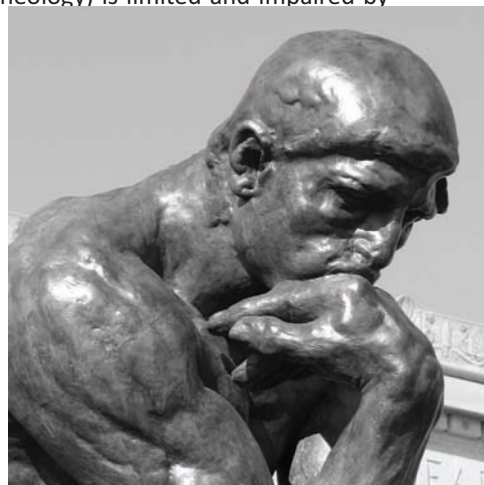
God's natural and special revelation have "convergent validity;" they are parts of an overarching and non-contradictory whole. Understanding that natural and special revelation are ultimately all-encompassing and completely harmonious, Christians can be in awe of what has been revealed while seeking to discover what has not. It is science's purpose to better understand natural revelation. It is psychology's purpose to better understand natural revelation as it relates to the brain and behavior. If Truth is a unified whole and there is no inherent faith/science dichotomy, true science and true faith must agree. If Truth is a unified whole, natural revelation cannot contradict special revelation. The appearance of a contradiction is only an appearance. In terms of psychology, the appearance of a contradiction is the result of bad research, bad interpretation, or bad theology.

The role of natural revelation in the study of Mankind troubles many Christians. The role of special revelation in psychology troubles many psychologists. Some Christians believe that there is nothing modern psychology can contribute to our understanding of Mankind. In other words, because God created us, only the Bible can explain us. This text presumes that because special and natural revelation cannot ultimately conflict, valid psychological data will ultimately fit with "the" Christian worldview. A Christian approach to psychology must recognize the value of all of God's revelation, special and natural. Special revelation provides a context or framework in which science can clarify and illuminate biblical truths. The error of Christians who limit God's communicative power about the nature of Mankind exclusively to the Bible is similar to the error of modern psychologists who discount the Bible's psychological insights.

A Christian worldview includes the understanding of the effect of sin on our behavior and our thinking (called the **noetic effect of sin**). So, by extension, what we know (about psychology and theology) is limited and impaired by sin (Romans 8:20-21; 1 Corinthians 13:12). Our personal bias and depravity should cause us to maintain a sense of humility and hold our conclusions tentatively.

4. Are there moral absolutes? What do you believe about the nature of right and wrong? Is there such thing as moral absolutes? Are there absolute rules governing human behavior and consequences for violating those rules, or is morality "relative?" A Christian worldview recognizes moral absolutes described in the Bible and lived by Jesus Christ.

5. What are the causes of and the cures for abnormal thoughts, feelings, and behaviors? Your worldview about the causes of and the cures for abnormal thoughts, feelings, and behavior includes whether you believe that pain, suffering, and guilt have meaning and purpose or that they are unfortunate circumstances to be avoided at all costs. A Christian worldview holds that through pain we are refined and made more Christ-



like. The Christian worldview believes that redemption and restoration makes us “whole” but that “wholeness” does not necessarily equal ease and comfort. Christians disagree about whether extra-biblical techniques (e.g., medication) are ever proper approaches to caring for abnormal thoughts, feelings, and behaviors. A Christian worldview emphasizes sin as the primary, if not exclusive, cause of abnormal thoughts, feelings, and behaviors. Modern psychology attributes it to anything but sin! A Christian worldview sees guilt, pain, and suffering as tools God uses to conform us to Christ’s image. Jesus himself was a “man of sorrows.” It is noteworthy that many in Christendom share modern psychology’s view that emotional pain must be avoided at all costs. In fact, a “feel good” gospel has much in common with modern self psychology (see Ch. 3).

Stop Reading. Do not keep reading until you are clear about your Christian worldview. Remember, the Christian worldview is Truth, but we can not prove it with science. It is important to remember that everyone’s worldview is a matter of faith and no one’s worldview is ultimately a matter of science. The foundational beliefs of a Christian worldview, of an atheist’s worldview, and of a psychology professor’s worldview are matters of faith and philosophy and not of data and science. In the next chapter we will explore psychology’s history by examining its philosophies and assumptions.

Chapter Summary.

Everyone has core beliefs and assumptions – a worldview. All psychological research and theorizing happen in a worldview context. Ultimately, truth is only discernible from error at the worldview level.

The Christian worldview begins with the biblical account of God, creation, the fall, and redemption. A Christian worldview and modern psychology intersect around five questions.

- What Do You Believe About God? This is the most basic piece of one's worldview.
- What is the nature of Man? Are we the creation of a purposeful God, or the product of evolutionary forces? Are we born "good?" Do we have a mind that is greater than the sum of our brain activity? Do we have a soul that survives the death of the body?
- How can we know things with certainty? A Christian worldview is that Truth absolutely exists. God reveals Himself in His creation and through the Bible. Many people believe there is a faith/science dichotomy when in fact, science (and by extension, psychology) was born of the Christian worldview. Because special and natural revelation cannot ultimately conflict, valid psychological data will ultimately fit a Christian worldview.
- Are there moral absolutes? A Christian worldview recognizes moral absolutes that are described in the Bible and were lived by Jesus Christ.
- What are the causes of and the cures for abnormal thoughts, feelings, and behaviors? A Christian worldview emphasizes sin as at least one cause of mental and emotional pain; modern psychology attributes it to anything but sin. A Christian worldview holds that through pain we are refined and made more Christ-like.

For Review.

1. What is a worldview?
2. What is epistemology?
3. What is natural revelation? What is special revelation?
4. What do you believe about God?
5. What do you believe about the nature of Mankind?
6. What do you believe about moral absolutes?
7. What do you think causes abnormal thoughts, feelings, and behaviors?
8. Describe a monistic, dualistic, and tripartite view of human nature.
9. Describe the faith/science dichotomy. Do you believe there is a dichotomy between science and a Christian worldview? Explain your answer.
10. How have your thoughts and opinions about psychology and worldviews changed?

Chapter 3 Psychology's History and Worldviews

Is psychology old or is it new? It is both. Psychology is a very young science and a very old topic. Throughout history people have thought deeply about psychology's topics. Poets, theologians, and philosophers wrote about the mind centuries before psychology became a "science." Most histories of psychology date its beginning to 1879 with Wilhelm Wundt's psychological laboratory in Germany, but Wundt did not discover or invent psychology. Prior to Wundt, mental processes had not been systematically studied with scientific methods, but they had been studied extensively. Psychology is new in terms of the application of scientific methods to the study of the human mind. Psychology is also new in terms of the worldview assumptions of its modern fathers and major schools of thought. This chapter traces modern psychology's history through its worldview assumptions and schools of thought.

Naturalism is the worldview assumption that defines the difference between the old and new psychology. Worldviews are built on beliefs about first things. A Christian worldview begins with the belief that God exists and He created the universe and all life. Naturalism begins with the belief that something (anything) besides God is responsible. Why do we think, feel, and behave the way we do? In the Christian worldview, the Bible provides those answers. Biblical anthropology, also called the doctrine of Man, describes a view of Mankind in light of God's biblical revelation. Early scientific psychologists offered naturalistic alternatives to biblical descriptions of Mankind. Freudian, behavioral, cognitive, humanistic, and evolutionary theories all have roots in naturalism. As a Christian student, you must approach every discipline, including psychology, from the vantage point of faith, refusing to replace your theistic assumptions with naturalism.

In the 7th Century B. C., Pharaoh Psamtik I conducted a psychological experiment on the acquisition of language. He ordered two infant children to be removed from their parents to be raised by a mute shephard -- in isolation from spoken language. Psamtik's hypothesis was that children raised without hearing language would spontaneously speak in Mankind's natural in-born language. The first "word" sounded like "bekos" the the Phrygian word for bread , "bekos," leading Psamtik to conclude that Phrygian was the Mankind's "native" language.

New Ways of Knowing. Modern psychology traces its roots to the **Reformation** (16th century) and the rejection of "**authority**" as the sole source of knowledge about God and the world. Prior to the Reformation, theologians believed that everything we were meant to know had already been revealed. The Bible, as interpreted by Church authority, was the sole and definitive source of knowledge. In religion, **Martin Luther** rejected Church authority in favor of individual, Spirit-led understanding. By the 17th century, scholars in astronomy, physics, and medicine were doing the same thing. Without rejecting their core Christian beliefs, many of the fathers of science (the grandfathers of modern psychology) rejected human authority in favor of new ways of knowing about the world.

Descartes believed that because the soul was immaterial, it did not occupy space, but it needed a point of contact with the material body. Descartes believed that the soul interacted with the body specifically in the pineal gland. It was at the pineal gland that the mind controlled the flow of animal spirits to the body.

Rationalism. Modern science and psychology also trace their roots to the Christian philosopher **Renee Descartes** (1596 – 1650). Descartes believed that we can use "reason" to know things about the world with certainty. Descartes believed that our physical senses were less trustworthy than reason. His method is known as **deductive reasoning**. Beginning from a premise ("Cogito" or "I think..."), Descartes deduced a rational conclusion ("ergo sum" or "therefore I am"). Deductive reasoning involves beginning from a premise or truth that is certain and deducing one conclusion from another. Descartes did not reject his Christian worldview, but he did believe that "reason" was an important confirming measure of truth. As you might guess, at a time when Church authority was believed to be the God-ordained sole way of knowing such things, Descartes' approach was not well-accepted by many. Unlike Descartes, many rationalists today emphasize reasoning to the exclusion of other ways of knowing about the world.

Cartesian Dualism. Descartes applied deductive reasoning to questions of the nature of Mankind. Descartes concluded that we are made of body and soul, and that though distinct, the body and



Renee Descartes, the father of rationalism

soul interact with one another. Descartes believed that the physical and spiritual connected at the **conarium**, now known as the pineal gland. Descartes' idea, known today as Cartesian dualism, was not new. He, like Christians and others for centuries, believed Mankind was both physical and spiritual. The ancient Greeks thought our spiritual and physical natures connected in the lungs (after all, when you quit breathing you die), and Hippocrates, who was ahead of his time, thought it happened in the brain. The significance is that Descartes arrived at his conclusion through a nascent scientific method and without reference to biblical or other "beliefs."

Modern psychology generally rejects Cartesian dualism in favor of naturalistic monism, a belief that there is no spiritual/non-material part of human nature.

Descartes was also interested in the nervous system. He believed that there are two types of human behaviors that operate in interaction. **Involuntary behaviors** (e.g., reflexes and sensations) were thought to be completely mechanical and physical. **Voluntary behaviors** (e.g., reasoning, decision-making, initiating voluntary movements) were thought to be spiritual. The involuntary/physical and voluntary/spiritual connected at the conarium. Descartes thought that sensations traveled from the body via nerves to the pineal gland in the brain where "animal spirits" were released. The animal spirits traveled back to the body along tube-like nerves causing muscles to inflate. The cycle came to be known as the **reflex arc**. According to Descartes, the reflex arc could explain human involuntary behavior and all animal behavior. Before Descartes, the suggestion that human behavior had anything in common with animal behavior would have been viewed as ludicrous and perhaps blasphemous.

A key point is that psychology was not discovered, invented, or created in the 19th century; it only became modern and scientific.

Empiricism. Francis Bacon (1561 – 1626) has been called the father of modern science and a major prophet of the **Scientific Revolution**. Bacon's philosophy is called empiricism and its method is known as **inductive reasoning**. Where Descartes distrusted the senses, Bacon favored them. Beginning with repeated observations of nature, one can discover the natural laws of nature in a process that came to be known as the scientific method.

Early psychologists like Wilhelm Wundt wanted to establish psychology as a "hard" science like chemistry or physics and embraced empiricism as a guiding principle. They, like many psychologists today, differentiated psychology from philosophy and religion by limiting their study to observable and quantifiable phenomena. The emphasis on empiricism led to psychology's definition "evolving" from "the study of the mind, spirit, and soul," to "the science of the brain and behavior."

Many people criticize psychology's reliance on empirical methods. The difficulties applying empirical methods to psychological research (e.g., inability to control variables, bias, placebo effects) have even led many to argue that psychology does not fit the definition of a true empirical science. A psychology that leaves out intangibles like the mind, love, and faith is seen as sterile and trivial. Strict empiricism only allows psychologists to study our creatureliness, it makes no meaningful contribution to what it means to be human, and it relegates Christian beliefs to a topic of study, along with mysticism, rituals, and other primitive belief systems.

About 400 B. C., the Greek doctor and philosopher **Hippocrates** proposed an early theory of human personality types. Hippocrates thought that personality types were determined by levels (balance) of body fluids called **humors**. The humors – **blood, yellow bile, black bile, and phlegm** – represented the best "scientific" medical knowledge of the time. According to Hippocrates, an excess of blood (relative to the other humors) made one **sanguine** (extroverted, creative, and sensitive). An excess of yellow bile made one **choleric** (charismatic, ambitious, and a leader). A little too much black bile makes one **melancholic** (thoughtful, introverted, and reserved) and likewise an excess of phlegm leads to a **phlegmatic** (calm, not emotional, even-tempered) personality type. The terms sanguine, choleric, melancholic, and phlegmatic were used to describe personality types for about 1700 years.

Phrenology. Around 1800, about 75 years before the founding of Wilhelm Wundt's psychology laboratory, **Dr. Franz Gall** (1758-1828), an anatomist and physiologist, popularized a "science" called phrenology. Phrenology, now discredited, suggested that the shape of the skull was an indicator of a person's character and personality. Dr. Gall believed that various mental functions and personality traits resided in specific parts of the brain. He thought that more or less of a particular characteristic or trait would correspond with more or less brain matter in a specific region of the brain. Gall thought that the shape and size of the skull mirrored the shape and size of the brain. If one portion of the brain was better developed (e.g., bigger), Gall believed that the skull would reflect that difference. Gall believed that the tendency to lie and steal was associated with a bump behind the ears, that one's "individuality" was apparent by the shape of the skull above the bridge of the nose, and that a close examination of the skull enabled him to identify those with special abilities in a number of areas.

The expression “You ought to have your head examined” goes back to phrenology and Frances Gall, who literally examined people’s heads in order to analyze their personalities.

Phrenology is noteworthy for several reasons. Gall’s ideas were condemned by many Christians as heretical. The Catholic Church labeled phrenology “heretical” for claiming that characteristics of the “mind,” created in the image of God, had a seat in brain matter. Mainstream science rejected phrenology as fakery. Phrenology was right, however, in its basic belief that the brain is involved in mental activity and that many mental functions are localized in specific parts of the brain. In that sense, phrenology was an important step toward modern day neuro-biology.

Naturalism, by definition, excludes the possibility of the demonic. A Christian worldview recognizes that Satan and demons are real and active in the world. Modern psychologists often cite the Christian belief in Satan as *prima facie* evidence that all Christians are “screwball wackos.”

Modern psychologists will often use the account of the demoniac at Gerasenes in Mark Chapter 5 as an example of a primitive understanding of mental illness. The argument is that because the Bible writers did not understand mental illness, they used the best metaphor they knew. If your professor uses that example, you might ask if he or she believes that means Jesus miraculously healed schizophrenia.

Psychology as Science. In the first half of the 19th century, most psychologists studied *psychophysics*, the measurement of sensations, perceptions, and motor responses. Psychophysicists explored how sensory and motor nerves work, the function of sense organs, and individual differences in perception. According to the great historian of psychology **E. G. Boring**, **Gustav Fechner** (1801 - 1887) is the real father of modern scientific psychology. Father or not, Fechner was one of the very first to apply scientific procedures to mental processes. Fechner was a psychophysicist who made precise measurements of sensory functioning to answer questions like, “What is the minimum amount of light, sound, touch, taste, or smell a person can perceive?” The study came to be known as psychophysics, the “physics” of mental life.

Francis Crick, co-discoverer of DNA, proposed what he called “*The Astonishing Hypothesis*.” Crick hypothesized that our mental life, consciousness, morality, decision-making, and judgment is the product of a material physical brain. According to Crick, “*You, your joys, and your sorrows, your memories and your ambitions, your sense of personal identity and free-will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules.*”

Structuralism. In the second half of the 19th century scientific psychology rapidly matured and expanded. Psychologists like Fechner, Herman von Helmholtz, Wilhem Wundt, and Edward B. Titchener explored the “structure” of mental processes. **Structuralism** was an early approach to psychology interested in describing mental experiences in terms of complex structures made from increasingly simpler component structures.

Herman von Helmholtz (1821 - 1894) made great contributions to our understanding of hearing and vision. Helmholtz was the first to measure the speed of nerve impulses. Like Wundt, Fechner, and Titchner, Helmholtz was interested in the physical structures involved in mental experiences. As a structuralist, Helmholtz sought to discover the simple components upon which complex mental experiences were thought to be made.

Wilhelm Wundt (1832 - 1920) gets the credit as the founder of scientific psychology. Wundt established a psychology laboratory at the University of Leipzig in Germany in 1879. His interest was the **structure of consciousness**, and his goal was to identify the components, or elements of mental experiences in a type of periodic table of mental elements. His method was **introspection**, meaning the researcher looked inward to describe subjective mental experiences. Despite rigorous attempts to be precise, introspection was not reliable and it faded from use. It is noteworthy that introspection was reintroduced by Sigmund Freud and humanist psychologists years later.

Edward B. Titchener (1867 - 1927), who trained under Wundt, wrote *Experimental Psychology: A Manual of Laboratory Practice*, the first guide for conducting psychological research. Titchener, who actually coined the term **structuralism**, examined sensations, attention, perception, and a host of other mental phenomena. Though a structuralist, Titchener recognized that the functional aspects of mental processes were relevant and important topics for study.

Mesmerism. In 1774 Franz Mesmer detailed his cure for some mental illness, originally called mesmerism and now known as hypnosis.

Charles Darwin and Evolutionary Psychology. Early scientific psychologists worked during a time of major worldview shifts. Atheism, naturalism, and evolution sought to exclude God, creation, and the Bible from all sciences, most notably biology and geology. The impact of Darwin's theory of evolution on psychology was both tremendous and immediate. Darwin's theory cast doubt on biblical authority and suggested that human psychology and animal psychology differed only in degrees and not in essence. Evolutionary psychologists since Darwin have tried to explain how evolutionary processes alone were sufficient to produce the human brain. Darwin's theory requires that psychology explain and interpret everything about us (including what we think of as our God-likeness) in terms of adaptive traits passed down from one generation to the next according to natural selection. Darwin set the stage for psychology's full departure from philosophy and religion.

Proximate Cause refers to the mechanics of a behavior or cognitive process – what happens and how? **Ultimate Cause** refers to the “why” of behavior and mental processes. The ultimate cause of any behavior or mental process, in terms of evolutionary psychology, is always a survival and reproductive advantage. The ultimate cause in a Christian worldview is always, ultimately, to glorify God.

By the late 19th century, Darwin's ideas about evolution were well known to scientists, and psychologists began to propose theories explaining mental processes in terms of evolutionary forces. Darwin's theory led to a new focus in psychology called **functionalism**. **Herbert Spencer, William James, and Charles Darwin** himself were influential early functionalists. Functionalists saw human behavior and mental processes as complex combinations of increasingly simple component behaviors and processes. Each evolved to serve a purpose or function. **Functionalists** focused on discovering the survival and reproductive advantage a particular behavior or mental function provided. A Christian worldview is that the purpose of our brain and mental life (and everything else) is to glorify God and serve Him. Functionalists describe purpose in terms of survival and reproductive advantages.

Herbert Spencer (1820 - 1903), a famous evolutionist and contemporary of Charles Darwin, coined the phrase “survival of the fittest.” Spencer applied evolution principles to the development of mental processes and suggested that behaviors that produce pleasurable results were more likely to be repeated. If a behavior increased the chances of survival, it would be passed to subsequent generations.

Williams James (1842 - 1910), known as the father of American psychology, applied Darwin's theory to explain emotions and consciousness. In James' theory, consciousness and emotions evolved as a complex mix of physical processes that individually and collectively equipped our ancestors for the challenges of survival.

Many modern psychologists see in evolution a grand unifying psychological theory and a reason for all behavior and mental processes. For many, evolutionary psychology is the “new” psychology. Evolutionary psychologists search for the genesis of the human mind in animal biology. All behavior and mental processes exist, as the reasoning goes, because they, and their component parts, were each sequential adaptations “chosen” by natural selection. Mental disorders, from an evolutionary perspective, are the remnants of behaviors that once were adaptive and beneficial. Though evolutionary psychologists assert evolution as fact, it is nonetheless a worldview assumption ultimately grounded in faith.

Neuro-biology, also called psychobiology and neuro-anatomy, is the study of the nervous system's structures and processes. Neuro-biology and cognitive psychology are the primary schools of thought and the most productive research fields in psychology today.

Advances in technology allow psychologists today to observe and precisely measure brain activity at the level of individual neurons. It has allowed psychologists to precisely locate the specific brain locations associated with subjective mental experiences. In other words, we can “see” the parts of the brain that are active when we think, remember, dream, meditate, or pray. In the tradition of Dr. Gall and phrenology, new technology has revived and strengthened the worldview that we are no more than complex biochemical processes operating in brain matter.

Modern neuro-biology focuses “reductively” on brain structures and functions. **Reductive** means that each mental structure and behavior consists of ever simpler component structures and behaviors. Reductionist psychology is not necessarily inconsistent with a Christian worldview. But following it to its natural conclusion, Man becomes nothing but a collection of pieces and parts. In fact, a reductive perspective is behind descriptions of Man as complex machines or computers. We are complicated but reducible to simpler underlying parts. All mental processes, including love, hope, prayer, and worship, are just brain activity, which is ultimately nothing more than electrical and biochemical processes occurring in a very advanced neural network. A reductive approach also underlies psychiatry and the neuro-pharmaceutical industry's efforts to target chemical “fixes” at the molecular level.

Humanistic psychology was also known as psychology's "**Third Force**." Humanism rejected the "dehumanizing" determinism in both psycho-analysis and behaviorism (the 1st and 2nd "forces") in favor of an emphasis on human autonomy and potentiality.

Behavioral Genetics. **Sir Francis Galton** (1822 - 1911) first described the heritability of physical characteristics. Behavioral geneticists apply the same principles to examine the role of genes in our thoughts, behaviors, and even our personality. Behavior geneticists study twins (raised together and separately) to determine which behaviors are inherited and which come from environmental influences.

Behaviorism. Chapter 9 covers the principles of behaviorism in more detail. Behaviorism is one of psychology's most famous approaches. As an area of research, the goal of behaviorism is to explain the natural laws of behavior, and behavioral psychology has provided rich and valuable information. As a worldview, behaviorism radically redefined what it meant to be human. As a worldview, behaviorism saw Mankind as nothing other than very complicated machines that react to stimuli or input in predictable ways. According to B. F. Skinner, Ivan Pavlov, and John Watson, each a "radical behaviorist," *all* human behavior is determined by the environment in a closed cause and effect system. Radical behaviorism is a deterministic worldview in which free-will is an illusion.

A Christian worldview is inconsistent with behaviorism's deterministic assumption. A Christian worldview balances God's sovereignty with human freedom and responsibility. A Christian worldview does not exclude an element of predictability in human behavior and the Bible provides many examples of God's use of rewards and punishments. A Christian worldview recognizes that rewards and punishment are important to learning but does not see us as robots programmed by environmental stimuli or childhood experiences. We have minds, will, foresight, judgment, and the ability and responsibility to control our impulses. It is essential that Christians studying psychology grapple with the theological issues of God's sovereignty with free-will, choice, and responsibility.

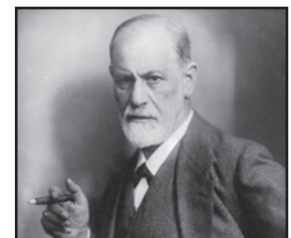
Sigmund Freud. As we will see in Chapters 8 (Human Development), 9 (Consciousness), 11 (Personality), 12 (Abnormal Psychology), and 13 (Treatment), Sigmund Freud was both a tremendously influential and controversial figure in the history of modern psychology. His theories continue to influence academia and the culture. Today, scholars in business, economics, education, sociology, philosophy, and other disciplines apply Freud's theories to their own discipline, and many of the terms used by Freud (e.g., ego, denial, unconscious, oral fixation, libido, and Freudian slip) have become part of everyday language.

Sigmund Freud said that religion was a neurotic fantasy and that as knowledge became more accessible, religion would soon fade away.

The Christian and Freudian worldviews could hardly differ more and criticisms of his theories by Christians are not surprising. Freud presumed that God did not exist. Despite his Jewish heritage, Freud was an atheist who made it clear that his theories were an alternative to theistic beliefs. Freud believed that Mankind invented gods and religions as ways to cope with psychic fears. Freud's was a deterministic worldview that emphasized sex and aggression as the prime motivations for human behavior and personality development. Freud believed Mankind is tripartite in nature (id, ego, and superego) and that we are not consciously aware of most of the influences on our thoughts, feelings, and behavior. According to Freud, our consciousness is like the tip of an iceberg. The bulk of who we are is below the surface and unconscious, meaning we cannot bring it to conscious awareness except by psycho-analytic techniques.

You will be taught about Darwin's Theory of Evolution in college. You will be taught about Freud's personality theory in college, too. Please do not forget that understanding the material and accepting the worldview are different. You can do one without the other. Christians should approach Freud's theories with skepticism and caution.

Cognitive Psychology. Cognitions are thoughts. Cognitions are also emotions, perceptions, problem-solving techniques, memories, and any other mental process. A cognitive approach to psychology has its roots in Wundt's structuralism and is a dominant school of thought in psychology today. Cognitive psychologists emphasize the ways we acquire and process information and construct meaning from the world. Rather than being controlled by irrational passions and instincts (i.e., Freud) or objects conditioned by the environment (i.e., behaviorism), cognitive psychology is interested in how we interact with the world,



Sigmund Freud, the father of psychoanalysis

make sense out of what goes on around us, and understand ourselves and others. Cognitive psychology is the foundation for theories of learning, motivation, development, and personality and for much of modern counseling, including Christian counseling.

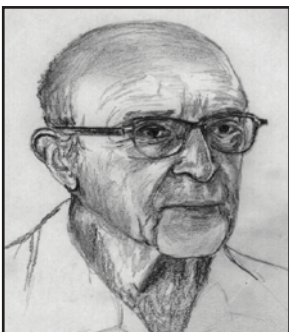
Humanism. Humanism is a philosophy. Humanism, also known as **secular humanism**, describes a set of principles for living a fulfilled life. Humanism places human values, reason, free-will, meeting needs, and individual self-worth above all else. Humanism is an atheistic worldview, a type of ethical system for atheism. Humanism appeared in psychology around the 1970s when Skinnerian behaviorism and Freudian psycho-analysis, which both seemed so cold and deterministic, were falling from favor.

Humanism specifically rejects God and relies on reason and science to define morality. Humanism promises to help people live happy and fulfilled lives. Secular humanism presumes not only that God does not exist, but that Mankind is the self-existent culmination of evolutionary development. Humanist psychology claims that people in their "natural state" are inherently good and that in accepting and nonjudgmental environments we can recover that original goodness through a process of "self-actualization." Humanism presents a stark contrast to the Christian beliefs in original sin, depravity, and the need for redemption, justification, and sanctification.

Self-actualization means achieving personal fulfillment and full potential. A Christian worldview sees personal fulfillment and full potential in terms of the extent to which we have the mind of Christ. Jesus is the standard for our "actualization." In a Christian worldview, we paradoxically achieve fulfillment through giving and self-sacrifice. Humanism's emphasis on personal growth and potential has gained wide acceptance among psychologists today, and its influence is also felt in the church.

Self Psychology. Naturalism and humanism led to a perspective that believes people should feel good about themselves, learn to love themselves, and rid themselves of needless shame and guilt. That perspective is known as **self psychology**, **selfism**, and most recently, **positive psychology**. Positive psychology, a new "branch" of psychology, focuses on the study of positive emotions, strengths, and virtues. As a worldview, self psychology believes that high self-esteem, personal fulfillment, self-expression, self-acceptance, and self-fulfillment are what it means to be human. Personal subjective well-being and social functioning are of primary importance. Guilt is to be avoided at all costs, and suffering is absurd.

Self psychology is very popular. Most psychologists believe that self-esteem is the foundation of sound mental health. Self-esteem, self-fulfillment, self-expression, self-love, and individualism are appealing ideas, but their relative value in a Christian's life is a subject of debate among Christians. Some Christians equate high self-esteem with idolatrous pride. Others, like Dr. James Dobson, integrate self-esteem into their theology by balancing our sinfulness with our special status in creation. God does not create junk, but Mankind is sinful and in revolt against God through the assertion of the self. It is Jesus' example, not a subjective view of happiness, that defines actualization and toward which we should strive. Jesus lived the true psychology. Contrition, self-denial, and humility are means by which we achieve spiritual growth. A Christian studying psychology must reconcile those ideas with a recognition that, though pride is a form of idolatry, beings created in God's image do not exalt God by denigrating His creation. The Christian worldview sees self-actualization as glorifying God through obedient service.



Carl Rogers, the father of humanistic psychology

Abnormal Thoughts, Feelings, and Behaviors. Modern psychology's worldview is most distinguishable from a Christian worldview in its beliefs about the meaning of, causes of, and cures for abnormal thoughts, feelings, and behaviors. We will examine the worldview issues in depth in Chapter 12 and Chapter 13. For now, understand that no topic in psychology comes closer to the core Bible message of sin and redemption than abnormal psychology. Psychology's naturalistic foundation requires that abnormal thoughts, feelings, and behaviors be explained in terms of heredity, chemical imbalances, repressive parents, unconscious psychic conflicts, infections, or even refined sugar and house cats – anything except sin and disunity with God!

Morality. Moral relativism is a worldview in which standards of behavior are based on some temporal framework of values and beliefs and not on any moral absolutes. Moral relativism is the application of a naturalistic worldview to ethics and personal

responsibility. Modern psychology's approach to sex illustrates the difference between a theistic and a relativistic moral worldview. Modern psychology describes attraction, mate selection, and sexual behavior in terms of evolutionary purposes. Where evolution provides the moral backdrop for behavior, fulfilling any number of sexual urges and impulses is not wrong; it is adaptive and, by definition, "morally" right. A Christian worldview recognizes that the Bible prescribes moral absolutes. When we violate those absolutes, we are personally responsible for our actions.

Feminist Psychology. Feminist psychology grew out of the feminist movement of the late 1960s. **Feminism** is humanistic worldview focused on helping women achieve self-actualization, as defined by humanist values, in a male dominated world. Feminist psychology grew out of a belief that psychological research was biased toward males. At the time, there were few women in psychology. Psychological research was generally done by male researchers on male participants. Feminist psychology rejects male-generated, religious, and traditional approaches to understanding women. Psychologists who study lesbian, gay, bisexual, and transgender (LBGT) issues on sexual orientation focus on research, education, and influencing public policy.

Chapter Summary.

Psychology is old and psychology is new. Poets, theologians, and philosophers throughout history have thought deeply about the mind, the soul, and the nervous system. Most histories date the beginning of modern scientific psychology at in 1879 with Wilhelm Wundt's psychological laboratory in Germany.

The fathers of modern psychology proposed alternative non-biblical models of Mankind. Psychology's history is best understood in the worldviews expressed in its major theories and schools of thought.

Modern psychology can trace its roots through Renee Descartes and rationalism and Francis Bacon and empiricism. Early modern psychology embraced empiricism as its guiding principle, and it is its primary approach today.

The structuralists were interested in describing the characteristics of mental "structures." Functionalists like Herbert Spencer, William James, Edward Thorndike, and Charles Darwin were interested in describing mental processes in terms of survival and reproductive advantages. Darwin set the stage for describing complex mental processes as collections of simpler underlying processes, each with a development and purpose explained by adaptation and survival. Modern psychology sees evolution as a unifying explanation for all behavior and mental processes.

Neuro-biology is the study of the nervous system's structures and processes. Neuro-biology focuses "reductively" on brain structures and mental processes as collections of simpler component structures and processes. Behaviorism, as a worldview, sees Mankind as nothing more than very complicated machines that react to stimuli (input) in predictable ways.

Freud explained the mind in terms of psychic conflicts and opposing unconscious forces. The cognitivists approached psychology in terms of the ways we acquire, process, and understand information.

Humanism is a philosophy that emphasizes human values, reason, and individual self-worth above all else. Humanist psychology suggests that high-self-esteem, personal fulfillment, self-expression, self-acceptance, and self-fulfillment define good mental health.

Psychology's naturalistic worldview sees the causes of abnormal thoughts, feelings, and behaviors as anything except sin and disunity with God. A Christian worldview recognizes sin as a primary (if not exclusive) cause of mental and emotional pain.

Moral relativism is a worldview in which standards of behavior are based on some temporal framework of values and beliefs and not on any moral absolutes. A Christian worldview recognizes that the Bible prescribes moral absolutes. When we violate those absolutes, we are personally responsible for our actions.

For Review.

1. What is Cartesian dualism?
2. How did a naturalistic worldview affect modern psychology?
3. How did rationalism contribute to the development of modern psychology?
4. How did empiricism contribute to the development of modern psychology?
5. What are some criticisms of modern psychology's reliance on empirical methods?
6. What is phrenology and how are phrenology and modern neuro-biology similar?
7. How did Sigmund Freud's view of Mankind differ from a Christian view?
8. What were radical behaviorism's assumptions about the nature of Mankind?
9. What was the influence of Herbert Spencer, Charles Darwin, and William James on modern psychology?
10. In what way is secular humanism inconsistent with a Christian worldview?

Chapter 4 The Brain and Nervous System

In 1848 **Phineas Gage** was working on a rail line when an accidental explosion blew a 43-inch iron rod completely through his brain. The rod entered under Gage's cheek, exited near the top of his head, and landed about 30 yards away. Phineas Gage did not die nor did he lose consciousness, but he was changed. The damage to Gage's frontal lobe changed him from an "active, steady, and alert workman," to a "restless, adventurous, unreliable" person. Gage lived another 13 years traveling around the country exhibiting his injury for the price of admission.

This chapter is about the nervous system. To use a computer metaphor, it is about our hard drive, peripheral devices, and operating system. The study of the brain and the nervous system is called **neuro-psychology**, **neuro-anatomy**, and **neuro-biology**. Neuro-psychologists have learned much about how the brain works since Phineas Gage's accident and a great deal about the system of nerves in the body since Descartes first described the reflex arc.

In this chapter we will explore the structure and function of the neuron, the central nervous system (i.e., the brain and spinal cord), the peripheral nervous system, and the endocrine and limbic systems.

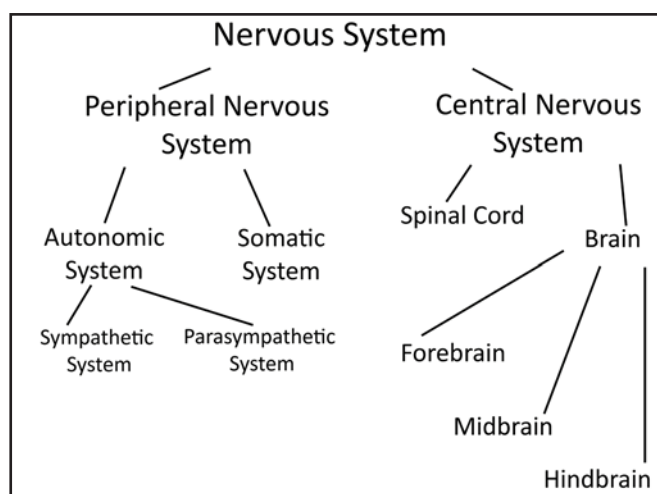
Worldview Check. The human nervous system is an incredibly complex and highly coordinated network. It is the most complex structure in the known universe and a wonder of God's creation. With almost one trillion neurons, each connected to as many as thousands of neighboring neurons, the complexity and precision of the connections in the human brain is truly staggering. Advances in technology allow psychologists today to observe individual neurons and to "see" inside the brain when we sense things, when we think and feel, when we learn and remember, and even when we meditate and pray. The connection between our physical brain and our God-like consciousness is deep.

A Christian worldview is consistent with careful scientific research into the structure and function of the brain and its relationship to the mind. All activities of the mind, including our experience of God, involve the brain. Many psychologists, however, believe that all activities of the mind, especially our experience of God, are nothing more than brain activity. A naturalistic worldview leads to the conclusion that if the mind exists, it evolved within the structures of the brain and it is in no way "special." Naturalism, the worldview, means that all mental activity (including love, hope, prayer, worship, etc.) *must* ultimately be nothing more than biochemical processes.

What does that mean for our study of psychology? It requires us to be humble. We must humbly accept that the complexities of the human brain are such that we will likely never fully understand them. It allows us to be bold. The near-infinite complexity of the brain represents the single biggest "leap of faith" necessary to hold an evolutionary worldview. It requires us to be skeptical of the psychologist and the theologian who speak with certainty about the mind or the brain. We should marvel at the wonder of the brain. We should praise God for the gift inside our skulls. We must accept that God appears to have chosen to use the brain as a conduit through which our material nature and God-likeness relate. While seeking greater understanding, we must accept that God's ways are greater than our understanding. We must be confident that if God chooses to operate through brain processes, it does not diminish Him or us.

The Nervous System. The human nervous system consists of two sub-systems: the **central nervous system (CNS)** and the **peripheral nervous system (PNS)**. The central nervous system consists of the **brain** and the **spinal cord**. The peripheral nervous system consists of those nerves outside of the brain and the spinal cord. The peripheral nervous system is divided into two main divisions called the **somatic** and **autonomic** divisions in a network of nerves traveling throughout the entire body.

The Neuron. The neuron is the most basic building block of the nervous system. Every movement, thought, sight, sound, emotion, or memory involves neurons. Neurons are some of the largest cells in the body and can be several feet long (i.e., from the tip of your big toe to the base of your spine). Neurons vary by their size, shape, location, and purpose. All neurons receive, transmit, and/or process information.



The Nervous System is divided into two sub-systems: the CNS and PNS.

Chapter Summary.

The human nervous system is the most complex and coordinated structure in the known universe and a wonder of God's creation. The study of the brain and the nervous system is called neuro-psychology, neuro-anatomy, and neuro-biology.

The human nervous system consists of two sub-systems; the central nervous system (CNS) and the peripheral nervous system (PNS). The central nervous system consists of the brain and the spinal cord. The peripheral nervous system consists of those nerves outside of the brain and the spinal cord.

The neuron is the basic building block of the nervous system. Neurons communicate with each other via specialized extensions called dendrites and axons. At rest, a neuron has a slightly negative electrical charge. When it becomes sufficiently positively charged, a "spark" of electricity moves down the axon. Between neurons, neurotransmission occurs when a neuron releases neurotransmitters into the synaptic cleft where they are received by neighboring neurons. Psychotropic medications operate by affecting neurotransmission.

The peripheral nervous system (PNS) controls voluntary and involuntary muscle movement, sensory information, and automatic functions of the body. The PNS is made up of two main subsystems: the somatic and autonomic systems. The somatic system controls voluntary muscle movement. The autonomic system controls automatic body functions. The autonomic nervous system is further subdivided into the sympathetic and parasympathetic nervous systems which act as opposites. The sympathetic system creates an excited state and the parasympathetic system restores the body to a state of rest and relaxation.

Understanding of the structure and function of the brain came by studying the effects of brain injuries, lesions, psychosurgery, brain stimulation, and brain-imaging. Phrenology, a 19th century pseudo-science, proposed that mental functions were linked to specific areas of the brain. Phineas Gage's accident demonstrated the connection between the brain and personality. Cortical maps are graphic illustrations of the localization of brain functioning.

Brain imaging technologies provide a way for psychologists to see and measure brain activity. The electroencephalograph (EEG) records electrical voltage produced when neurons fire. The computer axial tomography (CAT scan) produces a three-dimensional x-ray of the brain. Positron emission tomography (PET scan) produces real-time three-dimensional images of blood flow, oxygen use, drug activity, and glucose metabolism. Magnetic Resonance Imaging (MRI) uses powerful magnetic fields and radio waves to create detailed images of the brain.

The brain is shielded by the skull, cushioned and nourished in cerebrospinal fluid, and protected from toxins by the blood-brain barrier. The brain consists of three major divisions: the forebrain, midbrain, and hindbrain. The forebrain makes up about two-thirds of the brain's size and includes the cerebral cortex, thalamus, hypothalamus, amygdala, and hippocampus. The hindbrain sits under the cerebral cortex at the base of the skull and is comprised of the cerebellum, pons, and medulla. The midbrain is a small area that sits between the forebrain and the hindbrain and forms a major part of the brainstem.

The cerebral cortex is the outer layer of the forebrain under the skull and forehead containing the majority of the brain's neurons. The cerebral cortex is divided into hemispheres, lobes, cortexes, and areas. The longitudinal sulcus divides the cerebral cortex into the left and right hemispheres, connected to each other by a dense bundle of nerve fibers called the corpus callosum. Each hemisphere is further divided into lobes, named for the parts of the skull under which they are located, and into cortexes and "areas" named for their functions.

The cerebellum, the second largest structure in the brain, is a walnut-shaped structure at the base of the brain involved in movement, co-ordination, balance, and motor-related memory. The brain stem supports basic functions of life such as breathing, heart rate and blood pressure.

Brain plasticity refers to the lifelong process of creating, pruning, and reorganizing neural connections.

The endocrine system is a collection of glands that work with the nervous system to control growth and development, mood, metabolism, and reproduction. The limbic system plays an important role in forming memories, the experience of emotion, and our sense of smell.

For Review.

1. Identify the major divisions of the nervous system.
2. What are the major structures of the neuron?
3. Name the three types of neurons and describe their function.
4. Describe neurotransmission, both within the neuron and between neurons.
5. Name and describe the three subsystems of the peripheral nervous system.
6. Respond to the following statement from a Christian worldview perspective. *“All mental experience is nothing more than brain activity.”*
7. Describe important historical discoveries about the structure and function of the brain.
8. Discuss the case of Phineas Gage as an example of how brain injuries led to knowledge about brain function.
9. Describe the psycho-surgery known as the frontal lobotomy.
10. Name and describe five brain-imaging techniques.
11. Identify and describe the midbrain, forebrain, and hindbrain.
12. Identify 4 lobes of the cerebral cortex.
13. Describe hemispheric specialization.
14. Describe brain lateralization.
15. Describe “the god spot” from a naturalistic perspective and from a Christian perspective.

Chapter 5 Sensation and Perception

Wondrous. Take just a moment to look at something. It could be the scene outside of your window or simply the words on this page. As you “see” an object, light bounces off the object, enters the eye, and is focused on your retina. Receptor cells in the retina convert the light into neural signals that activate neighboring cells, which transmit millions of electrochemical messages, in an instant, to your brain. That is wondrous.

In your brain, separate specialized structures process information about color, form, motion, and depth, and then in ways psychologists only partially understand, combine that information to form a consciously perceived image that is instantly compared to images previously stored in your memory.

The whole process is like taking a house apart, molecule by molecule, and transporting it somewhere else where millions of specialized workers put it back together again. That this happens instantly, effortlessly, and continuously is better than cool; it is truly wondrous.

The processes through which we sense the world around us are very complex. The beauty and wonder of God’s creation is for us to enjoy, but in order for us to enjoy it, it must first pass through our senses. Philosophers and scientists wonder at the marvel of the processes by which we experience and understand the physical world. In this chapter we review the basic processes through which sensory organs convert physical energy into nerve impulses and through which the brain interprets and understands those impulses.

Sensation and Perception. A sense is a system that transmits to the brain, information about the world outside of the brain. A sense converts characteristics of the physical world into nervous system activity. Sensations are processes by which external physical energy and chemicals stimulate our sense organs to transmit neural signals to the brain. Sensation refers to the experience of the environment through touch, taste, sight, sound, and smell and to our experience of ourselves in the world. Our sensory organs and sensory neural pathways to the brain are similar to those of other mammals.

Perception, on the other hand, is the process through which we organize, interpret, and give meaning to the raw neural impulses. Perception is tied to our consciousness. It involves an awareness and understanding unlike any animal. Sensation and perception are distinct processes that must operate seamlessly for us to experience and interact with the world around us.

Sensation. Everything we know about the world we learned through our senses. Sensation begins with sensory receptors – highly specialized cells designed to respond to particular types of energy. The brain can not directly experience light, sound, taste, or touch. Because the brain only experiences electro-chemical impulses, specialized sensory receptor cells, known as **transducers**, convert external physical energy into internal neural energy. Transduction is the process of converting physical stimuli into neural energy. There are three primary types of receptor cells:

- **Photoreceptors** are activated by electromagnetic energy (i.e., light).
- **Chemoreceptors** respond to chemical substances (i.e., odors).
- **Mechanoreceptors** respond to mechanical energy (i.e., touch, movement, vibrations).

Coding Sensations. Each sight, sound, touch, taste, and smell is qualitatively different. When receptors convert energy into neural activity, they code the physical properties of the sensation (brightness, color, volume, etc.) into patterns of neural activity. The coded patterns are transmitted to the central nervous system where the thalamus processes and relays the information to other parts of the brain where it is decoded, given meaning, understood, and perhaps remembered.

Signal Detection Theory. Early modern psychologists interested in the relationship between external stimuli and internal sensations developed signal detection theories to understand, describe, and predict responses to various stimuli. Psychologists create mathematical models of the relationships between the characteristics of the stimulus, the characteristics of the individual, and background noise.

Seeing stars. Sensory cells are generally found within a sense organ and respond by design to specific stimuli. Sensory cells can be made to respond to other forms of strong stimulation. For example, a bump on the head (a mechanical stimulus) may stimulate the eye’s photoreceptor cells. The result is seeing stars.

Chapter Summary.

A sense is a system that transforms information about the outside world into nervous system activity and transmits it to the brain. Perceptions are the subjective experience of sensations, the ways that we organize, interpret, and give meaning to raw neural impulses.

- Sensation begins with highly specialized cells designed to respond to particular types of energy.
- Photoreceptors are activated by electromagnetic energy.
- Chemoreceptors respond to chemicals substances.
- Mechanoreceptors respond to mechanical energy.

Absolute threshold refers to the minimum intensity of a stimulus that will stimulate a sense organ to operate. Habituation, a simple type of learning, refers to the tendency of neurons to become less sensitive to constant or familiar stimuli. Just noticeable difference (JND) refers to receptor cells' ability to detect subtle changes in stimulus strength. The relationship of sensation to change in stimulus strength is known as Weber's Law.

Sight is our most dominant sense, and more of our brain is involved in sight than any other sense. Human sight is the sensation of reflected electromagnetic radiation. The light's wavelength is seen as color. The light's amplitude is experienced as brightness or intensity. The cornea refracts light into the iris. The pupillary reflex opens and closes the pupil and the lens focuses the image onto the retina. The retina is lined with specialized receptors called rods and cones. Rods are most sensitive to low levels of light and cones are sensitive to high light levels of light and are responsible for color vision and vision acuity. Cones are most concentrated in the fovea, the center of the field of vision. The optic nerve extends from the eye, across the optic chiasm, to the cerebral hemisphere. There are no rods or cones at the blind spot where the optic nerve leaves the eye.

Hearing is the sensation and perception of sounds. Sounds are pressure changes or waves passing through the air. Sound frequency is perceived as loudness and frequency as pitch. The outer ear directs sound down the auditory canal to the tympanic membrane, the vibrations from which pass through a series of small bones in the middle ear called the ossicles. The ossicles magnify the eardrum's vibrations and transmit them to the inner ear via the oval window. The cochlea is a snail-shaped fluid-filled structure lined with the basilar membrane. The basilar membrane is covered with stereocilia that connect with the auditory nerve.

The olfactory system detects airborne chemicals. Olfactory receptors in the mucus membrane (olfactory epithelium) at the roof of the nasal cavity connect to the olfactory nerve and feed into the brain. We have receptors that are sensitive to thousands of airborne chemicals, but what we experience as an odor is usually a pattern of responses to a variety of chemicals.

The gustatory system detects chemicals that come into contact with the tongue. What we experience as taste is actually more about smell than taste. Taste receptor cells are clustered in papillae on the tongue. The cutaneous system is part of a larger sensory system known as the somatic senses. The somatic senses provide the brain with information about the body, its condition, and the body's relationship with the outside world. Cutaneous receptors respond to pressure, shape, texture, movement, and temperature. Nociceptors extend from the spinal cord to the body and are involved in the experience of pain.

The kinesthetic system provides the brain with information about body position and movement. The vestibular system provides information about the position of our body relative to gravity and movement.

Perception is the process through which we select, organize, interpret, and give meaning to sensations. Figure-ground perception and grouping are ways we begin to organize and understand sensations. Perceptual selectivity describes reasons we select of some sensory inputs for attention and ignore others. Stimulus factors are those characteristics of objects that affect our perception of the object. Personal factors including experience, values, expectations, context, and mental and emotional states affect our perception.

Chapter Summary.

Learning is generally defined as a mental process leading to relatively permanent changes in behavior, knowledge, or mental processes due to practice or experience. Every theory of learning rests on assumptions about the nature of the learner. There are biological, behavioral, cognitive, psycho-analytic, humanistic, and social learning theories plus countless others that combine theories. No single approach or theory of learning seems sufficient to fully explain how we learn.

Habituation refers to a very simple type of learning in which behavior changes as a result of repeated exposure to a stimulus. Behaviorism was modern psychology's earliest theory of learning. Classical conditioning and operant conditioning are complementary behavioral theories that describe how environmental factors influence learning.

Ivan Pavlov's discoveries, which came to be known as classical conditioning, describe a learning process that occurs when two stimuli are repeatedly paired. Pavlov noted that when a signal is paired with a natural reflex-producing stimulus, the signal alone begins to elicit a learned response similar to the natural reflex. The unconditioned response (UCR) is an organism's reflexive unlearned response to a stimulus. The unconditioned stimulus (UCS) naturally elicits the organism's reflexive response. A neutral stimulus (NS) does not elicit a reflexive response. After being associated with an unconditioned stimulus, the neutral stimulus eventually elicits a learned response, at which time it is called the conditioned stimulus. The response to the conditioned stimulus is known as the conditioned response (CR).

B. F. Skinner's discoveries, which came to be known as operant conditioning, expanded on classical conditioning to include the ways organisms "operate" on the environment in order to gain rewards and avoid negative consequences.

The key components of operant conditioning are:

- Reinforcement. A consequence that increases the likelihood that a response will occur.
- Positive Reinforcement. A consequence that is usually pleasant and increases the likelihood of a response.
- Primary Reinforcer. A consequence that is inherently reinforcing.
- Secondary Reinforcer. A consequence of behavior that is reinforcing through association with a primary reinforcer.
- Negative reinforcement. A consequence of behavior that increases the likelihood of a response by removing a negative stimulus.
- Punishment. A consequence of a behavior that decreases the likelihood that a response will occur.
- Positive punishment. A consequence of behavior that is usually unpleasant (e.g., pain) and decreases the likelihood of a response.
- Negative punishment (sometimes known as "time-out" or omission training). A consequence of behavior in which a positive stimulus is removed.
- Extinction. The gradual disappearance of a response when reinforcement ceases.

Shaping guides behavior toward the desired response by reinforcing successive approximations of desired behaviors. Schedules of reinforcement refer to the frequency or pattern of reinforcement. Continuous reinforcement schedules reinforce a behavior every time it occurs. Intermittent reinforcement schedules reinforce behavior some of the time. In fixed ratio reinforcement schedules reinforcement happens after a fixed number of responses. Fixed interval reinforcement schedules reinforce behavior after a fixed amount of time. Variable ratio reinforcement schedules reinforce behavior after a varying number of responses. Variable interval reinforcement schedules reinforce behavior after a variable period of time.

Cognitive theories of learning describe the cognitive processes by which we acquire knowledge and skills and the ways we create and manipulate mental representations of physical objects and events. Latent learning is a type of learning that is not demonstrated in an immediate behavioral response and occurs without direct behavioral reinforcement. Social learning theory explains learning as the result of observation, imitation, and modeling in a reciprocal interaction between cognitive, behavioral, and environmental influences.

Memory is the process by which information is acquired, encoded, stored, and retrieved. Memories can be thought of as existing in one of three "boxes," sensory memory, short-term memory, and long-term memory. Sensory memory is like a temporary buffer where information is held very briefly and evaluated for further processing. Short-term memory is limited to 5-9 items or "chunks" of information and is held for only a few seconds. Long-term memory has limitless capacity and it hold information for a very long time.

For Review.

1. Define learning.
2. Describe classical conditioning and Ivan Pavlov's experiments.
3. Name and define the key components of classical conditioning.
4. Describe operant conditioning, Thorndike's law of effect, and B.F. Skinner's experiments.
5. Describe conditioned taste aversion.
6. Describe John Watson's Little Albert experiment.
7. Describe reinforcement schedules.
8. Describe cognitive theories of learning.
9. Describe latent learning.
10. Describe Albert Bandura's Bobo doll study.
11. Describe social learning theories.
12. Describe the three box model of human memory.
13. Describe factors that influence forming, storing, and retrieving memories.
14. Describe the primacy and recency effects.
15. Describe and explain mnemonic techniques.

Chapter Summary.

The psychology of development is interested in describing and explaining human development in terms of physical, sexual, cognitive, emotional, moral, and social change throughout life. Continuous developmental theories describe development as the gradual and ongoing unfolding, or maturation, of inborn characteristics. Discontinuous developmental theories suggest we develop through a progressive series of distinct steps or stages. Some theories suggest that human development is influenced most by genetics and others suggest it is influenced more by environmental factors. Most psychologists today believe that it is both -- that we continuously develop, but we also move through stages, and that genetics and the environment are inextricably connected.

Early modern psychologists crafted developmental theories grounded in the worldview assumptions of the Renaissance philosophers John Locke, and Jean Jacques Rousseau, and Immanuel Kant. John Locke believed that children are born a "blank slate," or tabula rasa, and that environmental influence is primary. Jacques Rousseau believed that development was determined at birth. Immanuel Kant believed that development was influenced by the interaction of inborn characteristics and the external world.

Jean Piaget is famous for his theory of intellectual development in children. Piaget described intellectual development as an orderly, sequential, and predictable progression through four stages. Piaget believed that children were active participants in creating a schema, or way of understanding the world. Assimilation and accommodation are the processes by which children develop and modify their schema. Piaget called the first stage the sensorimotor stage. From birth to 18 months the developing child experiences the world solely through the senses and motor activity. The pre-operational stage, from around 18 months to 6 years, is characterized by the development of logical mental operations and the use of symbols to represent things. In the concrete-operational stage, from around age 6 until early adolescence, children begin to use logic, mental manipulations, and mathematics. The formal-operations stage, from adolescence into adulthood, is characterized by the development of the ability for logical, abstract, and hypothetical thinking, to plan and imagine the consequences of an action, and to draw conclusions from available information.

Lev Vygotsky described the fundamental role that social interaction, language, and culture plays in cognitive development. Erik Erikson described stages of psycho-social development. Erickson defined each of his eight stages in terms of natural crises. Sigmund Freud is famous in the history of modern psychology for his psycho-sexual or psycho-dynamic personality theory. Freud believed that personality develops through psycho-sexual stages, propelled by the life force libido. Lawrence Kohlberg described a model of moral development in which he theorized that moral reasoning also grew through three levels he called the pre-conventional, conventional, and post-conventional levels of moral reasoning.

Adolescence, the time between puberty and adulthood is characterized by rapid physical, intellectual, emotional, and social development. Early adulthood, from around 17 to 45 years, according to Daniel Levinson, is characterized by productive work and making choices. During early adulthood, we make decisions about marriage, family, and career. Middle adulthood, from around 45 to 60 years, is said to be characterized by a search for meaning and purpose in life, reexamining career goals, and leaving a legacy. Late adulthood, from around 65 years to death, is characterized by reflecting on one's life, past achievements, and regrets, and by making peace with one's self and with others. As we near the end of life, like in every other stage of development, we experience physical, cognitive, emotional, and social changes. Dementia is a loss of brain function that occurs with certain diseases and brain injuries and affects memory, thinking, language, judgment, and behavior.

For Review.

1. Describe the uses of developmental theories.
2. In what ways is development continuous, and in what ways is it discontinuous?
3. Describe nervous system development in the embryonic stage and fetal stages of development.
4. Describe fetal alcohol syndrome and how to prevent it.
5. Name and describe four reflexive abilities children have at birth.
6. Describe cross-section and longitudinal developmental research.
7. Describe development theories in terms of the philosophies of Locke, Rousseau, Kant, and Hall.
8. Piaget described four stages of cognitive development. Name and describe each stage.
9. Describe assimilation and accommodation in terms of Piaget's developmental theory.
10. Describe criticisms of Piaget's theory of cognitive development.
11. Describe recapitulation theory.
12. Describe Erik Erikson's eight psychosocial crises.
13. Describe Freudian psycho-sexual development.
14. Provide examples of moral reasoning at each of Kohlberg's levels of moral development. Evaluate your examples using biblical absolutes.
15. The text stated that "the Christian worldview includes an assurance that Kubler-Ross did not understand." In your own words, explain what Kubler-Ross' theory is missing.

Chapter Summary.

Consciousness is difficult to define and there is no widely accepted definition of consciousness. Human consciousness is the essence of our God-likeness and is inextricably connected to brain activity. Studying consciousness means understanding our God-given self-awareness in the context of the complexities of the nervous system. Consciousness is not a single constant mental state. Sleep, dreams, hypnosis, meditation, and drug-induced mental states are varieties of consciousness.

We spend about one-third of our lives asleep. While we sleep, our brains continue to work. Our pattern of sleep is part of a 24-hour circadian rhythm. During rapid eye movement (REM) sleep, we dream and our eyes move rapidly. Brain wave patterns during REM sleep are similar to patterns while awake. In one night's sleep, we pass back and forth through stages of sleep distinguished by differing patterns of brain wave activity. The repair and restoration theory suggests that the purpose of sleep is to allow the brain to repair and restore itself. The information consolidation theory suggests that the purpose of sleep is to allow the brain to consolidate and process the events and experiences of the day.

We dream 4 - 6 times each night. Psychologists explain dreams as:

- the brain's "explanations" for random neural impulses.
- a way the brain eliminates, strengthens, and re-organizes neural connections.
- a safe means for experiencing powerful emotions, resolving psychic conflict, and solving difficult problems.
- a way of interpreting what is going on around us while we sleep.
- a rehearsal strategy to survive in a hostile environment.

Hypnosis is an altered, trance-like state of consciousness in which a person is hyper-suggestible or easily influenced. Meditation is a form of deep concentration in which the mind is focused on a single thing or emptied of thought.

Psychoactive or psychotropic drugs alter consciousness by crossing the blood-brain barrier and altering the way neurotransmitters work. Regular use of a drug may lead to tolerance and dependence, commonly known as addiction. Psychologists classify psychoactive drugs into four categories: depressants (sedative-hypnotics), stimulants, opiates (narcotics), and hallucinogens (psychedelics).

For Review.

1. Describe a Christian perspective of human consciousness.
2. Describe various states of consciousness.
3. Describe sleep, REM sleep, stages of sleep, sleep deprivation, and disorders of sleep.
4. Describe dreams and discuss the meaning of dreams from various worldview perspectives, including a Christian worldview.
5. Describe hypnosis, its history, and worldview issues related to hypnosis.
6. Discuss meditation from various worldview perspectives.
7. Define psychoactive drugs and describe how they generally work.
8. Describe tolerance, dependence, and withdrawal.
9. Describe the four major categories of psychoactive drugs.
10. Describe the effects of alcohol.
11. Describe the effects of sedative-hypnotics.
12. Describe the effects of stimulants.
13. Describe the effects of opiates.
14. Describe the effects of hallucinogens.
15. Describe the effects of marijuana.

Chapter 12 Abnormal Psychology

For many people, abnormal or *clinical psychology* is what psychology is about. Learning about the abnormal is often what attracts students to the study of psychology, but few topics in psychology are as controversial among Christians as abnormal psychology.

Some topics that psychologists study are more worldview-dependent than others. Topics like the nervous system and sensory processes are far from the “core” of our humanity and are not the focus of the Bible’s message. Others, like personality, development, and consciousness define us. Few topics in psychology come closer to the “core” aspects of the human condition – our sin nature, salvation, restoration, and sanctification, than “abnormal” psychology. One’s perspective on sin, personal responsibility, and moral absolutes has huge implications on one’s view of the causes of abnormal thoughts, feelings, and behaviors. As you might predict, the gravity of the subject matter contributes to disagreements among Christians about the nature and causes of abnormal thoughts, feelings, and behaviors. For the Christian studying psychology, the nature and importance of these issues require great caution. For the Christian who plans to serve God in a career in mental health care, an in-depth and Holy Spirit-informed Christian worldview is crucial.

Some of the key worldview questions with which Christians who are psychologists, pastoral counselors, and theologians wrestle are:

- Is the experience of abnormal thoughts, feelings, and behaviors a mental illness?
- Are mental disorders best understood as the result of disunity with God, chemical imbalances, brain illness, trauma and life experiences, or some combination?
- Are mental disorders best treated from a spiritual or a medical perspective?
- Can the techniques developed by modern psychology contribute to a Christian approach to counseling?
- Can Christians safely borrow techniques from modern psychology to help those in mental pain?
- Can modern therapeutic techniques be detached from their underlying worldview assumptions?
- Has the Church lost confidence in the power of the Gospel and God’s ability to heal?
- How do we explain that medication and secular therapeutic techniques help Christians and non-Christians alike?

What is Abnormal? What does the word “abnormal” mean to you? We all have a personal sense of what is normal and what is abnormal, but defining it is more difficult. Normal and abnormal can be described from different perspectives and in varying degrees. Are people who are a “little odd” abnormal? Is reading the Bible, praying daily, and remaining sexually abstinent until marriage abnormal? Is communicating with God abnormal? Is it abnormal to communicate with the dead? These questions are meaningless outside of the context of worldviews.

Are pain, difficulty, hardship, and suffering normal? A Christian worldview believes that God uses trials and difficulties as tools to strengthen and refine us. Modern psychology’s worldview is that pain, difficulty, and hardship are abnormal, absurd, and to be avoided at all costs. Statistically, something is abnormal if it varies sufficiently from the average, the usual, or the customary. Many people define abnormal in terms of **variance from culturally accepted standards** (i.e., political correctness). Some define abnormal subjectively (i.e., “If I believe that my feelings are abnormal, they are abnormal”). Some people believe that normal and abnormal are no more than **value judgments**, and that to label another’s thoughts and behaviors as abnormal is to exercise power inappropriately. Some people define abnormal in terms of **dysfunctions in biological processes**, some in terms of **sin and disunity with God**, and others describe abnormality as a **failure to live according to moral rules**.

Thoughts, emotions, and behaviors are generally considered abnormal if they are:

- **Maladaptive**, meaning that they are harmful to the individual or make it difficult or impossible to function “normally.”
- **Disturbing**, either to the individual or to others.
- **Unusual** and not shared by many other people.
- **Irrational**, meaning that it just does not make sense to most people.

Rosenhan Experiment. In 1973 David Rosenhan published a research article titled *On Being Sane in Insane Places*. In his experiment, eight pseudo-patients falsely gained admission to twelve psychiatric hospitals by claiming to be hearing voices. Among the pseudo-patients were three psychologists, a pediatrician, a psychiatrist, a painter, and a housewife. Three were women and five were men. Immediately upon admission to the psychiatric ward, the pseudo-patients stopped simulating any symptoms and when asked, reported feeling fine and experiencing no symptoms. They were friendly, cooperative, and, to the best of their ability, exhibited no signs of abnormality. Despite appearing normal, none of the pseudo-patients were detected. Their hospitalizations ranged from 7 to 52 days with an average of 19 days.



Tranquilizing Chair.

What is Mental Illness? It is more difficult to define mental illness, in a way that is respectful of various worldviews, than it is to define abnormal. Abnormality is a part of mental illnesses, but the terms are not synonymous. **Mental illness** literally means **disease of the mind**. Such a definition fits some conditions (e.g., schizophrenia) better than others (e.g., generalized anxiety and post-traumatic stress disorders). However, describing all mental conditions as “illnesses” eliminates, by definition, sin, unconscious psychic conflict, trauma and abuse, learning, the demonic, and bad parenting from consideration as possible causes or contributing factors.

For this reason, this text uses the terms “mental illness” and “abnormal thoughts, feelings, and behaviors” purposefully. “Mental illness,” to many people, is synonymous with “abnormal thoughts, feelings, and behaviors.” All mental illnesses involve abnormal thoughts, feelings, and/or behaviors, but not all thoughts, feelings, and behaviors are mental illnesses. Mental illness is one possible cause of abnormal thoughts, feelings, and behaviors – a literal brain disease. A Christian worldview believes that sin, at least in part, is a cause of some abnormal thoughts, feeling, and behavior.”

Understanding mental illness is made more difficult by the fact that over time, psychologists’ beliefs about what constitutes a mental illness have changed. For example, prior to the 1970s the American Psychiatric Association (APA) included homosexuality in its listing of mental illnesses. Today, homosexuality is not a recognized mental illness. During the 1800s dementia paralytica, commonly called general paralysis of the insane, accounted for more than 10% of admissions to mental hospitals. **Dementia paralytica** is characterized

by loss of personality and memories, mania, poor judgment, apathy, violence, and convulsions. It was eventually fatal. Today dementia paralytica accounts for no admissions to mental hospitals, and it is not included in the APA’s list of mental illness. What was called dementia paralytica and thought to be a mental illness was actually the symptoms of third stage syphilis. Modern antibiotics “cured” dementia paralytica. Similarly, **drapetomania** was the name given to the “mental illness” that caused slaves in the American south to run away from their masters. Drapetomania is not a recognized mental illness today.

Schizophrenogenic mothers. From the late 1940s to the early 1970s, schizophrenia was believed to be caused by a mother’s behavior toward her child in early childhood. A schizophrenogenic mother was said to be dominant and overprotective, but emotionally rejecting of the her children. Few psychologists today accept this explanation.

What Causes Abnormal Thoughts, Feelings, and Behaviors? A Christian worldview holds that the ultimate cause for all abnormal thoughts, feelings, and behaviors is sin, in the same way that cancer, plague, and chicken pox are ultimately caused by the effect of sin on all of creation, but describing the proximate cause for a particular condition in individuals, however, is not so clear.

What causes someone to be depressed and anxious? What causes people to hear voices, to experience mood swings, or to be dependent on drugs and alcohol? Is it individual sin, unconscious psychic conflict, chemical imbalances, demonic activity, or some combination of causes?

Supernatural Explanations. As has been the case for centuries, many people explain abnormal thoughts, feelings, and behaviors in terms of the supernatural influences of gods, demons, witchcraft, sorcery, and “spirits.” In ancient cultures, abnormal thoughts and behavior were believed to be the result of supernatural beings taking possession of a person’s mind and body. Performing rituals and offering sacrifices to placate the supernatural beings was part of one’s daily routine. In the Middle Ages, like today, many people explained all abnormal thoughts, feelings, and behaviors in terms of character flaws and sinfulness.

Mental illness is also referred to as psychopathology. **Psychopathology** is any pattern of emotions, behavior, or thoughts inappropriate to the situation and leading to personal distress or the inability to achieve important goals.

Chapter Summary.

Abnormal thoughts, feelings, and behaviors are the result of chemical imbalances in the brain, biological malfunctioning, sin, unconscious psychic conflict, trauma and abuse, the demonic, moral weakness, bad parenting, learning, blocked self-actualization, or the result of a combination of causes. Each model of treatment reflects underlying beliefs about the causes of the conditions.

Through the 17th and 18th centuries the mentally ill, known as lunatics, were caged, chained, and beaten and housed in hospitals, asylums, and madhouses. Beginning in the 19th century, public attitudes about the care of the mentally ill began to change. "Moral management" as it was known, saw the mentally ill not as immoral possessed animals, but as people who were sick and in need of treatment. The lobotomy, involving cutting neural connections in the frontal lobe, was touted by some as a miracle cure for mental illness. Convulsive therapies used insulin overdose, microwaves, oxygen deprivation, and electric currents to induce brain seizures.

In 1954 Thorazine was approved by the Food and Drug Administration and in the ten years that followed, 50 million people around the world had taken the drug. Thorazine and related major tranquilizers had a calming effect, alleviated hallucinations and delusions, and allowed many patients to live outside of mental institutions. Following the discovery of Thorazine, many new drugs were developed to treat psychological disorders.

Psychiatric medications (also called psychotropic medications) are typically classified by the disorder for which they are most usually employed.

- Anti-psychotics, also called neuroleptics, are used to treat psychotic symptoms.
- Anti-depressants treat depression.
- Anxiolytics are used to treat anxiety symptoms and sleep difficulties.
- Mood stabilizers have anti-mania and anti-depressant effects and are often used in the treatment of bipolar disorder.

The discovery of psychiatric medications allowed many patients to leave psychiatric institutions and return to their home communities. From 1955 to 1980, the population of psychiatric hospitals fell from over 500,000 to around 50,000. Deinstitutionalization led to unintended consequences, including a rise in the number of jailed and homeless mentally ill in the 1970s and 1980s.

Therapy, psycho-therapy, talk therapy, analysis, and counseling are general terms that describe countless techniques by which therapists enter into relationships with patients for the purpose of helping the patient overcome abnormal thoughts, feelings, and behaviors, or for the patient's personal growth.

Sigmund Freud is famous in the history of psychology as the father of psycho-therapy. His approach to treating disorders, known as "the talking cure," involved talking to patients to help bring unconscious motivations and conflicts to light, to confront beliefs and attitudes, and to examine memories, events and feelings from the past for clues to current problems. Behavior therapy refers to the systematic application of behavioral techniques to the treatment of psychological disorders. Cognitive therapy seeks to correct distorted thinking patterns that lead to unwanted thoughts, feelings and behaviors. Cognitive-behavioral therapy (CBT) combines a cognitive and behavioral approach to recognize and change distorted thought patterns and unwanted behaviors. Humanistic therapies help patients achieve self actualization and high self-esteem. Family therapy, also called systemic therapy and family systems therapy, focuses on relationships between people. Spiritual treatments, in a broad sense, rely on spiritual or religious means to treat psychological disorders. Many Christians integrate biblical and secular techniques into their counseling. Other Christians reject the use of any extra-biblical sources in favor of biblical admonition, confession, repentance, and reconciliation.

For Review.

1. Describe some of the historical approaches to treating abnormal thoughts, feelings, and behaviors, including the worldview assumptions underlying the approach.
2. Describe how attitudes toward the mentally ill changed in the 19th century.
3. Describe the history of lobotomy and electroconvulsive therapy.
4. Describe the discovery of thiorazine and the pharmacological revolution.
5. Describe the classification of psychiatric medications.
6. Explain the phrase “chemical imbalance of the brain.”
7. Describe psychopharmacology.
8. Describe the de-institutionalization of the mentally ill.
9. Describe the unintended consequences of de-institutionalization.
10. Define therapy.
11. Describe Freudian psycho-therapy.
12. Describe behavior therapy.
13. Describe cognitive therapies.
14. Describe humanistic therapy.
15. Describe family therapy.
16. Describe “spiritual” treatments.
17. Describe Christian anti-psychology.
18. Describe “integration.”
19. Describe biblical counseling.
20. Describe popular psychology.

Chapter Summary.

Social psychologists are interested in psychological concepts as they relate to the interactions between individuals and small groups. Social psychology is the study of how people think about, influence, and relate to one another. Social psychologists study social cognition, the ways that thoughts, feelings, behaviors, perceptions, decisions, motivation, and personality are influenced by the presence of others and by different situations.

Interpersonal communication is a complex psychological process that takes place between two or more people. The Shannon-Weaver model of communication is a basic visual representation of interpersonal communication. Communication takes place between a source and a receiver. The message is sent via a communication channel. Channels are the media through which messages pass. Communications must be encoded and decoded. The process of converting ideas into a form suitable for the channel is called encoding. The receiver decodes and interprets the message and provides feedback to the sender. All interpersonal communication takes place in a social context (environment), and for a purpose. Communication can be verbal or non-verbal and can be intentional or unintentional. Proxemics is the study of personal space in interpersonal communication.

Social influence refers to the effect the presence of other people has on the ways we think, feel, and behave. Social comparison refers to the tendency to compare oneself to others. Social facilitation refers to the influence the presence of other people has on how well we perform tasks. Social role-playing refers to patterns of behavior appropriate to various social situations. Role conflict refers to situations in which two or more roles make conflicting demands on behavior. Social norms refer to generally accepted rules of appropriate behavior in various social situations or contexts. Roles, norms, and context create social pressure. The norm of reciprocity refers to the tendency of people to respond to each other in kind. Social perception refers to the ways we organize, interpret, and give meaning to social experiences.

Attribution theory is about meaning. It describes the factors that influence the meaning we give to why other people do what they do, and our explanations for why we do the things that we do. Attributions are the quick mental explanations we form to explain the thoughts, feelings, or actions of ourselves and others.

Internal attribution refers to the inference that a person is behaving in a certain way because of something about the person – such as attitude, disposition, or personality. External attribution refers to the inference that a person is behaving a certain way because of something about the situation and circumstances the person is in. An attribution error is an incorrect or distorted understanding of what happens around us. The actor-observer bias refers to a predisposition to attribute our own behavior to external forces, but to attribute the behavior of others to their internal characteristics. The self-serving bias refers to the tendency to make favorable attributions for one's own behavior. The fundamental attribution error refers to the tendency to overestimate internal dispositional influences and underestimate external situational influences upon others' behavior.

An attitude is a pre-disposition, positive or negative, toward someone or some thing. Most psychologists believe that attitudes are largely learned. The mere-exposure effect describes our tendency to have a positive attitude toward familiar things. Cognitive dissonance is the discomfort caused by inconsistencies between attitudes and behavior. Persuasion is a process through which attitudes are changed. Persuasive messages can be categorized as emotional or rational-logical.

Attraction is a powerful favorable attitude toward another person. Attraction theory refers to the ways we form attractions and the factors that affect attraction. The strongest factor influencing the chance that people will like one another is physical proximity. Another factor influencing attraction is similarity – the extent to which people are like us in terms of attitudes, values, personality, and physical qualities. Reciprocity refers to the tendency to be attracted to people who are nice to us.

Social psychologists are also interested in people in group settings. A group is any gathering of people in some sort of relationship. Groups are characterized by their the purpose, roles and norms, and cohesiveness. Groups generally progress through four stages called forming, storming, performing, and adjourning. Western cultures are said to value group decision-making over individual decisions. Social loafing refers to the tendency of some people in groups to exert less effort when working in a group. Diffusion of responsibility refers to a diluting of individuals' feeling of responsibility when a task is assigned to a group and not to the individual. Diffusion of responsibility can lead to de-individualization. Groupthink is an ineffective decision-making process in which group harmony overrides a realistic view of the alternatives. Group polarization refers to a tendency of groups to drift toward and strengthening of more extreme positions. Conformity refers to perceived pressure to change one's thoughts, feelings, or behavior to match those of the group.

Solomon Asch is famous in the history of social psychology for his research on conformity. Stanley Milgram is famous in the history of psychology for his research on obedience to authority. The principles behind schema, attitudes, attribution, attraction, conformity, and group dynamics come together in understanding and explaining stereotypes, prejudice, and discrimination.

Stereotypes are the attitudes and beliefs one has about a group of people. Prejudice is a attitude, positive or negative, about an individual based on their membership in a group. When one's behavior is affected by prejudice the result is discrimination – treating someone differently because of their membership in a group. In-group bias refers to the tendency to have positive attitudes and give preferential treatment to people in the group to which we belong. Out-group bias refers to the tendency have negative attitudes toward people from other groups. The ultimate attribution error describes the tendency to interpret the negative behavior of a group member in terms of negative characteristics of the entire group. Muzafer Sherif's Robbers Cave study is famous in the history of psychology for its contributions to understanding in-group/out-group bias, prejudice, group conflict and discrimination.

For Review.

1. Describe interpersonal communication.
2. Describe the Shannon-Weaver model of communication.
3. Describe feedback, non-verbal communication, and proxemics.
4. Describe the characteristics of good listeners.
5. Describe social influence, social comparison, and social norms.
6. Describe attitudes, attitude formation, and attitude change.
7. Describe interpersonal attraction.
8. Describe group dynamics, group roles, and group norms, and group decision-making.
9. Describe groupthink.
10. Describe the Stanford Prison experiment.
11. Describe the Asch conformity study.
12. Describe Milgram's obedience study.
13. Describe Sherif's Robbers Cave study.
14. Describe conformity and obedience.
15. Discuss stereotypes, prejudice, and discrimination.

Chapter 15 Research Methods

The Christian worldview and true science cannot ultimately conflict – there is no inherent faith/science dichotomy. Science developed in the context of worldview beliefs about God’s orderliness and Man’s dominion. Modern science, properly understood, is consistent with a Christian worldview.

You learned earlier that many of the founders of modern psychology wanted it to be a “hard” science like physics and chemistry, so they adopted controlled empirical, or scientific methods for their research and limited their study to the “physics” of mental life. Many of psychology’s important interests (e.g., emotions, personality, and cognitions) were thought to be outside of the realm of scientific study because they could not be observed directly, measured, or controlled. How do you measure a thought? How do you quantify emotions? A common criticism, therefore, of early modern psychology was that it was sterile and meaningless.

Today there is little about the mind that has not been subject to some kind of “scientific” investigation. Controlled empirical investigation is, however, still better-suited to disciplines like chemistry and physics than psychology, sociology, and anthropology. Also, some of psychology’s subfields (e.g., neuro-psychology and sensory psychology) are better-suited to controlled empirical investigation than others (e.g., personality and consciousness). A common criticism of psychology today is that it is not a “real” science – that modern psychologists’ methods are not “scientific” methods.

Students should understand the limits of science and should be able to distinguish quality research from “junk” science. Often psychologists make grand claims about psychological discoveries based on very flimsy or scant research. It is very difficult, especially in psychology research, to faithfully apply scientific methods. Research psychologists must be very careful, perhaps impossibly careful, to prevent bias and other confounding variables from influencing their research. As consumers of research, we must be very careful to critically evaluate psychologists’ methods and their research conclusions.

Often, under the banner of “science,” psychologists promote philosophies and worldview positions. A Christian worldview recognizes that some things (e.g., values, morality, and God) are outside the realm of scientific study. Modern psychology’s dominant worldview, **empiricism** (also called **logical positivism**), in its extreme, is a belief that the empirical method is the only valid source for any knowledge, including psychological knowledge. From this perspective, the only “things” we can know are “things” that can be observed with one of the senses. As you learned earlier, empiricism is part of a naturalistic worldview. Naturalism excludes the possibility of the supernatural. Ultimately, with better technology, everything about being human can be measured, observed directly, and subjected to empirical study. A Christian worldview recognizes the importance of empirical research, but it rejects that science is the only way of knowing. Christians should not shy away from the scientific study of Mankind, but we should insist that the limits of science be respected.

Research methods refer to the **design, execution, and evaluation** of psychological research and psychological tests. How do we evaluate the quality of psychological research methods and conclusions? What conclusions can we draw from a study finding that 90% of seminary students in a big hurry did not stop to aid a person in distress? Can we **generalize**, or extend the conclusion to other groups; would non-seminary students, Buddhists, or atheists in a hurry be more or less likely to be helpful? What does it mean when a toothpaste company makes a claim like “9 out of 10 dentists agree, Aqua Clean toothpaste is best at cleaning stubborn plaque?” Can we trust claims like that?

The Empirical Method. We learned in Chapter 1 that one of the main purposes for psychological research is to formulate and test hypotheses in a systematic and standard way. Though there is no “official” empirical method, the term refers to systematic and standard ways of defining research questions, forming and testing hypotheses, analyzing and interpreting data, drawing conclusions, and publishing the results. The scientific method prescribes a basic process, or cycle, despite the particulars of the specific research question(s) at hand.

Define The Question. Psychological research begins with questions. Some are applied research questions and some are basic research questions. **Applied research** is designed to solve a particular problem. **Basic research** seeks to expand our knowledge and understanding for its own sake. Basic psychological research asks basic questions like “*how do neurons communicate?*” or “*how do people form attitudes?*” B. F. Skinner’s operant conditioning experiments represent basic research into how animals learn. Developing behavior management techniques, based on Skinner’s research, to manage student behavior in the classroom is an example of applied research. Applied research seeks solutions to problems like “*how can we help people quit smoking?*” or “*what are the best methods for teaching science?*”